United States Environmental Protection Agency

Office of Water (4305)

EPA 823-B-93-003
November 1993

EPA

National Fish Tissue Data Repository:

User Manual - Version 1.0

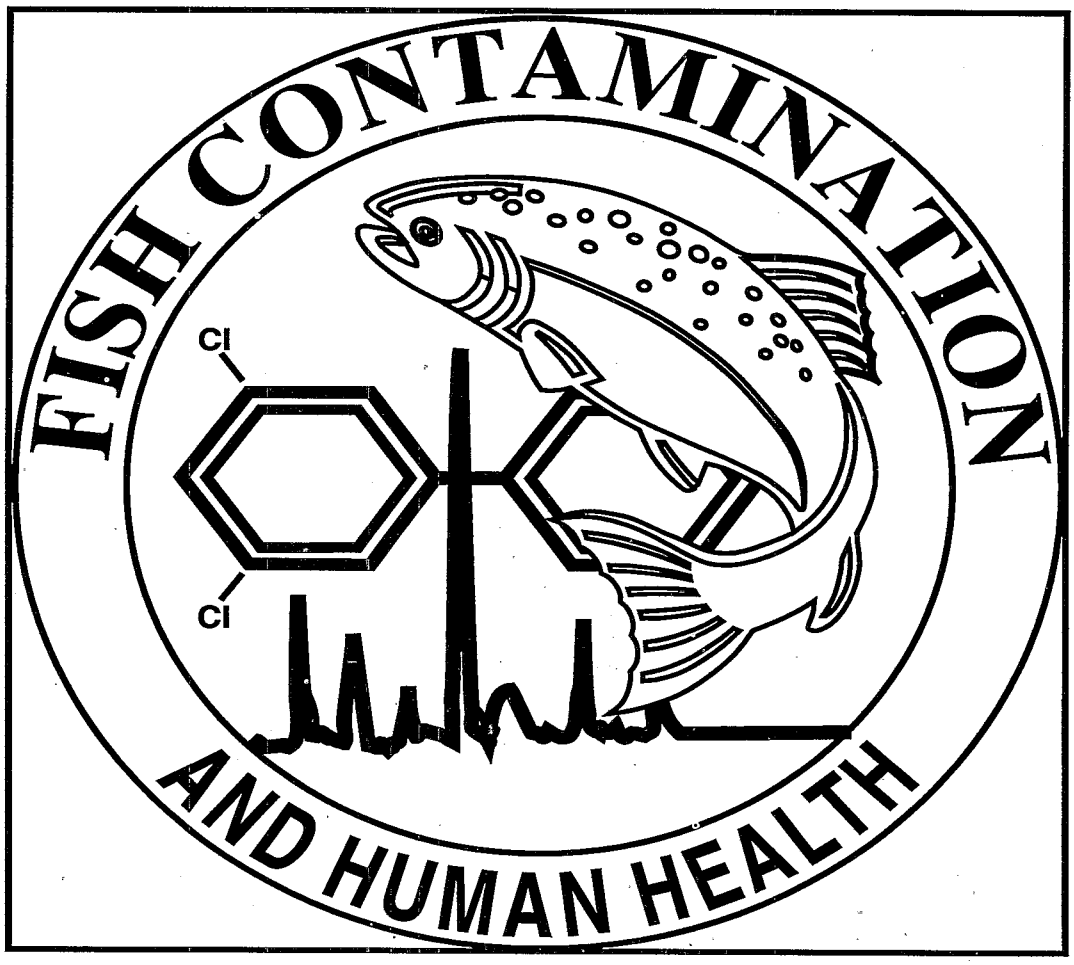


Table of Contents

Chapter 1: Introduction to ODES 1-1
- Background Information 1-1
- Using this Manual 1-1
- Data Structure 1-2
- Definitions and Concepts 1-4
- What Can ODES Do? 1-5
- Major ODES Features 1-12

Chapter 2: Getting Started 2-1
- Using ODES 2-1
- On-line Assistance 2-1
- ODES Menus 2-1
- Selecting Study Area 2-8
- Using Chapters 3 through 6 2-9
- Helpful Hints 2-10

Chapter 3: Describing ODES Data 3-1
- Where were Data Collected? 3-2
- When were Data Collected? 3-16
- How were Data Collected? 3-26
- Sample Reference Information 3-34
- What Quantity of Data was Collected? 3-38

Chapter 4: Retrieving Data 4-1
- Customized Report of Sample Data 4-2
- Standard Report of Source Data 4-20

Chapter 5: Analyzing Data 5-1
- Using ODES Graphical Tools 5-2
- Creating a Text File of ODES Data 5-18
- Performing Advanced Analysis 5-36

Chapter 6: Accessing ODES Output 6-1
- Instructions for Fetch Option 6-2
- Index of Chapter Contents 6-76

Appendices
- Other Documentation and Points of Contact ..... A
- Taxa Dictionary ..... B
- Chemical Dictionary C
- Other ODES Dictionaries ..... D
- Log-on Instructions ..... E

Chapter 1: Introduction to ODES

Background Information

The U.S. Environmental Protection Agency (EPA) has developed the National Fish Tissue Data Repository (NFTDR) for the collection and storage of fish and shellfish contaminants data. The data repository will be part of a larger EPA database and computer system called the Ocean Data Evaluation System (ODES). In addition to the data, ODES stores textual summaries of each data set. Before analyzing data, you should review this reference information that is stored in ODES.

ODES is a powerful system that allows users to retrieve and analyze various types of data for several EPA programs. These programs submit bioaccumulation, receiving water quality, influent/effluent, benthic infauna, fish pathology, sediment grain size, sediment pollutants, trawl/seine catches, bioassay, and bacterial/viral contamination data.

Using This Manual

This manual explains how to access information from the ODES database. This chapter provides background information and a summary of what ODES can do. *Chapter 2: Getting Started* explains some of the general principles for navigating through the ODES menus. *Chapters 3* through *6* provide detailed tutorials that will help you understand how to use all of the ODES features. The final chapter lists relevant supplemental documentation and whom you can contact to find additional information.

Because this manual was created for the NFTDR, the examples are devoted to bioaccumulation data, although procedures for accessing the other types of data are similar. For more information about submitting or using data other than bioaccumulation, please contact the ODES technical support staff.

If you need assistance using ODES, do not hesitate to call the ODES technical support staff. This staff is familiar with the ODES system and is ready to help you.

ODES Support (703) 841-6279

Data Structure

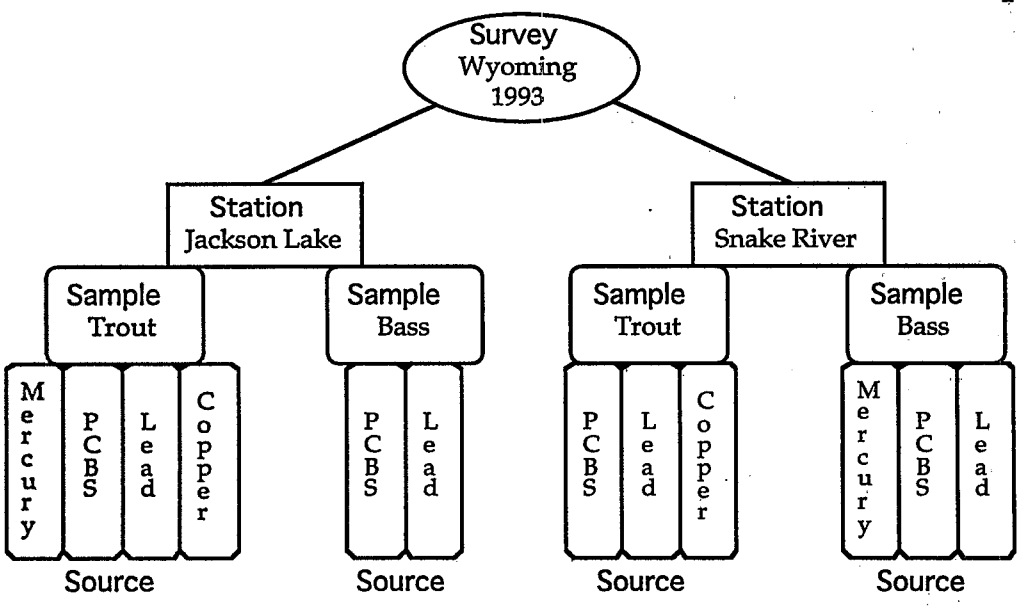
ODES data sets are divided into different levels of detail: survey, station, sample, and source. These levels make up the ODES pyramid shown in Figure 1.1. The survey level contains general information that describes an entire data set. The station level describes where the samples were collected. The sample level provides specific information about a single sample, and the source level contains the analytical lab results.

These levels form a pyramid with survey at the top and source at the bottom. As you move up the pyramid, the information becomes more comprehensive. Starting at the top and moving down, the entries become more specific and support the top of the pyramid. Without specific analytical results at the source level, the pyramid collapses.

As you can see in Figure 1.1, each station record corresponds to one or more sample levels, and each sample record needs at least one source record. To make the data useful, the source records must be present and should be able to be traced back up to a sample, station, and survey.

The ODES pyramid in Figure 1.1 depicts how ODES would organize laboratory results collected from trout and bass at two different locations, Jackson Lake and Snake River. The source level information includes all of the lab results. The sample level information includes a code for the taxa as well as the gear used to catch the specimen. The station and survey levels group the results based on the location of the study.

Figure 1.1



Certain types of data are stored at each level. In addition, to link the levels, some data is stored in more than one level of the pyramid.

Survey Data Level: General information about your data collection and analysis.

Data contained at this level
Reference number
Principal investigator
Survey dates
Type of data = Bioaccumulation

Station Data Level: Specific identifiers describing when and where the information was collected.

Data contained at this level
Reference number
Station code
Latitude
Longitude
Sampling date
Sampling time
Depth
Type of waterbody
Descriptive name of waterbody

Sample Data Level: General information about an individual sample.

Data contained at this level
Reference number
Station code
Sampling date
Sample number
Composite or specimen number
Type of sampling gear
Type of species analyzed
Portion of specimen analyzed
# of specimens in composite
Sex of specimen or composite
Life stage of sample
Dry weight and/or wet weight
Length of specimen
% Extractable lipids

Source Data Level: Actual analytical laboratory results.

Data contained at this level
Reference number
Station code
Sampling date
Sample number
Composite or specimen number
Type of sampling gear
Type of species analyzed
Portion of specimen analyzed
Replicate number
Chemical name
Detected chemical concentration
Units of detected concentration
Qualifier code
Method(s) used to determine level of concentration in sample
Measurement basis (wet weight or dry weight)

Definitions and Concepts

Before proceeding, there are several additional concepts and definitions that you need to be familiar with in order to effectively use ODES. Some of these concepts have already been discussed. Other definitions and concepts will be new.

ODES (Ocean Data Evaluation System): User-friendly software that allows users to access and analyze environmental data.

NFTDR (National Fish Tissue Data Repository): Fish tissue data collected in the United States and stored as bioaccumulation data in the ODES database.

ODES Features: The set of ODES tools that lists ODES codes, create summary reports, analyze data, and access ODES data.

Reference Information: A textual summary that describes a single set of ODES data. The summary explains who to contact for additional information, why the data were collected, and how an analysis was performed. It also alerts you to any discrepancies in the data and indicates whether complementary data sets are available.

File type: Three or four character code that designates the type of monitoring data.

144B = Bioaccumulation data

NODC code: Codes established by National Oceanographic Data Center (NODC) to identify taxa and tissues.

Gear type: Two character code identifying the type of gear used to collect a sample.

Qualifier Code: One letter code that describes how the chemical concentration was measured.

Clean-up code/instrument code/ analytical method code: Two character code used to identify the chemical analysis used in the lab.

Reference number: Nine or ten character code that uniquely identifies a group of data stored in ODES. The code can be broken into the file type, monitoring program, year and quarter.

Example: 144BGB9002
144B= Bioaccumulation data
GB= Galveston Bay NEP
90= Collected in 1990
02= Collected during 2nd quarter of year

Monitoring program: Two character code designating a geographic area or study program. The Fish Advisory Program uses the state postal code abbreviations.

Example:
SC = South Carolina,
National Fish Tissue Data Repository

Station code: Seven character code that uniquely identifies every monitoring station in the database. These codes are assigned by ODES Technical Support to avoid any duplication among monitoring programs.

Example: NCE0001
NC = North Carolina,
National Fish Tissue Data Repository
E= EPA National Bioaccumulation Study
0001= Sequential number to ensure unique code

What Can ODES Do?

ODES provides several options for presenting and analyzing data. You will learn how to use each of these features in Chapters 3 through 6.

ODES offers many tools to create graphs, maps, and reports using data stored in the ODES database. You can also use the files created by ODES with PC software packages such as LOTUS 1-2-3®, Microsoft EXCEL®, and dBASE III®. You can also transfer ODES data to a mainframe file for use with SAS®.

The following pages show various reports and graphs created with ODES. These examples will give you an idea of what ODES can do and how its tools can satisfy your needs. Notes are given for each example to help you create similar reports with your own data.

Where were samples collected?

Chapter 3: Scenario 1

Before attempting to retrieve and/or analyze data stored in the ODES database, you need to know if the data exist. Within the Contents Option, ODES provides two ways to identify where data were collected. A summary table similar to Figure 1.2 identifies when, where, and what kinds of data were collected. Using this table, you can see that bioaccumulation (144B) data were collected between 1987 and 1989 in Anchorage and in Puget Sound in 1988.

How were samples collected?

Chapter 3: Scenario 3

Before analyzing data, you should review the reference information that is stored in ODES. Each ODES data set contains a separate description. As shown in Figure 1.3, this reference information includes the name of someone you can contact if you have any questions about the data. It also lists the number and type of variables reported, equipment used to collect the specimens, and the techniques used to extract the contaminants. For an example, the reference information for Galveston Bay is shown at the end of Scenario 3 in Chapter 3.

Figure 1.2

```
REGION CODE: 10
REGION: EPA Region 10

   MONITORING                          FILE TYPE
     PROGRAM          132   144B  013   144E   144W   073    144S 123  900
                      ----- ----- ----- ------ ------ ------ ---- ---- -----
PUGET SOUND       PS  89/89  88                      88/89  81/89     84/89
ANCHORAGE         AN  86/89 87/89       85/90  86/89  86/86  86/86
KETCHIKAN         KE                          87/88  87/88
ENDICOTT 403(C)   ED  86/90                          86/90  86/89
KUPARUK STP 403(C) KU 86/90                       86/90  86/90
PRUDHOE BAY 403(C) PB 88/90                             88/90  88/90
PORT VALDEZ 403(C) PV 89/91 89/91                       90/91  89/91     90/91

FILE TYPES: 132=BENTHIC INFAUNA  144B=BIOACCUMULATION   013=FISH PATHOLOGY
            144E=EFFLUENT        144W=WATER QUALITY     073=SEDIMENT GRAIN SIZE
            144S=SEDIMENT POLLUTANTS 123=TRAWL/SEINE    900=BIOASSAY
DATES: FIRST YEAR/LAST YEAR
** NOTE:  BEFORE USING DATA, REVIEW QA/QC COMMENTS UNDER SUBOPTION R **

> Press RETURN to CONTINUE or M for CONTENTS MENU > M
```

Figure 1.3

```
REGION CODE:  10          REGION:   EPA Region 10
PROGRAM CODE:  PV         PROGRAM:  PORT VALDEZ (ALYESKA)
CONTACT:  R.L. MIKKELSEN, ENVIRONMENTAL PERMITS SUPERVISOR
          ALYESKA PIPELINE SERVICE COMPANY
                                        PHONE:  (907) 265-8437

PROGRAM:  403(C)
FILE TYPE:  Bioaccumulation    REFERENCE ID:  144BPV9002
NUMBER OF STATIONS SAMPLED:  3
SAMPLING PERIOD:  June 1990
NUMBER OF VARIABLES REPORTED:  19 (18 aromatic hydrocarbons and
   total alkanes)
SAMPLING EQUIPMENT USED:  Mussels collected by hand with forceps
ANALYTICAL TECHNIQUES:  Aromatic hydrocarbons determined by flame ionization
   detector-gas chromatography (FID-GC), after caustic digestion, and
   silica- alumina column and high performance liquid chromatography
   (HPLC) cleanup

GENERAL COMMENTS
   Port Valdez, Alaska, is the site of the marine terminal of the Trans-Alaska Pipeline System.
Operation of this terminal includes reception, treatment, and discharge of tanker ballast water;
an activity which is regulated through permits issued under the National Pollutant Discharge
Elimination System (NPDES).  Hydrocarbons were measured in mussels collected at three sites in June
1990 in the vicinity of the Alyeska marine terminal and in reference intertidal areas in Port
Valdez.  The monitoring survey was designed to determine the concentrations of
petroleum hydrocarbons in intertidal mussels which are attributable to the permitted discharge of
treated ballast water at the marine terminal.
                                                        CONTINUED...
```

What Quantity of Data Was Collected?

Scenario 4: Chapter 3

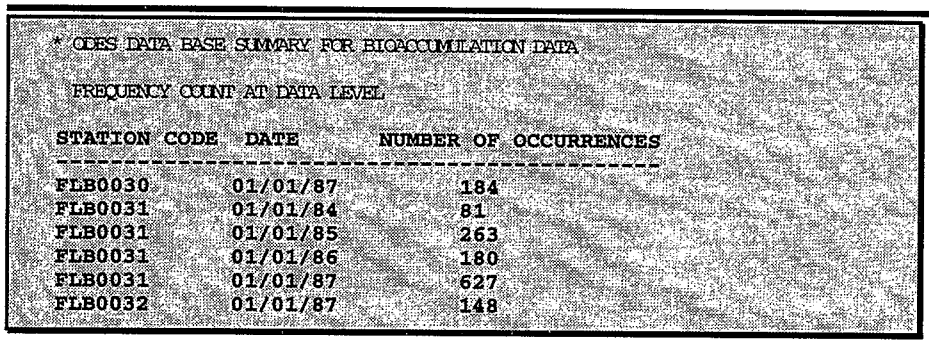
You can use this table to determine the amount of data that is stored in ODES for a particular station and date combination. You can determine the number of observations available at the station, sample, or source level of the database. For example, you can determine how many stations collected data or how many observations of PCBs were collected for a single station. The example in Figure 1.4 shows that 184 source records were collected at station FLB0030 on January 1, 1987.

Similarly, you can use summary information to determine if ODES stores data for particular variables, such as arsenic. The report in Figure 1.5 not only shows whether arsenic was collected, but also how many observations were reported for a particular station and tissue code.

Retrieving ODES Data

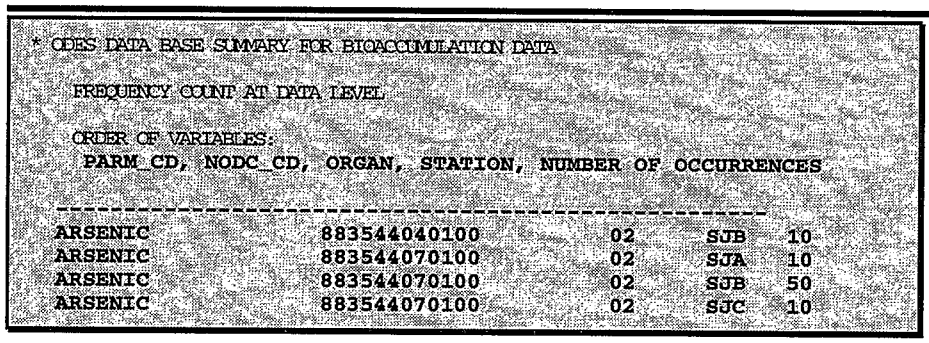
Scenario 1: Chapter 4

ODES supports two retrieval tools that allow you to view data at either the sample or source level of the ODES database. For example, you can create a report that lists all observations that satisfy a certain set of criteria. The report in Figure 1.6 shows information about samples collected in Galveston Bay during July of 1990. In this example, a summary report was created by requesting station, taxon, and date. When creating this report, you can request additional variables. These reports show not only the data but also titles and code definitions.



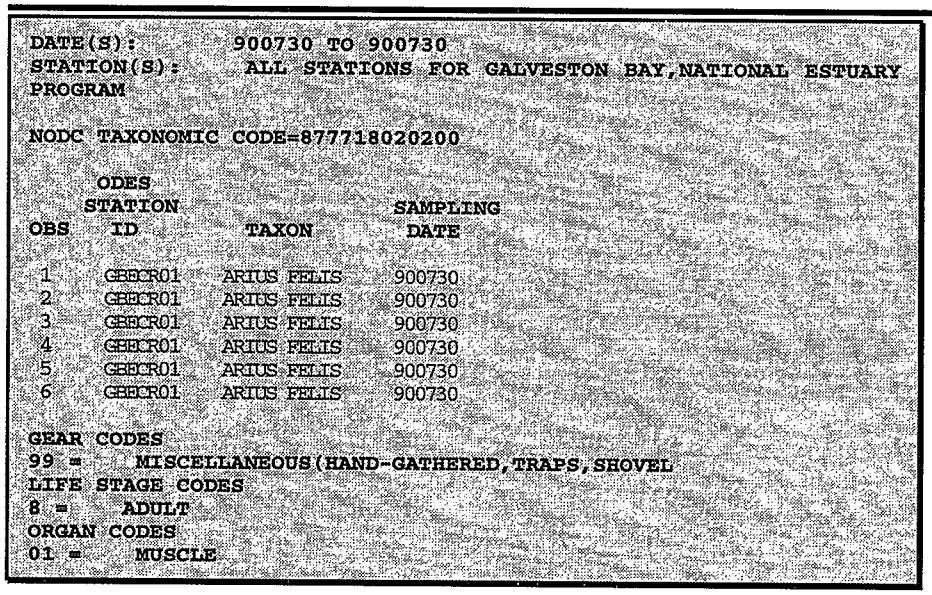
```
* ODES DATA BASE SUMMARY FOR BIOACCUMULATION DATA

  FREQUENCY COUNT AT DATA LEVEL

STATION CODE   DATE        NUMBER OF OCCURRENCES
-------------------------------------------------
FLB0030        01/01/87          184
FLB0031        01/01/84          81
FLB0031        01/01/85          263
FLB0031        01/01/86          180
FLB0031        01/01/87          627
FLB0032        01/01/87          148
```

Figure 1.4



```
* ODES DATA BASE SUMMARY FOR BIOACCUMULATION DATA

  FREQUENCY COUNT AT DATA LEVEL

  ORDER OF VARIABLES:
   PARM_CD, NODC_CD, ORGAN, STATION, NUMBER OF OCCURRENCES

-------------------------------------------------------------
ARSENIC          883544040100      02      SJB    10
ARSENIC          883544070100      02      SJA    10
ARSENIC          883544070100      02      SJB    50
ARSENIC          883544070100      02      SJC    10
```

Figure 1.5



```
DATE(S):        900730 TO 900730
STATION(S):      ALL STATIONS FOR GALVESTON BAY,NATIONAL ESTUARY
PROGRAM

NODC TAXONOMIC CODE=877718020200

     ODES
    STATION                  SAMPLING
OBS   ID        TAXON          DATE

 1    GBECR01   ARIUS FELIS    900730
 2    GBECR01   ARIUS FELIS    900730
 3    GBECR01   ARIUS FELIS    900730
 4    GBECR01   ARIUS FELIS    900730
 5    GBECR01   ARIUS FELIS    900730
 6    GBECR01   ARIUS FELIS    900730

GEAR CODES
99 =    MISCELLANEOUS(HAND-GATHERED,TRAPS,SHOVEL
LIFE STAGE CODES
8 =    ADULT
ORGAN CODES
01 =    MUSCLE
```

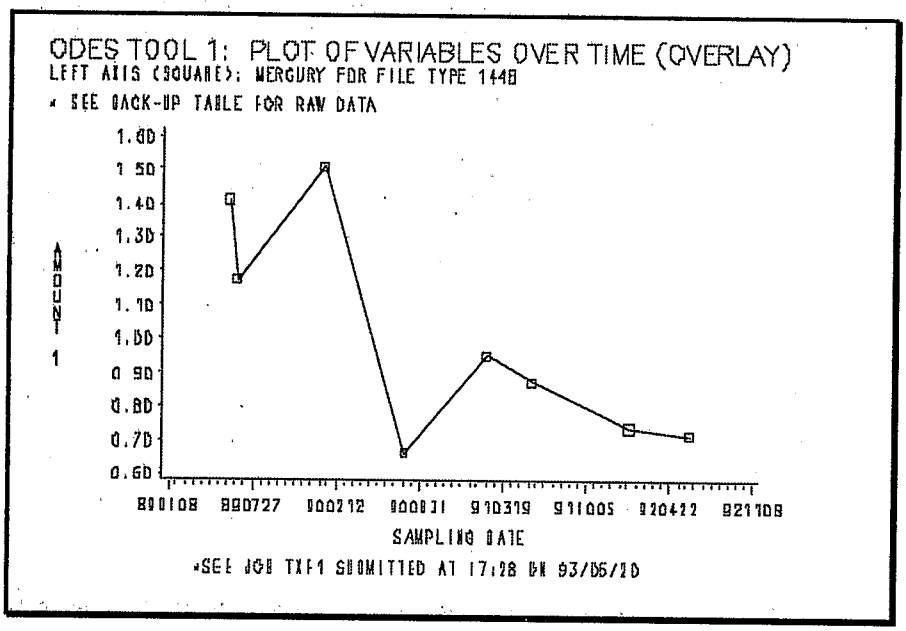
Figure 1.6

Analyzing ODES Data

Chapter 6: Scenario 1

As shown in Figure 1.7, the graphs provided by ODES Tool 1 provide a quick visual summary of the data. Using this tool, you can plot one or two chemical variables, show one or two stations, or compare two species.

Figure 1.7


ODES TOOL 1: PLOT OF VARIABLES OVER TIME (OVERLAY)
LEFT AXIS (SQUARE): MERCURY FOR FILE TYPE 1448
* SEE BACK-UP TABLE FOR RAW DATA
1.60
1.50
1.40
1.30
1.20
1.10
1.00
0.90
0.80
0.70
0.60
AMOUNT
1
880108 880727 900212 900831 910319 911005 920422 921108
SAMPLING DATE
*SEE JOB TXF1 SUBMITTED AT 17:28 ON 93/06/10

Major ODES Features

Participants of the NFTDR are primarily interested in ODES bioaccumulation data (file type code = **144B**). Using ODES, you can access this data in several different ways. This chapter has provided several examples of ODES output. Below is a summary of the ODES features that NFTDR participants can use to access their data.

On-line Assistance

- Find an entry in an ODES code dictionary
- Access articles about system modifications and ODES announcements

Contents Option

- Determine when and where data were collected
- Review reference information describing an individual ODES data set

Interactive Retrieval Option

- Display detailed tables summarizing specific subsets of ODES data
- List ODES data fields along with length and description of each field
- Prepare data for transfer to SAS®, ARC/Info®, or PC applications

Data Retrieval Tools

- Create standard and user-defined reports listing requested sample data
- Create standard and user-defined reports listing requested source data

ODES/STORET Bridge

- List the STORET variables you may use with ODES tools
- Locate a person who can answer questions about a STORET data sets
- Produce summary reports of STORET data
- Prepare data for transfer to SAS®, ARC/INFO®, or PC applications
- Create standard reports listing requested STORET data

Graphical Tools

- Plot how 1 variable fluctuates with time at a particular station
- Plot how 2 variables fluctuate together over time at a particular station
- Plot how stations fluctuate together over time for a particular variable

Fetch Option

- Access output from Data Retrieval Tools, Graphical Tool 1, and ODES/STORET Bridge

Chapter 2: Getting Started

Using ODES

You do not need to know how to use mainframe computers to take advantage of the many features of ODES. The ODES menu screens include instructions that help you respond to every prompt. These instructions serve as a reminder once you become familiar with the general ODES layout.

ODES menus require you to first specify general information about the area of interest. These screens are followed by more specific inquiries about the species and contaminants of concern to you. After you specify these criteria, ODES gives you the opportunity to make corrections if necessary.

On-line Assistance

ODES provides special assistance features such as on-line news and ODES dictionaries. On-line news provides details about updates or enhancements to the system (including documentation) that are not covered in this manual. The ODES dictionaries can be accessed from the Basic Options Menu as demonstrated later in this chapter. These dictionaries contain all of the current ODES codes and definitions. You can also access these dictionaries when Help is offered at a user-input prompt. For example, if ODES asks you to enter a chemical code, you can ask to view the chemical code dictionary.

ODES Menus

This section introduces you to some of the ODES menus. You can use the next several pages to acquaint yourself with the system and learn how to use the on-line dictionaries.

To access ODES, use the instructions provided in the *Appendix E* or contact the ODES technical support staff at (703) 841-6279.

Basic Options Menu

To access a specific ODES dictionary from the ODES Basic Options Menu, select *Option D = Use the On-line DICTIONARIES.* This portion of ODES stores the dictionaries that define each code you may need to use during an ODES session. **Enter D** at the prompt in Figure 2.1 to access the dictionaries.

Listing of Dictionaries

Suppose you are interested in determining who has submitted ODES data for Tennessee. Since ODES reference numbers contain a two character abbreviation for the state, you can use the reference number dictionary to find out the information of interest. For the National Fish Tissue Data Repository, the reference number is a ten digit code that signifies the bioaccumulation file type, the state of collection, the program or agency that collected the data, and the year and quarter during which the data were collected. To access the reference number dictionary and continue with this example, **enter O** for reference number at the prompt in Figure 2.2.

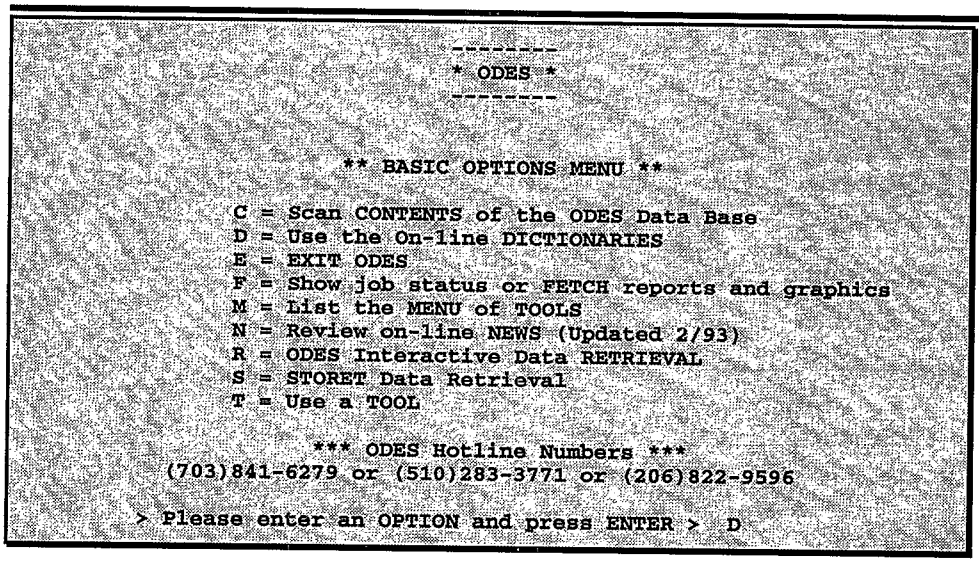


Figure 2.1

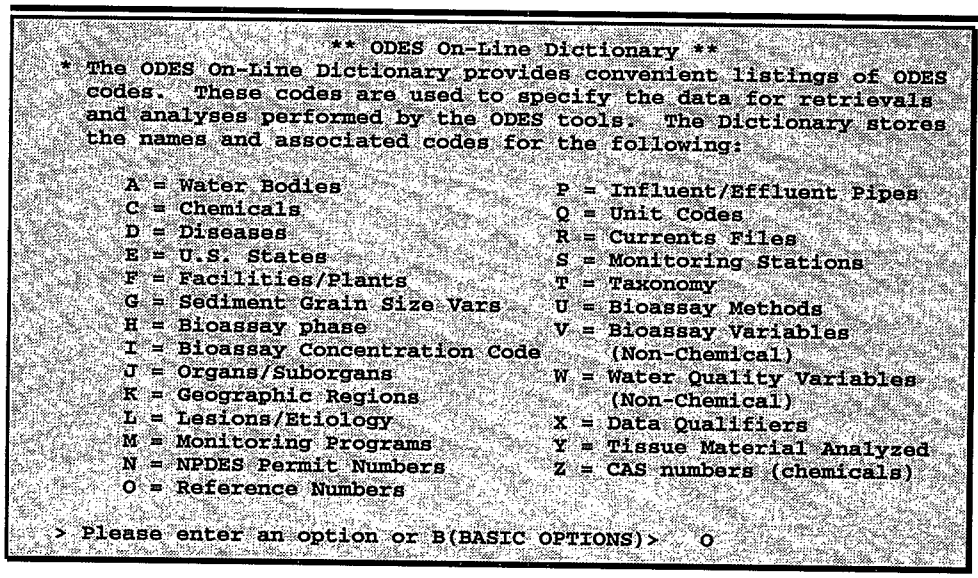


Figure 2.2

Reference Number Dictionary

When you access any ODES dictionary either in this option or at any help prompt during your ODES session, you are introduced to the dictionary and asked to enter a search string. The screen shown in Figure 2.3 describes the ODES reference number and requests a search string. If you want to view the entire dictionary, press ENTER. Since you are interested in data collected in Tennessee, **enter TN** to select any dictionary entries that contain TN somewhere in the entry. After requesting the search string TN, ODES responds with a listing of 21 occurrences. From the first page of entries, you can see those data were collected for an EPA study and a USFWS study. Figure 2.4 also shows the years and quarters when data were collected for those studies. For example, data were collected for the EPA study during the first three quarters of 1988. ODES can only display a certain number of entries on a screen. To view the remaining dictionary entries, press **ENTER** at the prompt.

Note that the list you are viewing is updated when new data are submitted. Therefore, your screen may look slightly different than Figure 2.4.

The entries in Figure 2.5 are a continuation of the previous screen. Using these two screens, you can see that only two agencies submitted data for the state of Tennessee. To locate information about another state or a particular agency, you can enter Y to continue searching the reference number dictionary. To exit this dictionary and continue with this example, **enter N**.

```
* The On-line Dictionary stores a description and the 9 or 10
  character Reference Number stored in the ODES Data Base.  You
  can search for all or part of a description, or a number. You
  may also press ENTER to view a listing of all codes.

> Enter search string >  TN
```

Figure 2.3

```
* There are 21 occurrence(s) of TN in the dictionary.

    REFNO                DESCRIPTION
-------------|-----------------------------------------
144BTN84E4     =  EPA STUDY TENNESSEE BIOACC. 1984
144BTN85E1     =  EPA STUDY TENNESSEE BIOACC. 1985
144BTN85E2     =  EPA STUDY TENNESSEE BIOACC. 1985
144BTN87E3     =  EPA STUDY TENNESSEE BIOACC. 1987
144BTN88E1     =  EPA STUDY TENNESSEE BIOACC. 1988
144BTN88E2     =  EPA STUDY TENNESSEE BIOACC. 1988
144BTN88E3     =  EPA STUDY TENNESSEE BIOACC. 1988
144BTN89E3     =  EPA STUDY TENNESSEE BIOACC. 1989
144BTN69U1     =  USFWS STUDY TENNESSEE BIOACC. 1969
144BTN70U1     =  USFWS STUDY TENNESSEE BIOACC. 1970
144BTN71U1     =  USFWS STUDY TENNESSEE BIOACC. 1971
144BTN72U1     =  USFWS STUDY TENNESSEE BIOACC. 1972
144BTN73U1     =  USFWS STUDY TENNESSEE BIOACC. 1973
144BTN74U1     =  USFWS STUDY TENNESSEE BIOACC. 1974
144BTN76U1     =  USFWS STUDY TENNESSEE BIOACC. 1976

> Press ENTER to continue or Q to QUIT >
```

Figure 2.4

```
    REFNO                DESCRIPTION
-------------|-----------------------------------------
144BTN77U1     =  USFWS STUDY TENNESSEE BIOACC. 1977
144BTN78U1     =  USFWS STUDY TENNESSEE BIOACC. 1978
144BTN79U1     =  USFWS STUDY TENNESSEE BIOACC. 1979
144BTN80U1     =  USFWS STUDY TENNESSEE BIOACC. 1980
144BTN81U1     =  USFWS STUDY TENNESSEE BIOACC. 1981
144BTN84U1     =  USFWS STUDY TENNESSEE BIOACC. 1984

> Search for another REFERENCE NUMBER? (Y/N) >  N
```

Figure 2.5

Returning to Basic Options

Since you entered N on the last screen, ODES returns you to the main dictionary screen. From this screen you can request another dictionary or return to the ODES Basic Options Menu. Since you have now accomplished your goals for this scenario, you can enter B at the prompt shown in Figure 2.6 to return to the Basic Options Menu.

```
                    ** ODES On-Line Dictionary **
* The ODES On-Line Dictionary provides convenient listings of ODES
  codes.  These codes are used to specify the data for retrievals
  and analyses performed by the ODES tools.  The Dictionary stores
  the names and associated codes for the following:

    A = Water Bodies                    P = Influent/Effluent Pipes
    C = Chemicals                       Q = Unit Codes
    D = Diseases                        R = Currents Files
    E = U.S. States                     S = Monitoring Stations
    F = Facilities/Plants               T = Taxonomy
    G = Sediment Grain Size Vars        U = Bioassay Methods
    H = Bioassay phase                  V = Bioassay Variables
    I = Bioassay Concentration Code         (Non-Chemical)
    J = Organs/Suborgans                W = Water Quality Variables
    K = Geographic Regions                  (Non-Chemical)
    L = Lesions/Etiology                X = Data Qualifiers
    M = Monitoring Programs             Y = Tissue Material Analyzed
    N = NPDES Permit Numbers            Z = CAS numbers (chemicals)
    O = Reference Numbers

> Please enter an option or B(BASIC OPTIONS)>  B
```

Figure 2.6

Selecting Study Area

In the last example, you looked at dictionary entries to determine if ODES contained any data from Tennessee. While you can use the dictionaries to determine which codes exist in ODES, you can also use various other options to retrieve sample and source level data collected in various locations.

When retrieving data, you will need to identify a specific area of interest. To request a particular area from within an ODES tool, you will begin on a screen similar to the one shown in Figure 2.7 below.

As you can see on this screen, you can request study areas with one of four methods. These methods, known as grouping stations by a monitoring program, requesting a specific reference number, designating the relation-to-ZID, and specifying station codes, are described in the definitions section of *Chapter 1.* A list of examples for each selection process is shown in the next column.

Monitoring Program
- All data from the state of Georgia

Relation-to-ZID
- Not applicable to NFTDR

Reference Number
- Data collected during the 1st quarter during every year in the state of North Carolina
- Data collected in Florida by the USFWS

Stations Individually
- Data collected in both North Carolina and South Carolina
- Data collected at a single station in the Florida Everglades

Figure 2.7

```
* ODES will now ask you to specify location(s) of interest by
  selecting a station or group of stations and a date or range
  of dates.

* You can specify stations of interest by selecting all stations
  in a monitoring program; or by selecting all stations for a
  reference data set; or a group of stations by their relation
  to the zone of initial dilution (ZID) (i.e., all near-field,
  boundary, reference, far-field, or with-in ZID stations in a
  monitoring program); or one or more individual stations.

      M = MONITORING Program
      N = Reference NUMBER
      R = RELATION to ZID (301h program only)
      S = STATIONS Individually
 > Enter M, N, R, or S >
```

Using Chapters 3 through 6

The first two chapters have introduced the basic structure and use of ODES. Given this foundation, you are ready to begin using ODES to retrieve and analyze data stored in the NFTDR.

Chapters 3 through 6 contain a set of tutorials that lead you through the four basic ODES features: Describing Data, Retrieving Data, Analyzing Data, and Accessing ODES Output. Each section contains background information on the feature as well as detailed scenarios that you can use as guides during future ODES sessions.

After completing the scenarios in the rest of this manual, you should understand when and how to use every ODES feature that you might need to access ODES bioaccumulation data.

NOTE: *The actual ODES screens may vary from the figures in these tutorials due to system upgrades and modifications. Notes about such changes will be listed in the ODES On-Line News Feature. If you encounter any problems or need further assistance, remember that the ODES technical support staff is available every weekday to assist you.*

These chapters are divided into the areas that you will use during a typical ODES session. An outline of the scenarios or examples in those chapters is shown below.

Chapter 3: Describing Data
- Where were data collected?
- When were data collected?
- How were data collected?
- What quantity of data was collected?

Chapter 4: Retrieving Data
- Customized report of sample data
- Standard report of source data

Chapter 5: Analyzing Data
- ODES plot of variable over time
- Text file for use with PC software packages
- SAS data set for use on the mainframe

Chapter 6: Accessing Output
- Standard ODES output
- High Quality Graphics
- Downloading Graphics

Helpful Hints

Before you start your first ODES session, you should be aware of the items listed below.

- When *** appears on your screen, press **ENTER** to continue.
- You may use either lowercase or uppercase when responding to ODES prompts.
- If you want to stop performing your current task, you may **enter EXIT** from any ODES prompt to return to the Basic Options Menu.
- For security reasons, your monitor will lock when it is not in use for a period of time. When your terminal is locked, you will get a message that requests you to re-enter your password. To continue, simply enter your password which is the 6 to 8 alphanumeric code that you used in conjunction with your 3 letter user ID to access the system.
- Most ODES features allow you to subset the data. Please note that when you subset your data, your output will only contain information that satisfies your subsetting criteria.
- Some ODES features create output that you can view immediately after requesting the information. Other ODES features create reports that are temporarily stored for you within the system. To view, print, or download these types of output, you should use the ODES *Fetch Option* that is described in Chapter 6.
- ODES supports many file types for several EPA programs. Fish tissue data related to NFTDR is stored as part of the ODES *bioaccumulation* database. To access this data, request the file type *144B*.
- To get a listing of all bioaccumulation data stored in ODES, use the reference number dictionary available in the *Dictionary Option*. An example of how to use this dictionary is shown earlier in this chapter. In the example, you were interested in Tennessee data, so you entered the search string TN. To list all bioaccumulation entries, **enter 144B** as your search string.
- To determine if data is available for a particular location, you can use the *Contents Option* which is demonstrated in Chapter 3 or use the waterbody dictionary from within the *Dictionary Option*.

If you have any questions while using ODES, please contact the technical support at (703) 841-6279. The staff is available weekdays from 9 a.m. to 6 p.m. EST.

Chapter 3: Describing ODES Data

Before attempting to retrieve and/or analyze data stored in the ODES database, you need to know if the data exist, some basic information about the data, and the quantity of data available. ODES offers several features to answer these basic questions.

You can quickly access general information about the data stored in ODES using the features discussed in this chapter. You can use these features to determine that data were collected on July 7, 1992, in 10 stations within North Carolina or that 20 observations of PCBs were reported for a particular station in Georgia. In general, these features allow you to determine:

- Where data were collected
- When data were collected
- How data were collected
- How much data was collected

You can use information from this chapter to determine if ODES stores the data that you need. If data exist, you can use the instructions found in the next two chapters to retrieve and analyze those data. Chapter 4 explains how to create reports that list ODES data. Chapter 5 discusses how to graph data using ODES menus. It also explains how to create files that allow you to analyze data on your PC, and how to transfer data to the mainframe's statistical analysis package.

The scenarios presented in this chapter answer four basic questions about the data collection that will help you begin your analysis: where when, how, and how much. If you have never used ODES, you should follow the instructions in this chapter treating the examples as actual scenarios that may interest you. If you have used ODES and need a refresher on how to use these features, you should be able to modify these examples to meet your particular needs.

The scenarios in this chapter can be used in series or individually:

Scenarios:

1 -- Where were data collected?
2 -- When were data collected?
3 -- How were data collected?
4 -- What quantity of data was collected?

Scenario 1: Where were data collected?

Output 1

```
REGION CODE: 10
REGION: EPA Region 10

   MONITORING          CODE                              FILE TYPE
    PROGRAM                      132    144B  013    144E  144W  073    144S  123    900
                                 -----  ----- -----  ----- -----  -----  ----- -----  -----
PUGET SOUND              PS     89/89    88                       88/89  81/89        84/89
ANCHORAGE                AN     86/89  87/89         85/90  86/89  86/86  86/86
KETCHIKAN                KE                                    87/88  87/88
KENDICOTT 403(C)         ED     86/90                              86/90  86/89
KUPARUK STP 403(C)       KU     86/90                       86/90  86/90
PRUDHOE BAY 403(C)       PB     88/90                              88/90  88/90
PORT VALDEZ 403(C)       PV     89/91  89/91                       90/91  89/91        90/91

FILE TYPES: 132=BENTHIC INFAUNA   144B=BIOACCUMULATION    013=FISH PATHOLOGY
            144E=EFFLUENT         144W=WATER QUALITY      073=SEDIMENT GRAIN SIZE
            144S=SEDIMENT POLLUTANTS  123=TRAWL/SEINE     900=BIOASSAY
DATES: FIRST YEAR/LAST YEAR
** NOTE:  BEFORE USING DATA, REVIEW QA/QC COMMENTS UNDER SUBOPTION R **
```

Output 2

```
REGION CODE: 10                REGION: EPA Region 10
PROGRAM CODE: PV               PROGRAM: PORT VALDEZ, 403(C) PROGRAM

STATION                                                    FILE TYPE
 CODE     LATITUDE   LONGITUDE      132    144B  013    144W  073    144S  123    900
--------  ---------  ----------     -----  ----- -----  ----- -----  -----  ----- -----
PV40009   61:05:30   146:22:24      89/91                              89/91
PV40011   61:05:25   146:23:04      89/91                       90/91  89/91        90/91
PV40012   61:05:25   146:23:31      89/91                              89/91
PV40013   61:05:26   146:23:51      89/91                       90/91  89/91        90/91
PV40014   61:05:35   146:23:18      89/91                              89/91
PV40015   61:05:45   146:22:45      89/91                       90/91  89/91        90/91
PV40010   61:05:28   146:23:19      89/91                              89/90
PV40018   61:04:38   146:27:55            89/91

FILE TYPES: 132=BENTHIC INFAUNA   144B=BIOACCUMULATION   013=FISH PATHOLOGY
            144E=EFFLUENT         144W=WATER QUALITY     073=SEDIMENT GRAIN SIZE
            144S=SEDIMENT POLLUTANTS  123=TRAWL/SEINE    900=BIOASSAY
DATES: FIRST YEAR/LAST YEAR
  ** NOTE:  BEFORE USING DATA, REVIEW QA/QC COMMENTS UNDER SUBOPTION R **
```

The Contents Option provides two ways to identify where data were collected: by selecting Monitoring Programs or Monitoring Stations. The Monitoring Programs section displays all monitoring programs that are associated with a certain geographic region. The section called Monitoring Stations summarizes the data that have been collected from each of the ODES monitoring stations. You can retrieve the stations of interest by specifying all ODES stations, a geographic region, or a monitoring program.

The major difference between Output 1 and Output 2 is the amount of detail in the output. Output 1 lists data by monitoring program; Output 2 shows every station for which data are available. Both reports show dates in the file type column for which data are available.

In these examples, Output 1 shows that bioaccumulation data (file type 144B) were collected from Puget Sound in 1988. Looking at Output 2, you see that data were collected at station PV40018 as early as 1989 and as recently as 1991.

To demonstrate these features, assume you are interested in locating bioaccumulation data collected in the state of Alaska. Since you are unsure whether ODES stores data collected in the state of Alaska, you first want to obtain a summary of all monitoring programs for that area of the country.

If you determine that there is a monitoring program in Alaska, you will then locate a station or group of stations associated with that monitoring program.

Getting Started

To determine where data were collected, you can use the Contents Option by entering C at the Basic Options Menu prompt shown in Figure 3.1.

To continue with this example, **enter C** to access the Contents Option.

Contents Menu

To determine if ODES stores bioaccumulation data collected in Alaska, enter P at the prompt in Figure 3.2. This option allows you to view all monitoring programs within a geographic region. If you find a monitoring program in the area of interest, you can use the Monitoring Stations section described later in this scenario to locate specific stations within the program. Please note that the procedure is the same regardless of file type or geographic region.

Enter P to continue with this example.

```
                        --------
                        * ODES *
                        --------

                  ** BASIC OPTIONS MENU **

          C = Scan CONTENTS of the ODES Data Base
          D = Use the On-line DICTIONARIES
          E = EXIT ODES
          F = Show job status or FETCH reports and graphics
          M = List the MENU of TOOLS
          N = Review on-line NEWS (Updated 2/93)
          R = ODES Interactive Data RETRIEVAL
          S = STORET Data Retrieval
          T = Use a TOOL

             *** ODES Hotline Numbers ***
      (703)841-6279 or (510)283-3771 or (206)822-9596

     > Please enter an OPTION and press ENTER >  C
```

Figure 3.1

```
        ** Scan CONTENTS of the ODES Data Base **

* You can scan the CONTENTS of the ODES Data Base by viewing
  summary tables that provide quick-access information about
  data types, monitoring stations or pipes, and dates stored in
  the system.  The categories are hierarchical and you can
  systematically scan the information stored in the data base
  by viewing each.

      P = Monitoring PROGRAMS within a Geographic Region.
      S = Monitoring STATIONS or PIPES within a Geographic
          Region or for a Monitoring Program.
      R = REFERENCE Information and Quality Control (QC)
          comments for individual datasets.
      D = DATES for which data are available at a particular
          Monitoring Station or Pipe (includes Reference ID).

* To scan the CONTENTS of an above category, enter the
  corresponding letter, or enter B to return to Basic Options.

> Please enter P, S, R, D or B >  P
```

Figure 3.2

Geographic Area

Next you are asked to select an EPA Region. Figure 3.3 shows the EPA regions and the state postal code abbreviations associated with the states that make up that region.

Since Alaska is in the EPA Region 10, **enter 10** at the prompt.

Output

ODES responds by displaying a table similar to Figure 3.4. This table lists the monitoring program, its code, and summary data. The figure shows which file types contain data for each monitoring program based on the years in which data were collected.

NOTE: *The table in this figure is updated regularly. As a result, the table you see in your session may not be exactly the same as Figure 3.4.*

This screen shows that bioaccumulation data were collected in Port Valdez from as early as 1989 and as recently as 1991. You may use this knowledge during the remainder of this example and in the next two scenarios to learn more about those data. To continue, press ENTER to look for other monitoring programs or enter M to return to the Contents Menu. **Enter M** to continue with this example.

Figure 3.3

```
        MONITORING PROGRAMS within a Geographic Region
        ----------------------------------------------

* Monitoring Programs within an EPA Region will be listed
  with a Program Code and a range of dates for which data are
  available.  You will be asked to enter a numeric Region Code
  to begin, or you can enter M to return to the CONTENTS MENU.

* The following Geographic Regions have data stored in ODES:
  (Note Regions with a (*) currently have no data in ODES)
    CODE  REGION              STATE POSTAL ABBREVIATION
     1     EPA Region 1       ME VT NH CT RI
     2     EPA Region 2       NY NJ Puerto Rico
     3     EPA Region 3       WV VA MD DE PA DC
     4     EPA Region 4       KY TN NC SC GA AL FL MS
     5     EPA Region 5       MN WI IL IN MI OH
     6     EPA Region 6       TX LA OK AR NM
     7  *  EPA Region 7       KS NE IA MO
     8  *  EPA Region 8       MT ND SD UT CO WY
     9     EPA Region 9       CA NV AZ HI
     10    EPA Region 10      WA ID OR AK

> Enter a Region Code, M for CONTENTS MENU or H for HELP >  10
```

Figure 3.4

```
-------------------------------------------------------------------------------
 REGION CODE: 10
 REGION: EPA Region 10 (WA ID OR AK)
-------------------------------------------------------------------------------
 ESTUARY STUDY      CODE                          FILE TYPE
    PROGRAM                  132   144B  013   144E  144W  073   144S  123   900
                            ----- ----- ----- ----- ----- ----- ----- ----- -----
PUGET SOUND          PS    89/89   88                    88/89 81/89       84/89
ANCHORAGE            AN    86/89 87/89       85/90 86/89 86/86 86/86
KETCHIKAN            KE                            87/88 87/88
ENDICOTT 403(C)      ED    86/90                       86/90 86/89
KUPARUK STP 403(C)   KU    86/90                 86/90 86/90
PRUDHOE BAY 403(C)   PB    88/90                       88/90 88/90
PORT VALDEZ 403(C)   PV    89/91 89/91                 90/91 89/91       90/91

-------------------------------------------------------------------------------
FILE TYPES: 132=BENTHIC INFAUNA  144B=BIOACCUMULATION   013=FISH PATHOLOGY
            144E=EFFLUENT        144W=WATER QUALITY     073=SEDIMENT GRAIN SIZE
            144S=SEDIMENT POLLUTANTS  123=TRAWL/SEINE   900=BIOASSAY
DATES: FIRST YEAR/LAST YEAR
** NOTE:  BEFORE USING DATA, REVIEW QA/QC COMMENTS UNDER SUBOPTION R **
-------------------------------------------------------------------------------
> Press RETURN to CONTINUE or M for CONTENTS MENU >  M
```

Contents Menu

From the last screen, you learned that data were collected in Port Valdez, Alaska. Now you want to know exactly where those data were collected. This step assists you by letting you decide if there were a sufficient number of locations in that area to conduct your analysis. **Enter S** at the Contents Menu in Figure 3.5 to begin this section.

You are now prompted for a method of locating monitoring stations. Please note, as shown in Figure 3.6, you could select a geographic region by entering G or a latitude/longitude area by entering L. Since you are interested in learning about data collection in Port Valdez, Alaska, please **enter P** for monitoring program.

```
          ** Scan CONTENTS of the ODES Data Base **

* You can scan the CONTENTS of the ODES Data Base by viewing
  summary tables that provide quick-access information about
  the data types, monitoring stations or pipes, and dates
  stored in the system.  The categories below are hierarchical
  and you can systematically scan the information stored in the
  data base by viewing each.

      P = Monitoring PROGRAMS within a Geographic Region.
      S = Monitoring STATIONS or PIPES within a Geographic
          Region or for a Monitoring Program.
      R = REFERENCE Information and Quality Control (QC)
          comments for individual datasets.
      D = DATES for which data are available at a particular
          Monitoring Station or Pipe (includes Reference ID).

* To scan the CONTENTS of an above category, enter the
  corresponding letter, or enter B to return to Basic Options.

> Please enter P, S, R, D or B >  S
```

Figure 3.5

```
                    Monitoring STATIONS or PIPES
                    ----------------------------

* As you review Monitoring Stations and Pipe Codes Tables, you
  might want to make a note of Station Codes or Pipe Codes, and
  associated Dates.  Other CONTENTS options may require you to
  enter Station Codes or Pipe Codes and Dates.

* You can list all stations and pipes within a Geographic
  region, Monitoring Program, or latitude/longitude window.
  Options G and P require a two-character selection code.
  Option L requires a Latitude and/or Longitude selection.

                G = GEOGRAPHIC Region
                P = Monitoring PROGRAM
                L = LATITUDE/LONGITUDE

* You will now be asked to enter a search method, or  enter
  M to view the CONTENTS MENU.

> Please enter G, P, L or M for CONTENTS MENU or H for HELP > P
```

Figure 3.6

As shown in Figure 3.7, you are prompted for a monitoring program. If you cannot remember the code for the Port Valdez monitoring program or any other monitoring program of interest, ODES provides an on-line dictionary to assist you. You can access that dictionary now by **entering H** at the prompt.

By entering H at the last prompt, you enter the on-line dictionary. Once in the dictionary option, ODES prompts you to enter a search string. For this example, **enter 'PORT VALDEZ'** in quotes as shown in Figure 3.8.

The ODES dictionary responds with the ODES code PV as shown in Figure 3.9. **Enter N** to exit the dictionary without making another request and then **Enter PV** at the next prompt as shown in Figure 3.9.

```
* You will now be asked to specify a Monitoring Program by
  entering a two-character Program Code.

> Please enter a Program Code or H for Help>  H
```

Figure 3.7

```
* The On-line Dictionary stores the names and two-character IDs
  for monitoring programs which currently have data stored
  in the ODES Data Base.  You can search the dictionary by
  entering all or part of the name of a monitoring program. You
  may also press RETURN to view a listing of all codes.

> Enter search string >  'PORT VALDEZ'
```

Figure 3.8

```
* There is 1 occurrence of PORT VALDEZ in the dictionary.

  CODE          MONITORING PROGRAM
  ------------------------------------------
   PV = PORT VALDEZ  403(C) PROGRAM

> Search for another MONITORING PROGRAM? (Y/N) >   N

> Please enter a Program Code or H for Help>  PV
```

Figure 3.9

Output

This section of ODES produces a table similar to the one produced for Monitoring Programs. Notice in Figure 3.10 that no bioaccumulation data were collected at these stations. This conclusion can be drawn because the column for the bioaccumulation file type (144B) is blank. Press **ENTER** to view the next page of the Port Valdez table.

NOTE: *If you continue pressing ENTER to page through and there are no more pages, ODES asks if you want to look at another program. If you answer N for No, you return to the Contents Menu. If you enter Y for Yes, you return to the prompt in Figure 3.7.*

After pressing ENTER to continue from the last screen, ODES displays the table shown in Figure 3.11. Since you are trying to locate stations that have bioaccumulation data, review the column labeled 144B. Notice that the final entry reads 88/91. This entry signifies that data were collected at station PV40018 between 1988 and 1991. You can continue looking at the latitude and longitude locations of the Port Valdez stations by pressing ENTER to page through the list. When you finish looking at these tables, **enter M** to return to the Contents Menu. The Contents Menu is the menu from which you started this scenario.

By using this section, you learned that Port Valdez collected bioaccumulation data at station PV40018. You also know the latitude/longitude for that station. Now you can use the next scenario to determine if data were collected for this station during the summer of 1990. Before beginning that scenario, you need to complete this scenario by completing the steps on the next page.

Figure 3.10

```
REGION CODE: 10                REGION: EPA Region 10
PROGRAM CODE: PV               PROGRAM: PORT VALDEZ, 403(C) PROGRAM

STATION                                                FILE TYPE
 CODE    LATITUDE  LONGITUDE     132   144B  013   144W  073   144S  123   900
------- --------- ---------  ----- ----- ----- ----- ----- ----- ----- -----
PV40001  61:06:21  146:20:00   89/91                       89/91
PV40002  61:05:54  146:21:48   89/91                       89/91
PV40003  61:06:21  146:25:18   89/91                 90/91 89/91       90/91
PV40004  61:06:35  146:28:07   89/91                 90/91 89/91       90/91
PV40005  61:06:35  146:32:18   89/91                       89/91
PV40006  61:06:21  146:35:42   89/91                 90/91 89/91       90/91
PV40007  61:05:31  146:24:20   89/91                       89/90
PV40008  61:05:31  146:24:29   89/90

FILE TYPES: 132=BENTHIC INFAUNA   144B=BIOACCUMULATION  013=FISH PATHOLOGY
            144E=EFFLUENT         144W=WATER QUALITY    073=SEDIMENT GRAIN SIZE
            144S=SEDIMENT POLLUTANTS  123=TRAWL/SEINE   900=BIOASSAY
DATES: FIRST YEAR/LAST YEAR

** NOTE:BEFORE USING DATA,REVIEW QA/QC COMMENTS UNDER SUBOPTION R

> Press RETURN for MORE or M for CONTENTS MENU >
```

Figure 3.11

```
REGION CODE: 10                REGION: EPA Region 10
PROGRAM CODE: PV               PROGRAM: PORT VALDEZ, 403(C) PROGRAM

STATION                                                FILE TYPE
 CODE    LATITUDE  LONGITUDE     132   144B  013   144W  073   144S  123   900
------- --------- ---------  ----- ----- ----- ----- ----- ----- ----- -----
PV40009  61:05:30  146:22:24   89/91                       89/91
PV40011  61:05:25  146:23:04   89/91                 90/91 89/91       90/91
PV40012  61:05:25  146:23:31   89/91                       89/91
PV40013  61:05:26  146:23:51   89/91                 90/91 89/91       90/91
PV40014  61:05:35  146:23:18   89/91                       89/91
PV40015  61:05:45  146:22:45   89/91                 90/91 89/91       90/91
PV40010  61:05:28  146:23:19   89/91                       89/90
PV40018  61:04:38  146:27:55         89/91

FILE TYPES: 132=BENTHIC INFAUNA   144B=BIOACCUMULATION  013=FISH PATHOLOGY
            144E=EFFLUENT         144W=WATER QUALITY    073=SEDIMENT GRAIN SIZE
            144S=SEDIMENT POLLUTANTS  123=TRAWL/SEINE   900=BIOASSAY
DATES: FIRST YEAR/LAST YEAR
  ** NOTE:  BEFORE USING DATA, REVIEW QA/QC COMMENTS UNDER SUBOPTION R **

> Press RETURN for MORE or M for CONTENTS MENU >M
```

Finishing the Job

On the last screen, you entered M to return to the Contents Menu. If you are interested in using an option on the Contents Menu, you can enter that option now. To exit back to the Basic Options Menu, enter B. All scenarios begin from the Basic Options Menu which is the focal point of the ODES menu system. To exit this scenario and return to the Basic Options Menu, **enter B** in Figure 3.12.

```
          ** Scan CONTENTS of the ODES Data Base **

* You can scan the CONTENTS of the ODES Data Base by viewing
  summary tables that provide quick-access information about
  data types, monitoring stations or pipes, and dates stored in
  the system.  The categories are hierarchical and you can
  systematically scan the information stored in the data base
  by viewing each.

      P = Monitoring PROGRAMS within a Geographic Region.
      S = Monitoring STATIONS or PIPES within a Geographic
          Region or for a Monitoring Program.
      R = REFERENCE Information and Quality Control (QC)
          comments for individual datasets.
      D = DATES for which data are available at a particular
          Monitoring Station or Pipe (includes Reference ID).

* To scan the CONTENTS of an above category, enter the
  corresponding letter, or enter B to return to Basic Options.

> Please enter P, S, R, D or B >  B
```

Figure 3.12

Scenario 2: When were data collected?

Output 3

```
DATE INFORMATION FOR BIOACCUMULATION DATA
DATE(S):      RANGE OF DATES FROM 9006 TO 9008
STATION(S):   SELECTED STATIONS

SAMPLING DATE=21JUN1990

STATION     REFERENCE
 CODE          ID

PV40019     144BPV9002


SAMPLING DATE=23JUN1990


STATION     REFERENCE
 CODE          ID

PV40018     144BPV9002


SAMPLING DATE=24JUN1990

STATION     REFERENCE
 CODE          ID

PV40017     144BPV9002
```

The last scenario showed you how to determine where data were collected. You also determined the range of years for which data were collected; however, in many cases you will need to know exactly when data were collected. For example, the last scenario showed data were collected in Port Valdez, Alaska between 1989 and 1991. Your next question may be on which dates were data collected.

As you can see in Output 3 on the previous page, ODES can list the stations where data were collected on a particular date. For example, data were collected on June 21, 1990 at ODES station PV40019. Similarly, data were collected on the 23rd and 24th of June in 1990.

You can obtain this type of information by using the Dates section of the Contents Option.

The Dates section provides an up-to-date listing of exactly when and where data were collected. Unlike the tables shown in the last scenario, this section provides the actual day, month, and year of data collection. The tables in the previous scenario show the first and last year that data were collected.

For this scenario, you can build from the information learned in the last example. In the last scenario you learned that Port Valdez collected data between 1989 and 1991. Now you would like to know the exact sampling dates at Port Valdez for the summer of 1990.

Getting Started

To determine when data were collected, you can use the Contents Option by entering C at the Basic Options Menu prompt shown in Figure 3.13.

To continue with this example, **enter C** to access the Contents Option.

Contents Menu

Since you want to determine the dates for which data have been reported, **enter D** at the prompt in Figure 3.14.

```
                    --------
                    * ODES *
                    --------

                ** BASIC OPTIONS MENU **

          C = Scan CONTENTS of the ODES Data Base
          D = Use the On-line DICTIONARIES
          E = EXIT ODES
          F = Show job status or FETCH reports and graphics
          M = List the MENU of TOOLS
          N = Review on-line NEWS (Updated 2/93)
          R = ODES Interactive Data RETRIEVAL
          S = STORET Data Retrieval
          T = Use a TOOL

              *** ODES Hotline Numbers ***
     (703)841-6279 or (510)283-3771 or (206)822-9596

   > Please enter an OPTION and press RETURN >C
```

Figure 3.13

```
          ** Scan CONTENTS of the ODES Data Base **

* You can scan the CONTENTS of the ODES Data Base by viewing
  summary tables that provide quick-access information about
  data types, monitoring stations or pipes, and dates stored in
  the system.  The categories are hierarchical and you can
  systematically scan the information stored in the data base
  by viewing each.

      P = Monitoring PROGRAMS within a Geographic Region.
      S = Monitoring STATIONS or PIPES within a Geographic
          Region or for a Monitoring Program.
      R = REFERENCE Information and Quality Control (QC)
          comments for individual datasets.
      D = DATES for which data are available at a particular
          Monitoring Station or Pipe (includes Reference ID).

* To scan the CONTENTS of an above category, enter the
  corresponding letter, or enter B to return to Basic Options.

> Please enter P, S, R, D or B >  D
```

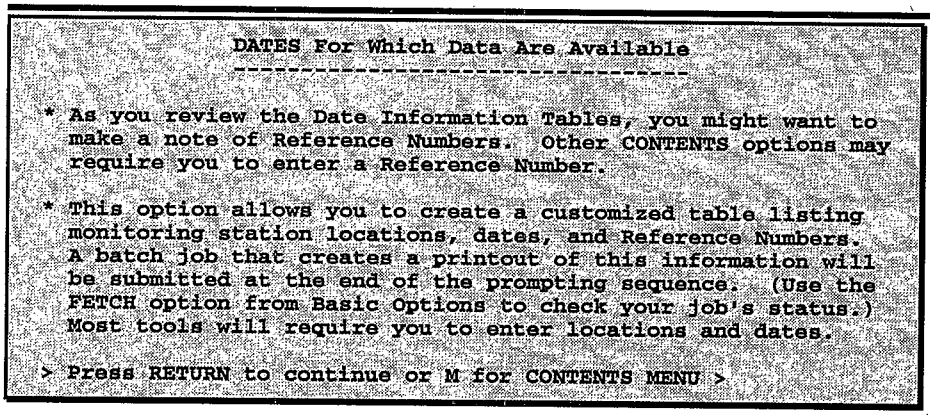
Figure 3.14

Dates

After you enter the Dates section, ODES provides an introductory screen that is shown in Figure 3.15. From this screen, you can enter M to return to the Contents Menu or press ENTER to continue with the Dates section. For this example, press **ENTER**.

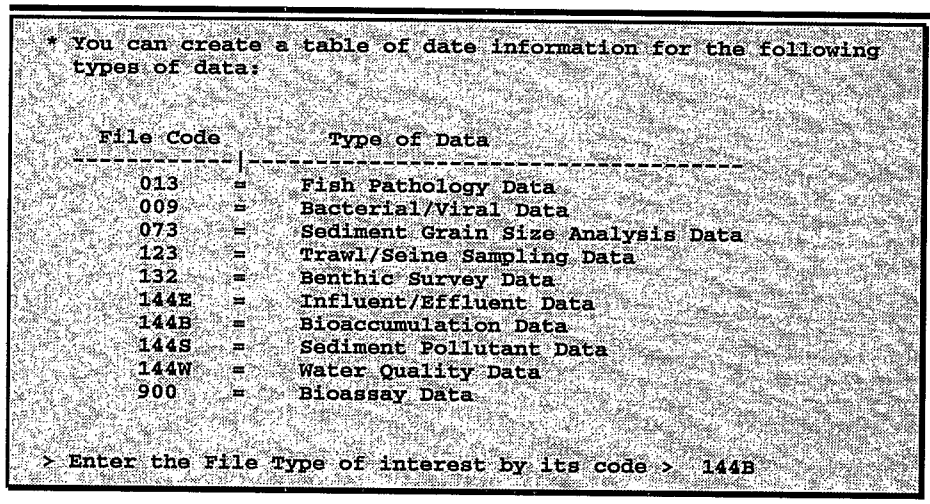
File Type Selection

ODES now asks a series of questions. First, you are prompted in Figure 3.16 for a file type. Since you are interested in Port Valdez bioaccumulation data, **enter 144B** at the prompt.



```
                DATES For Which Data Are Available
                ----------------------------------

* As you review the Date Information Tables, you might want to
  make a note of Reference Numbers.  Other CONTENTS options may
  require you to enter a Reference Number.

* This option allows you to create a customized table listing
  monitoring station locations, dates, and Reference Numbers.
  A batch job that creates a printout of this information will
  be submitted at the end of the prompting sequence.  (Use the
  FETCH option from Basic Options to check your job's status.)
  Most tools will require you to enter locations and dates.

> Press RETURN to continue or M for CONTENTS MENU >
```

Figure 3.15



```
* You can create a table of date information for the following
  types of data:

    File Code          Type of Data
   -----------|-----------------------------------
        013    =    Fish Pathology Data
        009    =    Bacterial/Viral Data
        073    =    Sediment Grain Size Analysis Data
        123    =    Trawl/Seine Sampling Data
        132    =    Benthic Survey Data
        144E   =    Influent/Effluent Data
        144B   =    Bioaccumulation Data
        144S   =    Sediment Pollutant Data
        144W   =    Water Quality Data
        900    =    Bioassay Data

> Enter the File Type of interest by its code >  144B
```

Figure 3.16

Station Selection

The next screen, Figure 3.17, requests a method for specifying the monitoring stations. Since you are interested in Port Valdez, enter P for monitoring program. You could have also selected S for individual stations and then entered the stations PV40017, PV40018, and PV40019 that you found in the last section. Selecting A for all stations would create a report including all ODES stations where bioaccumulation data were collected. **Enter P** to continue.

After entering P for monitoring program, ODES prompts you for the monitoring program code of interest. As in the last section, you could use the on-line dictionary. If you remember that the code is PV from earlier, simply **enter PV** at the prompt in Figure 3.18.

Date Selection

As shown in Figure 3.19, you can request all dates or a range of dates. For this example, you are interested in data collected during the summer of 1990, so you should **enter R** to select a range of dates.

ODES prompts you for the range of dates in Figure 3.20. These dates should be entered in a YYMMDD format where YY is the year, MM is the month, and DD is the day. Please note, your range may be a single day, month, or year. Rather than using a range of dates, you can request a single year, month, or day. For this example, **enter 9006 9008** for June through August 1990.

```
* You can specify Monitoring Stations of interest by one of the
  following methods:

            S = Individual STATIONS
            P = Monitoring PROGRAM
            A = ALL Stations

> Please enter S, P,  or A >  P
```

Figure 3.17

```
* You will be asked to identify a monitoring program of
  interest by entering a two-character ODES identifier.
  If you are unsure of the identifier code, enter H for help.

> Enter an ODES 2-character ID or H >  PV
```

Figure 3.18

```
* You can specify dates of interest by one of the following
  methods:

            R = RANGE of Dates
            A = ALL Dates

> Please enter R or A >  R
```

Figure 3.19

```
* You can select dates by year only (YY), year and month
  (YYMM), or year, month and day (YYMMDD).  Both dates must be
  in the same format and be separated by a blank or a comma.
  For example: "850115 850215" and "8501,8502" are both valid
  responses.  To select one day, enter that date only (in
  YYMMDD format) at the prompt.

> Enter a START and END DATE (YYMMDD,YYMMDD) or single date (YYMMDD)
>   9006 9008
```

Figure 3.20

Finishing the Job

After requesting dates, ODES prompts you for the format of the output (Figure 3.21). The first choice, D, sorts the table by stations. This option may be useful if you are interested in the number of times data were collected at a given station. Selecting L sorts the table by dates. This format is recommended when the date is more important than exactly where the data were collected. You may use either choice for this example. The output shown at the beginning of the scenario used **L** to list the locations associated with each date.

Unlike other sections of the Contents Option, the Dates section runs in batch mode; therefore, the output does not automatically appear at the end of the job. To access the output, ODES tells you a job number on a screen similar to the one shown in Figure 3.22. You should record this job number for later use in retrieving the output. ODES output is retrieved using the Fetch Option which is discussed in Chapter 6. Press **ENTER** to return to the Contents Menu.

On the last screen, you pressed ENTER to return to the Contents Menu. If you are interested in using an option on the Contents Menu, you can enter that option now. To return to the Basic Options Menu, enter B. All scenarios begin from the Basic Options Menu which is the focal point of the ODES menu system. To exit this scenario and return to the Basic Options Menu, **enter B** in Figure 3.23.

From the Basic Options Menu, you will want to enter F for the Fetch Option. The Fetch Option allows you to retrieve output that you create with the ODES Features. Instructions for the Fetch Option are provided in Chapter 6. If you have any questions about using Fetch, please contact the ODES technical support staff at (703) 841-6279.

```
* You can arrange the data in your table in one of the
  following formats:

      D = List each location and all DATES for available data
      L = List each date and all LOCATIONS for all dates

> Please enter D or L >  L
```

Figure 3.21

```
* Thank you.

* Please record the following job information
  for subsequent retrievals:

      JOB NUMBER: 25528
      TIME:       13:57:27
      DATE:       04/26/93

> Please press RETURN to return to CONTENTS MENU >
```

Figure 3.22

```
          ** Scan CONTENTS of the ODES Data Base **

* You can scan the CONTENTS of the ODES Data Base by viewing
  summary tables that provide quick-access information about
  data types, monitoring stations or pipes, and dates stored in
  the system. The categories below are hierarchical and you can
  systematically scan the information stored in the data base
  by viewing each.

      P = Monitoring PROGRAMS within a Geographic Region.
      S = Monitoring STATIONS or PIPES within a Geographic
          Region or for a Monitoring Program.
      R = REFERENCE Information and Quality Control (QC)
          comments for individual datasets.
      D = DATES for which data are available at a particular
          Monitoring Station or Pipe (includes Reference ID).

* To scan the CONTENTS of an above category, enter the
  corresponding letter, or enter B to return to Basic Options.

> Please enter P, S, R, D or B >  B
```

Figure 3.23

Scenario 3: How were data collected?

Output 4

```
REFERENCE NUMBER: 144BPV9002                                    PAGE 1 OF 7

REGION CODE:  10            REGION:   EPA Region 10 (WA ID OR AK)
PROGRAM CODE:  PV           PROGRAM:  PORT VALDEZ (ALYESKA)

CONTACT:  R.L. MIKKELSEN, ENVIRONMENTAL PERMITS SUPERVISOR
          ALYESKA PIPELINE SERVICE COMPANY

                                    PHONE:  (907) 265-8437

PROGRAM:  403(c)
FILE TYPE:  Bioaccumulation     REFERENCE ID:  144BPV9002
NUMBER OF STATIONS SAMPLED: 3
SAMPLING PERIOD:  June 1990
NUMBER OF VARIABLES REPORTED:  19 (18 aromatic hydrocarbons and total
   alkanes)
SAMPLING EQUIPMENT USED:  Mussels collected by hand with forceps
ANALYTICAL TECHNIQUES:  Aromatic hydrocarbons determined by flame ionization
   detector-gas chromatography (FID-GC), after caustic digestion, and silica-
                                                        CONTINUED...

REFERENCE NUMBER: 144BPV9002                                    PAGE 2 OF 7

   alumina column and high performance liquid chromatography (HPLC) cleanup

GENERAL COMMENTS
   Port Valdez, Alaska, is the site of the marine terminal of the Trans-
Alaska Pipeline System.  Operation of this terminal includes reception,
treatment, and discharge of tanker ballast water; an activity which is
regulated through permits issued under the National Pollutant Discharge
Elimination System (NPDES).  Hydrocarbons were measured in mussels collected
at three sites in June 1990 in the vicinity of the Alyeska marine terminal
and in reference intertidal areas in Port Valdez.  The monitoring survey was
designed to determine the concentrations of petroleum hydrocarbons in
intertidal mussels which are attributable to the permitted discharge of
treated ballast water at the marine terminal.
   Intertidal mussels were collected at three locations on 21-24 June 1990.
 One station (B5) was located within the marine terminal at Berth Five.  The
other two stations can be considered reference stations because of their
location away from human activities.  The Five Mile Beach station (Station
                                                        CONTINUED...
```

Using the last two scenarios, you determined whether data exist in ODES for a particular geographic area and exactly when those data were collected. This information is vital in determining if you can perform an analysis for your particular area of interest using ODES data. Before using the data, however, you may need to know how the samples were collected and how the concentrations were measured. In addition, you may need to contact the lead scientist in charge of the sample collection and initial analysis.

All of this information is stored in the ODES Reference Information. A separate description is stored on-line for each ODES data set. This information is stored on an annual basis for the National Fish Tissue Data Repository and a quarterly basis for all other ODES programs.

The Reference Information section displays textual summaries that provide important information about each data set. As shown in Output 4, the reference information provides an individual's name and phone number to contact with any questions about the data. The abstracts also warn you of any inconsistencies within the data and identify where supporting data may exist.

To demonstrate how to retrieve reference information from ODES, this scenario builds off the knowledge learned in the last two scenarios. In those scenarios, you learned where and when samples were collected during the spring of 1990. Now you would like some information about why the samples were collected and how the specimens were analyzed. Also, you would like to contact someone from the Port Valdez 403(c) program who can give you further insight into the data.

Getting Started

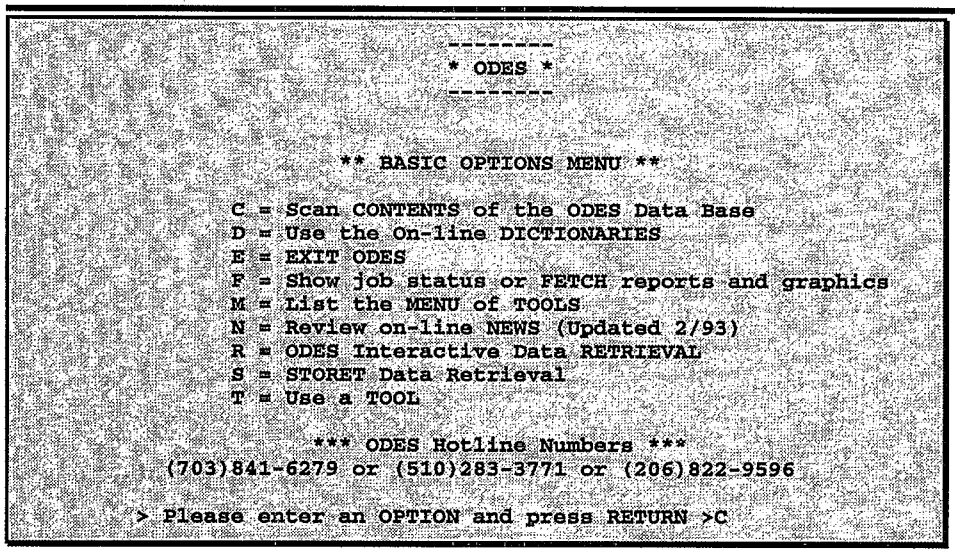
You learned during Scenario 2 that samples were collected during June of 1990 in Port Valdez, Alaska. Before using these data for analysis, though, you would like to know why the samples were collected and determine if there is any information you should be aware of before retrieving the data.

To determine why the specimens were collected and how the concentrations were measured, you should use the Contents Option shown on the Basic Options Menu in Figure 3.24. To access the Contents Option and begin this example, **enter C**.

Contents Menu

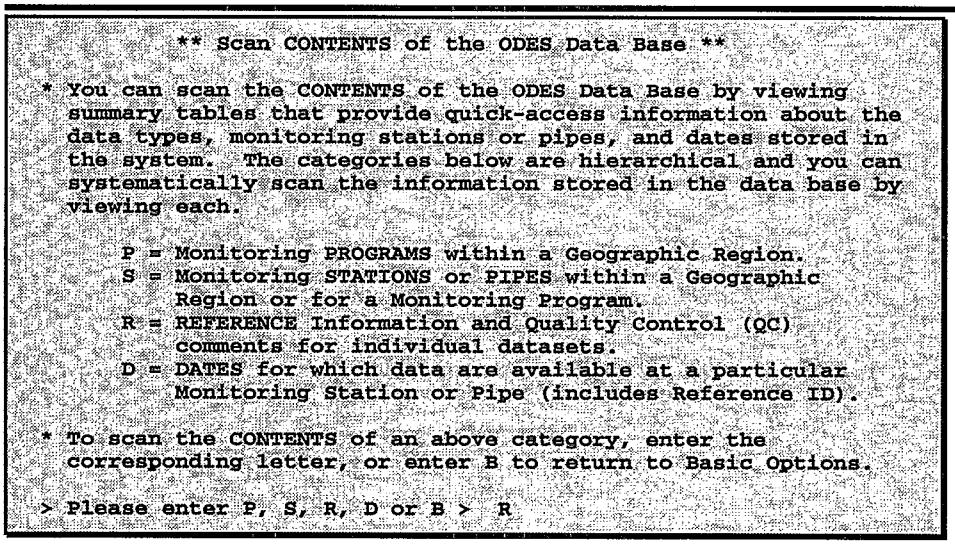
After entering the Contents Option, you should see the screen in Figure 3.25. This screen is the same screen that was shown in the previous two scenarios. In this scenario you are interested in accessing the reference information section of the ODES Contents Option.

On the Contents Menu in Figure 3.25, ODES refers to this information as Reference Information. **Enter R** to start this section of the Contents Option.



```
                        --------
                      * ODES *
                        --------

                  ** BASIC OPTIONS MENU **

          C = Scan CONTENTS of the ODES Data Base
          D = Use the On-line DICTIONARIES
          E = EXIT ODES
          F = Show job status or FETCH reports and graphics
          M = List the MENU of TOOLS
          N = Review on-line NEWS (Updated 2/93)
          R = ODES Interactive Data RETRIEVAL
          S = STORET Data Retrieval
          T = Use a TOOL

                *** ODES Hotline Numbers ***
      (703)841-6279 or (510)283-3771 or (206)822-9596

    > Please enter an OPTION and press RETURN >C
```

Figure 3.24



```
          ** Scan CONTENTS of the ODES Data Base **

* You can scan the CONTENTS of the ODES Data Base by viewing
  summary tables that provide quick-access information about the
  data types, monitoring stations or pipes, and dates stored in
  the system.  The categories below are hierarchical and you can
  systematically scan the information stored in the data base by
  viewing each.

      P = Monitoring PROGRAMS within a Geographic Region.
      S = Monitoring STATIONS or PIPES within a Geographic
          Region or for a Monitoring Program.
      R = REFERENCE Information and Quality Control (QC)
          comments for individual datasets.
      D = DATES for which data are available at a particular
          Monitoring Station or Pipe (includes Reference ID).

* To scan the CONTENTS of an above category, enter the
  corresponding letter, or enter B to return to Basic Options.

> Please enter P, S, R, D or B >  R
```

Figure 3.25

Reference Information

An introductory screen shown in Figure 3.26 should appear. This screen explains the Reference Information section and the type of information you need to retrieve it. Since you are interested in bioaccumulation data reported from Port Valdez in the spring of 1990, you should enter the reference number **144BPV9002** at the prompt. The 144B represents bioaccumulation data, PV stands for Port Valdez, and 9002 represents the second quarter or the spring of 1990.

Output

When browsing these descriptions, you can press ENTER to page through the abstract or use M to return to the Contents Menu. If you would like to read the entire abstract, press ENTER to continue to the next page and follow the prompts at the bottom of each screen. Figure 3.27 displays the first page of the abstract. Press **ENTER** to continue with this example.

```
              REFERENCE Information and QC comments
              -------------------------------------

 * This CONTENTS option allows you to review technical comments/
   descriptive information stored for individual ODES data sets.
   All data stored in the ODES Data Base have been reviewed for
   accuracy by the ODES Technical Staff.  All information for a
   particular data set is stored under a unique Reference
   Number.

 * Reference Number contains the 3-4 character FILE TYPE code,
   the 2 character ODES PROGRAM CODE, the 2 digit YEAR in which
   the data were collected, and 2 digit sequential SCAN number.
   For example, the Reference Number for a benthic survey data
   set (FILE TYPE=132) collected in 1980 (YEAR=80) for San Diego
   (PROGRAM CODE=SD) during the first scan (SCAN=01) would be
   132SD8001.

 * You will now be asked to enter Reference Number of interest.
   You can search any FILE TYPE for any part of the Reference
   Number (e.g., 132SD to search for all benthic survey datasets
   for San Diego).  A valid FILE TYPE must be entered.

 > Enter Reference ID, M for CONTENTS MENU or H for HELP> 144BPV9002
```

Figure 3.26

Figure 3.27

```
 ------------------------------------------------------------------------------
 REFERENCE NUMBER: 144BPV9002                                  PAGE 1 OF 7
 ------------------------------------------------------------------------------
 REGION CODE:  10            REGION:   EPA Region 10 (WA ID OR AK)
 PROGRAM CODE:  PV           PROGRAM:  PORT VALDEZ (ALYESKA)

 CONTACT:  R.L. MIKKELSEN, ENVIRONMENTAL PERMITS SUPERVISOR
           ALYESKA PIPELINE SERVICE COMPANY

                                     PHONE:  (907) 265-8437

 PROGRAM:  403(c)
 FILE TYPE:  Bioaccumulation     REFERENCE ID:  144BPV9002
 NUMBER OF STATIONS SAMPLED: 3
 SAMPLING PERIOD:  June 1990
 NUMBER OF VARIABLES REPORTED:  19 (18 aromatic hydrocarbons and total
    alkanes)
 SAMPLING EQUIPMENT USED:  Mussels collected by hand with forceps
 ANALYTICAL TECHNIQUES:  Aromatic hydrocarbons determined by flame ionization
    detector-gas chromatography (FID-GC), after caustic digestion, and silica-
                                                          CONTINUED...
 ------------------------------------------------------------------------------
 > Press RETURN to CONTINUE or M for CONTENTS MENU >
```

Figure 3.28 shows the second screen of the abstract. Again you can press ENTER to continue or enter M to return to the Contents Menu. To continue this example, **enter M** at the prompt to return to the Contents Menu. You are now finished with this example and should be at the Contents Menu. You may now **enter B** to return to ODES Basic Options.

The next four pages show the reference information submitted by Galveston Bay National Estuary Program for the summer of 1990. This example should give you a better understanding of the information stored in these summaries.

Figure 3.28

```
--------------------------------------------------------------------------------
REFERENCE NUMBER: 144BPV9002                                    PAGE 2 OF 7
--------------------------------------------------------------------------------
     alumina column and high performance liquid chromatography (HPLC) cleanup
GENERAL COMMENTS
     Port Valdez, Alaska, is the site of the marine terminal of the Trans-
Alaska Pipeline System.  Operation of this terminal includes reception,
treatment, and discharge of tanker ballast water; an activity which is
regulated through permits issued under the National Pollutant Discharge
Elimination System (NPDES).  Hydrocarbons were measured in mussels collected
at three sites in June 1990 in the vicinity of the Alyeska marine terminal
and in reference intertidal areas in Port Valdez.  The monitoring survey was
designed to determine the concentrations of petroleum hydrocarbons in
intertidal mussels which are attributable to the permitted discharge of
treated ballast water at the marine terminal.
     Intertidal mussels were collected at three locations on 21-24 June 1990.
One station (B5) was located within the marine terminal at Berth Five.  The
other two stations can be considered reference stations because of their
location away from human activities.  The Five Mile Beach station (Station
                                                              CONTINUED...
--------------------------------------------------------------------------------
> Press ENTER to CONTINUE or M for CONTENTS MENU > M
```

Sample Reference Information

REFERENCE NUMBER: 144BGB9003
STATE OR FEDERAL AGENCY: TEXAS
REGION CODE: 6 REGION: EPA Region 6 (TX LA OK AR NM)
PROGRAM CODE: GB PROGRAM: GALVESTON BAY NATIONAL ESTUARY PROGRAM

CONTACT: RUSSEL W. KIESLING, RESEARCH ADMINISTRATOR
GALVESTON BAY NATIONAL ESTUARY PROGRAM
UNIVERSITY OF HOUSTON - CLEAR LAKE
2700 BAY AREA BLVD., BOX 164
HOUSTON, TX 77508
PHONE: (713) 332-9957

PROGRAM: National Estuary Program
FILE TYPE: Bioaccumulation
NUMBER OF STATIONS SAMPLED: 4
SAMPLING PERIOD: Summer (July-September) 1990
SPECIES COLLECTED: Southern flounder (Paralichthys lethostigma), black drum (Pogonius cromis), redfish (Sciaenops ocellata), speckled trout (Cynoscion nebulosus), hardhead catfish (Arius felis), croaker (Micropogonius undulatus), jackfish (Caranx hippos), mullet (Mugil cephalus), gafftop sail catfish (Bagre marinus), sheepshead (Archosargus probatocephalus), and shark (Lamniformes)
NUMBER OF VARIABLES MEASURED: 104 (46 aromatic hydrocarbons, 48 pesticides and PCBs, and 10 trace metals)
SAMPLING EQUIPMENT USED: Gill nets (100-600 ft long, 6 ft deep, with 1, 2, or 3 inch square mesh) and hook-and-line
ANALYTICAL TECHNIQUES: Aromatic hydrocarbons by gas chromatography/mass spectrometry (GC/MS)-selective ion monitoring mode (SIM) after silica gel/alumina column and HPLC purification; pesticides and PCBs by gas chromatography/electron capture detection (GC/ECD) after silica gel/alumina column and HPLC purification; mercury by cold vapor atomic absorption spectrometry (CVAAS); other trace metals by flame or graphite furnace atomic absorption spectrometry (FAAS or GFAAS).

DATA SET VERIFIED BY SUBMITTER

GENERAL COMMENTS

Galveston Bay is one of the largest estuaries in the United States and the largest in Texas. Its 600 square miles of shallow, low salinity water provide highly productive habitat for fish, crab, oysters, and shrimp. This study was initiated to provide information on the concentrations of heavy metals and organic priority pollutants in edible fish and shellfish from Galveston Bay. The data were used to assess potential risks to human health posed by the consumption of seafood organisms from Galveston Bay.

Southern flounder (Paralichthys lethostigma), black drum (Pogonius cromis), redfish (Sciaenops ocellata), speckled trout (Cynoscion nebulosus), hardhead catfish, croaker, jackfish, mullet, gafftop sail catfish, sheepshead, and shark were collected by gill netting or hook-and-line from four sites in Galveston Bay on 30 July-3 August and 4 September 1990. The four sites were Morgans Point, at the mouth of Galveston Ship Channel, Eagle Point, off of San Leon, Carancahua Reef, in the West Bay, and Hanna Reef, in the East Bay. Because of an oil spill near the Eagle Point site, only ten of the desired thirty fish could be collected during the first cruise. An additional cruise in September was necessary to collect a sufficient number of fish at this site. For collection purposes, a site was considered to be a circle with a radius of 1.5 miles around a central location.

All stations are assigned an ODES station code for use in all the ODES tools. The ODES station codes for Galveston Bay consist of the prefix GBE followed by a four-character identifier. The following table gives the ODES station codes for the bioaccumulation stations sampled in the Galveston Bay monitoring program.

Original Station Code	ODES Station Code	Location
HR	GBEHR01	Hanna Reef
CR	GBECR01	Carancahua Reef
MP	GBEMP01	Morgans Point
EP	GBEEP01	Eagle Point

Data were checked for proper formats and were screened for improbable values. An abbreviated technical review of results was performed. Bioaccumulation data from shellfish collected in a previous sampling effort have also been submitted to ODES under reference ID 144BGB9002.

FIELD AND LABORATORY TECHNIQUES

Fish were collected from small boats at four different sites in Galveston Bay. Only individuals of legal market size were collected and analyzed. All fish were collected using a gill net, with the exception of the September sampling at Eagle Point, which utilized hook-and-line fishing. Thirty fish were collected from each station, except at Carancahua Reef, from which only twenty-seven fish were collected.

As the fish were removed from the gill net they were placed in an ice chest until they could be field processed. Ice chests were scrubbed with detergent and then rinsed with tap water. After completing a gill net set the fish were weighed, measured for length, and inspected for lesions or deformities. The gall bladder and liver were then removed. The remaining fish tissue, gall bladder, and liver were packaged separately and placed in an ice chest. The fish tissue was wrapped in clean, combusted, heavy duty aluminum foil with the tissue towards the dull side of the foil. The foil was taped down with fiber tape and labeled with the collection site, date of collection, and species information on the foil. Only one fish was wrapped in each foil sheet.

After field processing the samples were immediately stored on ice in the field until the day's sampling was complete. The samples were then taken to an electric freezer and stored frozen until the entire freezer was transported back to the lab for further processing. All further sample processing was performed in the laboratory under clean room conditions.

In the laboratory, fillets of muscle tissue were taken from each fish. Composites of liver tissue were created from one to three fish (generally two) of a given species at each station. A "composite" of liver from one fish was necessary when only one fish of a given species was collected at a site. From twelve to fourteen liver composites were created from fish at each site. Each muscle or liver sample was homogenized, acidified, and purified. The extract was first purified to remove matrix interferences using a silica gel/alumina column and further purified by HPLC. Muscle tissue from each individual specimen was analyzed separately. The table below gives the fish species analyzed at each site.

HANNA REEF

Species	Number
Southern flounder	10
Black drum	4
Redfish	4
Speckled trout	10
Croaker	2

EAGLE POINT

Species	Number
Southern flounder	6
Black drum	8
Redfish	3
Speckled trout	6
Sheepshead	3
Hardhead catfish	3
Jackfish	1

MORGANS POINT

Species	Number
Southern flounder	3
Black drum	6
Redfish	8
Hardhead catfish	11
Mullet	2

CARANCAHUA REEF

Species	Number
Southern flounder	10
Black drum	4
Redfish	7
Hardhead catfish	3
Shark	1
Sheepshead	1
Gafftop sail catfish	1

Aromatic hydrocarbons were determined by gas chromatography/mass spectrometry (GC/MS)-selective ion monitoring mode (SIM). Pesticides and PCBs were determined by gas chromatography/electron capture detection (GC/ECD). Mercury was determined by cold vapor atomic absorption spectrometry (CVAAS), while the other trace metals were determined by flame or graphite furnace atomic absorption spectrometry (FAAS or GFAAS).

A full suite of QA/QC procedures were performed, including continuing calibration checks of the analytical equipment, method blank analyses, surrogate compound analyses, matrix spike analyses, and standard reference material analyses, when available. None of the results of these analyses were reported to ODES. Only the results of the surrogate compound analyses for aromatic hydrocarbons were available for review. The recoveries of the surrogate compounds (Naphthalene-d8, Acenaphthene-d10, Phenanthrene-d10, Chrysene-d10, and Perylene-d12) were generally acceptable (greater than 30 percent) with the exception of one speckled trout from Eagle Point (Sample H61, Specimen 50) which had recoveries less than 10 percent for all surrogate compounds. The sample aromatic hydrocarbon concentrations may be underestimates for this specimen.

DATA USE AND COMPARABILITY

Muscle samples from each individual fish were analyzed separately and data were reported in ppb on a dry weight basis. Data from the liver composites were also reported in ppb on a dry weight basis. Compounds not detected above the method detection limit (MDL) for the respective compound were reported with a zero concentration. The detection limits for the organic compounds based on a 1 gram sample ranged from 3 to 18 ppb for aromatic compounds and 0.5 to 6 ppb for pesticides and PCBs.

Since the majority of the QA/QC analyses performed were unavailable for review, it is not possible to determine the accuracy of the sample analyses. In light of this omission, these data should be used with caution.

Just prior to the July sampling effort, there was an oil spill at Apex Barge, near the Eagle Point site. Liver composites and some fish muscle tissue from fish collected at Eagle Point at this time showed elevated concentrations of alkylated PAHs. Alkylated PAHs are typically associated with petroleum products. Caution should be used when extrapolating PAH data from this site to PAH data from other sites which were relatively unaffected by the oil spill.

Only three species (southern flounder, black drum, and redfish) were collected at all four sites. Bioaccumulation data from these three species only should be used for analysis of inter-station variability among all sites. Comparisons between pairs of stations are possible for several other species. Given the above caveat, significant differences among individual stations may be detected using parametric or nonparametric tests, because of the multiple analyses performed for most species at a given station.

Scenario 4: What quantity of data was collected?

Output 5 (Locational Frequency)

```
* ODES DATA BASE SUMMARY FOR BIOACCUMULATION DATA

  FREQUENCY COUNT AT DATA LEVEL

STATION CODE   DATE       NUMBER OF OCCURRENCES
-------------------------------------------------
FLB0030        01/01/87          184
FLB0031        01/01/84           81
FLB0031        01/01/85          263
FLB0031        01/01/86          180
FLB0031        01/01/87          627
FLB0032        01/01/87          148
```

Output 6 (Detailed Frequency)

```
* ODES DATA BASE SUMMARY FOR BIOACCUMULATION DATA

   FREQUENCY COUNT AT DATA LEVEL

   ORDER OF VARIABLES:
   PARM_CD, NODC_CD, ORGAN, STATION, NUMBER OF OCCURRENCES

  ---------------------------------------------------
  ARSENIC          883544040100        02      SJB   10
  ARSENIC          883544070100        02      SJA   10
  ARSENIC          883544070100        02      SJB   50
  ARSENIC          883544070100        02      SJC   10
```

After the last three scenarios, you know where, when, and how data were collected. These three pieces of information form a foundation for beginning your study. For some types of analysis, you may need to know what quantity of data or what types of data are available in the ODES database.

If you are interested in knowing the quantity of data that is available for a particular station and specific dates, you can use the locational frequency report shown in Output 5 on the previous page. From that report, you can see that there are a certain number of observations for a particular station and date.

If you are interested in knowing the amount of data available for a particular taxon, chemical, or tissue; you should use the detailed frequency report (Output 6). That report breaks down the data by any variable in which you are interested. For example, this report shows how many ARSENIC measurements were reported for two different taxa at three different stations.

The instructions for creating Output 5 and 6 are similar. This section explains the steps used to create a detailed frequency report that is similar to Output 6.

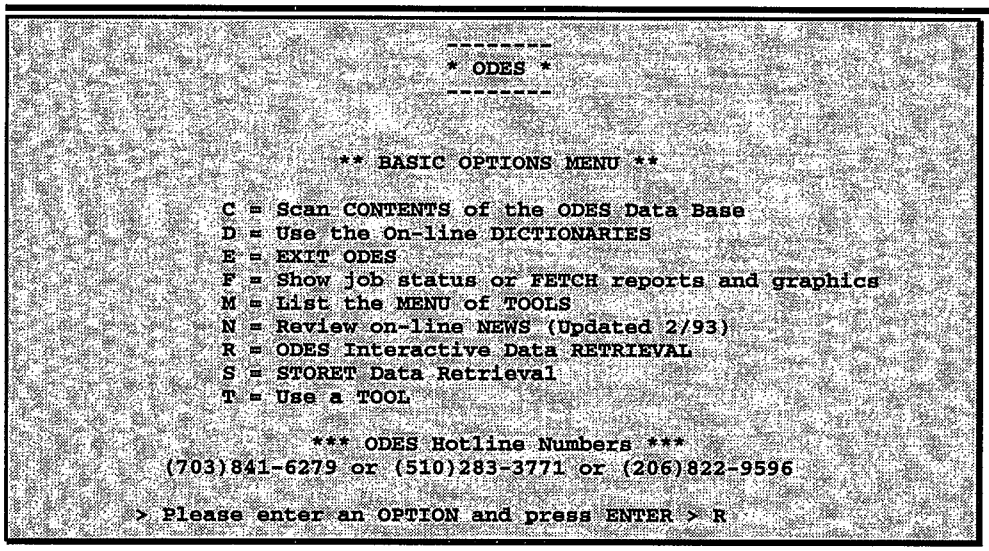
To create the report, assume you are interested in performing an analysis on the concentration of ARSENIC in fish at a group of Florida stations. Before you begin your analysis, you must decide if there is a sufficient amount of data reported for a particular portion of a single taxa. If you decide there is a sufficient amount of data, you can proceed to future chapters to retrieve and analyze the data of interest.

Specifically, you are interested in reporting the number of ARSENIC measurements reported from all of the fish caught at several stations in Florida during the period 1980 to 1990.

Getting Started

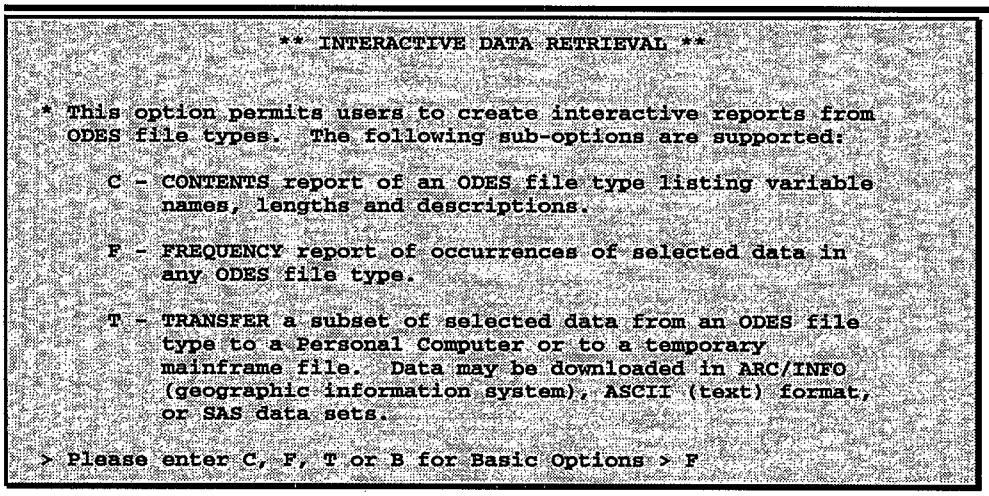
To create the type of report described on the previous page, you can use the Interactive Data Retrieval Detailed Frequency Report. **Enter R** at the Basic Options Menu prompt shown in Figure 3.29 to start creating this report.

The next menu, shown in Figure 3.30, explains the three retrieval options. If you decide not to retrieve any data, enter B to return to the Basic Options Menu. To create a Detailed Frequency Report and continue with this example, **enter F.**



```
                    --------
                    * ODES *
                    --------

                ** BASIC OPTIONS MENU **

          C = Scan CONTENTS of the ODES Data Base
          D = Use the On-line DICTIONARIES
          E = EXIT ODES
          F = Show job status or FETCH reports and graphics
          M = List the MENU of TOOLS
          N = Review on-line NEWS (Updated 2/93)
          R = ODES Interactive Data RETRIEVAL
          S = STORET Data Retrieval
          T = Use a TOOL

              *** ODES Hotline Numbers ***
     (703)841-6279 or (510)283-3771 or (206)822-9596

   > Please enter an OPTION and press ENTER > R
```

Figure 3.29



```
              ** INTERACTIVE DATA RETRIEVAL **

* This option permits users to create interactive reports from
  ODES file types.  The following sub-options are supported:

    C - CONTENTS report of an ODES file type listing variable
        names, lengths and descriptions.

    F - FREQUENCY report of occurrences of selected data in
        any ODES file type.

    T - TRANSFER a subset of selected data from an ODES file
        type to a Personal Computer or to a temporary
        mainframe file.  Data may be downloaded in ARC/INFO
        (geographic information system), ASCII (text) format,
        or SAS data sets.

 > Please enter C, F, T or B for Basic Options > F
```

Figure 3.30

Report Type

You can create two types of Frequency Reports using the Interactive Retrieval Option. A Locational Frequency Report provides you with the number of measurements reported for a certain station-date combination. The Detailed Frequency Report, demonstrated in this scenario, allows you to select up to five data fields to include in the summary report. It then produces a frequency table cross-tabulating the number of measurements across each combination of the chosen data fields. For this example, you are interested in cross-tabulating several fields for each station-date combination. Therefore, to continue, **enter D** at the prompt shown in Figure 3.31 to produce a Detailed Frequency Report.

File Type Selection

ODES then prompts you to enter the type of data to use for your report. The National Fish Tissue Data Repository is stored in the bioaccumulation file type. To access data for this example, **enter 144B** to select bioaccumulation data, as shown in Figure 3.32.

```
* You may create two types of FREQUENCY reports.  These reports
  include:

     L =  A LOCATIONAL FREQUENCY REPORT produces a count of the
          number of observations for each
          station-date combination;

     D =  A DETAILED FREQUENCY REPORT produces a more detailed
          report of up to 5 user-selected variables from the
          the Contents Report, cross-tabulated among
          themselves.  Users will have the option of
          producing the report across all station-date
          combinations or for each station-date combination.

> Please enter L, D or Q to QUIT > D
```

Figure 3.31

```
* You can request one of the following types of data:

  File Type          Type of Data
-------------|-------------------------------
       009   =  Bacterial/Viral Data
       132   =  Benthic Survey Data
       900   =  Bioassay Data
       144B  =  Bioaccumulation Data
       013   =  Fish Pathology Data
       144E  =  Influent and Effluent Data
       144W  =  Receiving Water Quality Data
       073   =  Sediment Grain Size Data
       144S  =  Sediment Pollutant Data
       123   =  Trawl/Seine Sampling Data

> Please enter the file type of interest > 144B
```

Figure 3.32

Data Level Selection

As described in the Data Structure Section of *Chapter 1*, the bioaccumulation file type is comprised of the four levels: survey, station, sample, and source. This option does not provide access to the survey level. It does provide access to the station level which contains information on where samples were collected. The next level, the sample level, contains information about the species and gear used for collection. The lowest level, the data or source level, contains analytical laboratory results of the samples collected.

As shown in Figure 3.33, when using the Interactive Data Retrieval Option, you are prompted to enter the level of data to include in the Detailed Frequency Report. If you enter H at the prompt, you may review the ODES on-line description of these levels. When you use the data level, your report includes all observations reported for each station. A station or sample level report is more general. Since you are interested in the details for this example, **enter R** to select the source or data level.

Variable Selection

At this point you have indicated that you wish to create a detailed frequency report using source level bioaccumulation data. The next step is to specify the data fields or variables to include in that report. As shown in Figure 3.34, you can enter up to five variables based on the level of data you specified on the last screen.

The variable names must be entered as they appear in the Contents Report and in the on-line help. If you want to see a listing of these variables, use the on-line help, which is available by entering "H". For this example, you want your report to include the chemical variable, taxonomic code, tissue, and station name. To specify these variables, **enter PARM_CD NODC_CD ORGAN STATION.**

```
*  ODES will now ask you to select the level of data to include
   in the DETAILED FREQUENCY.  Enter H for a help screen
   describing the relationships between the different levels
   of ODES data.

      T = STATION level
      M = SAMPLE level
      R = DATA level

 > Please enter choice for level of data or H > R
```

Figure 3.33

```
 * You will now be asked to enter the DATA variables for
   the Bioaccumulation Data file type to be included
   in the DETAILED FREQUENCY REPORT.  You must enter
   the variable name as it appears in the CONTENTS Report.
   Each variable name must be separated by a space or a comma.
   If you do not know the exact variable name, enter "H"
   for a listing of variable names and descriptions.

   NOTE:  Entering 5 variables will produce a report that will
          wrap when viewed at the terminal.

 > Please enter up to 5 variable names, Q to QUIT or H >
 > PARM_CD NODC_CD ORGAN STATION
```

Figure 3.34

Study Area and Date Selection

After selecting the level of data and the variables to include in your report, you are asked to either subset your data by selecting station-date combinations or create a report using the entire ODES bioaccumulation database. To show the steps involved in subsetting the data, this example restricts the output to stations in Florida. If you decide to select all data regardless of location, note that you are not given the opportunity to subset by date. Since you are only interested in only Florida data for this example, **enter Y** at the prompt shown in Figure 3.35.

You can specify an area and date of interest according to the monitoring program, reference number, or stations, as shown in Figure 3.36. The monitoring program, a two-character code, designates a geographic area. The National Fish Tissue Data Repository uses the two letter state postal abbreviations for this code. The reference number, a ten character code, uniquely identifies a group of data stored in ODES based on the file type, monitoring program and date. The stations option allows you to select data according to seven character station codes that identify every monitoring station in the database. For this example, **enter S** to retrieve data collected at a set of stations in Florida.

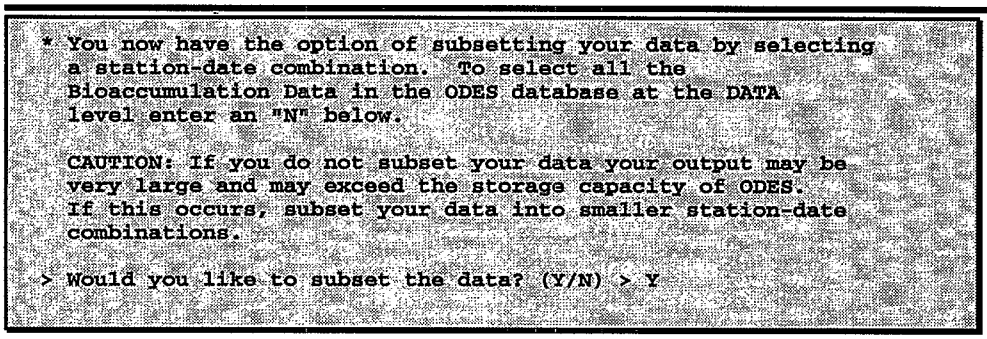


Figure 3.35

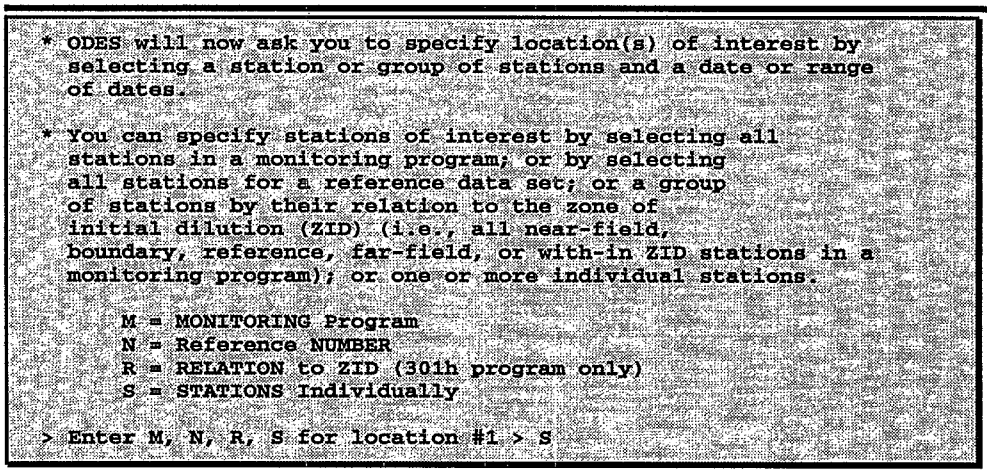


Figure 3.36

When using the station selection criteria, Figure 3.37 should appear. This screen requests a seven-character station code. You may enter the entire code or a portion of an ODES station code. If you need help determining the code for a sampling station, you can enter H to view the on-line dictionary. This dictionary gives both the seven-character code and the name of the sampling station. For this example, you are interested in several Florida stations, but you do not know the ODES codes for these stations. Therefore, **enter H** to access the ODES on-line dictionary.

ODES prompts you to enter a search string to help you locate stations, as shown in Figure 3.38. You may view the entire on-line dictionary of station codes by pressing Enter at this prompt, or you may quit and return to the station specification prompt. Since you are interested in only stations in Florida, **enter FL** at the prompt to view a listing of dictionary entries that contain the characters FL.

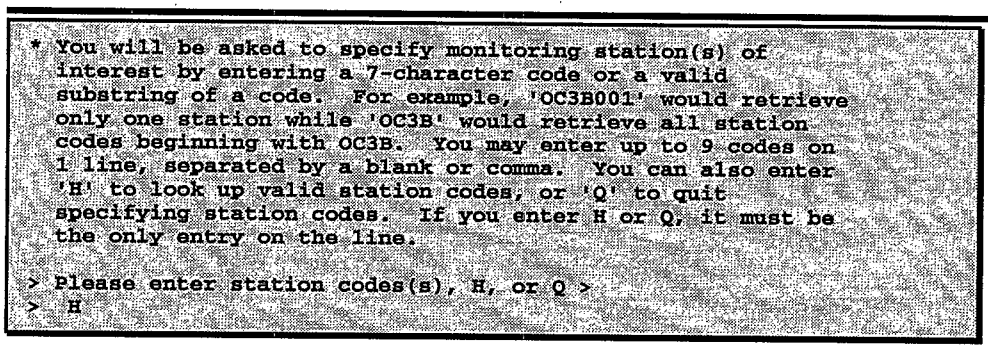


Figure 3.37

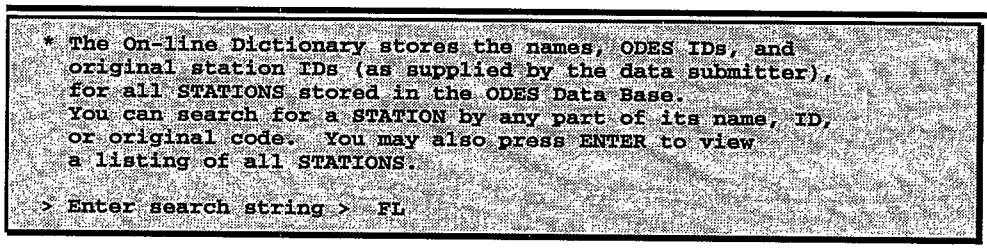


Figure 3.38

The next screen, Figure 3.39, displays the listing of Florida sampling stations. According to the first line of the screen, there are 282 stations in the ODES on-line dictionary that contain the characters "FL". You can page through the list by pressing ENTER. Be sure to write down the station codes you are interested in because you cannot return to a previous page. **Enter Q** to continue with this example. At the next prompt in this figure, you should respond by **entering N.**

To continue this example, select the first three stations shown in the dictionary in Figure 3.39. At the prompt enter: **FLB0030, FLB0031,** and **FLB0032,** as shown in Figure 3.40.

As shown in Figure 3.41, ODES prompts you to enter more station codes, H to view the listing of stations again, or Q to signal to ODES that you have completed your station selections. Since you have entered all of the stations for this example, **enter Q** to quit.

```
 * There are 282 occurrence(s) of FL in the dictionary.

      CODE          SAMPLING STATION
    ---------|-----------------------------------------
    FLB0032  =  NOAA BENTHIC SURVEILLANCE  FLORIDA  STATION SJC
    FLB0031  =  NOAA BENTHIC SURVEILLANCE  FLORIDA  STATION SJB
    FLB0030  =  NOAA BENTHIC SURVEILLANCE  FLORIDA  STATION SJA
    FLB0029  =  NOAA BENTHIC SURVEILLANCE  FLORIDA  STATION PEN
    FLB0027  =  NOAA BENTHIC SURVEILLANCE  FLORIDA  STATION LOT
    FLB0026  =  NOAA BENTHIC SURVEILLANCE  FLORIDA  STATION APA
    FLF0101  =  FLORIDA MERCURY STUDY IN FISH  STATION A
    FLF0113  =  FLORIDA MERCURY STUDY IN FISH  STATION A
    FLF0114  =  FLORIDA MERCURY STUDY IN FISH  STATION B
    FLF0115  =  FLORIDA MERCURY STUDY IN FISH  STATION ass11
    FLF0116  =  FLORIDA MERCURY STUDY IN FISH  STATION stER1
    FLF0117  =  FLORIDA MERCURY STUDY IN FISH  STATION ALAF1
    FLF0118  =  FLORIDA MERCURY STUDY IN FISH  STATION ALAN1
    FLF0119  =  FLORIDA MERCURY STUDY IN FISH  STATION ALLI1
    FLF0120  =  FLORIDA MERCURY STUDY IN FISH  STATION ALTH1

 > Press ENTER to continue or Q to QUIT >   Q

 > Search for another SAMPLING STATION? (Y/N) >   N
```

Figure 3.39

```
 > Please enter station codes(s), H, or Q >
 >  FLB0030 FLB0031 FLB0032
```

Figure 3.40

```
 * You have made 3 entry(s).  At the prompt, enter more
   station codes, H for Help, or Q to Quit.

 > Please enter station codes(s), H, or Q >
 >  Q
```

Figure 3.41

The next item you must specify is a date or range of dates of interest. You specify those dates at the prompt shown in Figure 3.42. Dates should be entered in a YYMMDD format where YY is the year, MM is the month, and DD is the day. Since you are interested in data for the period 1980 to 1990, **enter 80 90** at the prompt. Please note that while you entered a year range for this example, you may also enter a single year, single month or day. In addition, you may select a range by year and month (YYMM); or by year, month and day (YYMMDD).

After entering the study area and dates, ODES displays your entries and allows you to make corrections if necessary. At this point you also have the option of selecting more station-date combinations for your report. If everything is correct and you do not wish to select more station-date combinations, select Q to quit the selection process and view the report. For this example, select **Q** to continue, as shown in Figure 3.43.

```
* You can select dates by year only (YY), year and month
  (YYMM), or year, month and day (YYMMDD).  Both dates must be
  in the same format and be separated by a blank or a comma.
  For example: "850115 850215" and "8501,8502" are both valid
  responses.  To select one day, enter that date only (in
  YYMMDD format) at the prompt.

> Enter a START and END DATE (YYMMDD,YYMMDD) or single date (YYMMDD)
>   80  90
```

Figure 3.42

```
* ODES will list the location options you have just specified
  for location #1 and allow you to change them before
  continuing.

  1) Stations:
    1-1) FLB0030      1-2) FLB0031      1-3) FLB0032


  2) Dates: 80 TO 90

* You will be asked to enter the number of the option you
  want to change, C to Continue specifying more locations,
  or Q to Quit specifying locations.

> Enter an option number, C, or Q > Q
```

Figure 3.43

Chemical Selection

ODES then gives you the option of subsetting the data by selecting a chemical variable, as shown in Figure 3.44. Since you are interested in the levels of arsenic for this example, **enter Y** at the prompt.

After entering Y you should see Figure 3.45 on your screen. This menu prompts you to enter an ODES chemical code, H to view the on-line dictionary, or Q to quit. ODES allows you to select up to 20 chemical codes for your report. The Q option should be used to inform ODES that you have finished your selection of chemical codes. If you are unsure of a chemical code, use the on-line dictionary by pressing H. To continue with this example **enter ARSENIC** at the prompt.

At this point, you have selected a single chemical variable. You have the option to request up to 10 variables. To continue you can enter another variable or Q to quit. To continue with this example, **enter Q** as shown in Figure 3.46.

Station-Date Combinations

The final prompt before the report is produced asks if you want the report to combine the frequency information across all stations and dates selected, or create a report for each individual station-date combination. For this example, **select N** at the prompt in Figure 3.47 to create a report for all station-date combinations selected.

```
 * You have the option of subsetting the data by selecting a
   a chemical or water quality variable.  For example, you may
   want to transfer only DATA level information for dissolved
   oxygen or arsenic measurements.
 > Do you want to subset the data by variable (Y/N) > Y
```

Figure 3.44

```
 * You will now be asked to select multiple chemical variables
   by their ODES 10-character codes.  If you need to
   search a list of variables for valid ODES Codes then
   enter "H" at the prompt.

 >Please enter an ODES 10-character code, H or Q (QUIT)> ARSENIC
```

Figure 3.45

```
You have entered 1 variable code(s) ...

 > Please enter an ODES 10-character code, H or Q (QUIT) >  Q
```

Figure 3.46

```
 * You have the option of producing the DETAILED FREQUENCY
   REPORT across all station and dates, or you may create
   a report for each individual station-date combination.


 > Do you want a report by individual station-date (Y/N) >  N
```

Figure 3.47

Output

Now that you have finished making data selections, ODES creates your Detailed Frequency Report. ODES responds with Figure 3.48 which tells you how long the report is (including headers and footers) and prompts you to select one of three methods for viewing it. You can list the report to your screen, print the frequency report to a high speed printer, or you can both list the report on your screen and print the report on a high speed printer. To continue with this example, **select L** to view the report on your screen.

Figure 3.49 displays the report generated by ODES for this example. This report shows how many observations were reported for a particular combination of variables. In this example, the variables are chemical parameter (parm_cd), species (nodc_cd), organ, and station. These variables are shown on the fourth line of the report. On the first line of the data listing, you can see that there are 10 occurrences of the following combination: ARSENIC, 883544040100 (Largemouth Bass), 02 (liver), and SJB (a station in Florida). The next combination of variables also accounts for ten records in the database. When you are finished with the report, press **ENTER** to continue.

ODES now asks if you want to view this report again. If you respond Y for yes, you can review the output again. If you want to continue with another scenario or exit ODES, you must respond with N. To continue, **enter N** at the second prompt in Figure 3.49.

You will then return to the Basic Retrieval Menu that you saw at the beginning of this scenario. Follow the instructions on the screen to return to Basic Options Menu. You will then be ready to exit ODES or begin another scenario.

```
* There are 13 lines in the DETAILED FREQUENCY Report.

* You may now choose the method of viewing your report.

     L = LIST the report on your screen
     P = PRINT the report on a high speed printer
     B = BOTH LIST and PRINT the report

> Please select L, P or B >  L
```

Figure 3.48

```
* ODES DATA BASE SUMMARY FOR BIOACCUMULATION DATA

   FREQUENCY COUNT AT DATA LEVEL

   ORDER OF VARIABLES:
   PARM_CD, NODC_CD, ORGAN, STATION, NUMBER OF OCCURRENCES

-------------------------------------------------------------
ARSENIC          883544040100      02      SJB    10
ARSENIC          883544070100      02      SJA    10
ARSENIC          883544070100      02      SJB    50
ARSENIC          883544070100      02      SJC    10

* Listing Complete

>Press ENTER to Continue >

>Do you want to view DETAILED FREQUENCY REPORT again? (Y/N)> N
```

Figure 3.49

Chapter 4: Retrieving Data

Data Retrieval Tools and the ODES Interactive Retrieval Option (Option R) are two methods of extracting bioaccumulation data from ODES. The major difference between these two options is the format of the output. Data Retrieval Tools provide titles and headings for the data reported. These reports are in text format and are ideal for displaying the data or downloading it to a personal computer. Option R lists the data in columns but does not specify which variable is listed in each column. This lack of headings makes the output ideal for use with PC software packages. Option R also allows flexibility in the type of file created; it can be used to create text files, SAS data sets, and files compatible with the ARC/Info software package.

Currently, two Data Retrieval Tools are designed for use with bioaccumulation data: Tool 120 and Tool 121. Even though both tools provide information about bioaccumulation data stored in ODES, the type of information retrieved is different. Tool 121 retrieves sample level information detailing where and how samples were collected. Examples of sample variables include station, species, date, and gear code. Tool 120 provides these variables as well as more specific information such as the tissues sampled, the chemicals reported, and the level of chemical concentrations detected. This information is stored in the source level of the database. For more information about the concepts of sample and source level data, refer to the Data Structure described in Chapter 1.

Scenarios:

1 -- Customized Report of Sample Data (Tool 121)
2 -- Standard Report of Source Data (Tool 120)

Scenario 1: Customized Report of Sample Data

Output 1

```
DATE(S):        900730 TO 900730
STATION(S):     ALL STATIONS FOR GALVESTON BAY,NATIONAL ESTUARY PROGRAM

NODC TAXONOMIC CODE=877718020200

          ODES
         STATION                          SAMPLING
OBS        ID             TAXON            DATE

  1      GBECR01     ARIUS FELIS         900730
  2      GBECR01     ARIUS FELIS         900730
  3      GBECR01     ARIUS FELIS         900730
  4      GBECR01     ARIUS FELIS         900730
  5      GBECR01     ARIUS FELIS         900730
  6      GBECR01     ARIUS FELIS         900730

GEAR CODES
99 =     MISCELLANEOUS(HAND-GATHERED,TRAPS,SHOVEL
LIFE STAGE CODES
8  =     ADULT
ORGAN CODES
01 =     MUSCLE
```

Tool 121 reports information about sampling events. Variables such as sampling gear, taxa, date and station may be included in the Tool 121 output. This tool can be used to determine what type of gear and/or taxa are being reported for a specific area.

Tool 121 allows you to select criteria that will subset the ODES database. These criteria are used to retrieve only data that are of interest to you. For example, if you are interested in studying catfish sampled in the Galveston Bay area during 1990, you could specify those criteria.

This scenario assists you with Tool 121 and its many selection criteria. The Study Area and Date Selection section subsets the ODES database to include a specific area of interest during a chosen time frame. The Taxa Selection option allows you to subset by taxa. If you are interested in determining which taxa were analyzed, select all taxa. If you are only interested in a specific taxon or group of taxa, this option allows you to specify up to 12 taxa codes.

For this tool, the output can be presented in one of three ways depending on your needs. Report 1 displays all variables. Report 2 lists the most commonly used variables. These variables include the station where species were collected, the date when the sample was collected, the gear used to collect the fish, sample date, the portion of the species that was analyzed, and the number of specimens in a composite sample. Report 3 allows you to select any combination of variables. Scenario 1 demonstrates Report 3, the user-defined report. An example of this style is shown on the previous page.

To demonstrate this tool, assume you want to develop a summary table of data collected in Galveston Bay on July 30, 1990. You are concerned primarily with the taxon *Arius felis*, a hard-headed catfish. You want the summary report to include the ODES station code, taxon, and date.

Getting Started

The report described on the previous page can be created using the Bioaccumulation Sample Data Retrieval Tool referred to as Tool 121. If you are only interested in the data without any headers, column titles, or legends; you could also use the Interactive Data Retrieval Option described in section 3 of this Chapter. Tool 121 creates a formatted report. You are interested in the formatted reported rather than the raw data for this example, so use Tool 121.

To start Tool 121, **enter T121** at the Basic Options Menu prompt shown in Figure 4.1.

The next menu, shown in Figure 4.2, is the introductory screen which explains the features of this tool. As stated on the screen, Tool 121 produces a summary report of bioaccumulation sample data based on the station, date and taxa combination you request.

If you decide not to run this tool, you can enter B to return to the Basic Options Menu. To proceed with this tool, simply press the **ENTER** key.

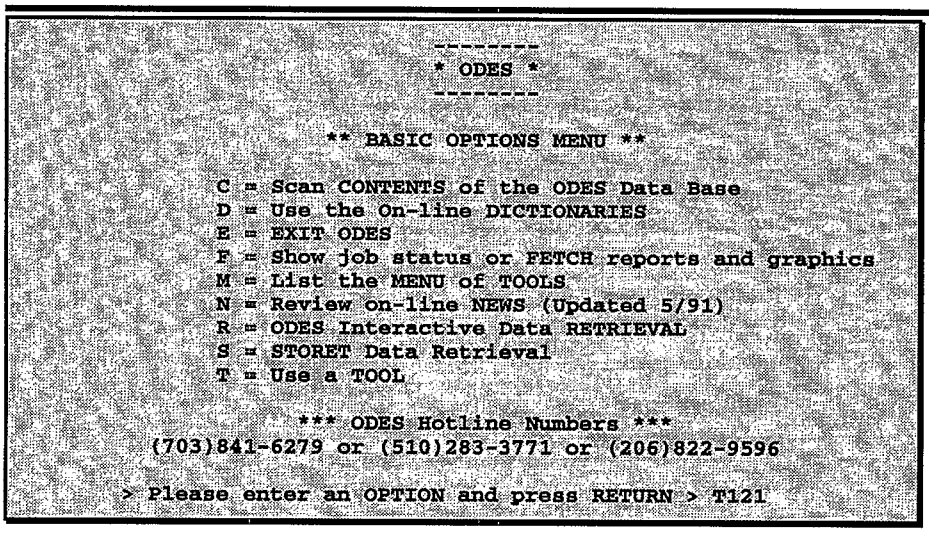


Figure 4.1

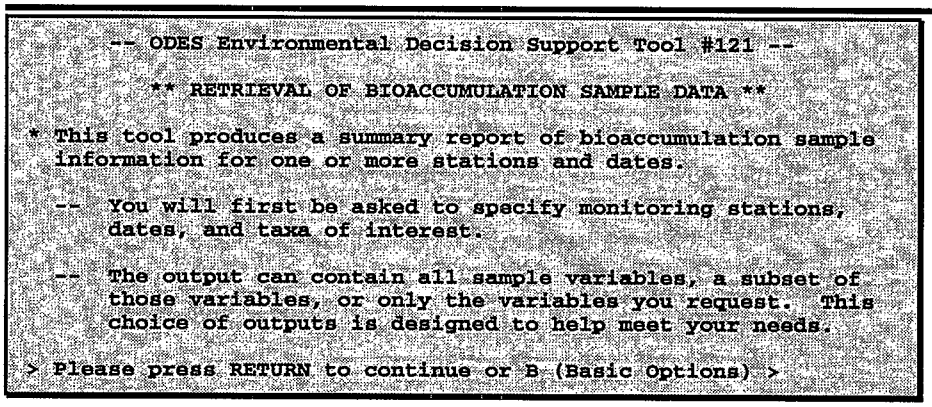


Figure 4.2

Study Area and Date Selections

Four criteria exist for specifying an area and date of interest. NFTDR can use three of those criteria: monitoring program, reference number, or stations as shown in Figure 4.3 and discussed in *Chapter* 2. The monitoring program, a two character code, designates a geographic area. This options retrieves all stations associated with a particular monitoring program. The National Fish Tissue Data Repository uses the two letter state postal abbreviations for this code. The reference number, a ten character code, uniquely identifies a group of data stored in ODES based on the file type, monitoring program and date. The stations option allows you to select data according to seven character station codes that identify every monitoring station in the database.

Since you are interested in the stations associated with the Galveston Bay monitoring program, **enter M** to retrieve data reported for the study area known as Galveston Bay NEP.

When using the monitoring program selection criteria, Figure 4.4 should appear. This screen requests a two-character monitoring program code. If you need help determining the code for a monitoring program, you can enter H to view the on-line dictionary. This dictionary gives both the two-character code and the name of the monitoring program. To continue with this example, **enter GB** to request all Galveston Bay data.

```
* ODES will now ask you to specify location(s) of interest by
  selecting a station or group of stations and a date or range
  of dates.

* You can specify stations of interest by selecting all stations
  in a monitoring program; or by selecting all stations for a
  reference data set; or a group of stations by their relation
  to the zone of initial dilution (ZID) (i.e., all near-field,
  boundary, reference, far-field, or with-in ZID stations in a
  monitoring program); or one or more individual stations.

     M = MONITORING Program
     N = Reference NUMBER
     R = RELATION to ZID (301h program only)
     S = STATIONS Individually

> Enter M, N, R, or S >  M
```

Figure 4.3

```
* You will be asked to identify a monitoring program of interest
  by entering a two-character ODES identifier.  ODES will select
  data for all monitoring stations associated with the
  monitoring program you specify.

> Enter an ODES 2-character ID or H >  GB
```

Figure 4.4

The next item you must specify is a date or range of dates. You specify those dates at the prompt shown in Figure 4.5. Dates should be entered in a YYMMDD format where YY is the year, MM is the month and DD is the day. Since you are interested in data collected on July 30, 1990, **enter 900730** at the prompt. Please note that while you entered a single date for this example, you may also enter just the year (YY) or year and month (YYMM). In addition, you can enter a range of dates by separating those dates with a space.

After entering the study area and dates, ODES displays your entries and allows you to make corrections if necessary. To make a correction, enter the number that corresponds to the incorrect option. For example, if you want to change the date range, enter 2. To change the stations, enter 1. If everything is correct, **enter C** to continue to the taxa selection option. For this example, your correction screen should look like Figure 4.6.

```
* You can select dates by year only (YY), year and month
  (YYMM), or year, month and day (YYMMDD).  Both dates must be
  in the same format and be separated by a blank or a comma.
  For example: "850115 850215" and "8501,8502" are both valid
  responses.  To select one day, enter that date only (in
  YYMMDD format) at the prompt.

> Enter a START and END DATE (YYMMDD, YYMMDD) or single date (YYMMDD)
>  900730
```

Figure 4.5

```
* ODES will list the location options you have just specified
  and allow you to change them before continuing.

1) Stations: ALL STATIONS FOR GALVESTON BAY,NATIONAL ESTUARY PROGRAM

  2) Dates: 900730 TO 900730

* You will be asked to enter the number of the option you
  want to change, or C to Continue.

> Enter an option number or C >  C
```

Figure 4.6

Taxa Selection

This option allows you to subset the database for your report. You may choose to include only data associated with a specific taxon or all data regardless of the taxa. This option begins with the menu shown in Figure 4.7. If you want to include all taxa, simply enter A to retrieve all sample data regardless of taxonomic code. In this example, you are only interested in the taxon *Arius felis*, so **enter S** at the prompt.

Since you indicated that you wanted to select taxa on the last screen, Figure 4.8 should appear. This menu asks you to enter a taxonomic code, ODES group code, or H to view the on-line dictionary. Since you are interested in the taxon *Arius felis*, **enter H** to determine its code or use the taxonomic code dictionary in Appendix 3-A. Note that the dictionary is updated on a regular basis, and some codes may exist in the on-line dictionary that are not available in your Appendix.

```
* You may specify taxa to be included in your
  report or default to all results being reported.

      S = SPECIFIC NODC OR ODES GROUP CODES
      A = ALL taxa ARE INCLUDED IN REPORT

> Please enter S to specify codes or A for all codes> S
```

Figure 4.7

```
* You will now be asked to specify up to twelve taxa codes.

* You can select individual organism by NODC codes or entire
  phyla, classes, or higher level groupings by their ODES
  12-letter codes.

* You will now be asked to enter the taxonomic codes one at a
  time.  Enter H to look-up valid taxonomic codes.  Enter Q
  to quit entering codes.

> Enter an NODC Code, an ODES group code, Q, or H >  H
```

Figure 4.8

When using the on-line help, you are prompted for a search string. As shown in Figure 4.9, you may search for any portion of the taxon name or code. To find the code for the taxon in this example, type the search string ***ARIUS FELIS*** as shown in the figure and press **ENTER**.

ODES responds to your search string by displaying the code 877718020200 for *Arius felis*. This response can be seen in Figure 4.10. Notice that ODES allows you to search for other codes. In this example, you do not need to search for another code because *Arius felis* is the only code of interest; **enter N** to exit the dictionary.

After exiting the dictionary, ODES again asks for a taxa code. You should respond by **entering 877718020200**. As you enter codes, ODES tells you how many codes are successfully entered. If you enter an invalid code, ODES prompts you to re-enter the code correctly. If you need help identifying valid codes, you can always enter H to access the on-line dictionary. You may enter up to 12 codes. When you finish selecting codes, **enter Q** to quit specifying codes.

Before leaving this option, ODES allows you to confirm your taxa selections and correct any problems before continuing. Check to make sure your confirmation screen matches Figure 4.11 for this example. To proceed to the next part of the tool, **enter N**.

```
* The On-line Dictionary stores the names and associated NODC
  Taxonomic Codes for taxonomic data (e.g., Benthic Survey Data;
  Bioaccumulation Data) stored in the ODES Data Base.  You can
  search for taxa by entering their names or NODC Codes (or any
  parts thereof).  You may also press RETURN to view a listing
  of all codes.

> Enter search string > ARIUS FELIS
```

Figure 4.9

```
* There is 1 occurrence of ARIUS FELIS in the dictionary.

       NODC CODE              SPECIES NAME
    ---------------|-----------------------------
      877718020200 = ARIUS FELIS

> Search for another TAXON? (Y/N) >  N

> Enter an NODC Code, ODES group code, Q, or H >  877718020200

          *1 Taxa code(s) have been entered.

> Enter an NODC Code, an ODES group code, Q, or H >  Q
```

Figure 4.10

```
* ODES will now display the taxa you have chosen and allow you
  to change the selections before continuing.

* You have selected the following taxa:

1) ARIUS FELIS

> Do you wish to make changes to your selections? (Y/N) >  N
```

Figure 4.11

Report Criteria

You have finished requesting data and are ready to design your output to look like the report shown on page 4-2. The Report Criteria selections allow you to identify any sample data fields to include in the report and a criteria for sorting the data.

As shown in Figure 4.12, ODES offers three types of reports. Report 1 includes all bioaccumulation sample variables. Report 2 includes the commonly retrieved variables. Report 3 allows you to design the format of the report by selecting the variables to be included. You should enter the number of the report you wish to generate.

Use Report 3 since you are interested in only the station, date, and species. If you used Report 1 or Report 2, your output would include all of these variables plus the others listed in Figure 4.12. **Enter 3** to select Report 3.

After selecting Report 3, ODES responds with Figure 4.13. You need to decide which variables to include and enter the numbers that correspond to those variables at the prompt. Please enter all variable numbers on a single line separated by a space in the order you want them to appear across your table. For example, if you want the first column to be station code with taxa second, enter 7 for station code first followed by 2 for taxa.

ODES confirms your entries by displaying the number of entries accepted by the system. If you enter something incorrectly you can correct your mistake on a subsequent menu. When you finish selecting variables to include in the report (**7 2 1**), press **ENTER** to continue to the next menu. Please note that you need to press ENTER after your list of variables and after the prompt > *Press RETURN to continue.* >.

```
* You must specify a format for the report listing the data you
  have selected.

  --  Report 1 lists all sample level variables:
      station, station code, sample date, species, sample #,
      species #, composite #, collecting gear, life stage,
      tissue sampled, wet weight, dry weight,
      % extractable lipids, sex, and number of individuals.

  --  Report 2 limits the output:
      station, station code, sample date, gear, species,
      tissue, and number of individuals.

  --  Report 3 allows you to design a report format by selecting
      the variables to include.

* Please identify the number of the report you wish to create.

> Enter 1, 2, or 3 for type of report to submit >3
```

Figure 4.12

```
* All sample variables are listed.  Select the variables
  to include by typing the corresponding number at the prompt.


 1) Sample date                    9) Tissue sample
 2) Species                       10) Wet weight
 3) Sample number                 11) Dry weight
 4) Species number                12) % extractable lipids
 5) Composite number              13) Sex
 6) Station                       14) Gear code
 7) Station code                  15) Number of individuals
 8) Life stage


> Enter all variables you want included separated by a space.
  > 7 2 1
* 3 VARIABLES ENTERED.

  > Press RETURN to continue. >
```

Figure 4.13

Next, ODES asks how you wish to sort the report. The sort criteria actually groups the data into subsections. If you select T for taxa code, the report is divided into subsections by taxa code. Each subsection includes all the data for a single occurrence of that sort criteria. The three sort criteria options are date, taxa, and gear. You can select a sort criteria by entering the first letter of that criteria. For this example, **enter T** at the prompt in Figure 4.14. With this choice, the data are sorted by taxonomic code.

After selecting the sort order, you are asked to confirm your report criteria responses. If you want to change the type of report or the variables to include in the report, enter 1. The sort criteria can be changed by entering 2. Figure 4.15 displays the correct selections for this example. **Enter C** to proceed without changes.

```
* For your chosen data, ODES can sort the report by date, taxa
  or gear.

        D = DATE
        T = taxa
        G = GEAR

> Please specify the order of the report (D,T,G) >T
```

Figure 4.14

```
* ODES will now list the options your have selected for
  for this job and allow you to change the selections
  before the job is submitted.

* These are the options you have chosen:

    1) Report Type: FOLLOWING VARIABLES INCLUDED:
         1-1) Station code          1-2) Species
         1-3) Sample date

    2) Sort Order:  taxa

* Enter 1 to re-enter variables, 2 to change sort order or
  C to Continue.

> Enter 1, 2, or C >C
```

Figure 4.15

Finishing the Job

Now that you have completed making data selections, you are ready to finish the job. At the prompt shown in Figure 4.16, enter S to submit the job that creates your report. If you decide not to submit the job, enter E to return to the Basic Options Menu. For this example, **enter S** to continue.

After you submit the job, ODES responds with Figure 4.17. This menu asks you for the width of the report: 80 or 132 characters. The actual results of this question depend on your communication set-up. In general, 80 character reports fit nicely on the screen, but may truncate the last 52 columns. If you are printing a wide report or downloading the data to your computer, you may prefer 132 characters. For this example, you may choose either option to experiment with your communication set-up.

The last step is recording your job number for future reference. The job number appears after the job is submitted for execution. This job number, designated as 'xxxxx' in Figure 4.18, identifies your report so that you can retrieve it through the Fetch Option at a later time. Please record the job number and refer to the section on the Fetch Option for more information about retrieving the report.

To exit this scenario, **enter B**. You will return to the Basic Options menu where you started this scenario.

```
* You have finished entering information needed to retrieve
  Bioaccumulation sample data.  You will now be asked to enter
  S to submit the job or to enter E to Exit this tool and
  cancel the job.

> Please enter S or E >  S
```

Figure 4.16

```
* ODES can increase the column size of the output from
  80 to 132 columns.  If you choose not to increase the
  column size of the output you may experience wrapping or
  truncation of lines longer than 80 columns.

> Do you want to increase output column size (Y/N)? > Y
```

Figure 4.17

```
* ODES is preparing your job for batch submittal.
  Please wait...

* Thank you.

* Please record the following job information
  for subsequent retrievals:

      JOB NUMBER: xxxxx
      TIME:       14:43:37
      DATE:       11/24/92

* To check on job status, enter F.  To run this TOOL again,
  enter T. To return to BASIC OPTIONS, enter B.

> Please enter F, T or B > B
```

Figure 4.18

Scenario 2: Standard Report of Source Data

Output 2

ODES TOOL 120: RETRIEVAL OF BIOACCUMULATION DATA
DATE(S): 80 TO 89
STATION(S): GL3B003 GL3R004
DATA SORTED: SAMPLE DATE

SAMPLING*DATE=860815

Source Station Id	Station Code	Sample Date	Samp No.	Spec No.	Comp No.	Taxon	Chemical Variable	Amount	Units	Qual Code
003	GL3B003	860815	001	001	01	LOXORHYNCHUS GRANDIS	LEAD, TOTAL	0.0400	PPM, Weight/Weight (ug/g)	Z
003	GL3B003	860815	001	001	01	LOXORHYNCHUS GRANDIS	LEAD, TOTAL	0.0800	PPM, Weight/Weight (ug/g)	Z
003	GL3B003	860815	001	001	01	LOXORHYNCHUS GRANDIS	LEAD, TOTAL	0.0400	PPM, Weight/Weight (ug/g)	Z
003	GL3B003	860815	001	001	01	LOXORHYNCHUS GRANDIS	LEAD, TOTAL	0.0400	PPM, Weight/Weight (ug/g)	Z
003	GL3B003	860815	001	001	01	LOXORHYNCHUS GRANDIS	LEAD, TOTAL	0.0800	PPM, Weight/Weight (ug/g)	Z
007	GL3R004	860815	001	001	01	LOXORHYNCHUS GRANDIS	LEAD, TOTAL	0.0200	PPM, Weight/Weight (ug/g)	Z
007	GL3R004	860815	001	001	01	LOXORHYNCHUS GRANDIS	LEAD, TOTAL	0.0800	PPM, Weight/Weight (ug/g)	Z
007	GL3R004	860815	001	001	01	LOXORHYNCHUS GRANDIS	LEAD, TOTAL	0.0800	PPM, Weight/Weight (ug/g)	Z
007	GL3R004	860815	001	001	01	LOXORHYNCHUS GRANDIS	LEAD, TOTAL	0.0200	PPM, Weight/Weight (ug/g)	Z
007	GL3R004	860815	001	001	01	LOXORHYNCHUS GRANDIS	LEAD, TOTAL	0.1600	PPM, Weight/Weight (ug/g)	Z

SAMPLING*DATE=881004

Source Station Id	Station Code	Sample Date	Samp No.	Spec No.	Comp No.	Taxon	Chemical Variable	Amount	Units	Qual Code
003	GL3B003	881004	001		01	LOXORHYNCHUS GRANDIS	LEAD, TOTAL	0.1100	PPM, Weight/Weight (ug/g)	Z
007	GL3R004	881004	001		01	LOXORHYNCHUS GRANDIS	LEAD, TOTAL	0.0500	PPM, Weight/Weight (ug/g)	Z
007	GL3R004	881004	001		01	LOXORHYNCHUS GRANDIS	LEAD, TOTAL	0.0400	PPM, Weight/Weight (ug/g)	Z

SAMPLING*DATE=891017

Source Station Id	Station Code	Sample Date	Samp No.	Spec No.	Comp No.	Taxon	Chemical Variable	Amount	Units	Qual Code
003	GL3B003	891017	001		01	LOXORHYNCHUS GRANDIS	LEAD, TOTAL	0.0500	PPM, Weight/Weight (ug/g)	Z

Tool 120 is designed to create a report with specific values for tissues, chemicals, concentrations, and qualifiers. Tool 120 requires users to specify a study area and date or range of dates of interest. You can retrieve data based on taxa, tissues, and chemicals. This tool also provides secondary selection options that subset the data by qualifier codes, analytical methods, and gear type.

As in Tool 121, you control what variables are reported in the output. Output 2, shown on the opposite page, displays all possible variables. This format is called Report 1. Report 2 displays a set of commonly used variables. The third type of report allows you to select any combination of variables. In addition, the report is grouped into subsections based on the criteria that you select.

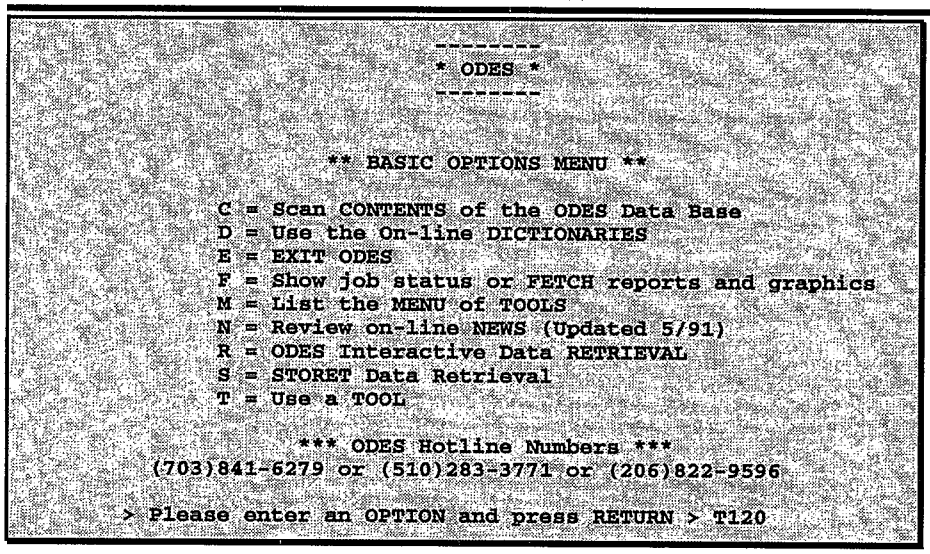
Suppose, for example, you want a standard report of the bioaccumulation data reported for Goleta, California as part of the 301(h) program. You are only interested in data collected during the 1980s in which lead was detected in muscle tissue. You want to include all data variables and headings. Also, you want the data to be sorted by sample date as shown on the previous page.

Introduction

You can create a standard report of source level data using Tool 120: Bioaccumulation Source Data Retrieval Tool. To start Tool 120, **enter T120** at the Basic Options Menu prompt shown in Figure 4.19.

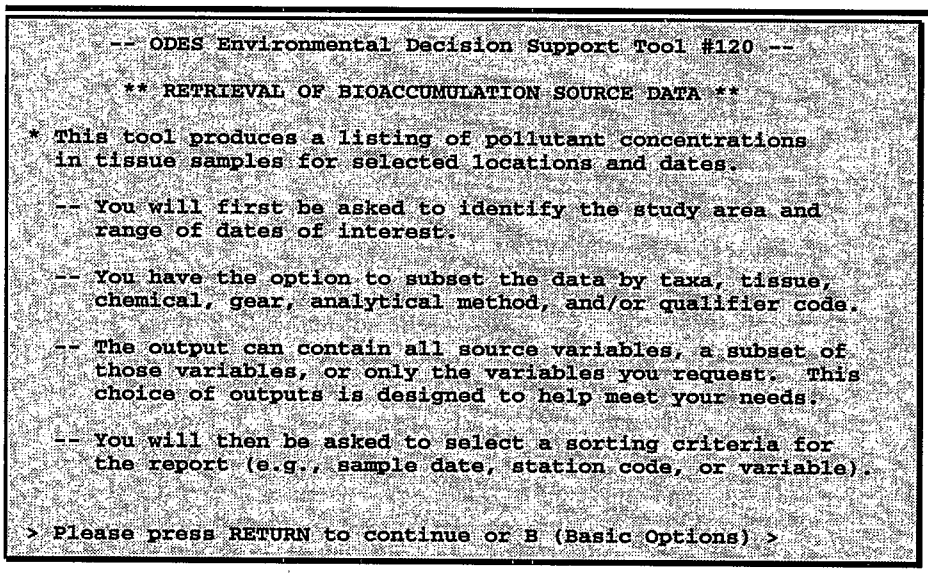
After entering Tool 120, you should see the menu shown in Figure 4.20 which explains the features of this tool.

If you decide that you do not wish to run this tool, you can enter B to return to the Basic Options Menu. To proceed with this tool and to create the data report, simply press the **ENTER** key.



```
                    --------
                    * ODES *
                    --------

              ** BASIC OPTIONS MENU **

        C = Scan CONTENTS of the ODES Data Base
        D = Use the On-line DICTIONARIES
        E = EXIT ODES
        F = Show job status or FETCH reports and graphics
        M = List the MENU of TOOLS
        N = Review on-line NEWS (Updated 5/91)
        R = ODES Interactive Data RETRIEVAL
        S = STORET Data Retrieval
        T = Use a TOOL

            *** ODES Hotline Numbers ***
    (703)841-6279 or (510)283-3771 or (206)822-9596

  > Please enter an OPTION and press RETURN > T120
```

Figure 4.19



```
      -- ODES Environmental Decision Support Tool #120 --

        ** RETRIEVAL OF BIOACCUMULATION SOURCE DATA **

* This tool produces a listing of pollutant concentrations
  in tissue samples for selected locations and dates.

  -- You will first be asked to identify the study area and
     range of dates of interest.

  -- You have the option to subset the data by taxa, tissue,
     chemical, gear, analytical method, and/or qualifier code.

  -- The output can contain all source variables, a subset of
     those variables, or only the variables you request.  This
     choice of outputs is designed to help meet your needs.

  -- You will then be asked to select a sorting criteria for
     the report (e.g., sample date, station code, or variable).


> Please press RETURN to continue or B (Basic Options) >
```

Figure 4.20

Study Area and Date Selections

Four options exist for specifying an area and date of interest as shown in Figure 4.21. For this example, **enter S** to retrieve data from stations associated with the Goleta, California 301(h) monitoring program.

When using the station selection criteria, Figure 4.22 should appear. This screen requests that you enter station codes. If you are unsure of the station codes, ODES provides on-line help to assist you. The codes you need for this example are GL3B003 and GL3R004. You can enter up to nine codes on a single line separated by a space, or enter codes one at a time. ODES continues to prompt you for more stations until you enter Q to quit. In addition, ODES confirms that you enter a valid code. If a code is invalid, you are prompted to re-enter the code correctly.

To continue, **enter GL3B003** at the first prompt. At the second prompt, **enter GL3R004**. At the last prompt on this screen, **enter Q**.

```
* ODES will now ask you to specify location(s) of interest by
  selecting a station or group of stations and a date or range
  of dates.

* You can specify stations of interest by selecting all stations
  in a monitoring program; or by selecting all stations for a
  reference data set; or a group of stations by their relation
  to the zone of initial dilution (ZID) (i.e., all near-field,
  boundary, reference, far-field, or with-in ZID stations in a
  monitoring program); or one or more individual stations.

      M = MONITORING Program
      N = Reference NUMBER
      R = RELATION to ZID (301h program only)
      S = STATIONS Individually

> Enter M, N, R, or S >  S
```

Figure 4.21

```
* You will be asked to specify monitoring station(s) of interest
  by entering a 7-character code or a valid substring of a code.
  For example, 'OC3B001' would retrieve only one station while
  'OC3B' would retrieve all station codes beginning with OC3B.
  You may enter up to 9 codes on 1 line, separated by a blank
  or comma. you can also enter 'H' to look up valid station
  codes, or 'Q' to quit specifying station codes.
  If you enter H or Q, it must be the only entry on the line.

> Please enter station codes(s), H, or Q >
>  GL3B003
* ODES is confirming stations...

* You have made 1 entry(s).  At the prompt, enter more
  station codes, H for Help, or Q to Quit.

> Please enter station codes(s), H, or Q >
>  GL3R004
* ODES is confirming stations...

* You have made 2 entry(s).  At the prompt, enter more
  station codes, H for Help, or Q to Quit.

> Please enter station codes(s), H, or Q >
>  Q
```

Figure 4.22

The next item you must specify is a date or range of dates (see Figure 4.23). Dates should be entered in a YYMMDD format where YY is the year, MM is the month and DD is the day. Please note that you can select dates by year (YY), year and month (YYMM) or year, month, and day (YYMMDD). To enter a range of dates, include a space between the two dates. In this example, the dates of interest are the 1980's; therefore, **enter 80 89** at the prompt.

After entering the study area and dates, ODES displays your entries and allows you to make corrections if necessary. If everything is correct, **enter C** to continue to the primary selection options. For this example, your correction screen should look like Figure 4.24.

Please note that while this example selects two stations within a monitoring program, other options are available for specifying a study area for your data. These options include either specifying an entire monitoring program or selecting a single reference number.

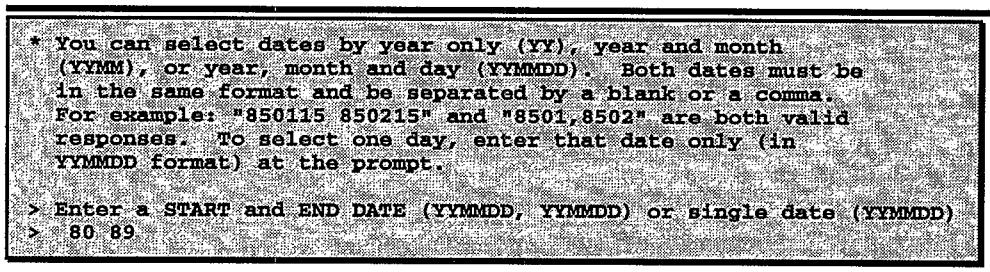


Figure 4.23

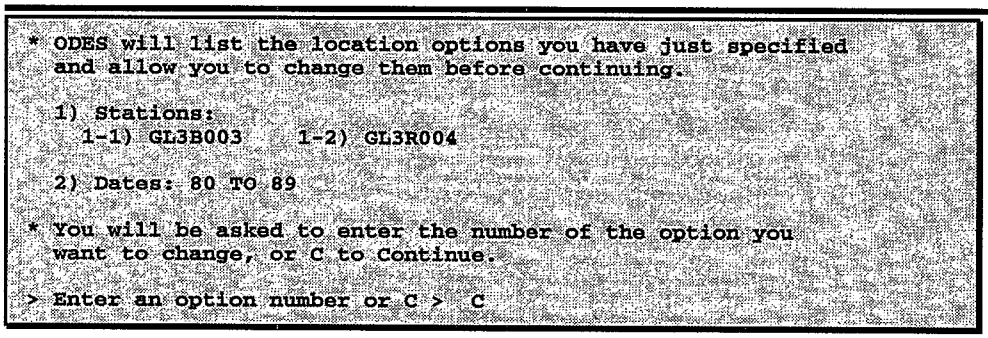


Figure 4.24

Primary Selections

This option allows you to subset the output by taxa, tissues, and chemicals. If you wish to include all data rather than subsetting by one of these selection criteria, enter A to request all data.

For this example, you are not concerned with the types of taxa sampled; therefore, **enter A** to select all taxa. Figure 4.25 shows this prompt. (If you wished to subset by taxa, the process is similar to the example shown for Tool 121.)

The next primary selection option is the tissue code. For this example, you want to retrieve information only if lead was detected in muscle tissue. Thus, **enter S** to specify tissues at the prompt shown in Figure 4.26. ODES allows you to enter up to 5 separate tissue codes. In addition, this option provides an on-line dictionary to help you identify the codes.

You may **enter H** to access the help dictionary as in Figure 4.27.

Then Figure 4.28 shows the menu that begins the dictionary search. Press **ENTER** to view all dictionary entries.

```
* You may specify TAXA to be included in your
  report or default to all results being reported.

      S = SPECIFIC NODC OR ODES GROUP CODES
      A = ALL TAXA ARE INCLUDED IN REPORT

> Please enter S to specify codes or A for all codes> A
```

Figure 4.25

```
* You may specify TISSUE to be included in your
  report or default to all results being reported.

      S = SPECIFIC TISSUE CODES
      A = ALL TISSUE CODES INCLUDED

> Please enter S to specify codes or A for all> S
```

Figure 4.26

```
* You may request up to 5 organs or tissues to be reported.

* Specify a tissue type by its 2 digit code.  Enter a valid
  tissue type, "H" to lookup a valid tissue codes, or Q to quit.

> Please enter a 2-digit tissue code, H, or Q> H
```

Figure 4.27

```
* The On-line Dictionary stores the names and the 2 digit tissue
  codes that are currently stored in ODES.  You can search the
  dictionary by entering all or part of a tissue code or tissue
  name. You may also press RETURN to view all codes.

> Enter search string >
```

Figure 4.28

When you press enter to view the complete dictionary, ODES displays Figure 4.29. Please note that muscle corresponds to code 01; then **enter Q** to end the dictionary search and **N** to exit the dictionary.

Figure 4.30 displays the ODES prompt where you **enter** the code: **01**. After entering the code, ODES acknowledges your request. You can then enter another code or Q to quit specifying codes. Since you are only interested in muscle tissue, **enter Q**.

```
* There are 47 codes in the dictionary.

 CODE      ODES TISSUE DESCRIPTION
-------|-----------------------------------
    01  =  MUSCLE
    02  =  LIVER
    03  =  DIGESTIVE GLAND
    04  =  GONAD
    05  =  GILLS
    06  =  KIDNEY
    07  =  SPLEEN
    08  =  HEART
    09  =  BRAIN
    10  =  BLOOD
    11  =  STOMACH CONTENTS
    12  =  TOP 1 1/2" OF SEDIMENT CORE
    13  =  MIDDLE 1 1/2" OF SEDIMENT CORE
    14  =  REMAINDER OF SEDIMENT CORE
    15  =  WHOLE ORGANISM

> Press RETURN to continue or Q to QUIT > Q

> Search for another TISSUE? (Y/N) > N
```

Figure 4.29

```
> Please enter a 2-digit tissue code, H, or Q> 01
     + 1 tissue codes entered.

> Please enter a 2-digit tissue code, H, or Q> Q
```

Figure 4.30

The third primary selection option is chemical variables. As shown in Figure 4.31, this selection is similar to the taxa and tissue options. For this example, you are interested only in lead. In order to retrieve lead data, **enter S** to specify chemicals.

At the prompt for chemical codes, again you can use H to access the on-line dictionary. The dictionary is accessed in Figure 4.32 by **entering H** at the prompt.

At the prompt in Figure 4.33, **enter LEAD** as the search string.

```
* You may specify CHEMICALS to be included in your
  report or default to all results being reported.

      S = SPECIFY CHEMICAL CODES
      A = ALL CHEMICAL CODES INCLUDED

> Please enter S to specify codes or A for all codes> S
```

Figure 4.31

```
* You will now be asked to select chemical variables by their
  ODES variable code (2-10 characters).  If you need to search
  a list of variables for valid ODES Codes then enter "H" at
  the prompt.

> Please enter an ODES variable code, H, or Q >  H
```

Figure 4.32

```
* ODES is working.  Please wait...

* The On-line Dictionary stores the names and variable codes
  (2-10 characters) for all chemicals in the ODES Data Base.  You
  can search for a chemical by any part of its name or code. You
  may also press RETURN to view a listing of all codes.

> Enter search string > LEAD
```

Figure 4.33

That search string produces the portion of the dictionary shown in Figure 4.34. Please note that there are many versions of LEAD, but you are interested in TOTAL LEAD.

To continue with this example, **enter N** to exit the dictionary.

To make your selection, **enter LEAD** at the prompt in Figure 4.35. Since you are only interested in the single chemical variable, **enter Q** at the next prompt to quit specifying chemical codes.

Before leaving the primary selection options, ODES allows you to confirm your taxa, tissue, and chemical selections and correct any problems before continuing. Check to make sure your confirmation screen matches Figure 4.36 for this example. To proceed to the next part of the tool, **enter C**.

```
* ODES is working.  Please wait...
* There are 6 occurrence(s) of LEAD in the dictionary.

      CODE              CHEMICAL NAME
  ------------|-------------------------------------------
   LEAD       = LEAD  TOTAL
   LEAD CHROM = LEAD CHROMATE
   LEAD OXIDE = LEAD OXIDE
   LEADTALL   = LEAD TALLATE
   PLEAD      = LEAD  PARTICULATE
   DLEAD      = LEAD  DISSOLVED

> Search for another CHEMICAL? (Y/N) >  N
```

Figure 4.34

```
> Please enter an ODES variable code, H, or Q >  LEAD
    * 1 chemical codes entered.

> Please enter an ODES variable code, H, or Q >  Q
```

Figure 4.35

```
* ODES will now display your selections and allow you
  to change them before continuing.

1) You have selected the following taxa:
       1-1) All taxa will be included.

2) You have selected the following tissues:
       2-1) 01,MUSCLE

3) You have selected the following chemicals:
       3-1) LEAD, LEAD  TOTAL

> Enter 1 to change taxa, 2 for tissues, 3 for chemicals, or
> C to continue >C
```

Figure 4.36

Secondary Selections

The secondary selection options provide additional data selection capabilities as shown in Figure 4.37. These options are analytical method, sampling gear, and qualifier codes. Analytical method is the process used to extract or digest the sample matrix and remove or isolate the chemical of concern. Qualifier codes provide additional information about the measurements. These codes signify to the user whether the reported concentration values were estimated, questionable, or adjusted for QA/QC samples. Sampling gear identifies the general gear type used to collect the sample. You may enter multiple qualifier codes; however, ODES only allows you to select one analytical method and one gear code.

Please note that data submitters are required to provide the primary selection fields (taxa, tissue, and chemical); thus, those fields always exist in the database. On the other hand, secondary selection criteria fields have not always been required; therefore, if you subset by these criteria and the submitter did not use a qualifier, gear, and/or analytical method codes, you may not retrieve any data. In this case, your report is empty, but the lack of data does not mean that data are not available in the database.

To subset by any of these options, enter the appropriate letter at the prompt. You may select one, two, or all of these options. For purposes of this example, select **Q** for qualifier codes. You may skip this section by entering C at the prompt in Figure 4.37. In that case, you go directly to the report criteria section.

```
* You may also select data based on one or more of the following
  conditions.  Enter your choices on one line separated by a
  blank, or enter C to Continue without any additional selection
  conditions.

  A = ANALYTICAL Methods
  G = Sampling GEAR
  Q = Multiple QUALIFIER Code(s)

> Enter A, G, Q or C (CONTINUE) > Q
```

Figure 4.37

Qualifier codes are one-character codes assigned by ODES. For this example, subset the data with qualifier code Z. Qualifier code Z means the data have been adjusted using the QA/QC samples in the database. Valid qualifier codes can be found in the appendix of this manual or using the on-line help feature within ODES.

Enter Z at the prompt shown in Figure 4.38 to subset using this qualifier code. Then **enter F** at the next prompt to signify to ODES that you are finished entering codes.

Like other parts of ODES, you are then asked to confirm your selection (Figure 4.39). **Enter C** to confirm and continue to the report criteria section of this tool.

```
* You will be asked to specify data qualifier codes of interest
  by entering a 1-character code.  You may enter up to 9 codes
  on 1 line, separated by a blank or comma.  You can also enter
  H to look-up valid qualifier codes, or F when finished
  selecting codes.  If you enter "H" or "F", it must be the
  only entry on the line.  You may enter up to a total of 12
  qualifier codes.

* If you do not wish to enter qualifier codes, please
  enter 'SKIP' at the next prompt.

> Please enter qualifier codes(s), H  or SKIP>
>  Z

* You have entered 1 qualifier code(s).  At the prompt, enter
  more qualifier codes, H for help, or F when Finished.

> Please enter qualifier codes(s), F or H>
>  F
```

Figure 4.38

```
* ODES will now list the options you have selected for
  Bioaccumulation data and allow you to change the selection
  before continuing.

   1) Qualifier code(s): Z

* You will be asked to enter the number of the option that you
  want to change, or you can enter C to Continue.

> Enter an option number, or enter C > C
```

Figure 4.39

Report Criteria

The Report Criteria section allows you to design the format of your report. ODES offers three options for the report. Report 1 includes all bioaccumulation source variables. Report 2 includes the commonly retrieved source variables. Report 3 allows you to design the format of the report by selecting the variables to be included. Figure 4.40 shows the menu that prompts you to enter the number of the report you wish to generate. This example uses Report 1 to output all source variables. (If you are interested in Report 3, please refer to Report Criteria section of Tool 121 which is similar in design.) **Enter 1** to continue with this example.

After selecting Report 1, ODES prompts you to identify how to sort the report. The sort criteria actually groups the data into subsections. If you select D for sampling date, the report creates subsections by date. Each subsection includes all the data for a single occurrence of the chosen sort criteria. The three options for this sort criteria are sampling date, chemical variable, and station code. You can designate a sort criteria by entering D for date, V for variable, or S for station. For this example, **enter D** to group the output by dates at the prompt in Figure 4.41.

```
* You must specify a format for the report listing the data
  you have selected.

  --  Report 1 lists all source level variables:
      sample date, taxa, species #, specimen #, replicate #,
      bioaccumulation variable, amount, units, qualifier code

  --  Report 2 only lists the following variables:
      sample date, taxa, bioaccumulation variable, amount, units

  --  Report 3 allows you to design a report format by selecting
      the variables to include.

* Please identify the number of the report you wish to create.


> Enter 1, 2, or 3 for type of report to submit >1
```

Figure 4.40

```
* For your chosen data, ODES can sort the report by sample date,
  chemical variable, or station code.

        D = DATE
        V = VARIABLE
        S = STATION

> Please specify the order of the report (D,V,S) >D
```

Figure 4.41

After selecting the sort order as shown in Figure 4.42, you are asked to confirm your report criteria responses. If you want to change the type of report, enter 1. Sort criteria can be modified by entering 2. Figure 4.42 displays the correct selections for this example. To continue, **enter C**.

```
* ODES will now list the options your have selected for
  for this job and allow you to change the selections
  before the job is submitted.

* These are the options you have chosen:

     1) Report Type: ALL VARIABLES


     2) Sort Order:  SAMPLE DATE

* Enter 1 to re-enter variables, 2 to change sort order or
  C to Continue.

> Enter 1, 2, or C >C
```

Figure 4.42

Finishing the Job

After completing your data selections, the menu shown in Figure 4.43 should appear. Enter S to submit the job that creates your report. If you decide not to submit the job, **enter E** to return to the Basic Options Menu.

After you submit the job, ODES responds with Figure 4.44. On this screen, you specify the width of the report. The results of this question depends on your communication set-up. In general, 80 character reports fit nicely on the screen, but may truncate the last 52 columns. If you are printing a wide report or downloading the data to your computer, you may prefer 132 characters. Enter N to produce the 80 character report or Y for the 132 character report. Choose either option now to experiment with your communication set-up.

The last step is recording your job number for future reference. The job number appears after the job is submitted for execution. This job number, designated as xxxxx in Figure 4.45, identifies your report so that you can retrieve it through the Fetch Option at a later time. Please record the job number and refer to the Fetch Option tutorial for more information about retrieving the report. Please note that the Fetch Option tutorial uses this job for demonstration purposes. After you fetch this report, check your results with the output shown at the beginning of the scenario.

From this screen you can go directly to the ODES Fetch Option by entering F. To run tool 120 again using different parameters and options, you may enter T. To exit this scenario in preparation for another scenario, **enter B** to return to the Basic Options Menu.

```
* You have finished entering information needed to retrieve
  Bioaccumulation source data.  You will now be asked to enter
  S to submit the job or to enter E to Exit this tool and
  cancel the job.

> Please enter S or E >  S
```

Figure 4.43

```
* ODES can increase the column size of the output from
  80 to 132 columns.  If you choose not to increase the
  column size of the output you may experience wrapping or
  truncation of lines longer than 80 columns.

> Do you want to increase output column size (Y/N)? > Y
```

Figure 4.44

```
* ODES is preparing your job for batch submittal.
  Please wait...

* Thank you.

* Please record the following job information
  for subsequent retrievals:

      JOB NUMBER: xxxxx
      TIME:       14:57:46
      DATE:       11/24/92

* To check on job status, enter F.  To run this TOOL again,
  enter T. To return to BASIC OPTIONS, enter B.

> Please enter F, T or B > B
```

Figure 4.45

Chapter 5: Analyzing Data

You can use ODES to analyze data or to transfer data to another platform for further investigation. Currently, ODES supports two analytical tools for bioaccumulation data: Tool 1 and Tool 2. These tools allow you to quickly examine your data in order to observe temporal and spatial variability of selected variables. Seasonal and other trends may also be identified using these tools.

These graphical tools also provide a quick, preliminary means of identifying potential relationships between variables at a specified station.

In addition to using Tool 1 or 2, you may want to analyze data using some other software package. ODES can help you by downloading the data to your desktop computer, creating ARC/Info files that allow you to generate point coverages, or transferring the data to SAS data sets.

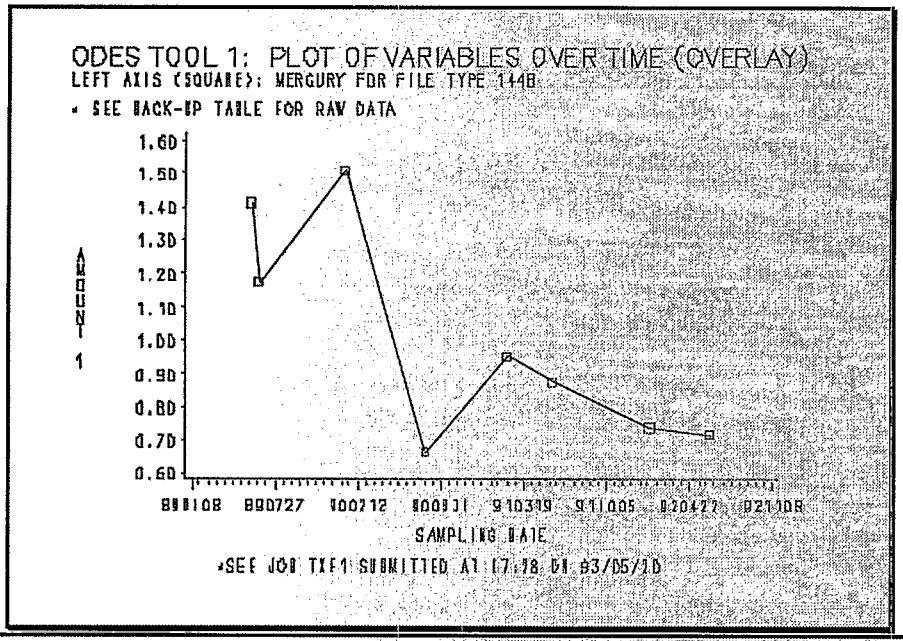
Using this chapter, you will view data using Tool 1, create a file that you can later download to your PC, and create a SAS data set.

Scenarios:

1 -- Using ODES Graphical Tools
2 -- Creating a text file of ODES data
3 -- Performing Advanced Analysis

Scenario 1: Using ODES Graphical Tools

Output 1



BACK-UP TABLE FOR PLOT IN GRAPHIC TOOL1

SYMBOL USED IN PLOT	SAMPLE DATE	STATION	VARIABLE	AMOUNT	UNIT CODE
SQUARE	890601	FLF0168	MERCURY, TOTAL	1.4142	PPM, Weight/Weight
SQUARE	890620	FLF0168	MERCURY, TOTAL	1.1750	PPM, Weight/Weight
SQUARE	900111	FLF0168	MERCURY, TOTAL	1.5100	PPM, Weight/Weight
SQUARE	900726	FLF0168	MERCURY, TOTAL	0.6650	PPM, Weight/Weight
SQUARE	910208	FLF0168	MERCURY, TOTAL	0.9540	PPM, Weight/Weight
SQUARE	910528	FLF0168	MERCURY, TOTAL	0.8750	PPM, Weight/Weight
SQUARE	920117	FLF0168	MERCURY, TOTAL	0.7400	PPM, Weight/Weight
SQUARE	920608	FLF0168	MERCURY, TOTAL	0.7183	PPM, Weight/Weight

SYMBOL USED IN PLOT	STATION	LOCATION
SQUARE	FLF0168	FLF0168

In general, the graphical outputs of Tool 1 and Tool 2 provide plots that indicate the following:

- how chemical measurements vary over time at a particular station,
- how concentrations of different chemicals vary together over time at a particular station, and
- how the measurements of a chemical vary between stations over time.

These plots are only descriptive and simply indicate potential relationships. Standard error bars are not included and no information concerning the variability of the data is provided in the backup table. Further analyses are required to identify statistically significant temporal trends and/or correlations between variables.

The only difference between Tool 1 and 2 is the number of Y variables that can be shown on your graph. Tool 1 is designed to plot 1 or 2 variables. Tool 2 plots more than 2 variables. The X axis in both tools relates to time.

Output 1 shows an example of a high-quality plot created by Tool 1. To access output created by Tools 1 and 2, you need to use the Fetch Option which is described in Chapter 6. Within the Fetch option, you can view the graph using the graphic capabilities. The table of data that is shown below the plot on the previous page can be retrieved through the standard Fetch options.

To demonstrate the capabilities of Tool 1, assume you are interested in generating a graph for Florida station FLF0168. You wish to determine the amount of mercury measured in the muscle tissue of Largemouth Bass between 1989 and 1992.

Introductory Screen

As just described, Tool 1 allows you to plot variables over time. To start this option, **enter T1** at the Basic Options Menu prompt shown in Figure 5.1.

The next two menu screens , shown in Figures 5.2 and 5.3, are the introductory screens which explain the features of this tool. If you decide not to run Tool 1, you can enter B to return to the Basic Options Menu. To continue with this example, press **ENTER** at both prompts.

```
                    --------
                    * ODES *
                    --------

                ** BASIC OPTIONS MENU **

          C = Scan CONTENTS of the ODES Data Base
          D = Use the On-line DICTIONARIES
          E = EXIT ODES
          F = Show job status or FETCH reports and graphics
          M = List the MENU of TOOLS
          N = Review on-line NEWS (Updated 2/93)
          R = ODES Interactive Data RETRIEVAL
          S = STORET Data Retrieval
          T = Use a TOOL

              *** ODES Hotline Numbers ***
       (703)841-6279 or (510)283-3771 or (206)822-9596

      > Please enter an OPTION and press ENTER > T1
```

Figure 5.1

```
      -- ODES Environmental Decision Support Tool #1 --

    ** PLOT OF ONE OR TWO VARIABLES OVER TIME (OVERLAY) **

* This tool produces a plot of up to two selected variables at
  one or two monitoring stations, over time.  (The plot of TWO
  variables on one graph with 2 vertical axes, is only available
  as a high-quality plot - you need a graphics terminal or
   plotter for plots with 2 vertical axes.)

  -- You will first be asked to specify a range of sample dates.

  -- You will then be asked to specify the variables of interest
     (e.g., specific effluent, water quality, or benthic
     variables).

  -- You will then be asked to specify an effluent source,
       (e.g., a POTW) or a Monitoring station of interest.

 > Please press ENTER to continue or B (Basic Options) >
```

Figure 5.2

```
  -- ODES will then produce a temporal plot of these variables
     for the sites and range of dates you specified.  ODES will
     also produce a back-up table of raw data values.

  -- To use STORET Data with this tool:

     1) Use the ODES STORET Retrieval Option, Basic Option "S",
        to obtain a list of STORET agencies, stations, dates,
        parameters, and remark codes available for use
         with ODES.Make a note of the agencies, stations, dates,
         and parameters of interest.  You will need to supply
         these codes later because ODES does not currently
         provide on-line dictionaries for STORET data.

     2) At the next screen select file type "STOR" to access
        STORET water quality data OR select file type "144C"
        to access a combination of ODES and STORET water quality
        data.

 > Please press ENTER to continue or B (Basic Options) >
```

Figure 5.3

File Type Selection

ODES then lists the file types supported by Tool 1 and prompts you to enter the type of data to use for your graph. The National Fish Tissue Data Repository is stored in the bioaccumulation file type. **Enter 144B** to select bioaccumulation data, as shown in Figure 5.4.

Chemical Selection

Since you are interested in bioaccumulation data, ODES prompts you to indicate the chemical variable you are interested in plotting by entering the ODES chemical code, as shown in Figure 5.5. For this example you are interested in Mercury, so **enter MERCURY**, the ODES chemical code. If you are unsure of the appropriate code, enter H to access the on-line help dictionary. The dictionary lists all ODES chemical variables and their corresponding ODES chemical codes. You can also use Appendix C to look up ODES chemical codes.

```
* You can request one of the following types of data:

  File Type          Type of Data
 ------------|-----------------------------------
        009   =  Bacterial/Viral Data
        132   =  Benthic Survey Data
        900   =  Bioassay Data
        144B  =  Bioaccumulation Data
        013   =  Fish Pathology Data
        144E  =  Influent and Effluent Data
        144W  =  Receiving Water Quality Data
        073   =  Sediment Grain Size Data
        144S  =  Sediment Pollutant Data
        123   =  Trawl/Seine Sampling Data

> Please enter the file type of interest > 144B
```

Figure 5.4

```
* You will now be asked to select a chemical variable by its
  ODES variable code (2-10 characters).  If you need to search
  a list of variables for valid ODES Codes then enter "H" at
  the prompt.

> Please enter an ODES variable code or H >   MERCURY
```

Figure 5.5

Tissue Selection

Because you selected bioaccumulation data, ODES asks if you want to specify a tissue code, as shown in Figure 5.6. **Enter Y** to continue with this example.

ODES prompts you to select a tissue code, as shown in Figure 5.7. For this example you are interested in muscle which is tissue code 01. If you are unsure of the appropriate tissue code, **enter H** at the prompt to access the on-line help dictionary.

```
* You now have the option of selecting a 2-character
  TISSUE code.

> Would you like to select a TISSUE code (Y/N) >  Y
```

Figure 5.6

```
* You will now be asked to enter a tissue code.

* Specify a tissue type by its 2 character code. Enter a valid
  tissue type or "H" to look-up a valid tissue code.

> Please enter a 2-character tissue code or H >  01
```

Figure 5.7

Taxa Code Selection

The next selection you must make is a taxonomic code, as shown in Figure 5.8. This prompts asks if you want to specify a taxa code. To continue with this example, **enter Y.**

The next menu, Figure 5.9, asks you to enter an NODC code, ODES group code, or H to view the on-line dictionary. NODC codes correspond to the National Oceanographic Data Center codes that identify marine, estuary, and freshwater taxa. These codes are 12 digits long.

In this example, the specific taxon of interest is *Micropterus salmoides*; (code = 883516060200). If you did not know the code, you could use either the taxonomic dictionary provided in Appendix B or enter H at the prompt for a listing of codes.

At this prompt, you should respond by entering **883516060200**, the ODES taxa code for *Micropterus salmoides*, or Largemouth Bass.

After entering the chemical variable, tissue code, and taxa code, ODES displays your entries and allows you to make corrections if necessary. If everything is correct and you do not wish to make any changes, select C to continue. For this example, **enter C** to continue, as shown in Figure 5.10.

```
* You now have the option of selecting a 12-digit NODC Code.

> Would you like to select a NODC code (Y/N) >  Y
```

Figure 5.8

```
* You can select an individual organism by its NODC
  code, or you can select an entire phylum, class or
  higher level grouping by its ODES 12-letter code.
  Enter H to look-up valid taxonomic codes.

> Please enter NODC Code, ODES group code, or H > 883516060200
```

Figure 5.9

```
* ODES will now list the options you have selected for
  Bioaccumulation data and allow you to change the selection
  before continuing.

    1) Variable: MERCURY, MERCURY  TOTAL
    2) Tissue:   MUSCLE
    3) Taxon:    MICROPTERUS SALMOIDES

* You will be asked to enter the number of the option that
  you want to change, or you can enter C to Continue.

> Enter an option number, or enter C >  C
```

Figure 5.10

Qualifier Selection

At the prompt in Figure 5.11, you have the option to subset the data by specifying an analytic method, the type of sampling gear used, or a qualifier code. Selecting one of these criteria restricts the data that will be included in the analysis. If you wish to specify one of these codes, enter the letter listed on the screen. After entering your selection you may obtain a list of codes by entering H. To continue this session without subsetting the data, **enter C** at the prompt.

Station Selection

The next selection criteria requests a monitoring station. As shown in Figure 5.12, ODES prompts you to enter the ODES station code. If you are unsure of the station code, enter H at the prompt to access the on-line help dictionary. For this example **enter FLF0168** at the prompt.

Date Selection

The next item you must specify is a date or range of dates. You specify those dates at the prompt shown in Figure 5.13. Dates should be entered in a YYMMDD format where YY is the year, MM is the month, and DD is the day. Since you are interested in data for the period 1989 to 1992, **enter 89 92** at the prompt. Note that while you entered a date range based on years for this example, you may also enter the range by year and month (YYMM) or by days (YYMMDD). In addition, you may select a single year, month or day.

```
* You may also select data based on one or more of the
  following conditions.  Enter your choices on one
  line separated by a blank, or enter C to Continue without
  any additional selection conditions.

  A = ANALYTICAL Methods
  G = Sampling GEAR
  Q = Multiple QUALIFIER Code(s)

> Enter A, G, Q or C (CONTINUE) >  C
```

Figure 5.11

```
* You will now be asked to specify a monitoring station of
  interest.

* Specify a monitoring station by its 7-character ODES ID or
  enter H for help with valid station codes.

> Enter a 7-character station code or H >  FLF0168
```

Figure 5.12

```
* You can select dates by year only (YY), year and month
  (YYMM), or year, month and day (YYMMDD).  Both dates must
  be in the same format and be separated by a blank or a comma.
  For example: "850115 850215" and "8501,8502" are both valid
  responses.  To select one day, enter that date only (in
  YYMMDD format) at the prompt.

> Enter START and END DATE (YYMMDD,YYMMDD) or single date (YYMMDD)
>   89 92
```

Figure 5.13

Vertical Axis Specification

When plotting one or two variables, you may scale the vertical axis to facilitate comparisons between graphs, as shown in Figure 5.14. Since this example plots one variable, the axis is not altered. Tool 1 automatically scales the axis when you **enter N** at this prompt. If you choose to alter the vertical axis, you are prompted to enter the maximum and minimum range for the axis and the increment value.

There is one final confirmation screen before the job is actually submitted for processing (Figure 5.14). If the options you have specified are correct, **enter S** to submit the job.

```
* For this plot, you may define the vertical scales for
  graphic  output.  To define customized vertical scales, you
  will be prompted for a minimum value, a maximum value,
  and an increment value.

> Do you want to specify a vertical axis scale? (Y/N) >   N
```

Figure 5.14

```
* ODES will now list the options you have selected for the
  first variable, and allow you to change the selections
  before continuing.

* These are the options you have chosen for the
  first variable:

    1) Dates: RANGE OF DATES FROM 89 TO 92

    2) Location: FLF0168, EAST LAKE TOHOPEKALIGA,
       EAST LAKE TOHOPEKALIG

    3) Scale:   DEFAULT

* You can:  Enter the number of an option that you want to
  change;  enter V to plot another Variable on the same plot
  (max = 2);  enter S to Submit the job;  or enter E to Exit
  this tool and cancel the job.

> Enter an option number, V, S, or E > S
```

Figure 5.15

Type of Graphic

At this point you have the option of creating a high or low quality graphic. To create high quality graphics, you need to be logged into ODES with the capability of viewing graphics. For example, if you are logged into ODES with a modem and a special communications package (e.g., PC-PLOT or VersaTERM), then you can view graphics. If you are using communications software that does not support graphics (e.g., ProComm), then you should produce low qualify. If you are unsure of your graphics capabilities, please contact the ODES technical support staff for assistance. In addition, you can use low quality graphics regardless of how you logged into ODES.

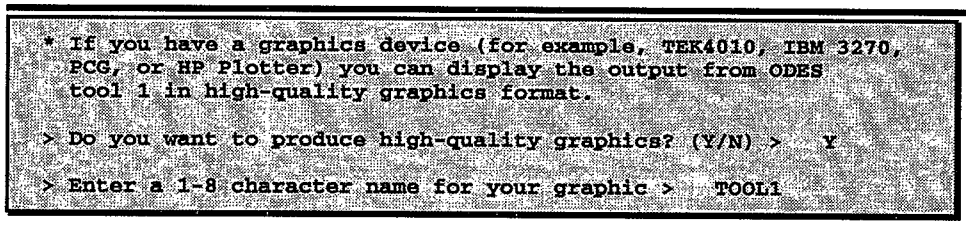
For this example, select high quality graphics. If you know you will not be able to view high quality, select low quality and follow the remaining prompts in this tool. To continue, **enter Y** to select high quality graphics (Figure 5.16).

ODES then asks you to enter a name for your graphic. You will use this name to locate the graphic within the Fetch Option. For this example, **enter TOOL1.**

You can now enter a footnote to be used with your graphic. If you do not want to include a footnote, enter N at the first prompt in Figure 5.17. For this example, **enter Y** to include a footnote. At the second prompt, enter the phrase to be used for your footnote. This phrase can be up to 40 characters. An example footnote is **MERCURY FOR FILE TYPE 144B.** Press **ENTER** after typing the footnote.

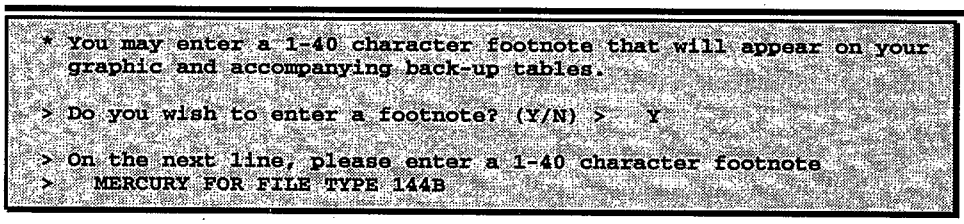
In Figure 5.18, you have the option of entering a description. To enter a description, **enter Y.** At the next prompt, type the description. In this example, **enter TOOL 1 EXAMPLE.**

Next ODES will display a job number. You should record that number for later reference in the Fetch Option. After recording your job number, simply follow the instructions on that screen to continue.



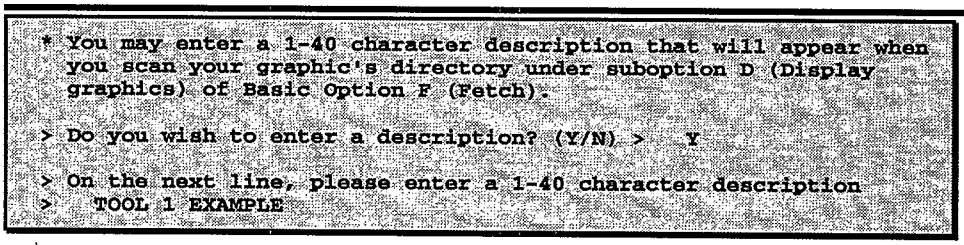
```
* If you have a graphics device (for example, TEK4010, IBM 3270,
  PCG, or HP Plotter) you can display the output from ODES
  tool 1 in high-quality graphics format.

> Do you want to produce high-quality graphics? (Y/N) >   Y

> Enter a 1-8 character name for your graphic >   TOOL1
```

Figure 5.16



```
* You may enter a 1-40 character footnote that will appear on your
  graphic and accompanying back-up tables.

> Do you wish to enter a footnote? (Y/N) >   Y

> On the next line, please enter a 1-40 character footnote
>   MERCURY FOR FILE TYPE 144B
```

Figure 5.17



```
* You may enter a 1-40 character description that will appear when
  you scan your graphic's directory under suboption D (Display
  graphics) of Basic Option F (Fetch).

> Do you wish to enter a description? (Y/N) >   Y

> On the next line, please enter a 1-40 character description
>   TOOL 1 EXAMPLE
```

Figure 5.18

Scenario 2: Creating Text File of ODES Data

Output 2

```
ALM0001  860101   ACENAPE     551002010200 0.0000
ALM0001  860101   ALDRIN      551002010200 0.0000
ALM0001  860101   ALUMINUM    551002010200 750.0000
ALM0001  860101   ANTHRACENE  551002010200 0.0000
ALM0001  860101   ANTIMONY    551002010200 0.0000
ALM0001  860101   ARSENIC     551002010200 16.0000
ALM0001  860101   BAA         551002010200 0.0000
ALM0001  860101   BAP         551002010200 0.0000
ALM0001  860101   BIPHENYL    551002010200 0.0000
ALM0001  860101   CADMIUM     551002010200 2.4000
ALM0001  860101   CHLORDAN-A  551002010200 5.3800
ALM0001  860101   CHROMIUM-T  551002010200 0.6500
ALM0001  860101   CHRYSENE    551002010200 0.0000
ALM0001  860101   COPPER      551002010200 100.0000
ALM0001  860101   DIELDRIN    551002010200 7.4400
ALM0001  860101   FLUORANTHN  551002010200 0.0000
ALM0001  860101   HEPCL EPOX  551002010200 4.9000
ALM0001  860101   HEPTACHLOR  551002010200 0.9100
ALM0001  860101   IRON        551002010200 1300.0000
ALM0001  860101   LEAD        551002010200 0.3400
ALM0001  860101   MANGANESE   551002010200 26.0000
```

In addition to using ODES analytical tools, you may want to download the data for use with a PC software package. In this scenario, you are interested in using ODES bioaccumulation data to create a file that can be downloaded to your PC. Suppose you want to retrieve data collected by the National Bioaccumulation Study in Alabama, Mississippi, and Florida between 1984 and 1989. You want to convert the data to text format for future analysis with a PC spreadsheet package such as Lotus 1-2-3®. The file should include the following variables: station code, date, parameter code, taxa code, and amount.

Once the file is downloaded to a PC, it can be used with LOTUS®, dBASE®, or EXCEL®. If you access ODES using PC-PLOT®, CROSSTALK®, or SMARTCOM®; you may directly download the file using this tool. If you are using another communication link, a temporary file is created on the mainframe. If you create a temporary file, you may want to read detailed instructions for transferring a file provided near the end of this example. In addition, your software packages should include documentation that describes the specific protocol for downloading files using your communication set-up. If you need assistance with downloading files, please call the ODES technical support staff.

Getting Started

As described at the beginning of this section, Option R allows you to create a text file that is compatible with various PC and Macintosh software packages.

To start this option, **enter R** at the Basic Options Menu prompt shown in Figure 5.19.

The next menu, shown in Figure 5.20, explains the three retrieval options available in the Interactive Data Retrieval Option of ODES.

If you decide not to retrieve any data, you can enter B to return to the Basic Options Menu. To create a Text Transfer file and continue with this example, **enter T.**

```
                    --------
                    * ODES *
                    --------

                ** BASIC OPTIONS MENU **

          C = Scan CONTENTS of the ODES Data Base
          D = Use the On-line DICTIONARIES
          E = EXIT ODES
          F = Show job status or FETCH reports and graphics
          M = List the MENU of TOOLS
          N = Review on-line NEWS (Updated 2/93)
          R = ODES Interactive Data RETRIEVAL
          S = STORET Data Retrieval
          T = Use a TOOL

                *** ODES Hotline Numbers ***
       (703)841-6279 or (510)283-3771 or (206)822-9596

     > Please enter an OPTION and press ENTER > R
```

Figure 5.19

```
                ** INTERACTIVE DATA RETRIEVAL **

  * This option permits users to create interactive reports from
    ODES file types.  The following sub-options are supported:

       C - CONTENTS report of an ODES file type listing variable
           names, lengths and descriptions.

       F - FREQUENCY report of occurrences of selected data in
           any ODES file type.

       T - TRANSFER a subset of selected data from an ODES file
           type to a Personal Computer or to a temporary
           mainframe file.  Data may be downloaded in ARC/INFO
           (geographic information system), ASCII (text) format,
           or SAS data sets.

  > Please enter C, F, T or B for Basic Options > T
```

Figure 5.20

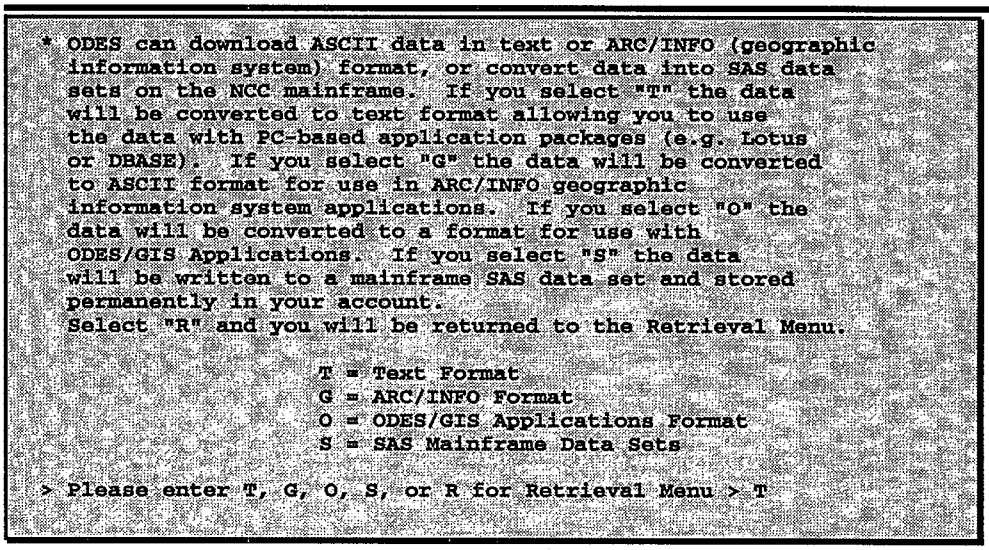
File Format Selection

After selecting the Transfer Option, ODES prompts you to select the format for the file that you are creating (Figure 5.21). ODES provides you with several options. You can convert ODES data to text format which can be used with your PC software packages such as LOTUS® or dBASE®. Another option converts ODES data to ASCII files to be used with ARC/Info®, a geographic information system. You can also convert ODES data to a format compatible with the ODES/GIS applications. The final option converts ODES data to a SAS® data set stored in your account on the mainframe.

If you do not want to continue with the Transfer Option at this point, select R to return to the Retrieval Menu. Since you want to be able to download this file and use it on your PC, **enter T.**

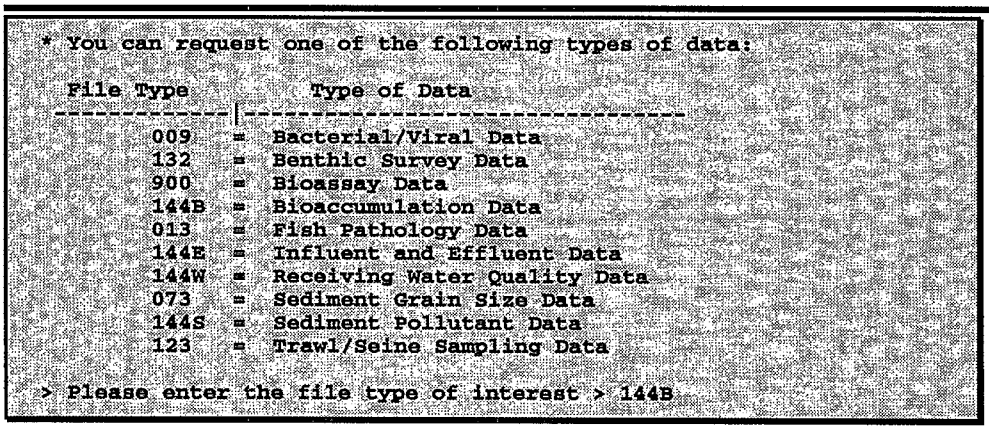
File Type Selection

ODES now prompts you to enter the type of data to use for your report. The National Fish Tissue Data Repository is stored in the bioaccumulation file type. **Enter 144B** to select bioaccumulation data, as shown in Figure 5.22.



```
* ODES can download ASCII data in text or ARC/INFO (geographic
  information system) format, or convert data into SAS data
  sets on the NCC mainframe.  If you select "T" the data
  will be converted to text format allowing you to use
  the data with PC-based application packages (e.g. Lotus
  or DBASE).  If you select "G" the data will be converted
  to ASCII format for use in ARC/INFO geographic
  information system applications.  If you select "O" the
  data will be converted to a format for use with
  ODES/GIS Applications.  If you select "S" the data
  will be written to a mainframe SAS data set and stored
  permanently in your account.
  Select "R" and you will be returned to the Retrieval Menu.

                    T = Text Format
                    G = ARC/INFO Format
                    O = ODES/GIS Applications Format
                    S = SAS Mainframe Data Sets

> Please enter T, G, O, S, or R for Retrieval Menu > T
```

Figure 5.21



```
* You can request one of the following types of data:

  File Type          Type of Data
  ---------------|-----------------------------------
          009    =  Bacterial/Viral Data
          132    =  Benthic Survey Data
          900    =  Bioassay Data
          144B   =  Bioaccumulation Data
          013    =  Fish Pathology Data
          144E   =  Influent and Effluent Data
          144W   =  Receiving Water Quality Data
          073    =  Sediment Grain Size Data
          144S   =  Sediment Pollutant Data
          123    =  Trawl/Seine Sampling Data

> Please enter the file type of interest > 144B
```

Figure 5.22

Data Level Selection

As described in the Data Structure Section of *Chapter 1*, the ODES bioaccumulation file type is comprised of four levels. The top level, known as survey data, cannot be accessed directly with this option. The second level, the station level, contains information about where samples were collected. The next level, the sample level, contains information about the species collected and gear used for collection. The lowest level, the data or source level, contains the analytical lab results.

As shown in Figure 5.23, the Interactive Data Retrieval Option prompts you to enter the level of data to include in the Transfer file. If you enter H at the prompt, you may review the ODES on-line description of these levels. To continue with this example, **enter R** to select the source or data level.

Variable Selection

At this point you have indicated that you want to create a text file using source level bioaccumulation data. The next step is to specify which data fields or variables to include in that file. You can enter up to 20 variables to include based on the level of data you specified on the last screen, as shown in Figure 5.24.

The variable names must be entered as they appear in the on-line help, available at this prompt. To access the on-line help, select H to get a listing of variables and their respective lengths. For this example, you want to include the station code, date, chemical parameter codes, taxa codes, and amounts, so **enter STN_CD DATE PARM_CD NODC_CD AMOUNT** at this prompt.

Since you entered 5 variables, ODES prompts you for 5 additional variables. For this example, you only want the 5 variables you entered at the last prompt, so press **ENTER** to continue.

```
* ODES will now ask you to select the level of data to include
  in the TRANSFER.  Enter H for a help screen describing the
  relationships between the different levels of ODES data.

     T = STATION level
     M = SAMPLE level
     R = DATA level

> Please enter choice for level of data or H > R
```

Figure 5.23

```
* You may now select the variables to include in your download
  file.  You can enter as many as 5 variables on a line
  separated by a space or a comma to a maximum of 20
  variables.  You can enter H to review a list of
  variables and their respective lengths.  Do not
  enter duplicate variable names.

* You must enter 5 variables on a line to be prompted for
  additional variables.  If the number of variables you enter
  on a line is less than 5 then ODES will assume that you have
  finished entering variables of interest and continue by
  prompting you for stations and dates.

> Please enter variables (1-5) below or H for Help
> STN_CD DATE PARM_CD NODC_CD AMOUNT


> Please enter variables (6-10) below
>
```

Figure 5.24

Study Area and Date Selection

After selecting the level of data and the variables to include in the transfer file, you are asked to either subset your data by selecting station-date combinations or select the entire ODES bioaccumulation database. In order to show the steps involved in subsetting the data, this example restricts the output to data collected for the National Bioaccumulation Study in Alabama, Mississippi, and Florida. If you wanted all of the data in the ODES bioaccumulation data base to be included in your report, you would enter N and would skip to the Parameter Selection explanation later in this scenario. Note that if you decide to select all data regardless of location, you are not given the opportunity to subset by date. Since you are interested in only Alabama, Mississippi, and Florida data for this example, **enter Y** at the prompt shown in Figure 5.25.

As described in Selecting Study Areas section of *Chapter 2*, four criteria exist for specifying an area and data of interest. Only three criteria are applicable to the NFTDR. Data can be retrieved according to its monitoring program, reference number, or stations, as shown in Figure 5.26. The monitoring program, a two character code, designates a geographic area. The National Fish Tissue Data Repository uses the two letter state postal abbreviation for this code. The reference number, a ten character code, uniquely identifies the file type, monitoring program and date. Station codes are seven characters long and uniquely identify every monitoring station in the data base. For this example, **enter M** to retrieve data collected in Alabama, Mississippi, and Florida.

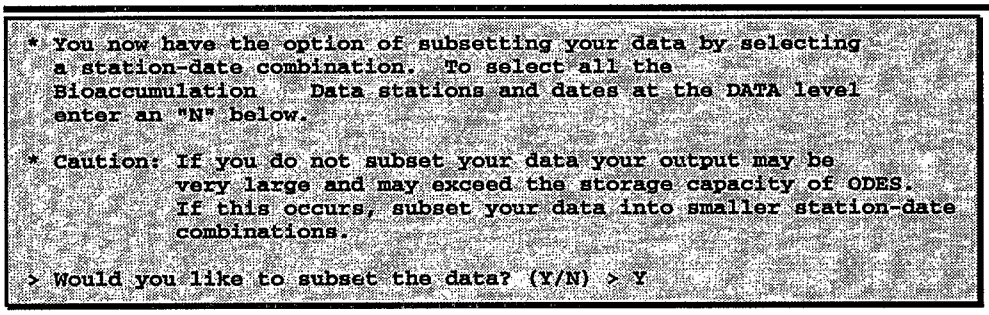


Figure 5.25

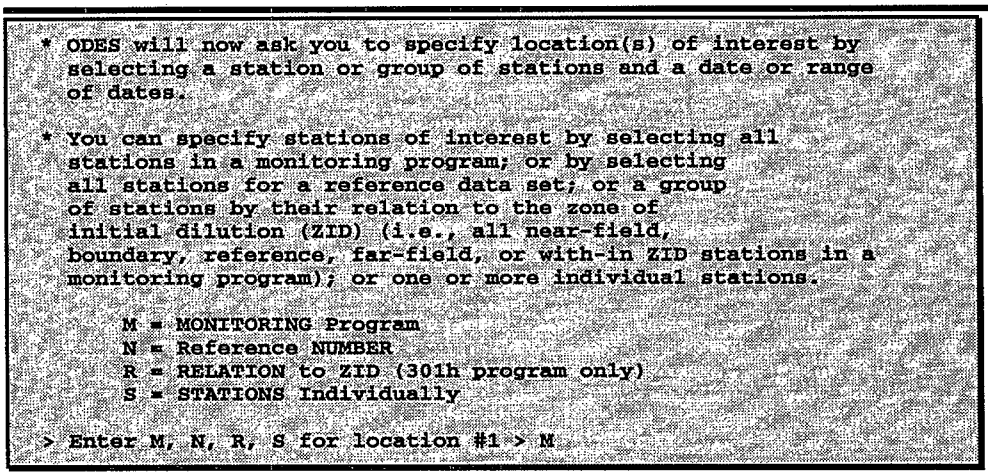


Figure 5.26

When using the monitoring program selection criteria, Figure 5.27 appears. This screen requests a two-character monitoring program code. If you need help determining the code for a monitoring program, you can enter H to view the on-line dictionary. This dictionary gives both the two-character code and the name of the monitoring program. For the National Fish Tissue Data Repository, these codes are the same as the two letter state postal abbreviations. **Enter AL** at the prompt to select Alabama and continue with this example.

The next item you must specify is a date or range of dates of interest. You specify those dates at the prompt shown in Figure 5.28. Dates should be entered in a YYMMDD format where YY is the year, MM is the month, and DD is the day. Since you are interested in data for the period January 1, 1984 to December 31, 1989, **enter 84 89** at the prompt. Note that while you entered a date range based on years for this example, you may also enter the range by year and month (YYMM) or by days (YYMMDD). In addition, you may select a single year, month or day.

```
* You will be asked to identify a monitoring program of
  interest by entering a two-character ODES identifier.
  ODES will select data for all monitoring stations
  associated with the monitoring program you specify.

> Enter an ODES 2-character ID or H > AL
```

Figure 5.27

```
* You can select dates by year only (YY), year and month
  (YYMM), or year, month and day (YYMMDD).  Both dates must be
  in the same format and be separated by a blank or a comma.
  For example: "850115 850215" and "8501,8502" are both valid
  responses.  To select one day, enter that date only (in
  YYMMDD format) at the prompt.

> Enter START and END DATE (YYMMDD,YYMMDD) or single date (YYMMDD)
> 84 89
```

Figure 5.28

After entering the study area and dates, ODES displays your entries and allows you to make corrections if necessary. At this point you also have the option of selecting more station-date combinations to include in your file or making corrections to your current requests. If everything is correct and you do not wish to select more station-date combinations, select Q to quit the selection process and view the report. If you are interested in selecting additional study areas, enter C. For example if you are interested in comparing data from Alabama and Mississippi, enter C. Then ODES would return you to the study area selection screen in Figure 5.26, at which point you should again select M for monitoring program. At the monitoring program prompt, enter MS to select Mississippi. Next, ODES would prompt you for dates associated with the Mississippi data.

For this example, **select Q** to quit selecting stations as shown in Figure 5.29.

Note that while this example selects all stations within a monitoring program, other options are available for specifying a study area for your data. If you would like further instructions on how to select a study area of interest, read the Study Area Selection section in Chapter 2.

Parameter Selection

ODES gives you the option of subsetting the data by selecting a chemical or water quality variable, as shown in Figure 5.30. Instructions for specifying parameters are given in the next scenario in this chapter, Performing Advanced Analysis. To continue with this example, **enter N** to select all data.

```
* ODES will list the location options you have just specified
  for location #3 and allow you to change them before
  continuing.

  1) Stations: ALL STATIONS FOR Alabama

  2) Dates: 84 TO 89

* You will be asked to enter the number of the option you
  want to change, C to Continue specifying more locations,
  or Q to Quit specifying locations.

> Enter an option number, C, or Q > Q
```

Figure 5.29

```
* You have the option of subsetting the data by selecting a
  a chemical or water quality variable.  For example, you may
  want to transfer only DATA level information for dissolved
  oxygen or arsenic measurements.

> Do you want to subset the data by variable (Y/N) > N
```

Figure 5.30

Finishing the Job

The final prompt before the transfer file is produced asks whether you want to subset the data into quality control data, field data, or all data. Quality control data are used to ensure laboratory equipment is working properly and to verify the field data. For this example, you want to include all data. So **enter ALL** at the prompt shown in Figure 5.31.

Now that you have completed making data selections, ODES creates your transfer file. ODES responds with Figure 5.32 which tells you how many lines are in the file and prompts you to select the place to store your file. If you are using one of the software packages supported by ODES, you can select that option and follow the directions on the screen to download the file to your PC. For this example, **enter** T to store the file in a temporary file on the mainframe. You can download this file later to your PC at a later time.

```
* You have the option of subsetting ODES data into
  Quality Control data or regularly collected Field data.

  Do you want to retrieve field data, Quality Control data, or
  all data?

> Please enter FIELD, QC, or ALL > ALL
```

Figure 5.31

```
* There are 24959 lines in download data file.

* ODES has successfully prepared your selected table of data.
  You now have the option of transferring the file to a PC
  or saving the file in a temporary data file on the
  mainframe.

* Currently ODES supports Crosstalk, PC-PLOT, SMARTCOM and the
  IBM 3270 PC for the file transfer to your Personal Computer
. You may either select a communications device/package to
  use for the file transfer, or you may select TEMPORARY
  to save the data file on the mainframe. The temporary
  file may be downloaded to your PC later, after you
  exit ODES.

      C - CROSSTALK
      L - PC-PLOT
      P - IBM 3270 PC
      S - SMARTCOM
      T - TEMPORARY File on the Mainframe
      O - OTHER (Generic Instructions)
      E - EXIT back to RETRIEVE MENU

> Please make a selection (C/L/P/S/T/O/E) > T
```

Figure 5.32

The output is stored in a file named REPORT, as shown in Figure 5.33. If you have never downloaded a file from the mainframe, you may wish to view the instructions by entering Y. To finish this example, **enter N.**

Finally ODES displays the file layout, Figure 5.34, which describes the starting position and lengths of each field in the file. You should record this information because the file contains only raw data; there are no column headings in the file. Press **ENTER** to continue. To use this file on your PC, download the file and import it into the software package of your choice.

Pressing ENTER on this screen returns you to the Interactive Data Retrieval Menu. From that screen, you can transfer more data by entering T. You can also exit Option R by entering B on that screen. If you enter B, you will return to the Basic Options Menu.

Unlike the Data Retrieval Tools shown in the last chapter, you cannot see your output from this problem within ODES. Since this file is intended for use on your PC, you may download the data and import it into a PC software package. If you created a temporary mainframe file (as in this example), you may view the data by exiting ODES from the Basic Options Menu. After exiting ODES, you will see the READY prompt. To view the data in the mainframe file, *enter LIST REPORT*. After viewing the data, you may either download the data or return to ODES. To return to ODES, enter ODES after the READY prompt.

```
* ODES will maintain your downloaded data in a temporary file
  on the MAINFRAME with the file name REPORT.  Note, the file
  will automatically be erased the next time you attempt to
  download another file. The file may be downloaded to your PC
  later, after you exit ODES.  Detailed instructions are
  available.

> Would you like detailed instructions? (Y/N)> N
```

Figure 5.33

```
* The temporary file has been created.  Each variable that you
  chose to include in the file is separated by a space.
  Please make a note of the following table of variable names,
  starting positions, and field lengths:

Variable  Starting  Field
Name      Position  Length
-----------------------------------
STN_CD    1         7
DATE      9         8
PARM_CD   18        10
NODC_CD   29        12
AMOUNT    42        8

* End of Variable listing.

> Please press ENTER to continue >
```

Figure 5.34

Output 3

Scenario 3: Performing Advanced Analysis

```
+OUTPUT-------------------------------------------------PROC PRINT suspended-+
_ Command ===>                                                               _
_ NOTE: Procedure PRINT has created 1 page(s) of output so far.              _
_                                The SAS System                          1   _
_                                                  16:40 Wednesday, June 16, 1993 _
_                                                                            _
_                                                                            _
_         OBS      DATE       NODC_CD                    ORGAN    STN_CD     _
_                                                                            _
_           1     860101     551002010200                  30      NCM0323    _
_           2     860101     551002010200                  30      NCM0323    _
_           3     860101     551002010200                  30      NCM0323    _
_           4     860101     551002010200                  30      NCM0324    _
_           5     860101     551002010200                  30      NCM0324    _
_           6     860101     551002010200                  30      NCM0324    _
_           7     860101     551002010200                  30      NCM0325    _
_           8     860101     551002010200                  30      NCM0325    _
_           9     860101     551002010200                  30      NCM0325    _
_          10     870101     551002010200                  30      NCM0325    _
_          11     870101     551002010200                  30      NCM0325    _
_          12     870101     551002010200                  30      NCM0325    _
_          13     870101     551002010200                  30      NCM0324    _
_          14     870101     551002010200                  30      NCM0324    _
_          15     870101     551002010200                  30      NCM0324    _
+------------------------------------------------------------------------ R ---------+
```

In addition to using ODES analytical tools, you may want to use SAS to interpret your data. SAS is a statistical analysis software package that is available on the NCC mainframe. For directions on using SAS, contact the NCC Hotline {(800)334-2405} or call SAS User Support.

For this example, you are interested in creating a SAS data set using ODES bioaccumulation data collected in North Carolina between 1980 and 1989. This data set should include the following variables: station code, date, parameter code, taxa code, and amount.

After completing the steps in this example, you can use SAS by exiting ODES and typing SAS at the TSO READY prompt.

Getting Started

To create a SAS data set, the steps are similar to those described in the previous scenario for creating a text file. You can use the Interactive Data Retrieval Option to create a SAS data set that is stored in conjunction with your user ID. You can access this data set within SAS which is available to all NCC mainframe users.

To start this option, **enter R** at the Basic Options Menu prompt shown in Figure 5.35.

The next menu, Figure 5.36, is the introductory screen which explains the three retrieval options available in the Interactive Data Retrieval Option of ODES.

If you decide not to retrieve any data, you can enter B to return to the Basic Options Menu. To create a SAS Transfer file and continue with this example, **enter T.**

```
                    --------
                    * ODES *
                    --------

              ** BASIC OPTIONS MENU **

        C = Scan CONTENTS of the ODES Data Base
        D = Use the On-line DICTIONARIES
        E = EXIT ODES
        F = Show job status or FETCH reports and graphics
        M = List the MENU of TOOLS
        N = Review on-line NEWS (Updated 2/93)
        R = ODES Interactive Data RETRIEVAL
        S = STORET Data Retrieval
        T = Use a TOOL

            *** ODES Hotline Numbers ***
    (703)841-6279 or (510)283-3771 or (206)822-9596

    > Please enter an OPTION and press ENTER > R
```

Figure 5.35

```
              ** INTERACTIVE DATA RETRIEVAL **

* This option permits users to create interactive reports from
  ODES file types.  The following sub-options are supported:

    C - CONTENTS report of an ODES file type listing variable
        names, lengths and descriptions.

    F - FREQUENCY report of occurrences of selected data in
        any ODES file type.

    T - TRANSFER a subset of selected data from an ODES file
        type to a Personal Computer or to a temporary
        mainframe file.  Data may be downloaded in ARC/INFO
        (geographic information system), ASCII (text) format,
        or SAS data sets.

> Please enter C, F, T or B for Basic Options > T
```

Figure 5.36

File Format Selection

After selecting the Transfer Option, ODES prompts you to select the format for the file that you are creating (Figure 5.37). ODES provides you with several options. You can convert ODES data to text format which can be used with your PC software packages such as LOTUS® or dBASE®. Another option converts ODES data to ASCII files to be used with ARC/Info®, a geographic information system. You can also convert ODES data to a format compatible with the ODES/GIS applications. The final option converts ODES data to a SAS® data set stored in your account on the mainframe.

If you do not want to continue with the Transfer Option at this point, select R to return to the Retrieval Menu. For this example, **enter S** to create a mainframe SAS® data set that will be stored permanently in your account.

File Type Selection

ODES prompts you to enter the type of data to use for your report. The National Fish Tissue Data Repository data is stored in the bioaccumulation file type. **Enter 144B** to select bioaccumulation data, as shown in Figure 5.38.

```
* ODES can download ASCII data in text or ARC/INFO (geographic
  information system) format, or convert data into SAS data
  sets on the NCC mainframe.  If you select "T" the data
  will be converted to text format allowing you to use
  the data with PC-based application packages (e.g. Lotus
  or DBASE).  If you select "G" the data will be converted
  to ASCII format for use in ARC/INFO geographic
  information system applications.  If you select "O" the
  data will be converted to a format for use with
  ODES/GIS Applications.  If you select "S" the data
  will be written to a mainframe SAS data set and stored
  permanently in your account.
  Select "R" and you will be returned to the Retrieval Menu.

                    T = Text Format
                    G = ARC/INFO Format
                    O = ODES/GIS Applications Format
                    S = SAS Mainframe Data Sets

> Please enter T, G, O, S, or R for Retrieval Menu > S
```

Figure 5.37

```
* You can request one of the following types of data:

  File Type          Type of Data
 ------------|-----------------------------------
        009   =  Bacterial/Viral Data
        132   =  Benthic Survey Data
        900   =  Bioassay Data
        144B  =  Bioaccumulation Data
        013   =  Fish Pathology Data
        144E  =  Influent and Effluent Data
        144W  =  Receiving Water Quality Data
        073   =  Sediment Grain Size Data
        144S  =  Sediment Pollutant Data
        123   =  Trawl/Seine Sampling Data

> Please enter the file type of interest > 144B
```

Figure 5.38

Data Level Selection

As described in the Data Structure Section of *Chapter 1*, the ODES bioaccumulation file type is comprised of four levels. This option retrieves data from all of these levels except for the survey level. Station level is the highest level that can be retrieved and contains information about where samples were collected. The next level, the sample level, contains information about the species collected and the gear used for collection. The lowest level, the data level, contains the analytical lab results.

When using the Interactive Data Retrieval Option, you are prompted to enter the level of data to include in the Transfer file (Figure 5.39). If you enter H at the prompt, you may review the ODES on-line description of these levels. To continue with this example **enter M** to select the sample level.

Variable Selection

At this point you have indicated that you want to create a SAS data set using sample level bioaccumulation data. The next step is to specify which data fields or variables to include in that file. You can enter up to 20 variables to include based on the level of data you specified on the last screen, as shown in Figure 5.40.

The variable names must be entered as they appear in the on-line help. On-line help is available by selecting H to get a listing of variables and their respective lengths. For this example, **enter STN_CD DATE ORGAN NODC_CD** for station code, sample date, tissue, and NODC taxa code, respectively.

```
* ODES will now ask you to select the level of data to include
  in the TRANSFER.  Enter H for a help screen describing the
  relationships between the different levels of ODES data.

     T = STATION level
     M = SAMPLE level
     R = DATA level

> Please enter choice for level of data or H > M
```

Figure 5.39

```
* You may now select the variables to include in your download
  file.  You can enter as many as 5 variables on a line
  separated by a space or a comma to a maximum of 20
  variables.  You can enter H to review a list of
  variables and their respective lengths.  Do not
  enter duplicate variable names.

* You must enter 5 variables on a line to be prompted for
  additional variables.  If the number of variables you enter
  on a line is less than 5 then ODES will assume that you have
  finished entering variables of interest and continue by
  prompting you for stations and dates.

> Please enter variables (1-5) below or H for Help
> STN_CD DATE ORGAN NODC_CD
```

Figure 5.40

Study Area and Date Selection

After selecting the level of data and the variables to include in the SAS data set, you are asked to either subset your data by selecting station-date combinations or select the entire ODES bioaccumulation database. To show the steps involved in subsetting, this example restricts the output to data for North Carolina. If you decide to select all data regardless of location, you are not given the opportunity to subset by date. Since you are interested only in North Carolina data for this example, **enter Y** at the prompt shown in Figure 5.41.

As described in the Selecting Study Areas of *Chapter 2*, four criteria exist for specifying an area and data of interest; only three of these criteria are applicable to the NFTDR. For the NFTDR, data can be retrieved according to its monitoring program, reference number, or stations, as shown in Figure 5.42. The monitoring program, a two-character code, designates a geographic area. The NFTDR uses the two letter state postal abbreviation. The reference number, a ten character code, uniquely identifies a group of data stored in ODES based on the file type, monitoring program and date. Station code is a seven character field that uniquely identifies every monitoring station in the data base. For this example, **enter M** to retrieve data reported for the study area known as North Carolina.

```
* You now have the option of subsetting your data by selecting
  a station-date combination.  To select all the
  Bioaccumulation   Data stations and dates at the DATA level
  enter an "N" below.

* Caution: If you do not subset your data your output may be
           very large and may exceed the storage capacity of ODES.
           If this occurs, subset your data into smaller station-date
           combinations.

> Would you like to subset the data? (Y/N) > Y
```

Figure 5.41

```
* ODES will now ask you to specify location(s) of interest by
  selecting a station or group of stations and a date or range
  of dates.

* You can specify stations of interest by selecting all
  stations in a monitoring program; or by selecting
  all stations for a reference data set; or a group
  of stations by their relation to the zone of
  initial dilution (ZID) (i.e., all near-field,
  boundary, reference, far-field, or with-in ZID stations in a
  monitoring program); or one or more individual stations.

      M = MONITORING Program
      N = Reference NUMBER
      R = RELATION to ZID (301h program only)
      S = STATIONS Individually

> Enter M, N, R, S for location #1 > M
```

Figure 5.42

When using the monitoring program selection criteria, Figure 5.43 appears. This screen requests a two-character monitoring program code such as NC for North Carolina. If you need help determining the code for a monitoring program, you can enter H to view the on-line dictionary. This dictionary gives both the two-character code and the name of the monitoring program. For the National Fish Tissue Data Repository, these codes are the same as the two letter state postal abbreviations. **Enter NC** at the prompt to select North Carolina and continue with this example.

The next item you must specify is a date or range of dates of interest. You specify those dates at the prompt shown in Figure 5.44. Dates should be entered in a YYMMDD format where YY is the year, MM is the month, and DD is the day. Since you are interested in data for the period 1980 to 1989, **enter 80 89** at the prompt. Note that while you entered a date range based on years for this example, you may also enter the range by year and month (YYMM), or by year, month and day (YYMMDD).

```
* You will be asked to identify a monitoring program of
  interest by entering a two-character ODES identifier.
  ODES will select data for all monitoring stations
  associated with the monitoring program you specify.

> Enter an ODES 2-character ID or H > NC
```

Figure 5.43

```
* You can select dates by year only (YY), year and month
  (YYMM), or year, month and day (YYMMDD).  Both dates must be
  in the same format and be separated by a blank or a comma.
  For example: "850115 850215" and "8501,8502" are both valid
  responses.  To select one day, enter that date only (in
  YYMMDD format) at the prompt.

> Enter a START and END DATE (YYMMDD,YYMMDD) or single date (YYMMDD)
> 80 89
```

Figure 5.44

After entering the study area and dates, ODES displays your entries and allows you to make corrections if necessary. At this point you also have the option of selecting more station-date combinations to include in your file. If everything is correct and you do not wish to select more station-date combinations, select Q to quit the selection process and view with the report. For this example, **enter Q** to quit specifying stations as shown in Figure 5.45.

Note that while this example selects all stations within a monitoring program, other options are available for specifying a study area for your data. If you would like further instructions on how to select a study area of interest, read the ODES Study Area Selection section in Chapter 2.

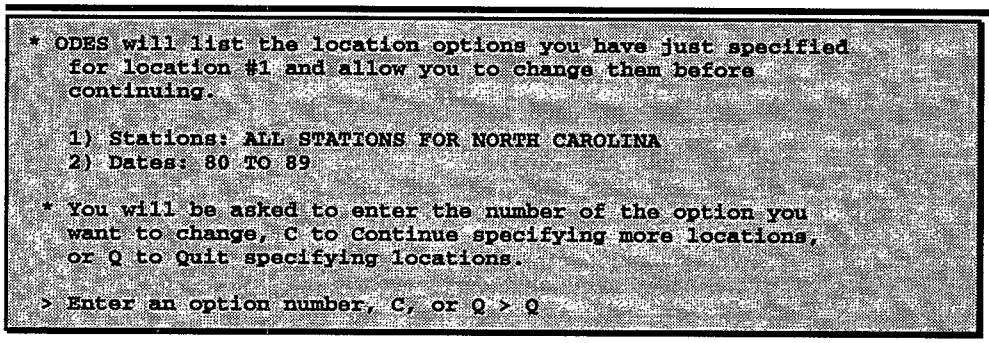

* ODES will list the location options you have just specified for location #1 and allow you to change them before continuing.
1) Stations: ALL STATIONS FOR NORTH CAROLINA
2) Dates: 80 TO 89
* You will be asked to enter the number of the option you want to change, C to Continue specifying more locations, or Q to Quit specifying locations.
> Enter an option number, C, or Q > Q

Figure 5.45

Now that you have completed making data selections, ODES begins creating your data set. To create this data set, ODES asks for the library and member names. These names can be thought of as your personal library of books where the library name corresponds to a section of the library such as all of your copies of classic literature. The member name is similar to the name a specific book such as *The Grapes of Wrath* by John Steinbeck. Just like you may have more than book in your classic literature section, you can have more than one member in a SAS library.

You need to enter a 1-8 character code for your library name at the prompt in Figure 4.66. This example shows the library name as **TEMP**.

You should make note of the data set name in Figure 5.47. The SAS naming convention is explained in this figure. The data set name on this screen is XXXODES.SAS.TEMP. The XXX is the same as your 3-letter user ID. XXXODES.SAS means the data are automatically stored in your library (i.e., your personal library). TEMP is the section of the library that contains the data set (i.e., classic literature). ODES also automatically names the data set based on the data level (i.e., name of a specific book). The member shown in this example is SAMPLE.

The final screen in this example shows the data fields that are contained in your SAS data set. You should note that these are the same variables that you requested earlier in your series of responses. To continue with your ODES session, press **ENTER**.

Pressing ENTER on this screen returns you to the Interactive Data Retrieval Menu. From that screen, you can transfer more data by entering T. You can also exit Option R by entering B on that screen. If you enter B, you will return to the Basic Options Menu.

```
* ODES will write your selected data into a SAS data set
  which will be compatible with SAS versions 5 and 6.06,
  both available on the NCC IBM.  Please specify a name
  for a SAS library file to receive your data.  The name
  may be only eight characters and may use only the letters
  A-Z and the numbers 0-9.  The name may refer to a new
  or a previously created data set.  If you select a
  previously created data set, however, any member of the
  library which came from the SAMPLE data level will be
  replaced by your current data selection.

> Please enter a SAS data library name >  TEMP
```

Figure 5.46

```
* There are 4934 lines in download data file.

* ODES has successfully prepared your selected table of data.
  The data set is saved on the MAINFRAME as a SAS data set.
  The file can be retrieved in SAS version 5 or 6.06.
  The file is stored under the name
       MSYODES.SAS.TEMP
  and the library member name is
       SAMPLE

> Please press ENTER to continue >
```

Figure 5.47

```
Your SAS file contains the following variables.

Name
----------------------------------------
DATE
STATION
ORGAN
NODC_CD

* End of Variable listing.

> Please press ENTER to continue >
```

Figure 5.48

Chapter 6: Accessing ODES Output

Throughout the last three chapters, you have explored the various reporting features available in ODES. In certain scenarios, the final screen showed a job number and you were instructed to use the Fetch Option to retrieve that output. This chapter will describe how to use the Fetch Option.

When using the Fetch Option to access output created by ODES tools, some sections will depend on the communications software package that you are using to access ODES. Instructions are provided in this chapter for the most widely used communication program. If you are using a different communication connection to ODES, you may need to refer to the on-line documentation available in this option or use the documentation that was provided with your software package. If you need additional assistance, the ODES technical support staff is available to assist you.

Unlike the previous three chapters, this chapter is not divided into scenarios because of the nature of the Fetch Option. To help you locate instructions for a particular part of this feature, you can use the index provided at the end of the chapter.

In addition to output that you create, ODES stores standard graphics such as regional maps. You can use instructions in this chapter to access these standard graphics.

NOTE: *The examples in this chapter access the report that you created in Scenario 1 of Chapter 4 and the high quality graphic created in Scenario 1 of Chapter 5. If you are trying to access other data reports or graphs, please note that some screens may vary.*

Getting Started

Output from ODES is generated by ODES tools and is identified by its job number. The output from an ODES tool cannot be viewed until the program is finished executing; therefore, you must know the job number associated with each ODES query and ensure the job has finished executing before attempting to view the output.

The Fetch Option is used to retrieve output from any ODES tool. Fetched output may be viewed on the screen, sent to a printer, or downloaded to a PC.

To use the Fetch Option, type **F** and press **ENTER** at the prompt on the Basic Options Menu (Figure 6.1).

After selecting the Fetch Option, the Fetch Options Menu (Figure 6.2) appears. This menu provides options for displaying, printing, and transferring output from the data retrieval tools, ODES/STORET bridge, and graphics. Each of the six alternatives on the Fetch Options Menu is described in this chapter:

Fetch	Feature	Page
D	display ODES graphics	6-30
E	erase job output from ODES	6-26
L	list job output on your screen	6-8
P	print job output to a remote printer	6-14
S	determine the status of a job	6-4
T	transfer job output to microcomputer	6-20

Since you need to know the status of a job before using the other options, this chapter begins with Option S, "Status of a Job". Please turn to page 6-4 to review the instructions for that option.

```
                    --------
                    * ODES *
                    --------

              ** BASIC OPTIONS MENU **

          C = Scan CONTENTS of the ODES Data Base
          D = Use the On-line DICTIONARIES
          E = EXIT ODES
          F = Show job status or FETCH reports and graphics
          M = List the MENU of TOOLS
          N = Review on-line NEWS (Updated 2/93)
          R = ODES Interactive Data RETRIEVAL
          S = STORET Data Retrieval
          T = Use a TOOL

              *** ODES Hotline Numbers ***
     (703)841-6279 or (510)283-3771 or (206)822-9596

    > Please enter an OPTION and press RETURN > F
```

Figure 6.1

```
                ** ODES Fetch Options **

* The FETCH options enable you to retrieve your ODES tool output
  and either view the results on your screen, send the results to
  be listed at a printer, or download the results to a micro-
  computer.  You may also display ODES graphic output at this
  point or delete a job you no longer need.

       D = DISPLAY an ODES graphic
       E = ERASE a job
       L = LIST a job on your terminal
       P = PRINT a job on a high-speed printer
       S = STATUS of a job
       T = TRANSFER a job to a microcomputer

> Please enter D, E, L, P, S, T or B (Basic Options) >
```

Figure 6.2

Job Status

Before attempting to view job output, you should ensure that your job has successfully finished executing. Jobs that have not finished executing have not yet generated any output to view. To check the current status of your jobs, select Option S, "Status of a Job".

Type **S** and press **ENTER** at the prompt on the ODES Fetch Options menu (Figure 6.3).

The job status screen displays all of the jobs you have submitted but not deleted; a sample screen is pictured in Figure 6.4. This screen identifies the Job ID (number) and status for each job entry.

Note: *Your job status screen will not contain the same six jobs pictured in Figure 6.4, since your screen displays only the jobs you personally have submitted.*

For the example shown in Figure 6.4, there are six jobs listed on the job status screen. Since all of the jobs have "ON OUTPUT QUEUE" status, each has finished executing and may be viewed using Fetch capabilities. The job status screen is not automatically updated; therefore, when a job entry shows that it is not completed, you must return to the Fetch Options Menu (press ENTER) and re-select this option until the status changes. To continue with this example, please turn to the next page.

```
                    ** ODES Fetch Options **

* The FETCH options enable you to retrieve your ODES tool output
  and either view the results on your screen, send the results to
  be listed at a printer, or download the results to a micro-
  computer.  You may also display ODES graphic output at this
  point or delete a job you no longer need.

        D = DISPLAY an ODES graphic
        E = ERASE a job
        L = LIST a job on your terminal
        P = PRINT a job on a high-speed printer
        S = STATUS of a job
        T = TRANSFER a job to a microcomputer

> Please enter D, E, L, P, S, T or B (Basic Options) > S
```

Figure 6.3

```
     Job ID(number)          Status          Job ID(number)          Status
     --------------          ------          --------------          ------
 1) RFB120(JOB20691 ON OUTPUT QUEUE 4) RFB1(JOB12202)  ON OUTPUT QUEUE
 2) RFB2(JOB10538)  ON OUTPUT QUEUE 5) RFB120(JOB25940 ON OUTPUT QUEUE
 3) RFB120(JOB10919 ON OUTPUT QUEUE 6) RFB121(JOB27157 ON OUTPUT QUEUE

* You may select and view a job with a status of "ON OUTPUT QUEUE"
  only.  If the status reads "WAITING FOR EXEC" or if any other
  status message is present, then you cannot fetch the job and
  list the output.  Press RETURN at the prompt to return to the
  Fetch Options.

> Please Press RETURN to return to the Fetch Options >
```

Figure 6.4

If you completed the first example in Chapter 4 of this manual, your job status screen should include an entry for the sample data from Galveston Bay. You can identify this job by comparing the job number returned when the job was submitted to the list of jobs on your status screen.

If you ever forget a job number, Figure 6.5 illustrates how to interpret each entry on your screen. The first three letters are your ODES user ID. The characters between your ID and the opening parentheses represent the type of job submitted (i.e., "121", representing Tool 121). The number inside the parentheses depicts the job number, and the description at the end of the entry states the current status of the job.

For the next several examples, this manual will use the same sample job, job number 27157 on line 6 of Figure 6.6. You should use the job that you submitted in the first example of Chapter 4. If you do not know the job number, look for an entry that reads "AAA121" where "AAA" is your user ID. Once you have located the job on your screen, use the status column to determine whether it has completed processing. After checking the status of your job, press **ENTER** to return to the Fetch Options Menu.

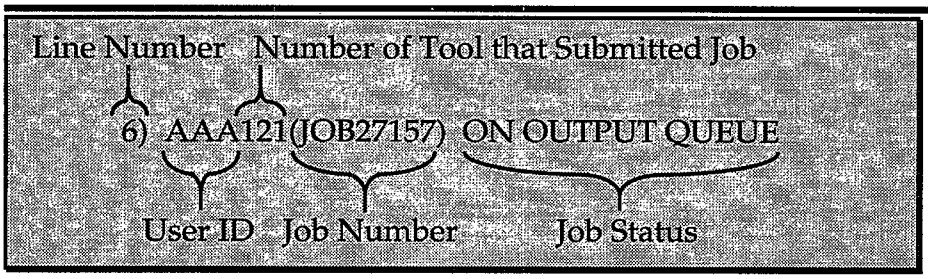


Figure 6.5

Figure 6.6

```
     Job ID(number)          Status              Job ID(number)          Status
     --------------          ------              --------------          ------
 1) RFB120(JOB20691 ON OUTPUT QUEUE    4) RFB1(JOB12202)  ON OUTPUT QUEUE
 2) RFB2(JOB10538)  ON OUTPUT QUEUE    5) RFB120(JOB25940 ON OUTPUT QUEUE
 3) RFB120(JOB10919 ON OUTPUT QUEUE    6) RFB121(JOB27157 ON OUTPUT QUEUE

* You may select and view a job with a status of "ON OUTPUT QUEUE"
  only.  If the status reads "WAITING FOR EXEC" or if any other
  status message is present, then you cannot fetch the job and
  list the output.  Press RETURN at the prompt to return to the
  Fetch Options.

> Please Press RETURN to return to the Fetch Options >
```

List Job Output

When your job has a status of "ON OUTPUT QUEUE", you may list the job output to the terminal screen. To list the output, select Option L, "List a Job on Your Terminal".

Enter L at the prompt on the ODES Fetch Options menu (Figure 6.7).

The job status screen appears displaying all of the jobs you have submitted but not deleted; a sample screen with 6 entries is pictured in Figure 6.8. The screen identifies the Job ID (number) and status for each entry. The screen also includes a reminder that only those jobs with "ON OUTPUT QUEUE" status may be viewed.

In Figure 6.8, Job 27157 on line number 6 is selected by entering the appropriate line number at the prompt. Notice the status of this job is "ON OUTPUT QUEUE".

Note: *Your job status screen does not contain the same six jobs pictured in Figure 6.8, since your screen displays only the jobs* ***you*** *have submitted.*

If the status of your job is "ON OUTPUT QUEUE", **enter the line number corresponding to the job** to continue. If the job status is not "ON OUTPUT QUEUE", press ENTER to return to the Fetch Options Menu. Continue checking the status of the job until it is finished executing.

```
                    ** ODES Fetch Options **

* The FETCH options enable you to retrieve your ODES tool output
  and either view the results on your screen, send the results to
  be listed at a printer, or download the results to a micro-
  computer.  You may also display ODES graphic output at this
  point or delete a job you no longer need.

        D = DISPLAY an ODES graphic
        E = ERASE a job
        L = LIST a job on your terminal
        P = PRINT a job on a high-speed printer
        S = STATUS of a job
        T = TRANSFER a job to a microcomputer

> Please enter D, E, L, P, S, T or B (Basic Options) > L
```

Figure 6.7

```
     Job ID(number)          Status              Job ID(number)          Status
     --------------          ------              --------------          ------
 1) RFB120(JOB20691 ON OUTPUT QUEUE   4) RFB1(JOB12202)  ON OUTPUT QUEUE
 2) RFB2(JOB10538)  ON OUTPUT QUEUE   5) RFB120(JOB25940 ON OUTPUT QUEUE
 3) RFB120(JOB10919 ON OUTPUT QUEUE   6) RFB121(JOB27157 ON OUTPUT QUEUE

* You may select and view a job with a status of "ON OUTPUT QUEUE"
  only.  If the status reads "WAITING FOR EXEC" or if any other
  status message is present, then you cannot fetch the job and
  list the output.  Press RETURN at the prompt to return to the
  Fetch Options.

> Please select a job (1-6) or press RETURN > 6
```

Figure 6.8

After a job is selected, the list job output screen (Figure 6.9) is displayed. The first line of this screen contains the number of lines in the job output; this example contains 39 lines of output. ODES provides three options for listing a job: 1) list all lines; 2) list only the specified range of lines; or 3) list only those lines containing a specified phrase. If for some reason you decided not to list the job output, you could press ENTER to return to the Fetch Options Menu.

The following examples illustrate the last two options. The first example lists lines 12 through 35 of this job; the second example lists only the lines containing the phrase 'Arius felis'.

At the prompt, type **12,35** and press **ENTER** . You are then prompted for the inclusion of line numbers in the list. To include line numbers, **enter Y** at the prompt.

The resultant list is displayed in Figure 6.10. Since ODES is unable to display the entire list in one screen, you must press **ENTER** to view the remaining lines in additional screens. If you did not wish to view the remaining screens, you could enter M to return to the Fetch Options Menu.

Since the line number option was selected with this list, the missing lines (i.e., lines 30 through 35 in this example) are obvious. However, when the line number option is not selected, you must rely on the prompt at the bottom of the screen to inform you when all of the lines have been displayed.

```
* This job is 39 lines long.
* You can list all of your job, specific lines of your job, or
  just those lines where a certain phrase appears.  For example:

  - to list ALL of your job, enter ALL;
  - to list specific lines enter any two line numbers
    separated by a comma (e.g. 23,59);
  - to list all the lines where a certain phrase appears,
    enter the phrase in single quotes.

> Please enter a range or press RETURN > 12,35

> Would you like line numbers listed (Y/N)? > Y
```

Figure 6.9

```
  12.          ODES
  13.        STATION                      SAMPLING
  14. OBS       ID          TAXON           DATE
  15.
  16.  1      GBECR01    ARIUS FELIS      900730
  17.  2      GBECR01    ARIUS FELIS      900730
  18.  3      GBECR01    ARIUS FELIS      900730
  19.  4      GBECR01    ARIUS FELIS      900730
  20.  5      GBECR01    ARIUS FELIS      900730
  21.  6      GBECR01    ARIUS FELIS      900730
  22.
  23. GEAR CODES
  24.
  25.
  26.
  27. 99 =    MISCELLANEOUS(HAND-GATHERED,TRAPS,SHOVEL
  28.
  29. LIFE STAGE CODES

> Please press RETURN to Continue or M for FETCH menu >
```

Figure 6.10

At the end of the list, ODES asks if you want to view the job again (Figure 6.11). If you had finished viewing the job output, you would enter N to return to the Fetch Option Menu. For this example, type **Y** and press **ENTER** to return to the list job output screen.

Suppose you want to display only those lines of the report that contain the phrase 'Arius felis'. On the list job output screen (Figure 6.12), **enter 'ARIUS FELIS'**. Notice that the phrase is enclosed in single quotes.

The resultant list displays the six lines of job output that contain the specified phrase. The last line indicates the total number of lines in the list. When you are finished viewing the output, press **ENTER** to return to the Fetch Options Menu.

```
   30.
   31.
   32.
   33. 8 =    ADULT
   34.
   35. ORGAN CODES

> Do you want to work more with the same job? (Y/N) > Y
```

Figure 6.11

```
* You can list all of your job, specific lines of your job, or
  just those lines where a certain phrase appears.  For example:

  - to list ALL of your job, enter ALL;
  - to list specific lines enter any two line numbers
    separated by a comma (e.g. 23,59);
  - to list all the lines where a certain phrase appears,
    enter the phrase in single quotes.

> Please enter a range or press RETURN > 'ARIUS FELIS'
   16.  1     GBECR01    ARIUS FELIS     900730
   17.  2     GBECR01    ARIUS FELIS     900730
   18.  3     GBECR01    ARIUS FELIS     900730
   19.  4     GBECR01    ARIUS FELIS     900730
   20.  5     GBECR01    ARIUS FELIS     900730
   21.  6     GBECR01    ARIUS FELIS     900730

* 6 lines found.

> Please enter a range or press RETURN >
```

Figure 6.12

Print Job Output

When your job has a status of "ON OUTPUT QUEUE", you may print the job output on a high-speed printer. To print the output, select Option P, "Print a Job on a High-speed Printer".

Enter P at the prompt on the Fetch Options Menu (Figure 6.13).

The job status screen appears displaying all of the jobs you have submitted but not deleted; a sample screen with 6 entries is pictured in Figure 6.14. The screen identifies the Job ID (number) and status for each entry. The screen also includes a reminder that only those jobs with "ON OUTPUT QUEUE" status may be viewed.

In Figure 6.14, Job 27157 on line number 6 is selected by entering the appropriate line number at the prompt. Notice the status of this job is "ON OUTPUT QUEUE". You should use the same job that you viewed in the last example.

Note: *Your job status screen will not contain the same six jobs pictured in Figure 6.14, since your screen displays only the jobs* ***you*** *have submitted.*

If the status of your job is "ON OUTPUT QUEUE", **enter the line number corresponding to the job** to continue. If the job status is not "ON OUTPUT QUEUE", press ENTER to return to the Fetch Options Menu.

```
                    ** ODES Fetch Options **

* The FETCH options enable you to retrieve your ODES tool output
  and either view the results on your screen, send the results to
  be listed at a printer, or download the results to a micro-
  computer.  You may also display ODES graphic output at this
  point or delete a job you no longer need.

        D = DISPLAY an ODES graphic
        E = ERASE a job
        L = LIST a job on your terminal
        P = PRINT a job on a high-speed printer
        S = STATUS of a job
        T = TRANSFER a job to a microcomputer

> Please enter D, E, L, P, S, T or B (Basic Options) > P
```

Figure 6.13

```
     Job ID(number)          Status              Job ID(number)          Status
     --------------          ------              --------------          ------
 1) RFB120(JOB20691 ON OUTPUT QUEUE   4) RFB1(JOB12202)  ON OUTPUT QUEUE
 2) RFB2(JOB10538)  ON OUTPUT QUEUE   5) RFB120(JOB25940 ON OUTPUT QUEUE
 3) RFB120(JOB10919 ON OUTPUT QUEUE   6) RFB121(JOB27157 ON OUTPUT QUEUE

* You may select and view a job with a status of "ON OUTPUT QUEUE"
  only.  If the status reads "WAITING FOR EXEC" or if any other
  status message is present, then you cannot fetch the job and
  list the output.  Press RETURN at the prompt to return to the
  Fetch Options.

> Please select a job (1-6) or press RETURN > 6
```

Figure 6.14

After a job is selected, the print job output screen (Figure 6.15) is displayed. The first line of this screen indicates the number of lines in the job output; this example job contains 39 lines of output. ODES provides two options for printing a job: 1) print all lines; and 2) print only the specified range of lines.

This example illustrates how to print all of the job output to a high-speed printer. Type **ALL** and press **ENTER** at the prompt. If you decided not to print the output, you could press ENTER to return to the Fetch Options Menu.

The next screen, pictured in Figure 6.16, prompts for one of two types of printers: 1) regional printer or 2) remote printer. Regional printers are located at the thirteen regional data centers. Remote printers are located in offices outside of the data centers. The National Computer Center (NCC) maintains a list of remote printer numbers in a data set named 'JUSD.REMOTE.DATA'. Your system administrator may know which printing option you should select. For more information regarding the choice of printer, call either the NCC Hotline or the ODES technical support staff.

NCC Hotline	**(800) 334-2405**
ODES Support	**(703) 841-6279**

For this example, **enter N** to indicate that you do not want to select a remote printer.

```
* This job is 39 lines long.

* You can print all of your job or specific lines of your job.
  For example:

    to print ALL of your job, enter ALL;
    to print the first 35 lines, enter 1,35;
    to print lines 29 through 43, enter 29,43;

> Enter a range or press RETURN for FETCH menu > ALL
```

Figure 6.15

```
* You can print your job at a regional site printer or a
  remote printer.  Site printers are in the same location
  as the mainframe.  Remote printers are printers located
  off site.

* The National Computer Center (NCC) maintains a list of
  remote printer numbers in a data set named JUSD.REMOTE.DATA.
  If you need to find a remote printer number you can either
  view this data set in TSO or call the NCC Hotline for
  remote printer information at 1-800-334-2405.

* To select a remote printer you will need to already know
  the remote printer number.  If you don't have a remote
  printer number RETURN "N" at the prompt to print on a
  site printer.

> Do you want to select a remote printer? (Y/N) >N
```

Figure 6.16

The next screen (Figure 6.17) displays a menu of the 13 regional data centers with valid printer numbers. To have your printouts mailed to you, select the National Computer Center in North Carolina by typing **8** and pressing **ENTER**.

The final print job output screen (Figure 6.18) requests a printer bin number. The bin number signifies to whom the printout belongs. If you are interested in quick delivery of your printout, use the bin number Fxxx where xxx is the three digit user ID you use to log on. When you use the Fxxx bin number, your printouts will be sent to you using Federal Express. For regular mail delivery, you can use the bin number Mxxx where xxx is your three digit user ID.

For this example, type **Mxxx (xxx = your three digit user ID)** and press **ENTER** to have your printout mailed to you. Once successfully printed, a printer confirmation message is written and the Fetch Options Menu is automatically displayed.

```
* You can print your job at one of the following sites:

  1. Region 4, Atlanta
  2. Region 1, Boston
  3. Region 5, Chicago
  4. Region 5, Cincinnati
  5. Region 6, Dallas
  6. Region 8, Denver
  7. Region 7, Kansas City
  8. Region 4, National Computer Center IBM 3090, NC
  9. Region 4, National Computer Center 4381, NC
 10. Region 2, New York
 11. Region 3, Philadelphia
 12. Region 10, Seattle
 13. Region 3, Washington Information Center, DC

> Please enter a site number and press RETURN > 8
```

Figure 6.17

```
* You will now be asked to enter a bin number for your job
  output.  The bin number is used by the sites to label a
  holding place for your output.  If you do not have a bin
  or you do not know your bin number type "N" at the prompt
  and your output will be either mailed or distributed to you.

> Enter a bin number or N to print your job > Mxxx
17.37.37 TSU  203 $HASP546 RFB
        (TSU27584 FROM NCCIBM1 ) SYSTEM OUTPUT RECEIVED AT WSC1
```

Figure 6.18

Transfer Output to your PC

If your job has executed, you may transfer the job output to your PC. This process requires two steps: 1) transfer the output to a temporary mainframe file; and 2) transfer the temporary mainframe file to your computer. To transfer the output to a temporary mainframe file, select Option T, "Transfer a Job to a Microcomputer"

Enter T at the prompt on the Fetch Options Menu (Figure 6.19).

The job status screen appears displaying all of the jobs you have submitted but not deleted; a sample screen with 6 entries is pictured in Figure 6.20. The screen identifies the Job ID (number) and status for each entry. The screen also includes a reminder that only those jobs with "ON OUTPUT QUEUE" status may be viewed.

In Figure 6.20, Job 27157 on line number 6 is selected by entering the appropriate line number at the prompt. Notice the status of this job is "ON OUTPUT QUEUE".

Note: *Your job status screen will not contain the same six jobs pictured in Figure 6.20, since your screen displays only the jobs* ***you*** *have submitted.*

If the status of your job is "ON OUTPUT QUEUE", **enter the corresponding line number.** If the status of your job is not "ON OUTPUT QUEUE", press ENTER to return to the Fetch Options Menu.

```
                    ** ODES Fetch Options **

* The FETCH options enable you to retrieve your ODES tool output
  and either view the results on your screen, send the results to
  be listed at a printer, or download the results to a micro-
  computer.  You may also display ODES graphic output at this
  point or delete a job you no longer need.

        D = DISPLAY an ODES graphic
        E = ERASE a job
        L = LIST a job on your terminal
        P = PRINT a job on a high-speed printer
        S = STATUS of a job
        T = TRANSFER a job to a microcomputer

> Please enter D, E, L, P, S, T or B (Basic Options) > T
```

Figure 6.19

```
    Job ID(number)          Status              Job ID(number)          Status
    --------------          ------              --------------          ------
 1) RFB120(JOB20691 ON OUTPUT QUEUE    4) RFB1(JOB12202)  ON OUTPUT QUEUE
 2) RFB2(JOB10538)  ON OUTPUT QUEUE    5) RFB120(JOB25940 ON OUTPUT QUEUE
 3) RFB120(JOB10919 ON OUTPUT QUEUE    6) RFB121(JOB27157 ON OUTPUT QUEUE

* You may select and view a job with a status of "ON OUTPUT QUEUE"
  only.  If the status reads "WAITING FOR EXEC" or if any other
  status message is present, then you cannot fetch the job and
  list the output.  Press RETURN at the prompt to return to the
  Fetch Options.

> Please select a job (1-6) or press RETURN > 6
```

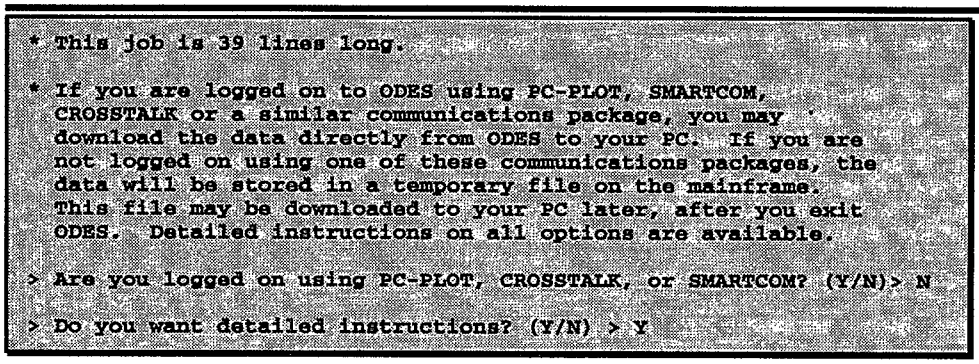
Figure 6.20

After a job is selected, the transfer job output screen (Figure 6.21) is displayed. The first line of this screen indicates the number of lines in the job output; this example job contains 39 lines of output. ODES provides two options for transferring a job: 1) using PC-PLOT, CROSSTALK, SMARTCOM; or 2) using another software package or gateway connection.

For this example, assume you are not logged on using one of the communications software packages listed above. Type **N** and press **ENTER** at the prompt. At the next prompt, **enter Y** to display instructions for transferring job output to a mainframe file.

Note: *You may use the procedures outlined in this example regardless of your communication package.*

If you are currently accessing ODES using PC-PLOT, CROSSTALK, or SMARTCOM, you may type Y and press ENTER at the first prompt to transfer a file. ODES provides on-line assistance for transferring a file using these packages.



```
* This job is 39 lines long.

* If you are logged on to ODES using PC-PLOT, SMARTCOM,
  CROSSTALK or a similar communications package, you may
  download the data directly from ODES to your PC.  If you are
  not logged on using one of these communications packages, the
  data will be stored in a temporary file on the mainframe.
  This file may be downloaded to your PC later, after you exit
  ODES.  Detailed instructions on all options are available.

> Are you logged on using PC-PLOT, CROSSTALK, or SMARTCOM? (Y/N)> N

> Do you want detailed instructions? (Y/N) > Y
```

Figure 6.21

The next two screens (Figure 6.22 and 6.23) provide detailed instructions for downloading job output to a microcomputer. You should read the instructions on both screens before actually downloading a file. After reading each screen, press **ENTER** to continue. Once the Fetch Options Menu is displayed, follow the file transfer procedure by using the notes on the remainder of this page.

ODES has created a temporary mainframe file of your job output called "DOWNLOAD". To transfer the file "DOWNLOAD" to your microcomputer, first exit ODES by entering B at the Fetch Options Menu and then entering E at the Basic Options Menu.

Note: *The temporary mainframe file "DOWNLOAD" is overwritten each time you invoke the transfer option; therefore, to ensure you download the appropriate job output, follow the file transfer procedure each time you run this option.*

After exiting the Basic Options Menu, ODES displays a prompt to log off. Type N and press ENTER at this prompt, to display the TSO READY prompt.

To use Kermit, type KERMIT at the READY prompt. From the Kermit prompt, type SEND DOWNLOAD. Use the "hot key" to switch to Kermit on your PC and type RECEIVE at the local prompt.

If you are using a gateway, use the "hot key" to switch to PC mode. At the DOS prompt, enter the RECEIVE command identifying the mainframe file to transfer and a PC file name to create. On most gateways, the following command will download a mainframe file called DOWNLOAD to a file called NEW on the C drive of the PC:

RECEIVE C:NEW DOWNLOAD ASCII CRLF

If you have any questions about this procedure, please call the **ODES technical support staff at (703) 841-6279.**

```
        ** SUMMARY OF COMMANDS FOR DOWNLOADING DATA **

* ODES has saved your data in a temporary mainframe file called
  DOWNLOAD.  Please note that this file is only temporary.
  The next time you choose to download data using the fetch
  option, this file will be overwritten.  When you are ready
  to download the file from the mainframe to your PC,
  follow these instructions:

  (1)  Exit ODES by typing "E" from the Basic Options Menu.

  (2)  You will be prompted with a message asking whether
       you want to be logged off:

        >Do you want to be logged off now? (Y/N)>

       Enter "N" at the prompt.  The READY prompt will then
       be displayed.

                                                  Continued...
> Please press RETURN to continue >
```

Figure 6.22

```
  (3)  If you are using Kermit, type KERMIT at the READY
       prompt.  From the Kermit prompt, type SEND DOWNLOAD.
       Use your "hot key" to switch to PC mode.  From your
       local Kermit prompt, enter a RECEIVE command.

  (4)  If you are using a gateway, use your "hot key" to
       switch to PC mode.  At the DOS prompt enter a RECEIVE
       command identifying the mainframe file you wish to
       download and the PC file which is to contain the
       downloaded data.  On most gateways the following
       command would download a mainframe file called
       DOWNLOAD to a file called NEW on the C drive of the PC:

       RECEIVE C:NEW DOWNLOAD ASCII CRLF

* Please make notes on the above procedures.
  If you have any questions please call the ODES USER SUPPORT
  HOTLINE at (703) 841-6279.

> Please press RETURN to return to the Fetch Menu>
```

Figure 6.23

Erase Job Output

When you have viewed or downloaded your job output, you may wish to erase it from ODES. Once erased, a job is permanently removed from the system. To erase a job, select Option E, "Erase a Job".

Enter E at the prompt on the Fetch Options Menu (Figure 6.24).

The job status screen appears displaying all of the jobs you have submitted but not deleted; a sample screen with 6 entries is pictured in Figure 6.25. The screen identifies the Job ID (number) and status for each entry. The screen also includes a reminder that only those jobs with "ON OUTPUT QUEUE" status may be viewed.

In Figure 6.25, Job 27157 on line number 6 is selected by entering the appropriate line number at the prompt. Notice the status of this job is "ON OUTPUT QUEUE".

Note: *Your job status screen will not contain the same six jobs pictured in Figure 6.25, since your screen displays only the jobs* ***you*** *have submitted.*

To erase the job entry that has been used in each of the previous Fetch examples, **enter the corresponding line number.** To skip the erase job option, press ENTER to return to the Fetch Options Menu.

```
                    ** ODES Fetch Options **

* The FETCH options enable you to retrieve your ODES tool output
  and either view the results on your screen, send the results to
  be listed at a printer, or download the results to a micro-
  computer.  You may also display ODES graphic output at this
  point or delete a job you no longer need.

        D = DISPLAY an ODES graphic
        E = ERASE a job
        L = LIST a job on your terminal
        P = PRINT a job on a high-speed printer
        S = STATUS of a job
        T = TRANSFER a job to a microcomputer

> Please enter D, E, L, P, S, T or B (Basic Options) > E
```

Figure 6.24

```
    Job ID(number)          Status              Job ID(number)          Status
    --------------          ------              --------------          ------
 1) RFB120(JOB20691 ON OUTPUT QUEUE   4) RFB1(JOB12202)  ON OUTPUT QUEUE
 2) RFB2(JOB10538)  ON OUTPUT QUEUE   5) RFB120(JOB25940 ON OUTPUT QUEUE
 3) RFB120(JOB10919 ON OUTPUT QUEUE   6) RFB121(JOB27157 ON OUTPUT QUEUE

* You may select and view a job with a status of "ON OUTPUT QUEUE"
  only.  If the status reads "WAITING FOR EXEC" or if any other
  status message is present, then you cannot fetch the job and
  list the output.  Press RETURN at the prompt to return to the
  Fetch Options.

> Please select a job (1-6) or press RETURN > 6
```

Figure 6.25

After a job is selected, the erase job screen (Figure 6.26) is displayed. The second line of this screen indicates the number of the job to be erased. If this is the correct job number, type **Y** and press **ENTER** at the prompt. If an incorrect job number is displayed, enter N at the prompt to return to the Fetch Options Menu.

To ensure the job has been deleted, first return to the Fetch Options Menu by pressing **ENTER**. Then select Option S, "Status of a Job", by typing **S** and pressing **ENTER**. After you confirm that the job has been deleted, return to the Fetch Options Menu by pressing **ENTER**.

Note: *In most cases, the output is not removed from the screen instantly. If the job number remains on the screen, press ENTER to exit the screen and then to verify its status, select S for Job Status.*

```
* You have chosen to Erase this job:

JOB RFB121(JOB27157) ON OUTPUT QUEUE

> Is this selection correct? (Y/N) > Y
```

Figure 6.26

Figure 6.27

```
     Job ID(number)          Status          Job ID(number)          Status
     --------------          ------          --------------          ------
 1) RFB120(JOB20691 ON OUTPUT QUEUE    4) RFB1(JOB12202)  ON OUTPUT QUEUE
 2) RFB2(JOB10538)  ON OUTPUT QUEUE    5) RFB120(JOB25940 ON OUTPUT QUEUE
 3) RFB120(JOB10919 ON OUTPUT QUEUE

* You may select and view a job with a status of "ON OUTPUT QUEUE"
  only.  If the status reads "WAITING FOR EXEC" or if any other
  status message is present, then you cannot fetch the job and
  list the output.  Press RETURN at the prompt to return to the
  Fetch Options.

> Please Press RETURN to return to the Fetch Options >
```

Display Graphics

ODES tools generate graphics, as well as text reports; however, ODES requires users to access the system with special graphics capabilities if they wish to display and download graphics. To display graphics, select Option D, "Display an ODES graphic".

Type **D** and press **ENTER** at the prompt on the Fetch Options Menu (Figure 6.28).

ODES is accessed via a wide variety of terminals. Each terminal maintains a different standard for drawing graphics to the screen; therefore, the graphics device compatible with your terminal must be selected. If an incorrect graphics device is selected, no graphic will be displayed.

If you have any questions about the appropriate graphics device to use, please call the ODES technical staff.

ODES Support (703) 841-6279

For this example, press **ENTER** to continue selecting a graphics device.

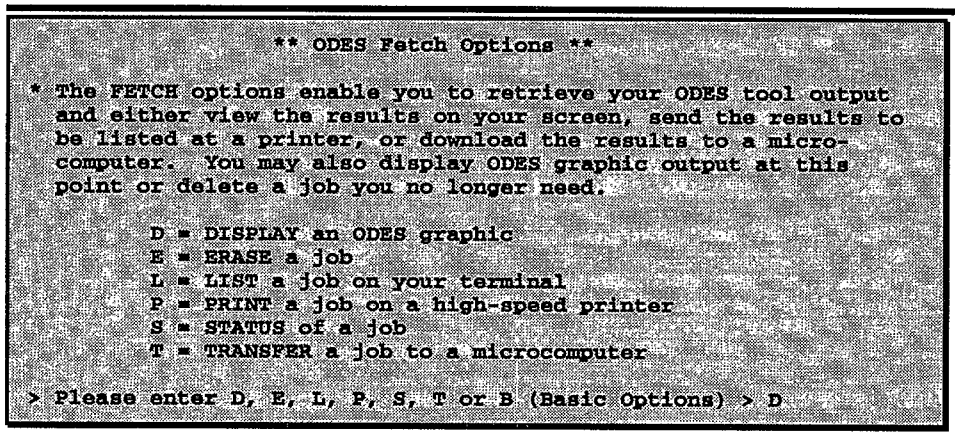


Figure 6.28

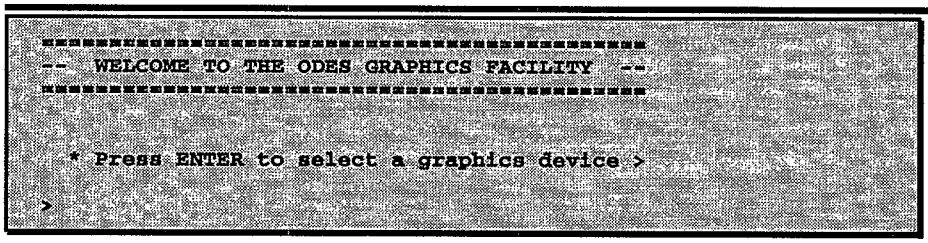


Figure 6.29

The Graphics Device Menu (Figure 6.30) appears. This menu lists all of the graphics devices available within the ODES Graphics Facility. For this example, select X, "Tektronics 4105 terminal".

Note: *Tektronics 4105 emulation may not be the correct graphics device for your terminal. Make sure you select the appropriate graphics device on this menu.*

Type **X** or the letter corresponding to your type of terminal and press **ENTER** on the menu in Figure 6.30.

Once the graphics device has been selected, the Graphics Menu (Figure 6.31) appears. This menu provides options for scanning graphic directories, displaying graphics, and downloading graphics to microcomputers. The options on the Graphics Menu are desribed on the following pages:

Graphic Option		Page
D	delete your graphic	6-72
E	exit Graphics Menu	6-56
S	scan your graphics directory	6-34
V	view your graphic	6-36
X	scan ODES graphics directory	6-40
Y	view ODES graphic	6-44
I	instructions to download graphic	6-50

To begin learning about ODES graphics capabilities by scanning your graphics directory, please turn to page 6-34.

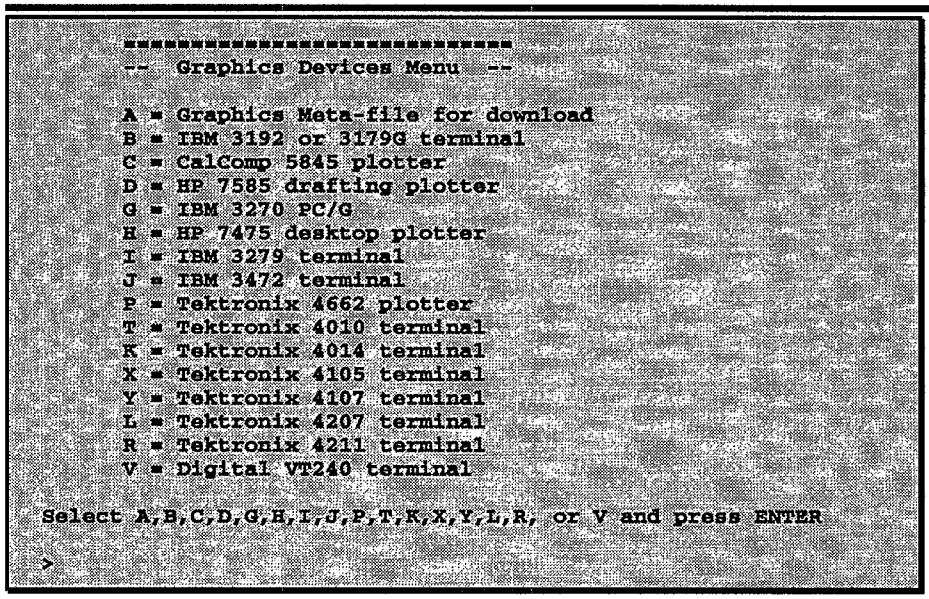


Figure 6.30

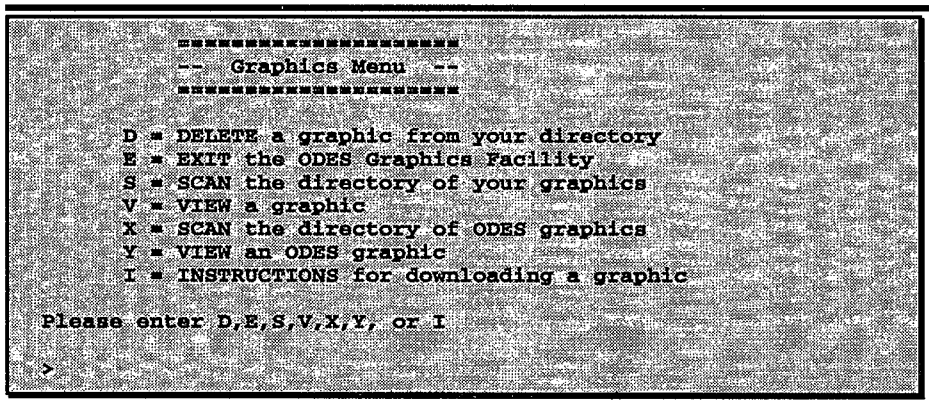


Figure 6.31

Scan Your Graphics

All graphics created by ODES tools are stored in your personal graphics directory. To scan the graphics in your ODES graphics directory, select Option S, " SCAN the directory of your graphics".

Enter S at the prompt on the Graphics Menu (Figure 6.32).

Your graphics directory screen appears, displaying a list of graphics you have created but not deleted. A sample screen with 2 graphics is pictured in Figure 6.33. The screen provides the graphic number, name, and a short description.

Note: *Your graphics directory screen will not contain the same two graphics pictured in Figure 6.33, since your screen displays only the graphics you have created.*

Look through your graphics directory until you locate the graphic that you created in Chapter 5 using ODES Tool 1. The name of the graphic should be "TOOL1". When you locate the graphic in your directory, make a note of its number. After viewing your graphics, press **ENTER** to return to the Graphics Menu.

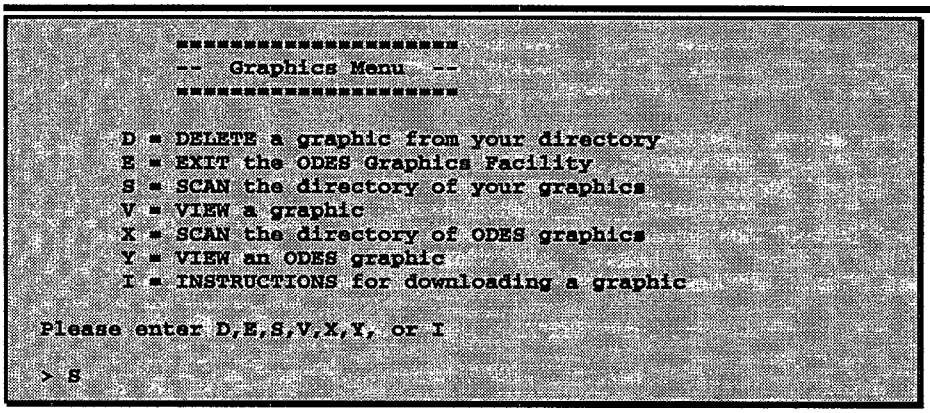


Figure 6.32

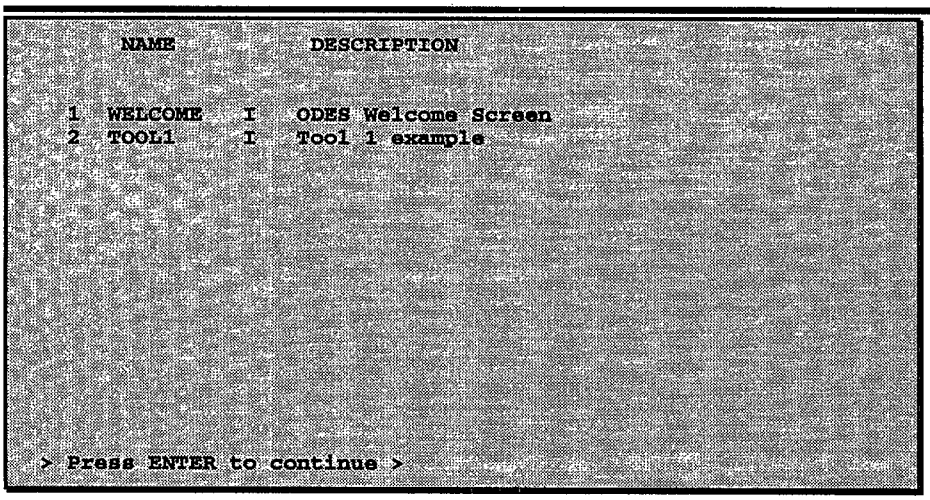


Figure 6.33

View Your Graphics

When you have scanned your graphics directory and decided upon a graphic to view, select Option V, VIEW a graphic.

Enter V at the prompt on the Graphics Menu (Figure 6.34).

A screen similar to Figure 6.35 appears. This screen provides the capability to view two graphics simultaneously. For this example, **enter 1** at the prompt. If you wished to view two graphics simultaneously, you would select 2 and press ENTER.

Note: *To view two graphics simultaneously, you must specify two graphics from your graphics directory.*

The graphics selection screen (Figure 6.36) appears. This screen accepts the name or number of the graphic you wish to display. For this example, you will need the number of the graphic that you created using Tool 1 (you should have looked it up on page 6-34). At the prompt, **type the appropriate number and press ENTER.** This will display the TOOL1 graphic listed in your graphics directory.

ODES reminds you that you must press ENTER after each graphic is displayed to continue. To continue, press **ENTER** at the prompt.

```
          ======================
          --  Graphics Menu  --
          ======================

       D = DELETE a graphic from your directory
       E = EXIT the ODES Graphics Facility
       S = SCAN the directory of your graphics
       V = VIEW a graphic
       X = SCAN the directory of ODES graphics
       Y = VIEW an ODES graphic
       I = INSTRUCTIONS for downloading a graphic

Please enter D,E,S,V,X,Y, or I

> V
```

Figure 6.34

```
You may display one or two graphs at a time.
Enter 1 to select one graph or 2 to select two graphs

> 1
```

Figure 6.35

```
Please enter the name or number of a graph.

> 2


* Note: ENTER must be pressed after each picture.
* Please press ENTER to display your graphic >
```

Figure 6.36

ODES signals the drawing initiation with a series of bells. Press **ENTER** after each bell to continue drawing your graphic.

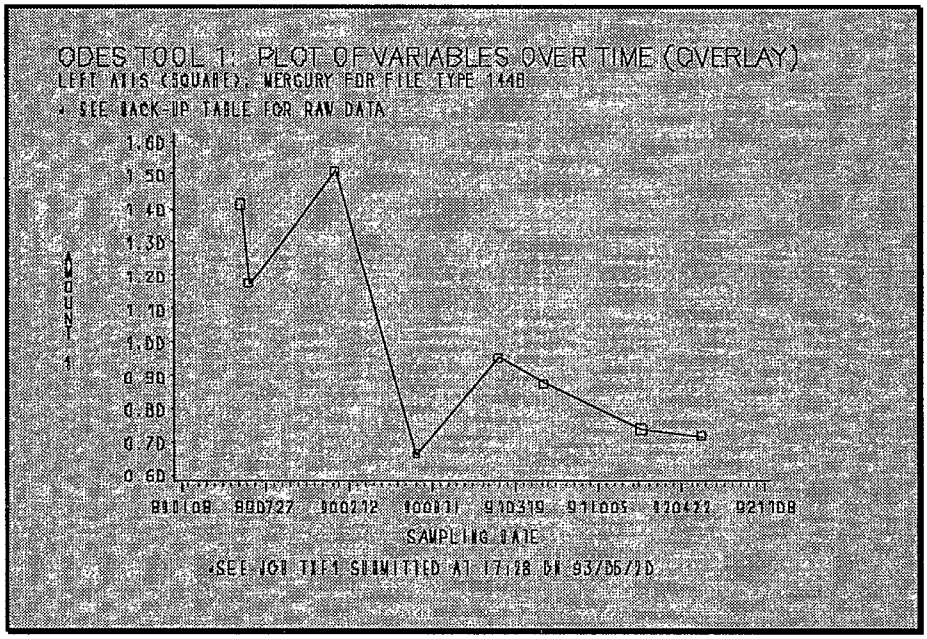
The same graphic you created in Scenario 1 of Chapter 5, " Graphical Tool 1", is displayed in Figure 6.38.

Once you have finished viewing the graphic, press **ENTER** to return to the Graphic Menu.

```
Please press return after each bell to continue.
```

Figure 6.37

Figure 6.38




```
 * Please press ENTER to continue >

>
```

Figure 6.39

Scan ODES Graphics

ODES maintains a standard graphics directory, which includes sample ODES graphics. To scan the graphics in the ODES graphics directory, select Option X, " SCAN the directory of ODES graphics".

Enter X at the prompt on the Graphics Menu (Figure 6.40).

The ODES graphics directory (Figure 6.41) appears, displaying a list of standard ODES graphics. The screen provides the graphic number, name, and a short description.

Press **ENTER** to continue viewing the ODES standard graphic directory.

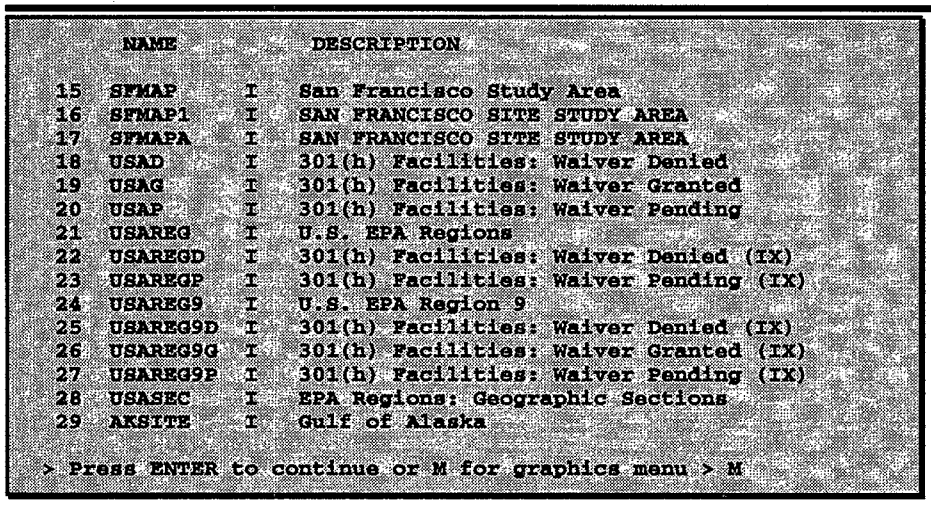
```
          ====================
          --  Graphics Menu  --
          ====================

       D = DELETE a graphic from your directory
       E = EXIT the ODES Graphics Facility
       S = SCAN the directory of your graphics
       V = VIEW a graphic
       X = SCAN the directory of ODES graphics
       Y = VIEW an ODES graphic
       I = INSTRUCTIONS for downloading a graphic

 Please enter D,E,S,V,X,Y, or I

 > X
```

Figure 6.40

```
      NAME          DESCRIPTION

   1  BUZBAY    I   CHOROPLETH MAP OF REGION
   2  ENMAP     I   Encina Study Area
   3  ESMAP     I   Escondido Study Area
   4  GLMAP     I   Goleta Study Area
   5  M1MAP     I   Mile-106 Site Study Area
   6  NARBAY    I   Narragansett Bay Shoreline
   7  NARSTNS   I   Narragansett Bay with Stations
   8  OCMAP     I   Orange County Study Area
   9  OCOVER    I   Demonstration Orange County Overlay
  10  OXMAP     I   Oxnard Study Area
  11  SCCURR    I   Southern California Bight: Currents
  12  SCSITE    I   Southern California Bight: Dischargers
  13  SCSTUD    I   Southern California Bight: Study Areas
  14  SDMAP     I   San Diego Study Area

 > Press ENTER to continue or M for graphics menu >
```

Figure 6.41

The second screen of ODES graphics contains the graphic you wish to view in this example, number 28 — EPA Regions: Geographic Sections. Make note of this number, then type **M** and press **ENTER** to return to the Graphics Menu. If you wished to continue viewing the list of ODES graphics, you could press ENTER.



```
     NAME          DESCRIPTION

 15  SFMAP     I   San Francisco Study Area
 16  SFMAP1    I   SAN FRANCISCO SITE STUDY AREA
 17  SFMAPA    I   SAN FRANCISCO SITE STUDY AREA
 18  USAD      I   301(h) Facilities: Waiver Denied
 19  USAG      I   301(h) Facilities: Waiver Granted
 20  USAP      I   301(h) Facilities: Waiver Pending
 21  USAREG    I   U.S. EPA Regions
 22  USAREGD   I   301(h) Facilities: Waiver Denied (IX)
 23  USAREGP   I   301(h) Facilities: Waiver Pending (IX)
 24  USAREG9   I   U.S. EPA Region 9
 25  USAREG9D  I   301(h) Facilities: Waiver Denied (IX)
 26  USAREG9G  I   301(h) Facilities: Waiver Granted (IX)
 27  USAREG9P  I   301(h) Facilities: Waiver Pending (IX)
 28  USASEC    I   EPA Regions: Geographic Sections
 29  AKSITE    I   Gulf of Alaska

> Press ENTER to continue or M for graphics menu > M
```

Figure 6.42

View ODES Graphic

Once you have scanned the ODES graphics directory and decided upon a graphic to view, select Option Y, "VIEW an ODES graphic".

Enter Y at the prompt on the Graphics Menu (Figure 6.43).

The graphics selection screen (Figure 6.44) appears. This screen accepts the name or number of the graphic you wish to display. For this example, type **28** and press **ENTER** to display the USASEC graphic, "EPA Regions: Geographic Sections".

ODES reminds you that you must press ENTER after each graphic is displayed to continue. To continue, press **ENTER** at the prompt.

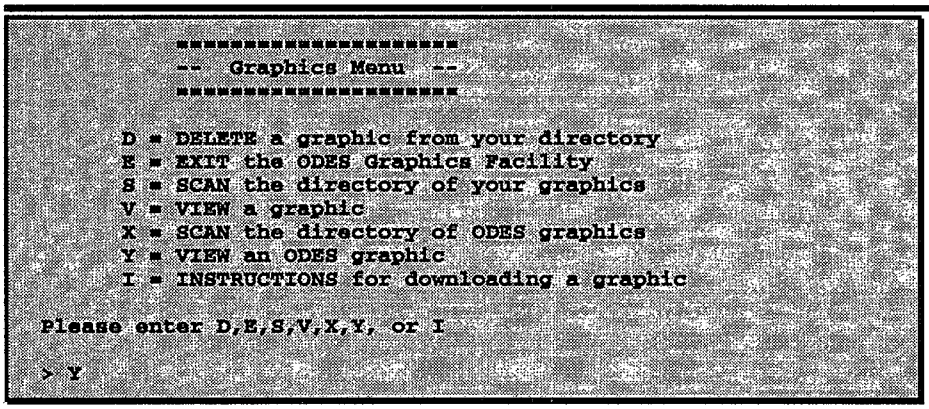


Figure 6.43

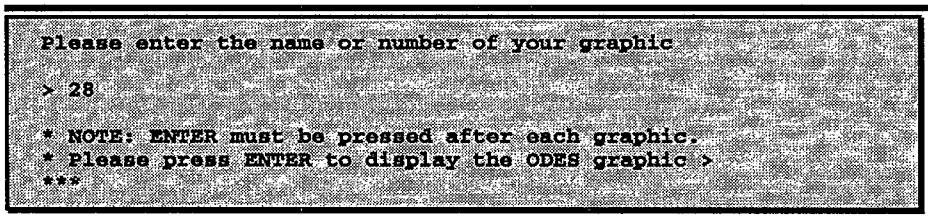


Figure 6.44

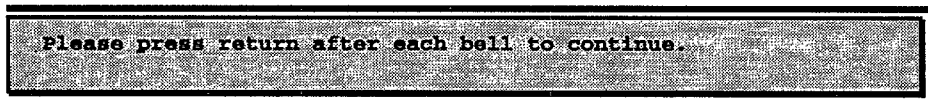


Figure 6.45

A sample graphic, USASEC — "EPA Regions: Geographic Sections", is displayed in Figure 6.46. This map displays a graphic of the United States, where states comprising each EPA region are grouped together.

When you have finished viewing this graphic, press **ENTER** to return to the Graphics Menu.

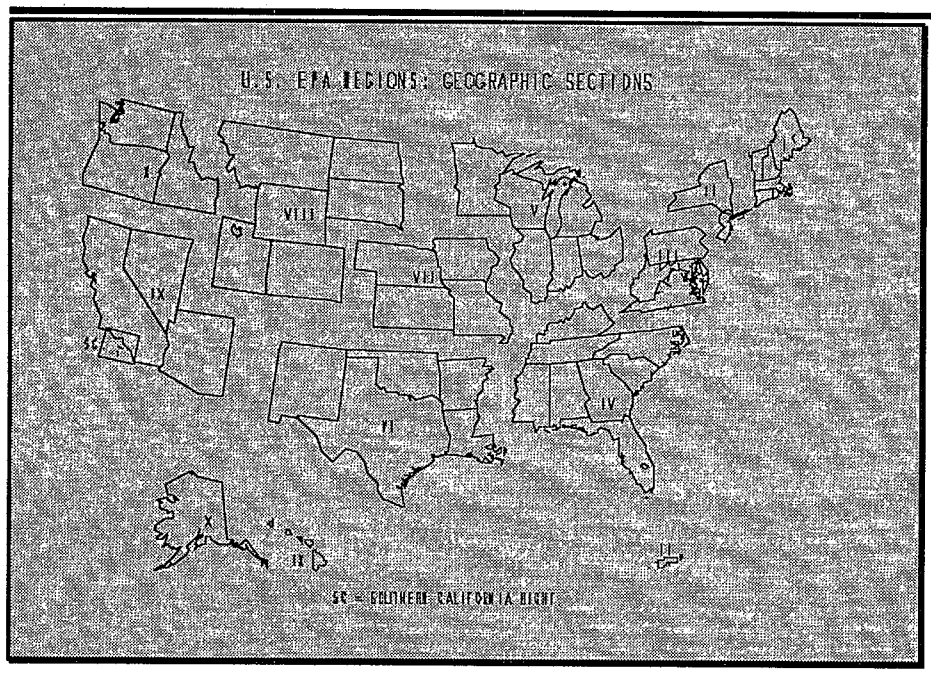


Figure 6.46

```
* Please press ENTER to continue >

>
```

Figure 6.47

Download Instructions

All ODES graphics may be downloaded to a microcomputer; however, certain graphic download options require that a specific graphic device be set upon entering the ODES Graphics Facility. To obtain instructions for downloading ODES graphics, select Option I, "INSTRUCTIONS for downloading a graphic".

Type **I** and press **ENTER** at the prompt on the Graphics Menu (Figure 6.48).

The screen in Figure 6.49 requests a method for downloading graphics. Two methods for downloading graphics are supported within ODES: 1) direct graphics capture; and 2) meta-file download.

Direct graphics capture copies the screen image of the graphic to a local microcomputer file (i.e., screen dump).

ODES meta-file download creates a temporary mainframe file containing a textual description of the graphic. You then exit ODES and download the file to your microcomputer. Many applications, such as Word Perfect 5.1, will open this text file and convert it back to a graphic.

Note: *The meta-file download option requires that the meta-file graphics device be selected. If the meta-file graphic device was not set upon entering the ODES Graphics Facility, exit the ODES Graphic Facility (E) and reselect Display Graphics from the Fetch Options Menu (D). Then specify the meta-file graphics device (A).*

To continue with this example, please turn to the next page and obtain instructions for direct graphics download using PC-PLOT.

```
          ======================
          --  Graphics Menu  --
          ======================

        D = DELETE a graphic from your directory
        E = EXIT the ODES Graphics Facility
        S = SCAN the directory of your graphics
        V = VIEW a graphic
        X = SCAN the directory of ODES graphics
        Y = VIEW an ODES graphic
        I = INSTRUCTIONS for downloading a graphic

 Please enter D,E,S,V,X,Y, or I

 > I
```

Figure 6.48

```
      ** Instructions for DOWNLOADING an ODES graphic **

 * You must be logged on to ODES using PC-PLOT terminal emulation
   to directly download a graphic.

 * You may also download a temporary file if you selected
   Graphics Meta-file as your graphics device.

 > Do you want instructions for PC-PLOT or FILE DOWNLOAD?
 > Type P, F, Q to Quit, or H for Help >
```

Figure 6.49

Type **P** and press **ENTER** at the prompt to obtain instructions for direct graphics download via PC-PLOT. The instructions will occupy more than one screen. As you finish reading each screen, simply press ENTER to continue.

While many communication packages support direct graphics capture, ODES only provides on-line instructions for downloading with PC-PLOT. For this example, you should first read through the instructions on each screen. Then, if you are logged on using PC-PLOT, you may actually attempt to download a graphic using the following notes as a guide.

Note: *If you are using a communication package other than PC-PLOT, refer to the software documentation for more details.*

To capture a graphic using PC-PLOT, first view the graphic. This procedure is outlined in a separate section of this manual (select V or Y from the Graphics Menu). After you specify the graphic to draw, ODES responds with a reminder to press ENTER after each graphic. Immediately after this message, enter the PC-PLOT command "ALT-F". PC-PLOT will respond with a prompt to press ENTER to continue.

```
 * You must be logged on to ODES using PC-PLOT terminal emulation
   to directly download a graphic.

 * You may also download a temporary file if you selected
   Graphics Meta-file as your graphics device.

 > Do you want instructions for PC-PLOT or FILE DOWNLOAD?
 > Type P, F, Q to Quit, or H for Help >  P
```

Figure 6.50

Figure 6.51

```
   ** SUMMARY OF PC-PLOT AND ODES COMMANDS FOR DOWNLOADING GRAPHICS **

At the graphics menu enter V to View a graphic, or Y to view an ODES
graphic.  After you have specified the graphic to view, ODES will
respond with the following message:

   * NOTE:  ENTER must be pressed after each picture.
   * Please press ENTER to display the graphic.

Immediately after this message, perform the following procedures:

   (1)  Enter the PC-PLOT command "ALT F".  This command is entered
by holding down the "ALT" key and pressing F at the same time.

   (2)  PC-PLOT will respond with the following prompts:

 > Press ENTER to continue or Q to QUIT >
```

PC-PLOT will prompt for a microcomputer file name to store the graphic (e.g., C:TEST). Enter the PC-PLOT command "ALT-I", to inform PC-PLOT to transfer the screen image to the file.

Press ENTER to display the ODES graphic.

When ODES is finished drawing, a bell will sound. Enter the PC-PLOT command "ALT-Q" to close the PC-PLOT file and return control to ODES.

Press ENTER to return to the Graphics Menu.

Figure 6.52

```
   <ENTER NAME OF HOST INPUT DATA FILE>
   <HIT <CR> TO IGNORE FUNCTION..>

Enter a file name and a disk drive in response to the prompt.  For
example, to create a file called "TEST" on drive "C", enter "C:TEST".

   (3)  Enter the PC-PLOT command "ALT I" to instruct PC-PLOT to
transfer all information appearing on the terminal to the PC file
specified in (2).  PC-PLOT will respond with the message:

   <ACCEPT HOST FILE DATA>

   (4)  Press ENTER to display the ODES graphic.

   (5)  After the graphic has been completed on the terminal screen

 > Press ENTER to continue or Q to QUIT >
```

Figure 6.53

```
 (indicated by a bell), enter the PC-PLOT "ALT Q" command to close the
 PC file.  The PC-PLOT message <CLOSE HOST INPUT FILE> will appear.

 * You may want to take time now to write down some notes on the
 procedures described above.

 > Press ENTER to return to the GRAPHICS menu >
```

Exit

From the Graphics Menu, to return to the Fetch Options Menu, select Option E, "EXIT the ODES Graphics Facility".

Type **E** and press **ENTER** at the prompt on the Graphics Menu (Figure 6.54).

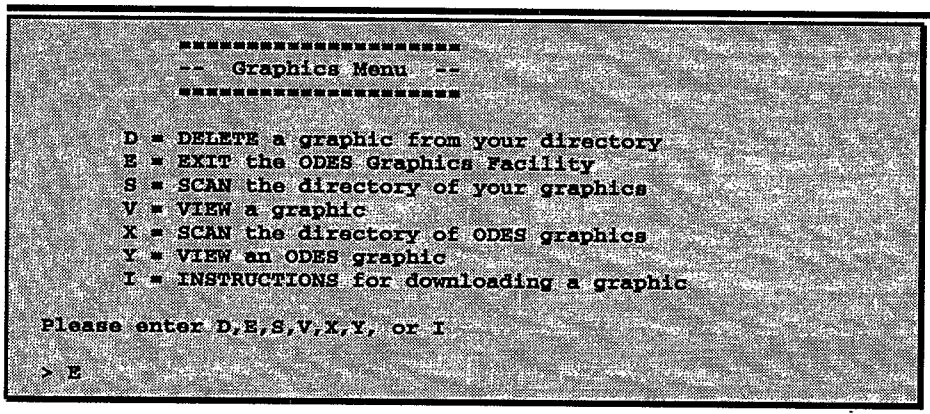

-- Graphics Menu --
D = DELETE a graphic from your directory
E = EXIT the ODES Graphics Facility
S = SCAN the directory of your graphics
V = VIEW a graphic
X = SCAN the directory of ODES graphics
Y = VIEW an ODES graphic
I = INSTRUCTIONS for downloading a graphic
Please enter D,E,S,V,X,Y, or I
> E

Figure 6.54

Download Graphics

ODES tools generate graphics as well as text reports; however, ODES must be in the graphics mode within the Fetch Option to display and download graphics. To download graphics, select Option D, "Display an ODES Graphic".

Enter D at the prompt on the Fetch Options Menu (Figure 6.55).

ODES displays a welcome screen to the ODES Graphics Facility (Figure 6.56). Press **ENTER** to continue selecting a graphics device.

```
                    ** ODES Fetch Options **

* The FETCH options enable you to retrieve your ODES tool output
  and either view the results on your screen, send the results to
  be listed at a printer, or download the results to a micro-
  computer.  You may also display ODES graphic output at this
  point or delete a job you no longer need.

          D = DISPLAY an ODES graphic
          E = ERASE a job
          L = LIST a job on your terminal
          P = PRINT a job on a high-speed printer
          S = STATUS of a job
          T = TRANSFER a job to a microcomputer

> Please enter D, E, L, P, S, T or B (Basic Options) > D
```

Figure 6.55

```
==========================================
--  WELCOME TO THE ODES GRAPHICS FACILITY  --
==========================================

  * Press ENTER to select a graphics device >

>
```

Figure 6.56

The Graphics Device Menu (Figure 6.57) appears. This menu lists all of the graphics devices available within the ODES Graphics Facility. To download a graphics meta-file, select A, "Graphics Meta-file for download".

Enter A at the Graphics Device Menu (Figure 6.57).

Note: *ODES is accessed via a wide variety of terminals. Each terminal maintains a different standard for drawing graphics to the screen; however, there is a single common format for downloading graphics. If an incorrect graphics device is selected, no graphic will be downloaded.*

If you have any questions about the appropriate graphics device to use, please call the ODES technical support staff.

ODES Support ***(703) 841-6279***

Whenever the download graphics device is selected, ODES reminds you that the graphics are downloaded and not displayed (Figure 6.58).

Press **ENTER** to continue.

```
        ============================
        --  Graphics Devices Menu  --

        A = Graphics Meta-file for download
        B = IBM 3192 or 3179G terminal
        C = CalComp 5845 plotter
        D = HP 7585 drafting plotter
        G = IBM 3270 PC/G
        H = HP 7475 desktop plotter
        I = IBM 3279 terminal
        J = IBM 3472 terminal
        P = Tektronix 4662 plotter
        T = Tektronix 4010 terminal
        K = Tektronix 4014 terminal
        X = Tektronix 4105 terminal
        Y = Tektronix 4107 terminal
        L = Tektronix 4207 terminal
        R = Tektronix 4211 terminal
        V = Digital VT240 terminal

Select A,B,C,D,G,H,I,J,P,T,K,X,Y,L,R, or V and press ENTER

 > A
```

Figure 6.57

```
 This option will not produce a graphic on the screen.
 Instead, all output will be sent directly to a file.
 After viewing the graphic you wish to download, exit
 ODES.  Use your communications system to download the
 file ODESGRAF-- do not specify ASCII format or carriage
 return conversion.  Your meta-file may be viewed using
 Word Perfect 5.1 or a variety of other PC graphic
 software packages.
 -ODES is currently using the format of an HP 7220c
 -plotter.  Call the ODES Hotline with special format
 -requests.

 Please press ENTER to continue or D to
 select a different device.

 >
```

Figure 6.58

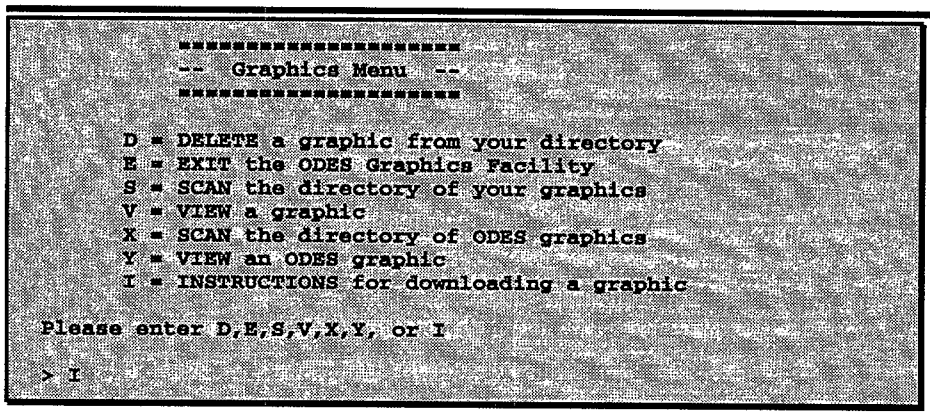
Download Instructions

All ODES graphics may be downloaded to a microcomputer; however, certain graphic download options require a specific graphic device be set upon entering the ODES Graphics Facility. To obtain instructions for downloading ODES graphics, select Option I, "INSTRUCTIONS for downloading a graphic".

Enter I at the prompt on the Graphics Menu (Figure 6.59).

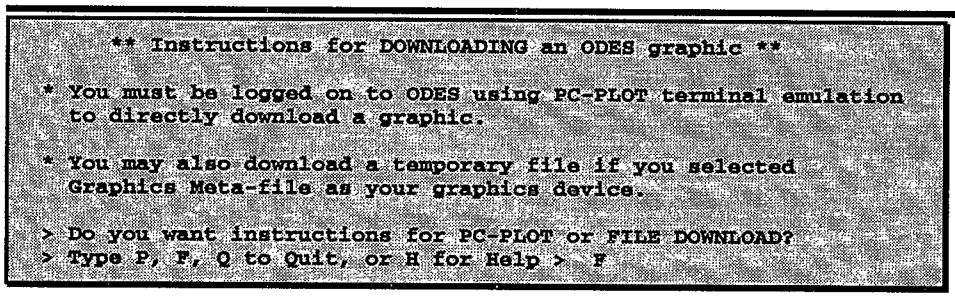
The graphics capture method screen (Figure 6.60) appears. Type **F** and press **ENTER** from the graphics capture method menu to view instructions for downloading meta-file graphics.

Note: *The meta-file download option requires the meta-file graphics device be selected. If the meta-file graphic device was not set upon entering the ODES Graphics Facility, exit the ODES Graphic Facility (E) and reselect Display Graphics from the Fetch Options Menu (D). Then specify the meta-file graphics device (A).*



```
          ======================
          --  Graphics Menu  --
          ======================

        D = DELETE a graphic from your directory
        E = EXIT the ODES Graphics Facility
        S = SCAN the directory of your graphics
        V = VIEW a graphic
        X = SCAN the directory of ODES graphics
        Y = VIEW an ODES graphic
        I = INSTRUCTIONS for downloading a graphic

 Please enter D,E,S,V,X,Y, or I

 > I
```

Figure 6.59



```
      ** Instructions for DOWNLOADING an ODES graphic **

 * You must be logged on to ODES using PC-PLOT terminal emulation
   to directly download a graphic.

 * You may also download a temporary file if you selected
   Graphics Meta-file as your graphics device.

 > Do you want instructions for PC-PLOT or FILE DOWNLOAD?
 > Type P, F, Q to Quit, or H for Help >  F
```

Figure 6.60

The next three screens provide instructions for downloading graphics as a meta-file. For this example, read each screen carefully. When you finish reading a screen, press **ENTER** to continue. After you have reviewed the instructions on-line, you may actually download a meta-file using the notes on the remainder of this page as a guide.

To download graphics as a meta-file, ODES writes the graphic to a temporary mainframe file called "ODESGRAF". To transfer the file "ODESGRAF" to your microcomputer, first exit ODES. You may accomplish this by entering E to exit the Graphic Menu, type B and press ENTER to exit the Fetch Options Menu, and enter E to exit ODES.

Note: *The temporary mainframe file "ODESGRAF" is overwritten each time you invoke the download option; therefore, to ensure you download the appropriate graphic, follow the file transfer procedure each time you use the ODES Graphic Facility graphics download option.*

After exiting the Basic Options Menu, ODES displays a prompt to log off. Type N and press ENTER at this prompt, which will display the TSO READY prompt.

To use Kermit, type KERMIT at the READY prompt. From the Kermit prompt, type SEND ODESGRAF. Use the "hot key" to switch to microcomputer mode and type RECEIVE at the local prompt.

If you are using a gateway, use the "hot key" to switch to PC mode. At the DOS prompt, enter the RECEIVE command identifying the mainframe file to transfer and a PC file name to create with the data. On most gateways, the following command will download the mainframe file ODESGRAF to a file called NEW on the C drive of the PC:

RECEIVE C:NEW ODESGRAF

If you have any questions about the file transfer procedure, please call the ODES support staff.

ODES Support (703) 841-6279

```
      ** SUMMARY OF COMMANDS FOR DOWNLOADING A GRAPHICS FILE **

    * ODES will save your data in a temporary mainframe file called
      ODESGRAF.  Please note that this file is only temporary.
      The next time you choose to download data using the fetch
      option, this file will be overwritten.  When you are ready
      to download the file from the mainframe to your PC,
      follow these instructions:

      (1)  Exit ODES by typing "E" from the Basic Options Menu.

      (2)  You will be prompted with a message asking whether
           you want to be logged off:

             >Do you want to be logged off now? (Y/N)>

 > Press ENTER to continue or Q to QUIT >
```

Figure 6.61

```
           Enter "N" at the prompt.  The READY prompt will then
           be displayed.

      (3)  If you are using Kermit, type KERMIT at the READY
           prompt.  From the Kermit prompt, type SEND ODESGRAF.
           Use your "hot key" to switch to PC mode.  From your
           local Kermit prompt, enter a RECEIVE command.

      (4)  If you are using a gateway, use your "hot key" to
           switch to PC mode.  At the DOS prompt enter a RECEIVE
           command identifying the mainframe file you wish to
           download and the PC file which is to contain the
           downloaded data.  On most gateways the following
           command would download a mainframe file called
           ODESGRAF to a file called NEW on the C drive of the PC:

 > Press ENTER to continue or Q to QUIT >
```

Figure 6.62

```
           RECEIVE C:NEW ODESGRAF

     * Please make notes on the above procedures.
       If you have any questions please call the ODES USER SUPPORT
       HOTLINE at (703) 841-6279.

 > Press ENTER to return to the GRAPHICS menu >
```

Figure 6.63

Scan Your Graphics

All graphics created by ODES tools are stored in your personal graphics directory. To scan the graphics in your ODES graphics directory, select Option S, " SCAN the directory of your graphics".

Type **S** and press **ENTER** at the prompt on the Graphics Menu (Figure 6.64).

Your graphics directory screen appears, displaying a list of graphics you have created but not deleted. A sample screen with 2 graphics is pictured in Figure 6.65. The screen provides the graphic number, name, and a short description.

Note: *Your graphics directory screen will not contain the same two graphics pictured in Figure 6.65, since your screen displays only the graphics you have created.*

Look through your graphics directory until you locate the graphic that you created in Chapter 5 using Tool 1. The name of the graphic should be "TOOL1". Once you locate this graphic in your directory, make a note of the corresponding number. After viewing your graphics, press **ENTER** to return to the Graphics Menu.

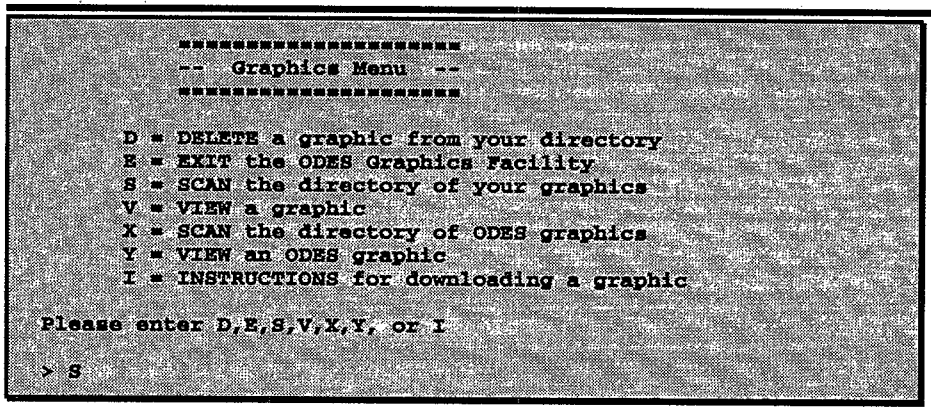


Figure 6.64

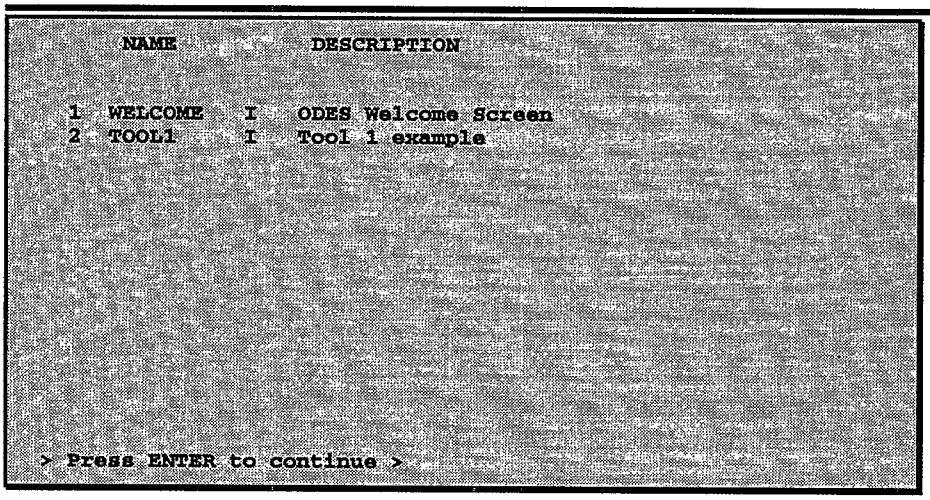


Figure 6.65

View Your Graphics

Once you have scanned your graphics directory and decided upon a graphic to view, select Option V, VIEW a graphic.

Note: *Since the graphic device is set to download, the graphic will not be displayed to the screen, but will be written to your microcomputer file.*

Type **V** and press **ENTER** at the prompt on the Graphics Menu (Figure 6.66).

ODES provides the capability to view two graphics simultaneously (Figure 6.67). For this example, type **1** and press **ENTER** at the prompt. If you wished to view two graphics simultaneously, you would have typed 2 and pressed ENTER at the prompt.

Note: *To view two graphics simultaneously, you must specify two graphics from your graphics directory.*

The graphics selection screen (Figure 6.68) appears. This screen requests the name or number of the graphic you wish to display. For this example, **enter the number of the graphic that you located on page 6-66.**

ODES reminds you that you must press ENTER after each graphic is display to continue. To continue, press **ENTER** at the prompt.

```
          ====================
          --  Graphics Menu  --
          ====================

        D = DELETE a graphic from your directory
        E = EXIT the ODES Graphics Facility
        S = SCAN the directory of your graphics
        V = VIEW a graphic
        X = SCAN the directory of ODES graphics
        Y = VIEW an ODES graphic
        I = INSTRUCTIONS for downloading a graphic

Please enter D,E,S,V,X,Y, or I

 > V
```

Figure 6.66

```
You may display one or two graphs at a time.
Enter 1 to select one graph or 2 to select two graphs

 > 1
```

Figure 6.67

```
Please enter the name or number of a graph.

 > 2


* Note: ENTER must be pressed after each picture.
* Please press ENTER to display your graphic >
***
```

Figure 6.68

ODES signals the drawing initiation with a series of bells. Press **ENTER** after each bell to continue drawing your graphic.

When ODES finishes creating the graphic file, you are prompted to press **ENTER** to continue.

Your graphic is now stored in a temporary mainframe file called "ODESGRAF". Refer to the instructions for downloading graphics (page 6-64) to obtain help with the remaining syntax necessary to complete the download procedure.

Press **ENTER** to return to the Graphics Menu.

```
Please press return after each bell to continue.
```

Figure 6.69

```
      WHITE mapped to BLACK.

* Please press ENTER to continue >

>
```

Figure 6.70

```
 * Please press ENTER to return to the Fetch Menu.
Your file to download is named ODESGRAF.

>
```

Figure 6.71

Delete Graphic

Once you have viewed your graphic, you may wish to delete it from ODES. Once deleted, a graphic is permanently removed from the system and cannot be viewed or downloaded again. To delete a graphic, select Option D, "DELETE a graphic from your directory".

Enter D at the prompt on the Graphics Menu (Figure 6.72).

The graphic selection screen (Figure 6.73) appears. This screen accepts the name or number of the graphic you wish to display. For this example, **type the number of your Tool 1 graphic and press ENTER** at the prompt.

The graphics deletion screen (Figure 6.74) appears. This screen confirms that the selected graphic was deleted.

To return to the Graphics Menu, press **ENTER** at the prompt. At the Graphics Menu, **enter E** to return to the Fetch Options Menu.

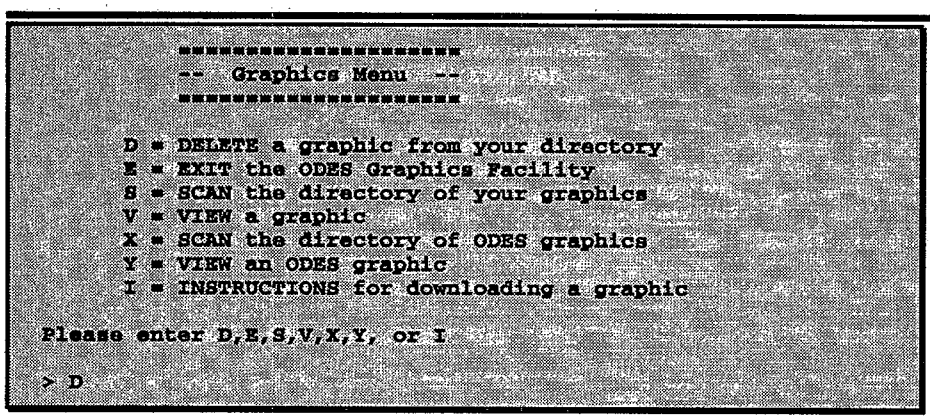


Figure 6.72

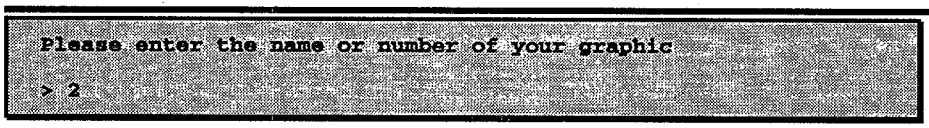


Figure 6.73

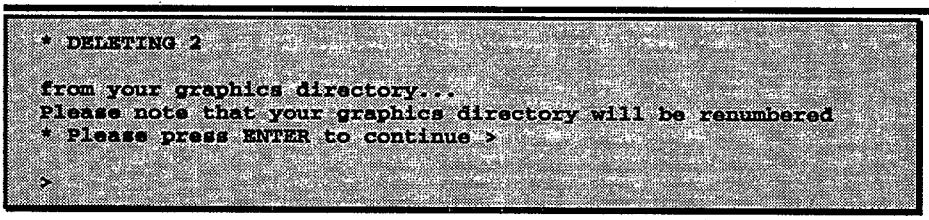


Figure 6.74

Return to ODES Basic Options Menu

From the Fetch Options Menu, return to the ODES Basic Options Menu by typing **B** and pressing **ENTER** at the prompt. The screen pictured in Figure 6.75 will appear.

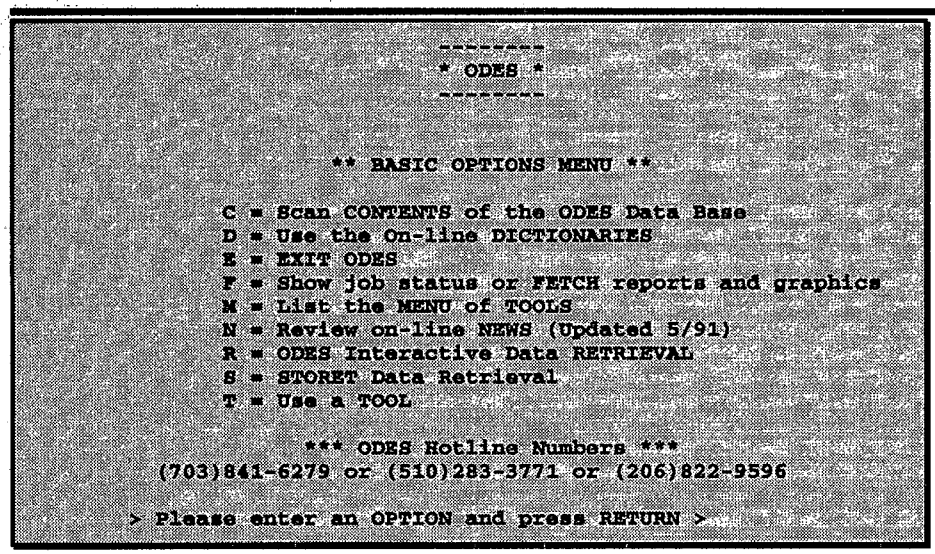

* ODES *
** BASIC OPTIONS MENU **
C = Scan CONTENTS of the ODES Data Base
D = Use the On-line DICTIONARIES
E = EXIT ODES
F = Show job status or FETCH reports and graphics
M = List the MENU of TOOLS
N = Review on-line NEWS (Updated 5/91)
R = ODES Interactive Data RETRIEVAL
S = STORET Data Retrieval
T = Use a TOOL
*** ODES Hotline Numbers ***
(703)841-6279 or (510)283-3771 or (206)822-9596
> Please enter an OPTION and press RETURN >

Figure 6.75

Index to Chapter 6

Using Fetch With Text Output
- Getting Started....2
- Job Status....4
- List Job Output....8
- Print Job Output....14
- Transfer Output to your PC....20
- Erase Job Output....26

Using Fetch With Graphical Output
- Display Graphics....30
- Scan Your Graphics....34
- View Your Graphics....36
- Scan ODES Graphics....40
- View ODES Graphic....44
- Download Instructions....48
- Exit....54
- Download Graphics....56
- Download Instructions....60
- Scan Your Graphics....64
- View Your Graphics....66
- Delete Graphic....70
- Return to ODES Basic Options Menu....72

Note: Text output is produced by data retrieval tools, content reports, backup tables for graphical tools, and low-quality graphics. Graphical output includes high-quality plots and standard ODES graphics.

Appendix A

Documentation & Contacts

Other Documentation

You may also want to request copies of other documentation. Below is a list of documentation that may be useful when using ODES or participating in the NFTDR program. This listing includes the title of the document, a brief description, and how to request a copy.

ODES User Guide — *ODES User Support*

- Overview of the ODES Basic Options

ODES Data Briefs — *ODES User Support*

- Use of Graphic and Mapping Tools
- Downloading ODES Graphics for Enhancements

ODES Tool Manual — *ODES User Support*

- Step-by-step instructions for using ODES tools

ODES Data Submissions Manual — *ODES User Support*

- Standard requirements for submitting general ODES data

ODES 123 — *ODES User Support*

- Submission requirements for the National Fish Tissue Data Repository Program
- Instructions for using the ODES 123 template in LOTUS 123® Version 3 software to submit fish advisory data
- Diskette containing ODES 123 template

ODES Log-on Guide — *ODES User Support*

- Instructions for logging on to ODES using a modem and communication software package

ODES Notes Technical Bulletin — *ODES Mailing List/ODES User Support*

- Technical bulletin with important ODES information

ODES/STORET Bridge — *ODES User Support*

- Explanation of the capabilities of the ODES/STORET Bridge
- Detailed instructions on how to retrieve and download STORET data using the ODES interface

Points of Contact

When you start submitting data and using ODES to retrieve and analyze data, you may think of some questions or want assistance with certain features. To help you with those questions, both administrative and technical support have been established. If you need any assistance, please call either the ODES User Support or Skip Houseknecht at the Office of Science and Technology's Fish Contamination Section at EPA. Below is a listing of whom to call for different needs.

ODES User Support *(703) 841-6279*

- Obtain assistance with ODES menu interface
- Request standard ODES documentation
- Receive information about other ODES file types
- Request an ODES user ID
- Add your name to the ODES mailing list

EPA Fish Contamination Section *(202) 260-7055*

- Submit data

APPENDIX B

Taxa Codes

The following pages contain four lists of fish species with their associated ODES codes:

B.1: Taxa Sorted by Common Name *page B-2*
B.2: Taxa Sorted by Scientific Name *page B-29*
B.3: Taxa Sorted by Code *page B-54*
B.4: List of Families *page B-79*

The lists were derived from estuary and marine species encountered in National Marine Fisheries Service creel censuses during 1987-92, freshwater species known to have been sampled in one or more tissue monitoring studies, and species recommended for sampling in the U.S. Environmental Protection Agency's Assessing Chemical Contaminant Data for Use in Fish Advisories: Vol. 1 - Fish Sampling and Analysis. An effort has been made to make the lists as comprehensive as possible. Should you, however, have tissue monitoring data for a species not on the lists, PLEASE CONTACT THE ODES TECHNICAL SUPPORT STAFF AT (703) 841-6279 TO OBTAIN A CODE NUMBER FOR THAT SPECIES.

APPENDIX B.1

TAXA SORTED BY COMMON NAME

CODE	COMMON NAME	SCIENTIFIC NAME
CRUSTACEANS		
	CRAB,	
618901030100	BLUE	CALLINECTES SAPIDUS
618803010600	DUNGENESS	CANCER MAGISTER
618803010800	EASTERN ROCK	CANCER IRRORATUS
618902130200	GULF STONE	MENIPPE ADINA
618803010200	PACIFIC ROCK	CANCER ANTENNARIUS
618803010100	RED	CANCER PRODUCTUS
	LOBSTER,	
618101020100	AMERICAN	HOMARUS AMERICANUS
618201010300	CALIFORNIA	PANULIRUS INTERRUPTUS
618201010100	WEST INDIES SPINY	PANULIRUS ARGUS
617701010000	**SHRIMP,** WHITE	PENAEUS ?
MOLLUSCS		
	CLAM,	
551547110100	HARD	MERCENARIA MERCENARIA
551525020100	HORSENECK	TRESUS CAPAX
551547080100	MANILA	VENERUPIS JAPONICA
551547070100	PACIFIC LITTLENECK	PROTOTHACA STAMINEA
551701020100	SOFT-SHELL	MYA ARENARIA
551525010200	SURF	SPISULA SOLIDISSIMA
	MUSSEL,	
550701010100	BLUE	MYTILUS EDULIS
550701010200	CALIFORNIA	MYTILUS CALIFORNIAUS
	OYSTER,	
551002010200	AMERICAN	CRASSOSTREA VIRGINICA
551002010100	PACIFIC	CRASSOSTREA GIGAS
551539010100	**QUAHOG,** OCEAN	ARCTICA ISLANDICA
FISH		
880302030100	**AGUJON**	TYLOSURUS ACUS
885003040100	**ALBACORE**	THUNNUS ALALUNGA
874701010500	**ALEWIFE**	ALOSA PSEUDOHARENGUS
	ALLIGATORFISH,	
883108030100	ALEUTIAN	ASPIDOPHOROIDES BARTONI
883108030300	ARCTIC	ASPIDOPHOROIDES OLRIKI
883108030400	COMMON	ASPIDOPHOROIDES MONOPTERYGIUS
883108020100	SMOOTH	ANOPLAGONUS INERMIS
	AMBERJACK,	
883528080100	GREATER	SERIOLA DUMERILI
883528080200	LESSER	SERIOLA FASCIATA
874702040200	**ANCHOVETA**	CETENGRAULIS MYSTICETUS
	ANCHOVY,	
874702020200	BAY	ANCHOA MITCHILLI
874702020400	BIGEYE	ANCHOA LAMPROTAENIA
874702010200	CAMIGUANA	ENGRAULIS ESTAUQUAE
874702020300	CUBAN	ANCHOA CUBANA
874702021000	DEEPBODY	ANCHOA COMPRESSA
874702020500	DUSKY	ANCHOA LYOLEPIS
874702030400	FLAT	ANCHOVIELLA PERFASCIATA
874702020900	KEY	ANCHOA CAYORUM
874702020600	LONGNOSE	ANCHOA NASUTA
874702021200	NEW JERSEY	ANCHOA DUODECIUM
874702010100	NORTHERN	ENGRAULIS MORDAX
874702010300	SILVER	ENGRAULIS EURYSTOLE
874702021100	SLOUGH	ANCHOA DELICATISSIMA
874702020100	STRIPED	ANCHOA HEPSETUS

	ANGELFISH,	
883555030400	BLUE	HOLOCANTHUS BERMUDENSIS
883555040200	FRENCH	POMACANTHUS PARU
883555040100	GRAY	POMACANTHUS ARCUATUS
883555030100	QUEEN	HOLACANTHUS CILIARIS
	ARGENTINE,	
875601020300	ATLANTIC	ARGENTINA SILUS
875601020600	PACIFIC	ARGENTINA SIALIS
875601030200	PYGMY	GLOSSANODON PYGMAEUS
875601020500	STRIATED	ARGENTINA STRIATA
883557010100	**ARMORHEAD**, LONGFIN	PENTACEROS PECTORALIS
876201010200	**AULOPUS**, YELLOWFIN	AULOPUS NANAE
880301020200	**BALAO**	HEMIRAMPHUS BALAO
886103020200	**BALLONFISH**	DIODON HOLOCANTHUS
880301020100	**BALLYHOO**	HEMIRAMPHUS BRASILIENSIS
882601060500	**BARBFISH**	SCORPAENA BRASILIENSIS
883502120200	**BARBIER**, RED	HEMANTHIAS VIVANUS
883801010200	**BARBU**	POLYDACTYLUS VIRGINICUS
	BARRACUDA,	
883701010400	GREAT	SPHYRAENA BARRACUDA
883701010100	PACIFIC	SPHYRAENA ARGENTEA
875603010100	**BARRELEYE**	MACROPINNA MICROSTOMA
885101020100	**BARRELFISH**	HYPEROGLYPHE PERCIFORMIS
	BASS,	
883502230200	BLACKEAR	SERRANUS ATROBRANCHUS
883502030100	BLACK SEA	CENTROPRISTIS STRIATA
883502140300	CAVE	LIOPROPOMA MOWBRAYI
883502231200	CHALK	SERRANUS TORTUGARUM
883502290100	GIANT SEA	STEREOLEPIS GIGAS
883502231100	HARLEQUIN	SERRANUS TIGRINUS
883502160200	KELP	PARALABRAX CLATHRATUS
883502230300	LANTERN	SERRANUS BALDWINI
883516060200	LARGEMOUTH	MICROPTERUS SALMOIDES
883502120100	LONGTAIL	HEMANTHIAS LEPTUS
883502230100	ORANGEBACK	SERRANUS ANNULARIS
883502140400	PEPPERMINT	LIOPROPOMA RUBRE
883502220100	PYGMY SEA	SERRANICULUS PUMILIO
883503010100	REEF	PSEUDOGRAMMA GREGORYI
883516020100	ROCK	AMBLOPLITES RUPESTRIS
883502030500	ROCK SEA	CENTROPRISTIS PHILADELPHICA
883502150100	ROUGHTONGUE	HOLANTHIAS MARTINICENSIS
883502230700	SADDLE	SERRANUS NOTOSPILUS
883502210100	SCHOOL	SCHULTZEA BETA
883516060100	SMALLMOUTH	MICROPTERUS DOLOMIEUI
883502230400	SNOW	SERRANUS CHIONARAIA
883502120300	SPLITTAIL	HEMANTHIAS SIGNIFER
883516060300	SPOTTED	MICROPTERUS PUNCTULATUS
883502160300	SPOTTED SAND	PARALABRAX MACULATOFASCIATUS
883502200100	STREAMER	HEMANTHIAS AUROEORUBENS
883502010200	STRIPED	MORONE SAXATILIS
883502010400	WHITE	MORONE CHRYSOPS
883502140200	WRASSE	LIOPROPOMA EUKRINES
883502010500	YELLOW	MORONE MISSISSIPPIENSIS
883502190200	YELLOWTAIL	PIKEA MEXICANA
	BATFISH,	
878704010100	LONGNOSE	OGCOCEPHALUS CORNIGER
878704030100	PANCAKE	HALIEUTICHTHYS ACULEATUS
878704010600	POLKA-DOT	OGCOCEPHALUS RADIATUS
878704010500	ROUGHBACK	OGCOCEPHALUS PARVUS
878704010300	SHORTNOSE	OGCOCEPHALUS NASUTUS
878704040100	TRICORN	ZALIEUTES MCGINTYI
880901010100	**BEARDFISH**	POLYMIXIA LOWEI
883562050200	**BEAUGREGORY**	POMACENTRUS LEUCOSTICTUS
883555030300	**BEAUTY**, ROCK	HOLACANTHUS TRICOLOR

883517020100	**BIGEYE,** SHORT	PRISTIGENYS ALTA
883562030600	**BLACKSMITH**	CHROMIS PUNCTIPINNIS
	BLENNY,	
884209050400	BALD	PARACLINUS INFRONS
884209050300	BANDED	PARACLINUS FASCIATUS
884209020100	BANNER	EMBLEMARIA ATLANTICA
884201050300	BARRED	HYPLEUROCHILUS BERMUDENSIS
884201020300	BAY	HYPSOBLENNIUS GENTILIS
884209070100	BLACKBELLY	STATHMONOTUS HEMPHILLI
884209020400	BLACKHEAD	CORALLIOZETUS BAHAMENSIS
884209060200	CHECKERED	STARKSIA OCELLATA
884209050200	CORAL	PARACLINUS CINGULATUS
884201050100	CRESTED	HYPLEUROCHILUS GEMINATUS
884209110100	DEEPWATER	CRYPOTREMA CORALLINUM
884209030800	DOWNY	LABRISOMUS KALISHERAE
884209070200	EELGRASS	STATHMONOTUS STAHLI
884201020100	FEATHER	HYPSOBLENNIUS HENTZ
884201030200	FLORIDA	CHASMODES SABURRAE
884201020200	FRECKLED	HYPSOBLENNIUS IONTHAS
884209020600	GLASS	CORALLIOZETUS DIAPHANUS
884209040100	GOLDLINE	MALACOCTENUS AUROLINEATUS
884209030700	HAIRY	LABRISOMUS NUCHIPINNIS
884201010300	HIGHFIN	LUPINOBLENNIUS NICHOLSI
884209050100	HORNED	PARACLINUS GRANDICOMIS
884209030500	LONGFIN	LABRISOMUS HAITIENSIS
884209050600	MARBLED	PARACLINUS MARMORATUS
884209030400	MIMIC	LABRISOMUS GUPPYI
884201020500	MUSSEL	HYPSOBLENNIUS JENKINSI
884201050400	ORANGESPOTTED	HYPLEUROCHILUS SPRINGERI
884201050200	OYSTER	HYPLEUROCHILUS AEQUIPINNIS
884209030300	PALEHEAD	LABRISOMUS GOBIO
884209020300	PIRATE	EMBLEMARIA PIRATULA
884209030100	PUFFCHEEK	LABRISOMUS BUCCIFERUS
884201060100	REDLIP	OPHIOBLENNIUS ATLANTICUS
884201020400	ROCKPOOL	HYPSOBLENNIUS GILBERTI
884209040300	ROSY	MALACOCTENUS MACROPUS
884209080100	ROUGHHEAD	ACANTHEMBLEMARIA ASPERA
884209040400	SADDLED	MALACOCTENUS TRIANGULATUS
884209020200	SAILFIN	EMBLEMARIA PANDIONIS
884201010100	SEAWEED	PARABLENNIUS MARMOREUS
884209030600	SPOTCHEEK	LABRISOMUS NIGRICINCTUS
884201030100	STRIPED	CHASMODES BOSQUIANUS
884209120100	WRASSE	HEMIEMBLEMARIA SIMULUS
883525010100	**BLUEFISH**	POMATOMUS SALTATRIX
883516050400	**BLUEGILL**	LEPOMIS MACROCHIRUS
883901100100	**BLUEHEAD**	THALASSOMA BIFASCIATUM
	BOARFISH,	
881106010100	DEEPBODY	ANTIGONIA CARPOS
881106010200	SHORTSPINE	ANTIGONIA COMBATIA
	BOBO,	
883801010300	BLUE	POLYDACTYLUS APPROXIMANS
883801010500	YELLOW	POLYDACTYLUS OPERCULARIS
882601012700	**BOCACCIO**	SEBASTES PAUCISPINIS
883535020100	**BOGA**	INERMIA VITTATA
873901010100	**BONEFISH**	ALBULA VULPES
	BONITO,	
885003020200	ATLANTIC	SARDA SARDA
885003020100	PACIFIC	SARDA CHILIENSIS
870803010100	**BONNETHEAD**	SPHYRNA TIBURO
883535010100	**BONNETMOUTH**	EMMELICHTHYOPS ALANTICUS
873401010100	**BOWFIN**	AMIA CALVA
883543030200	**BREAM,** SEA	ARCHOSARGUS RHOMBOIDALIS
	BROTULA,	
879201040100	BEARDED	BARBATA

879201280100	BLACK	*STYGNO LATEBRICOLA*
879201230100	GOLD	GUNTERICHTHYS LONGIPENIS
879201240100	KEY	OGILBIA CAYORUM
879201250200	PURPLE	OLIGOPUS DIAGRAMMUS
879201250100	REEF CAVE	OLIGOPUS CLAUDEI
879201010100	RED	BROSMOPHYCIS MARGINATA
879201270100	REDFIN	PETROTYX SANGUINEUS
883517030100	**BULLEYE**	COOKEOLUS JAPONICUS
	BULLHEAD,	
877702010600	BLACK	AMEIURUS MELAS
877702010400	BROWN	AMEIURUS NEBULOSUS
877702010300	YELLOW	AMEIURUS NATALIS
	BUMPER,	
883528040100	ATLANTIC	CHLOROSCOMBRUS CHRYSURUS
883528040200	PACIFIC	CHLOROSCOMBRUS ORQUETA
879103080100	**BURBOT**	LOTA LOTA
	BURRFISH,	
886103010200	BRIDLED	CHILOMYCTERUS ANTENNATUS
886103010600	PACIFIC	CHILOMYCTERUS AFFINIS
886103010400	SPOTTED	CHILOMYCTERUS ATINGA
886103010100	STRIPED	CHILOMYCTERUS SCHOEPFI
886103010300	WEB	CHILOMYCTERUS ANTILLARUM
	BUTTERFISH,	
885103010300	COMMON	PEPRILUS TRIACANTHUS
885103010400	GULF	PEPRILUS BURTI
	BUTTERFLYFISH,	
883555010800	BANDED	CHAETODON STRIATUS
883555010200	BANK	CHAETODON AYA
883555010300	FOUREYE	CHAETODON CAPISTRATUS
883555050100	LONGSNOUT	CHAETODON ACULEATUS
883555010700	REEF	CHAETODON SEDENTARIUS
883555010100	SPOTFIN	CHAETODON OCELLATUS
883102310100	**CABEZON**	SCORPAENICHTHYS MARMORATUS
883502040300	**CABRILLA**, SPOTTED	EPINEPHELUS ANALOGUS
875503020100	**CAPELIN**	MALLOTUS VILLOSUS
	CARDINALFISH,	
883518010500	BARRED	APOGON BINOTATUS
883518011300	BELTED	APOGON TOWNSENDI
883518010100	BIGTOOTH	APOGON AFFINIS
883518020200	BLACKFIN	ASTRAPOGON PUNCTICULATUS
883518010400	BRIDLE	APOGON AUROLINEATUS
883518011700	BROADSADDLE	APOGON PILLIONATUS
883518020100	BRONZE	ASTRAPOGON ALUTUS
883518050300	DUSKY	PHAEOPTYX PIGMENTARIA
883518050100	FRECKLED	PHAEOPTYX CONKLINI
883518011400	GUADALUPE	APOGON GUADALUPENSIS
883518011600	MIMIC	APOGON PHENAX
883518010900	PALE	APOGON PLANIFRONS
883518011100	SAWCHEEK	APOGON QUADRISQUAMATUS
883518050200	SPONGE	PHAEOPTYX XENUS
883518011000	TWOSPOT	APOGON PSEUDOMACULATUS
883518011500	WHITESTAR	APOGON LACHNERI
877601010100	**CARP**, COMMON	CYPRINUS CARPIO
	CATFISH,	
877702010200	BLUE	ICTALURUS FURCATUS
877702010500	CHANNEL	ICTALURUS PUNCTATUS
877702030100	FLATHEAD	PYLODICTIS OLIVARIS
877718010100	GAFFTOPSAIL	BAGRE MARINUS
877718020200	HARDHEAD	ARIUS FELIS
877730010100	SUCKERMOUTH	HYPOSTOMUS PLECOSTOMUS
877702010100	WHITE	AMEIURUS CATUS
885003050300	**CERO**	SCOMBEROMORUS REGALIS
875501040200	**CHAR**, ARCTIC	SALVELINUS ALPINUS
883555020100	**CHERUBFISH**	CENTROPYGE ARGI

	CHROMIS,	
883562030100	BLUE	CHROMIS CYANEA
883562030500	BROWN	CHROMIS MULTILINEATA
	CHUB,	
883551010200	BERMUDA	KYPHOSUS SECTATRIX
883551010100	YELLOW	KYPHOSUS INCISOR
	CIGARFISH,	
885102020100	BIGEYE	CUBICEPS PAUCIRADIATUS
885102020300	LONGFIN	CUBICEPS PARADOXUS
	CLINGFISH,	
878401010400	BEARDED	GOBIESOX PAPILLIFER
878401010600	CALIFORNIA	GOBIESOX RHESSODON
878401040100	EMERALD	ACYRTOPS BERYLLINUS
878401020100	KELP	RIMICOLA MUSCARUM
878401010300	LINED	GOBIESOX EUGRAMMUS
878401010100	NORTHERN	GOBIESOX MAEANDRICUS
878401020200	SLENDER	RIMICOLA EIGENMANNI
878401010500	STIPPLED	GOBIESOX PUNCTULATUS
883526010100	**COBIA**	RACHYCENTRON CANADUM
	COCKSCOMB,	
884212040200	HIGH	ANOPLARCHUS PURPURESCENS
884212040100	SLENDER	ANOPLARCHUS INSIGNIS
884212190100	STONE	ALECTRIAS ALECTROLOPHUS
	COD,	
879103020100	ARCTIC	BOREOGADUS SAIDA
879103040200	ATLANTIC	GADUS MORHUA
879103040300	GREENLAND	GADUS OGAC
879103040100	PACIFIC	GADUS MACROCEPHALUS
879103010200	POLAR	ARCTOGADUS GLACIALIS
879103030100	SAFFRON	ELEGINUS GRACILIS
879103010100	TOOTHED	ARCTOGADUS BORISOVI
879102010100	**CODLET,** ANTENNA	BREGMACEROS ATLANTICUS
	COMBFISH,	
882701040100	LONGSPINE	ZANIOLEPIS LATIPINNIS
882701040200	SHORTSPINE	ZANIOLEPIS FRENATA
883518020300	**CONCHFISH**	ASTRAPOGON STELLATUS
883502080200	**CONEY**	EPINEPHALUS FULVA
	CONGER,	
874112020200	BANDTOOTH	ARIOSOMA BALEARICUM
874112040100	CATALINA	GNATHOPHIS CATALINENSIS
874108010200	FRECKLED PIKE	HOPLUNNIS MACRURUS
874112010200	MANYTOOTH	TRIPORICEPS ??
874112050100	MARGINTAIL	PARA CAUDILIMBATUS
874112030300	WHIPTAIL	HILDEBRANDIA GRACILIOR
874112030200	YELLOW	HILDEBRANDIA FLAVA
883544060700	**CORBINA**	MENTICIRRHUS UNDULATUS
	CORONETFISH,	
881902010100	BLUESPOTTED	FISTULARIA TABACARIA
881902010300	RED	FISTULARIA PETIMBA
883544011400	**CORVINA,** SHORTFIN	CYNOSCION PARVIPINNIS
883540011100	**COTTONWICK**	HAEMULON MELANURUM
882601014900	**COWCOD**	SEBASTES LEVIS
	COWFISH,	
886003020200	HONEYCOMB	LACTOPHRYS POLYGONIA
886003020100	SCRAWLED	LACTOPHRYS QUADRICORNIS
	CRAPPIE,	
883516070200	BLACK	POMOXIS NIGROMACULATUS
883516070100	WHITE	POMOXIS ANNULARIS
	CROAKER,	
883544070200	ATLANTIC	MICROPOGONIAS UNDULATUS
883544230100	BLACK	CHEILOTREMA SATURNUM
883544030400	BLUE	BAIRDIELLA BATABANA
883544130100	REEF	ODONTOSCION DENTEX
883544240100	SPOTFIN	RONCADOR STEARNSI

883544030500	STRIPED	BAIRDIELLA *SANCTAELUCIAE*
883544020100	WHITE	GENYONEMUS LINEATUS
883544110500	YELLOWFIN	UMBRINA RONCADOR
883544120600	**CUBBYU**	EQUETUS UMBROSUS
883901020100	**CUNNER**	TAUTOGOLABRUS ADSPERSUS
879103110100	**CUSK**	BROSME BROSME
	CUSK-EEL,	
879201060300	BANK	OPHIDION HOLBROOKI
879201070400	BASKETWEAVE	OPHIDION SCRIPPSAE
879201050400	BLACKEDGE	LEPOPHIDIUM BREVIBARBE
879201060200	BLOTCHED	OPHIDION GRAYI
879201060500	CRESTED	OPHIDION WELSHI
879201260100	DUSKY	PAROPHIDION SCHMIDTI
879201050300	FAWN	LEPOPHIDIUM PROFUNDORUM
879201060100	LONGNOSE	OPHIDION BEANI
879201060400	MOONEYE	OPHIDION SELENOPS
879201050500	MOTTLED	LEPOPHIDIUM JEANNAE
879201070100	POLKA-DOT	OTOPHIDIUM OMOSTIGMUM
879201070300	SLEEPER	OTOPHIDIUM DORMITATOR
879201070200	SPOTTED	CHILARA TAYLORI
879201090100	STRIPED	OPHIDION MARGINATUM
	CUTLASSFISH,	
885002020100	ATLANTIC	TRICHIURUS LEPTURUS
885002020200	PACIFIC	TRICHIURUS NITENS
	DAB,	
885704060300	AMERICAN	HIPPOGLOSSOIDES PLATESSOIDES
885704090200	LONGHEAD	PLEURONECTES PROBOSCIDEUS
876210010100	**DAGGERTOOTH**	NOTOPTERUS PHARAO
	DAMSELFISH,	
883562050600	BICOLOR	POMACENTRUS PARTITUS
883562050500	COCOA	POMACENTRUS VARIABILIS
883562050100	DUSKY	POMACENTRUS FUSCUS
883562050400	THREESPOT	POMACENTRUS PLANIFRONS
883562040100	YELLOWTAIL	MICROSPATHODON CHRYSURUS
881502010200	**DEALFISH**	TRACHIPTERUS ARCTICUS
	DIVER,	
884214010100	GRAVEL	SCYTALINA CERDALE
876202010200	SAND	SYNODUS INTERMEDIUS
884901010200	**DOCTORFISH**	ACANTHURUS CHIRURGUS
	DOGFISH,	
871001090100	BLACK	CENTROSCYLLIUM FABRICII
870801030400	CHAIN	SCYLIORHINUS RETIFER
871001020300	CUBAN	SQUALUS CUBENSIS
870802040100	SMOOTH	MUSTELUS CANIS
871001020100	SPINY	SQUALUS ACANTHIAS
875501040100	**DOLLY VARDEN**	SALVELINUS MALMA
883529010100	**DOLPHIN**	CORYPHAENA HIPPURUS
883529010200	**DOLPHIN,** POMPANO	CORYPHAENA EQUISETIS
881103020100	**DORY,** BUCKLER	ZENOPSIS CONCHIFERA
	DRAGONET,	
884601010200	LANCER	PARADIPLOGRAMMUS BAIRDI
884601010100	SPOTFIN	FOETOREPUS AGASSIZI
884601010300	SPOTTED	DIPLOGRAMMUS PAUCIRADIATUS
875904030100	**DRAGONFISH,** LONGFIN	TACTOSTOMA MACROPUS
	DRIFTFISH,	
885101020200	BLACK	HYPEROGLYPHE BYTHITES
885102040300	BLUEFIN	PSENES PELLUCIDUS
885101010200	BROWN	ARIOMMA MELANUM
885102040100	FRECKLED	PSENES CYANOPHRYS
885102040200	SILVER	PSENES MACULATUS
885102010400	SPOTTED	ARIOMMA REGULUS
	DRUM,	
883544050100	BANDED	ARIMUS FASCIATUS
883544080100	BLACK	POGONIAS CROMIS

883544260100	FRESHWATER	APLODINOTUS GRUNNIENS
883544090100	RED	SCIAENOPS OCELLATA
883544110100	SAND	UMBRINA COROIDES
883544120500	SPOTTED	EQUETUS PUNCTATUS
883544100100	STAR	STELLIFER LANCEOLATUS
886002060100	**DURGON,** BLACK	MELICHTHYS NIGER
	EEL,	
874113120200	ACADEMY	APTERICHTUS ANSP
874101010100	AMERICAN	ANGUILLA ROSTRATA
874104050100	BICOLOR	CHLOPSIS BICOLOR
874113100200	BLACKPORED	OPHICHTHUS MELANOPORUS
874113030100	BLOTCHED SNAKE	CALLECHELYS MURAENA
874112110100	BROWN GARDEN	HETEROCONGER HALIS
874112010100	CONGER	CONGER OCEANICUS
874113120100	FINLESS	APTERICHTUS KENDALLI
874113070100	GOLDSPOTTED	MYRICHTHYS OCELLATUS
874113050100	HORSEHAIR	GORDIICHTHYS IRRETITUS
874113010100	KEYWORM	AHLIA EGMONTIS
874113100600	PACIFIC SNAKE	OPHICHTHUS TRISERIALIS
874113100300	PALESPOTTED	OPHICHTHUS PUNCTICEPSS
874102020100	RIDGED	NEOCONGER MUCRONATUS
874113040100	RIDGEFIN	CALLECHELYS SPRINGERI
874113060100	SAILFIN	LETHARCHUS VELIFER
874104010100	SEAGRASS	CHILORHINUS SUENSONI
874113070300	SHARPTAIL	MYRICHTHYS BREVICEPS
874117010100	SHORTBELLY	DYSOMMA ANGUILLARE
874113030200	SHORTTAIL SNAKE	CALLECHELYS GUINIENSIS
874113100100	SHRIMP	OPHICHTHUS GOMESI
874113170100	SLANTLIP	CARALOPHIA LOXOCHILA
874121020200	SLENDER SNAKE	NEMICHTHYS SCOLOPACEUS
874113090200	SNAPPER	ECHIOPHIS PUNCTIFER
874113020200	SOOTY	BASCANICHTHYS BASCANIUM
874102010100	SPAGHETTI	MORINGUA EDWARDSI
874113080200	SPECKLED WORM	MYROPHIS PUNCTATUS
874303030100	SPINY	NOTACANTHUS CHEMNITZI
874113100400	SPOTTED SNAKE	OPHICHTHUS OPHIS
874113090100	SPOTTED SPOON-NOSE	ECHIOPHIS INTERTINCTUS
874113160100	STRIPE	APROGNATHODON PLATYVENTRIS
874113110300	SURF	ICHTHYAPUS OPHIONEUS
874113050200	THREAD	GORDIICHTHYS SPRINGERI
874113100700	YELLOW SNAKE	OPHICHTHUS ZOPHOCHIR
874113020100	WHIP	BASCANICHTHYS SCUTICARIS
884202020100	WOLF	ANARRHICHTHYS OCELLATUS
	EELBLENNY,	
884212090100	SLENDER	LUMPENUS FABRICII
884212090400	STOUT	LUMPENUS MEDIUS
	EELPOUT,	
879301020300	ALASKA	BOTHROCARA PUSILLUM
879301072200	ARCTIC	LYCODES RETICULATUS
879301170100	BEARDED	LYCONEMA BARBATUM
879301010100	BIGFIN	LYCODES CORTEZIANUS
879301070600	BLACK	LYCODES DIAPTERUS
879301080100	BLACKBELLY	LYCODOPSIS PACIFICA
879301071100	CANADIAN	LYCODES POLARIS
879301072000	NEWFOUNDLAND	LYCODES LAVALEI
879301072100	PALE	LYCODES PALLIDUS
879301060400	PALLID	LYCODAPUS MANDIBULARIS
879301071400	POLAR	LYCODES TURNERI
879301070300	SHORTFIN	LYCODES BREVIPES
879301071000	WATTLED	LYCODES PALEARIS
879301051200	WOLF	LYCENCHELYS VERRILLI
885001030100	**ESCOLAR**	LEPIDOCYBIUM FLAVOBRUNNEUM
875503050100	**EULACHON**	THALEICHTHYS PACIFICUS
883571030100	**FANFISH,** ATLANTIC	PTERYCOMBUS BRAMA

	FILEFISH,	
886002010200	DOTTEREL	ALUTERUS HEUDELOTI
886002070100	FRINGED	MONACANTHUS CILIATUS
886002010100	ORANGE	ALUTERUS SCHOEPFI
886002040200	ORANGESPOTTED	CANTHERHINES PULLUS
886002030100	PLANEHEAD	MONACANTHUS HISPIDUS
886002030300	PYGMY	MONACANTHUS SETIFER
886002010400	SCRAWLED	ALUTERUS SCRIPTUS
886002070200	SLENDER	MONACANTHUS TUCKERI
886002010300	UNICORN	ALUTERUS MONOCEROS
886002040100	WHITESPOTTED	CANTHERHINES MACROCERUS
884209050500	**FINSPOT,** REEF	PARACLINUS INTEGRIPINNIS
	-FISH,	
883502170100	CREOLE	PARANTHIAS FURCIFER
883544120200	JACKKNIFE	EQUETUS LANCEOLATUS
885102030100	MAN-OF-WAR	NOMEUS GRONOVII
879301040300	**FISH DOCTOR**	GYMNELUS VIRIDUS
883502110100	**FLAG,** SPANISH	GONIOPLECTRUS HISPANUS
883518010700	**FLAMEFISH**	APOGON MACULATUS
876214100100	**FLASHLIGHTFISH,** CALIFORNIA	
	FLATHEAD,	
884007010100	DUCKBILL	BEMBROPS ANATIROSTRIS
884007010200	GOBY	BEMBROPS GOBIOIDES
	FLOUNDER,	
885704100100	ARCTIC	PLEURONECTES GLACIALIS
885704010200	ARROWTOOTH	ATHERESTHES STOMIAS
885704060200	BERING	HIPPOGLOSSOIDES ROBUSTUS
885703030600	BROAD	PARALICHTHYS SQUAMILENTUS
885703130200	CHANNEL	SYACIUM MICRURUM
885703120400	DEEPWATER	MONOLENE SESSILICAUDA
885703130300	DUSKY	SYACIUM PAPILLOSUM
885703060300	EYED	BOTHUS OCELLATUS
885703030500	FOURSPOT	PARALICHTHYS OBLONGUS
885703020100	FRINGED	ETROPUS CROSSOTUS
885703020400	GRAY	ETROPUS RIMOSUS
885703030200	GULF	PARALICHTHYS ALBIGUTTA
885703010400	GULF STREAM	CITHARICHTHYS ARCTIFRONS
885704010100	KAMCHATKA	ATHERESTHES EVERMANNI
885703080100	MEXICAN	CYCLOPSETTA CHITTENDENI
885703050600	OCELLATED	ANCYLOPSETTA QUADROCELLATA
885703060100	PEACOCK	BOTHUS LUNATUS
885703070100	PELICAN	CHASCANOPSETTA LUGUBRIS
885703140400	SASH	TRICHOPSETTA VENTRALIS
885703130100	SHOAL	SYACIUM GUNTERI
885703100100	SHRIMP	GASTROPSETTA FRONTALIS
885703120100	SLIM	MONOLENE ANTILLARUM
885703020200	SMALLMOUTH	ETROPUS MICROSTOMUS
885704100300	SMOOTH	PLEURONECTES PUTNAMI
885703030400	SOUTHERN	PARALICHTHYS LETHOSTIGMA
885703090100	SPINY	ENGYOPHRYS SENTA
885703080200	SPOTFIN	CYCLOPSETTA FIMBRIATA
885704140100	STARRY	PLATICHTHYS STELLATUS
885703030100	SUMMER	PARALICHTHYS DENTATUS
885703050300	THREE-EYE	ANCYLOPSETTA DILECTA
885704200100	WINTER	PLEURONECTES AMERICANUS
885704050200	WITCH	GYPTOCEPHALUS CYNOGLOSSUS
885704090300	YELLOWTAIL	PLEURONECTES FERRUGINEUS
	FLYINGFISH,	
880301010100	ATLANTIC	CYPSELURUS MELANURUS
880301010400	BANDWING	CYPSELURUS EXSILIENS
880301090300	BLACKWING	HIRUNDICHTHYS RONDELETI
880301120100	BLUNTNOSE	PROGNICHTHYS GIBBIFRONS
880301010700	CALIFORNIA	CYPSELURUS CALIFORNICUS
880301010200	CLEARWING	CYPSELURUS COMATUS

880301090100	FOURWING	HIRUNDICHTHYS AFFINIS
880301010300	MARGINED	CYPSELURUS CYANOPTERUS
880301070100	OCEAN TWO-WING	EXOCOETUS OBTUSIROSTRIS
880301110100	SAILFIN	PAREXOCOETUS BRACHYPTERUS
880301100100	SMALLWING	OXYPORHAMPHUS MICROPTERUS
880301010500	SPOTFIN	CYPSELURUS FURCATUS
880301070200	TROPICAL TWO-WING	EXOCOETUS VOLITANS
878803020100	**FOOTBALLFISH,** ATLANTIC	HIMANTOLOPHUS GROENLANDICUS
884701090200	**FRILLFIN,** ISLAND	BATHYGOBIUS MYSTACIUM
	FRINGEHEAD,	
884209140300	ONESPOT	NEOCLINUS UNINOTATUS
884209140100	SARCASTIC	NEOCLINUS BLANCHARDI
884209140200	YELLOWFIN	NEOCLINUS STEPHENSAE
	FROGFISH,	
878702020800	DWARF	ANTENNARIUS PAUCIRADIATUS
878702020100	LONGLURE	ANTENNARIUS MULTIOCELLATUS
878702020200	OCELLATED	ANTENNARIUS OCELLATUS
878702020700	ROUGHJAW	ANTENNARIUS AVALONIS
878702020300	SINGLESPOT	ANTENNARIUS RADIOSUS
878702020500	STRIATED	ANTENNARIUS STRIATUS
883502050100	**GAG**	MYCTEROPERCA MICROLEPIS
880408010200	**GAMBUSIA,** MANGROVE	GAMBUSIA RHIZOPHORAE
	GAR,	
873201010400	ALLIGATOR	LEPISOSTEUS SPATULA
873201010500	FLORIDA	LEPISOSTEUS PLATYRHINCUS
873201010100	LONGNOSE	LEPISOSTEUS OSSEUS
873201010300	SHORTNOSE	LEPISOSTEUS PLATOSTOMUS
873201010200	SPOTTED	LEPISOSTEUS OCULATUS
883562070100	**GARIBALDI**	HYPSYPOPS RUBICUNDA
	GOATFISH,	
883545040200	DWARF	UPENEUS PARVUS
883545030200	MEXICAN	PSEUDUPENEUS DENTATUS
883545020100	RED	MULLUS AURATUS
883545030100	SPOTTED	PSEUDUPENEUS MACULATUS
883545010100	YELLOW	MULLOIDICHTHYS MARTINICUS
	GOBY,	
884701010100	ARROW	CLEVELANDIA IOS
884701070400	BANNER	MICROGOBIUS MICROLEPIS
884701020200	BARFIN	CORYPHOPTERUS ALLOIDES
884701021000	BARTAIL	CORYPHOPTERUS THRIX
884701030100	BAY	LEPIDOGOBIUS LEPIDUS
884701080100	BEARDED	BARBULIFER CEUTHOECUS
884701020100	BLACKEYE	CORYPHOPTERUS NICHOLSI
884701310100	BLIND	TYPHLOGOBIUS CALIFORNIENSIS
884701140100	BLUE	IOGLOSSUS CALLIURUS
884701265000	BLUEBANDED	LYTHRYPNUS DALLI
884701260400	BLUEGOLD	LYTHRYPNUS SPILUS
884701020500	BRIDLED	CORYPHOPTERUS GLAUCOFRAENUM
884701300100	CHAMELEON	TRIDENTIGER TRIGONOCEPHALUS
884701230100	CHEEKSPOT	ILYPNUS GILBERTI
884701070100	CLOWN	MICROGOBIUS GULOSUS
884701060300	CODE	GOBIOSOMA ROBUSTUM
884701020300	COLON	CORYPHOPTERUS DICRUS
884701260300	CONVICT	LYTHRYPNUS PHORELLUS
884701250100	CRESTED	LOPHOGOBIUS CYPRINOIDES
884701051200	DARTER	GOBIONELLUS BOLEOSOMA
884701050100	DASH	GOBIONELLUS SAEPEPALLENS
884701051100	EMERALD	GOBIONELLUS SMARAGDUS
884701050400	FRESHWATER	GOBIONELLUS SHUFELDTI
884701090300	FRILLFIN	BATHYGOBIUS SOPORATOR
884701020600	GLASS	CORYPHOPTERUS HYALINUS
884701110100	GOLDSPOT	GNATHOLEPIS THOMPSONI
884701070200	GREEN	MICROGOBIUS THALASSINUS
884701240100	HALFBLIND	LETHOPS CONNECTENS

884701050300	HIGHFIN	GOBIONELLUS OCEANICUS
884701260200	ISLAND	LYTHRYPNUS NESIOTES
884701050900	LONGTAIL	GOBIONELLUS SAGITULLA
884701040100	LYRE	EVORTHODUS LYRICUS
884701020800	MASKED	CORYPHOPTERUS PERSONATUS
884701060100	NAKED	GOBIOSOMA BOSC
884701060800	NEON	GOBIOSOMA OCEANOPS
884701090100	NOTCHTONGUE	BATHYGOBIUS CURACAO
884701270100	ORANGESPOTTED	NES LONGUS
884701220100	PALEBACK	GOBULUS MYERSI
884701020400	PALLID	CORYPHOPTERUS EIDOLON
884701020700	PEPPERMINT	CORYPHOPTERUS LIPERNES
884701160100	RAGGED	BOLLMANNIA COMMUNIS
884701210100	RIVER	AWAOUS TAJASICA
884701290100	RUSTY	PRIOLEPIS HIPOLITI
884701060200	SEABOARD	GOBIOSOMA GINSBURGI
884701070300	SEMINOLE	MICROGOBIUS CARRI
884701280100	SHADOW	QUIETULA Y-CAUDA
884701100200	SPONGE	EVERMANNICHTHYS SPONGICOLA
884701050500	SPOTFIN	GOBIONELLUS STIGMALOPHIUS
884701050600	SPOTTAIL	GOBIONELLUS STIGMATURUS
884701020900	SPOTTED	CORYPHOPTERUS PUNCIPECTOPHORUS
884701320100	TIDEWATER	EUCYCLOGOBIUS NEWBERRYI
884701060700	TIGER	GOBIOSOMA MACRODON
884701150100	TUSKED	RISOR RUBER
884701060600	TWOSCALE	GOBIOSOMA LONGIPALA
884701120100	VIOLET	GOBIOIDES BROUSSONNETI
884701200100	YELLOWFIN	ACANTHOGOBIUS FLAVIMANUS
884701060500	YELLOWLINE	GOBIOSOMA HORSTI
884701060900	YELLOWPROW	GOBIOSOMA XANTHIPRORA
884701260500	ZEBRA	LYTHRYPNUS ZEBRA
878601010100	**GOOSEFISH**	LOPHIUS AMERICANUS
883502180100	**GRAYSBY**	EPINEPHELUS CRUENTATUS
	GREENEYE,	
876204020100	LONGNOSE	PARASUDIS TRUCULENTA
876204010100	SHORTNOSE	CHLOROPHTHALMUS AGASSIZI
	GREENLING,	
882701010100	KELP	HEXAGRAMMOS DECAGRAMMUS
882701010300	MASKED	HEXAGRAMMOS OCTOGRAMMUS
882702030100	PAINTED	OXYLEBIUS PICTUS
882701010200	ROCK	HEXAGRAMMOS LAGOCEPHALUS
882701010400	WHITESPOTTED	HEXAGRAMMOS STELLERI
	GROUPER,	
883502050200	BLACK	MYCTEROPERCA BONACI
883502050800	BROOMTAIL	MYCTEROPERCA XENARCHA
883502051000	COMB	MYCTEROPERCA RUBRA
883502050700	GULF	MYCTEROPERCA JORDANI
883502090100	MARBLED	EPINEPHALUS INERMIS
883502040900	MISTY	EPINEPHELUS MYSTACINUS
883502041200	NASSAU	EPINEPHELUS STRIATUS
883502040800	RED	EPINEPHELUS MORIO
883502041100	SNOWY	EPINEPHELUS NIVEATUS
883502055000	TIGER	MYCTEROPERCA TIGRIS
883502041000	WARSAW	EPINEPHELUS NIGRITUS
883502040500	YELLOWEDGE	EPINEPHELUS FLAVOLIMBATUS
883502050600	YELLOWFIN	MYCTEROPERCA VENENOSA
883502050400	YELLOWMOUTH	MYCTEROPERCA INTERSTITALIS
883102221000	**GRUBBY**	MYOXOCEPHALUS AENAEUS
880502070100	**GRUNION,** CALIFORNIA	LEURESTHES TENUIS
	GRUNT,	
883540040100	BARRED	CONODON NOBILIS
883540011300	BLUESTRIPED	HAEMULON SCIURUS
883540050200	BURRO	POMADASYS CROCRO
883540010600	CAESAR	HAEMULON CARBONARIUM

883540010800	FRENCH	HAEMULON FLAVOLINEATUM
883540010700	SMALLMOUTH	HAEMULON CHRYSARGYREUM
883540011000	SPANISH	HAEMULON MACROSTOMUM
883540011600	STRIPED	HAEMULON STRIATUM
883540010200	WHITE	HAEMULON PLUMIERI
883701010300	**GUAGUANCHE**	SPHYRAENA GUACHANCHO
	GUITARFISH,	
871302010100	ATLANTIC	RHINOBATOS LENTIGINOSUS
871302030100	BANDED	ZAPTERYX EXASPERATA
871302010400	SHOVELNOSE	RHINOBATOS PRODUCTUS
	GUNNEL,	
884213020300	BANDED	PHOLIS FASCIATA
884213020400	BERING	PHOLIS GILLI
884213020500	CRESCENT	PHOLIS LAETA
884213040100	KELP	ULVICOLA SANTAEROSAE
884213020100	LONGFIN	PHOLIS CLEMENSI
884213010100	PENPOINT	APODICHTHYS FLAVIDUS
884213020800	RED	PHOLIS SCHULTZI
884213020900	ROCK	PHOLIS LUS
884213030100	ROCKWEED	APODICHTHYS FUCORUM
884213020600	SADDLEBACK	PHOLIS ORNATA
884213020200	STIPPLED	RHODYMENICHTHYS DOLICHOGASTER
883201010100	**GURNARD,** FLYING	DACTYLOPTERUS VOLITANS
879103130100	**HADDOCK**	MELANOGRAMMUS AEGLEFINUS
860601010100	**HAGFISH,** BLACK	EPTATRETUS DEANI
	HAKE,	
879103100600	CAROLINA	UROPHYCIS EARLLI
879103100500	GULF	UROPHYCIS CIRRATA
879103160100	LONGFIN	UROPHYCIS CHESTERI
879104020100	LUMINOUS	STEINDACHNERIA ARGENTEA
879104010200	PACIFIC	MERLUCCIUS PRODUCTUS
879103100100	RED	UROPHYCIS CHUSS
879104010100	SILVER	MERLUCCIUS BILINEARIS
879103100700	SOUTHERN	UROPHYCIS FLORIDANA
879103100200	SPOTTED	UROPHYCIS REGIA
879103100300	WHITE	UROPHYCIS TENUIS
	HALFBEAK,	
880301030400	CALIFORNIA	HYPORHAMPHUS ROSAE
880301060100	FLYING	EULEPTORHAMPHUS VELOX
880301040100	HARDHEAD	CHRIODORUS ATHERINOIDES
880301020400	LONGFIN	HEMIRAMPHUS SALTATOR
880301060200	RIBBON	EULEPTORHAMPHUS VIRIDIS
880301030100	SILVERSTRIPE	HYPORHAMPHUS UNIFASCIATUS
883551040100	**HALFMOON**	MEDIALUNA CALIFORNIENSIS
	HALIBUT,	
885704190200	ATLANTIC	HIPPOGLOSSUS HIPPOGLOSSUS
885703030900	CALIFORNIA	PARALICHTHYS CALIFORNICUS
885704180100	GREENLAND	REINHARDTIUS HIPPOGLOSSOIDES
885704190100	PACIFIC	HIPPOGLOSSUS STENOLEPIS
883102030500	**HAMECON**	ARTEDIELLUS SCABER
	HAMLET,	
883502130100	BUTTER	HYPOPLECTRUS UNICOLOR
883502060100	MUTTON	EPINEPHELUS AFER
	HAMMERHEAD,	
870803010400	GREAT	SPHYRNA MOKARRAN
870803010300	SCALLOPED	SPHYRNA LEWINI
870803010500	SMALLEYE	SPHYRNA TUDES
870803010200	SMOOTH	SPHYRNA ZYGAENA
885103010600	**HARVESTFISH**	PEPRILUS ALEPIDOTUS
883564010100	**HAWKFISH,** REDSPOTTED	AMBLYCIRRHITUS PINOS
876214020100	**HEADLIGHTFISH,** CALIFORNIA	DIAPHUS THETA
	HERRING,	
874701020100	ATLANTIC	CLUPEA HARENGUS
874701070100	ATLANTIC THREAD	OPISTHONEMA OGLINUM

874701010200	BLUEBACK	ALOSA AESTIVALIS
874701090100	DWARF	JENKINSIA LAMPROTAENIA
874701080500	FLATIRON	HARENGULA THRISSINA
874701090200	LITTLE EYE	JENKINSIA MAJUA
874701070400	MIDDLING THREAD	OPISTHONEMA MEDIRASTRE
874701020100	PACIFIC	CLUPEA PALLASI
874701060100	ROUND	ETRUMEUS TERES
874701010600	SKIPJACK	ALOSA CHRYSOCHLORIS
883544120100	**HIGH-HAT**	EQUETUS ACUMINATUS
	HIND,	
883502040600	RED	EPINEPHELUS GUTTATUS
883502040200	ROCK	EPINEPHELUS ADSCENSIONIS
883502040400	SPECKLED	EPINEPHELUS DRUMMONDHAYI
885801010100	**HOGCHOKER**	TRINECTES MACULATUS
	HOGFISH,	
883901090100	COMMON	LANCHNOLAIMUS MAXIMUS
883901050100	RED	DECODON PUELLARIS
883901030200	SPANISH	BODIANUS RUFUS
883901030100	SPOTFIN	BODIANUS PULCHELLUS
880302030200	**HOUNDFISH**	TYLOSURUS CROCODILUS
	IRISH LORD,	
883102140500	BROWN	HEMILEPIDOTUS SPINOSUS
883102140200	RED	HEMILEPIDOTUS HEMILEPIDOTUS
883102140300	YELLOW	HEMILEPIDOTUS JORDANI
	JACK,	
883528080300	ALMACO	SERIOLA RIVOLIANA
883528030800	BAR	CARANX RUBER
883528030700	BLACK	CARANX LUGUBRIS
883528140100	BLUNTNOSE	HEMICRANX AMBLYRHYNCHUS
883528170100	COTTONMOUTH	URASPIS SECUNDA
883528030300	CREVALLE	CARANX HIPPOS
883528030500	GREEN	CARANX CABALLUS
883528030400	HORSE-EYE	CARANX LATUS
883528030100	YELLOW	CARANX BARTHOLOMAEI
880502060100	**JACKSMELT**	ATHERINOPSIS CALIFORNIENSIS
886001030100	**JAMBEAU**	PARAHOLLARDIA LINEATA
	JAWFISH,	
884002020500	BANDED	OPISTOGNATHUS MACROGNATHUS
884002020700	DUSKY	OPISTOGNATHUS WHITEHURSTI
884002020200	MOTTLED	OPISTOGNATHUS MAXILLOSUS
884002020100	MOUSTACHE	OPISTOGNATHUS LONCHURUS
884002010200	SWORDTAIL	LONCHOPISTHUS MICROGNATHUS
884002020300	YELLOWHEAD	OPISTOGNATHUS AURIFRONS
883539010200	**JENNY**, SILVER	EUCINOSTOMUS GULA
883502040100	**JEWFISH**	EPINEPHELUS ITAJARA
885003010300	**KAWAKAWA**	EUTHYNNUS AFFINIS
	KELPFISH,	
884209010200	CREVICE	GIBBONSIA MONTEREYENSIS
884209505000	GIANT	HETEROSTICHUS ROSTRATUS
884209090100	ISLAND	ALLOCLINUS HOLDERI
884209010300	SPOTTED	GIBBONSIA ELEGANS
884209010100	STRIPED	GIBBONSIA METZI
	KILLIFISH,	
880404021200	BAYOU	FUNDULUS PULVEREUS
880404040100	DIAMOND	ADINIA XENICA
880404050100	GOLDSPOTTED	FLORIDICHTHYS CARPIO
880404020700	GULF	FUNDULUS GRANDIS
880404020100	MARSH	FUNDULUS CONFLUENTUS
880404030100	RAINWATER	LUCANIA PARVA
880404020400	SPOTFIN	FUNDULUS LUCIAE
880404020500	STRIPED	FUNDULUS MAJALIS
	KINGFISH,	
883544060200	GULF	MENTICIRRHUS LITTORALIS
883544060300	NORTHERN	MENTICIRRHUS SAXATILIS

883544060100	SOUTHERN	MENTICIRRHUS AMERICANUS
873801010100	**LADYFISH**	ELOPS SAURUS
	LAMPFISH,	
876214080200	DIOGENES	DIOGENYS LATERNATUS
876214010100	DOGTOOTH	CERATOSCOPELUS TOWNSENDI
876214240100	MEXICAN	TRIPHOTURUS MEXICANUS
876214050100	NORTHERN	STENOBRACHIUS LEUCOPSARUS
876214040100	PATCHWORK	NOTOSCOPELUS RESPLENDENS
876214030200	PINPOINT	LAMPANYCTUS REGALIS
	LAMPREY,	
860301020300	ARCTIC	LAMPETRA JAPONICA
860301010100	PACIFIC	LAMPETRA TRIDENTATA
860301030100	SEA	PETROMYZON MARINUS
	LANCETFISH,	
876209010200	LONGNOSE	ALEPISAURUS FEROX
876209010300	SHORTNOSE	ALEPISAURUS BREVIROSTRIS
876214070100	**LANTERNFISH,** BLUE	TARLETONBEANIA CRENULARIS
883528050100	**LEATHERJACK**	OLIGOPLITES SAURUS
875901060100	**LIGHTFISH,** STAREYE	POLLICHTHYS MAULI
882701020100	**LINGCOD**	OPHIODON ELONGATUS
883601010400	**LIZA**	MUGIL LIZA
	LIZARDFISH,	
876202010300	CALIFORNIA	SYNODUS LUCIOCEPS
876202010100	INSHORE	SYNODUS FOETENS
876202030100	LARGESCALE	SAURIDA BRASILIENSIS
876202010400	OFFSHORE	SYNODUS POEYI
876202010600	RED	SYNODUS SYNODUS
876202030300	SHORTJAW	SAURIDA NORMANI
876202030200	SMALLSCALE	SAURIDA CARIBBAEA
883528070100	**LOOKDOWN**	SELENE VOMER
885005010100	**LOUVAR**	LUVARUS IMPERIALIS
883109150100	**LUMPFISH**	CYCLOPTERUS LUMPUS
	LUMPSUCKER,	
883109050800	ATLANTIC SPINY	EUMICROTREMUS SPINOSUS
883109040500	ARCTIC	CYCLOPTEROPSIS MACALPINI
883109050400	LEATHERFIN	EUMICROTREMUS DERJUGINI
883109050600	PACIFIC SPINY	EUMICROTREMUS ORBIS
883109050100	PIMPLED	EUMICROTREMUS ANDRIASHEVI
883109010100	SMOOTH	APTOCYCLUS VENTRICOSUS
873801010200	**MACHETE**	ELOPS AFFINIS
	MACKEREL,	
882701050100	ATKA	PLEUROGRAMMUS MONOPTERYGIUS
885003030200	ATLANTIC	SCOMBER SCOMBRUS
885003070100	BULLET	AUXIS ROCHEI
885003030100	CHUB	SCOMBER JAPONICUS
885003070200	FRIGATE	AUXIS THAZARD
883528010100	JACK	TRACHURUS SYMMETRICUS
885003050100	KING	SCOMBEROMORUS CAVALLA
885001020100	SNAKE	GEMPYLUS SERPENS
885003050200	SPANISH	SCOMBEROMORUS MACULATUS
870704050100	**MAKO,** SHORTFIN	ISURUS OXYRINCHUS
871308010100	**MANTA**	MANTA BIROSTRIS
	MARGATE,	
883540030400	BLACK	ANISOTREMUS SURINAMENSIS
883540010300	COMMON	HAEMULON ALBUM
	MARLIN,	
885006020200	BLACK	MAKAIRA INDICA
885006020100	BLUE	MAKAIRA NIGRICANS
885006030100	WHITE	TETRAPTURUS ALBIDUS
879401080200	**MARLIN-SPIKE**	NEZUMIA BAIRDI
885101010100	**MEDUSAFISH**	ICICHTHYS LOCKINGTONI
	MENHADEN,	
874701040100	ATLANTIC	BREVOORTIA TYRANNUS
874701040200	FINESCALE	BREVOORTIA GUNTERI

874701040300	GULF	BREVOORTIA PATRONUS
874701040400	YELLOWFIN	BREVOORTIA SMITHI
	MIDSHIPMAN,	
878301010600	ATLANTIC	PORICHTHYS PLECTRODON
878301010100	PLAINFIN	PORICHTHYS NOTATUS
878301010700	SPECKLEFIN	PORICHTHYS MYRIASTER
880404010100	**MINNOW,** SHEEPSHEAD	CYPRINODON VARIEGATUS
	MOBULA,	
871308020400	SMOOTHTAIL	MOBULA THURSTONI
871308020300	SPINETAIL	MOBULA JAPANICA
	MOJARRA,	
883539010800	BIGEYE	EUCINOSTOMUS HAVANA
883539010500	FLAGFIN	EUCINOSTOMUS MELANOPTERUS
883539010400	MOTTLED	EUCINOSTOMUS LEFROYI
883539010700	PACIFIC FLAGFIN	EUCINOSTOMUS GRACILIS
883539010600	SLENDER	EUCINOSTOMUS JONESI
883539010100	SPOTFIN	EUCINOSTOMUS ARGENTEUS
883539020300	STRIPED	DIAPTERUS PLUMIERI
883539030100	YELLOWFIN	GERRES CINEREUS
	MOLA,	
886104010200	SHARPTAIL	MOLA LANCEOLATA
886104020100	SLENDER	RANZANIA LAEVIS
880408020100	**MOLLY,** SAILFIN	POECILIA LATIPINNA
884201010200	**MOLLY MILLER**	SCARTELLA CRISTATA
	MOONFISH,	
883528100100	ATLANTIC	SELENE SETAPINNIS
883528100200	PACIFIC	SELENE PERUVIANA
	MORAY,	
874105040400	BLACKEDGE	GYMNOTHORAX NIGROMARGINATUS
874105040900	CALIFORNIA	GYMNOTHORAX MORDAX
874105020100	CHAIN	ECHIDNA CATENATA
874104020100	FALSE	KAUPICHTHYS HYOPOROIDES
874105050100	GOLDENTAIL	MURAENA MILARIS
874105040100	GREEN	GYMNOTHORAX FUNEBRIS
874105070200	MARBLED	UROPTERYGIUS MACULARIUS
874105040800	PURPLEMOUTH	GYMNOTHORAX VICINUS
874105010100	PYGMY	ANARCHIAS SIMILIS
874105050200	RETICULATE	MURAENA RETIFERA
874105040300	SPOTTED	GYMNOTHORAX MORINGA
874105030100	VIPER	ECHELYCORE NIGRICANS
880408010100	**MOSQUITOFISH,** WESTERN	GAMBUSIA AFFINIS
	MULLET,	
883601010500	FANTAIL	MUGIL GYRANS
883601040100	MOUNTAIN	AGONOSTOMUS MONTICOLA
883601010300	REDEYE	MUGIL GAIMARDIANUS
883601010100	STRIPED	MUGIL CEPHALUS
883601010200	WHITE	MUGIL CUREMA
880404020300	**MUMMICHOG**	FUNDULUS HETEROCLITUS
875801010400	**MUSKELLUNGE**	ESOX MASQUINONGY
	NEEDLEFISH,	
880302020100	ATLANTIC	STRONGYLURA MARINA
880302020400	CALIFORNIA	STRONGYLURA EXILIS
880302010100	FLAT	ABLENNES HIANS
880302040100	KEELTAIL	PLATYBELONE ARGALUS
880302020200	REDFIN	STRONGYLURA NOTATA
881503010100	**OARFISH**	REGALECUS GLESNE
885001040100	**OILFISH**	RUVETTUS PRETIOSUS
881301010100	**OPAH**	LAMPRIS GUTTATUS
883551020100	**OPALEYE**	GIRELLA NIGRICANS
883528090300	**PALOMETA**	TRACHINOTUS GOODEI
	PARROTFISH,	
883903010100	BLUE	SCARUS COERULEUS
883903020100	BLUELIP	CRYPTOTOMUS ROSEUS
883903040400	BUCKTOOTH	SPARISOMA RADIANS

883903030100	EMERALD	NICHOLSINA USTA
883903040100	GREENBLOTCH	SPARISOMA ATOMARIUM
883903010200	MIDNIGHT	SCARUS COELESTINUS
883903010500	PRINCESS	SCARUS TAENIOPTERUS
883903010600	QUEEN	SCARUS VETULA
883903010400	RAINBOW	SCARUS GUACAMAIA
883903040200	REDBAND	SPARISOMA AUROFRENATUM
883903040500	REDFIN	SPARISOMA RUBRIPINNE
883903040300	REDTAIL	SPARISOMA CHRYSOPTERUM
883903040600	STOPLIGHT	SPARISOMA VIRIDE
883903010300	STRIPED	SCARUS CROICENSIS
876212010100	**PEARLEYE**, NORTHERN	BENTHALBELLA DENTATA
879202010100	**PEARLFISH**	CARAPUS BERMUDENSIS
	PERCH,	
883560030200	BLACK	EMBIOTOCA JACKSONI
883560100200	DWARF	MICROMETRUS MINIMUS
883502100500	DWARF SAND	DIPLECTRUM BIVITTATUM
883560010100	KELP	BRACHYISTIUS FRENATUS
882601010200	PACIFIC OCEAN	SEBASTES ALUTUS
883560060100	PILE	RHACOCHILUS VACCA
883560100100	REEF	MICROMETRUS AURORA
883502100200	SAND	DIPLECTRUM FORMOSUM
883560020100	SHINER	CYMATOGASTER AGGREGATA
883544030100	SILVER	BAIRDIELLA CHRYSOURA
883502010100	WHITE	MORONE AMERICANA
883520020100	YELLOW	PERCA FLAVESCENS
883551030100	ZEBRA	HERMOSILLA AZUREA
883528090200	**PERMIT**	TRACHINOTUS FALCATUS
875801010300	**PICKEREL**, CHAIN	ESOX NIGER
883540020100	**PIGFISH**	ORTHOPRISTIS CHRYSOPTERA
875801010100	**PIKE**, NORTHERN	ESOX LUCIUS
	PIKEBLENNY,	
884209515000	BLUETHROAT	CHAENOPSIS OCELLATA
884209100100	ORANGETHROAT	CHAENOPSIS ALEPIDOTA
874701080100	**PILCHARD**, FALSE	HARENGULA CLUPEOLA
883528150100	**PILOTFISH**	NAUCRATES DUCTOR
	PINFISH,	
883543020100	COMMON	LAGODON RHOMBOIDES
883543040100	SPOTTAIL	DIPLODUS HOLBROOKI
	PIPEFISH,	
882002050200	BANDED	MICROGNATHUS CRINITUS
882002011000	BARRED	SYNGNATHUS AULISCUS
882002010100	BAY	SYNGNATHUS LEPTORHYNCHUS
882002010400	CHAIN	SNYGNATHUS LOUISIANAE
882002040300	CRESTED	COSMOCAMPUS BRACHYCEPHALUS
882002040200	DEEPWATER	COSMOCAMPUS PROFUNDUS
882002010200	DUSKY	SYNGATHUS FLORIDAE
882002011200	DWARF	COSMOCAMPUS HILDEBRANDI
882002050300	FRINGED	ARCHANOPTERUS CRINIGER
882002011300	GULF	SYNGNATHUS SCOVELLI
882002050100	INSULAR	ANARCHOPTERUS TECTUS
882002011100	KELP	SYNGNATHUS CALIFORNIENSIS
882002010300	NORTHERN	SYNGNATHUS FUSCUS
882002070100	OPOSSUM	MICROPHIS BRACHYURUS
882002010500	PUGNOSE	BRYX DUNCKERI
882002010800	SARGASSUM	ONYGNATHUS PELAGICUS
882002010600	SHORTFIN	COSMOCAMPUS ELUCENS
882002040100	WHITENOSE	COSMOCAMPUS ALBIROSTRIS
885704150100	**PLAICE**, ALASKA	PLEURONECTES QUADRITUBERCULATU
	POACHER,	
883108080100	ATLANTIC	LEPTAGONUS DECAGONUS
883108090100	BERING	OCCELLA DODECAEDRON
883108040300	BIGEYE	BATHYAGONUS PENTACANTHUS
883108050100	BLACKFIN	BATHYAGONUS NIGRIPINNIS

883108130100	BLACKTIP	XENERETMUS LATIFRONS
883108130200	BLUESPOTTED	XENERETMUS TRIACANTHUS
883108070100	FOURHORN	HYPSAGONUS QUADRICORNIS
883108010100	NORTHERN SPEARNOSE	AGONOPSIS VULSA
883108150100	PRICKLEBREAST	STELLERINA XYOSTERNA
883108100100	PYGMY	ODONTOPYXIS TRISPINOSA
883108010200	SOUTHERN SPEARNOSE	AGONOPSIS STERLETUS
883108080200	STURGEON	PODOTHECUS ACIPENSERINUS
883108110100	TUBENOSE	PALLASINA BARBATA
883108090300	WARTY	OCCELLA VERRUCOSA
	POLLACK,	
879103090100	COMMON	POLLACHIUS VIRENS
879103070100	WALLEYE	THERAGRA CHALCOGRAMMA
	POMFRET,	
883571010200	ATLANTIC	BRAMA BRAMA
883571040100	BIGSCALE	TARATICHTHYS LONGIPINNIS
883571010400	CARIBBEAN	BRAMA CARIBBEA
883571010300	LOWFIN	BRAMA DUSSUMIERI
883571010100	PACIFIC	BRAMA JAPONICA
	POMPANO,	
883528020200	AFRICAN	ALECTIS CILIARIS
883528090100	FLORIDA	TRACHINOTUS CAROLINUS
883528090800	GAFFTOPSAIL	TRACHINOTUS RHODOPUS
883539020100	IRISH	DIAPTERUS AURATUS
885103010100	PACIFIC	PEPRILUS SIMILLIMUS
883528090700	PALOMA	TRACHINOTUS PAITENSIS
870704030200	**PORBEAGLE**	LAMNA NASUS
886103020100	**PORCUPINEFISH**	DIODON HYSTRIX
	PORGY,	
883543050100	GRASS	CALAMUS ARCTIFRONS
883543050200	JOLTHEAD	CALAMUS BAJONADO
883543050600	KNOBBED	CALAMUS NODOSUS
883543050800	LITTLEHEAD	CALAMUS PRORIDENS
883543010200	LONGSPINE	STENOTOMUS CAPRINUS
883543050900	PACIFIC	CALAMUS BRACHYSOMUS
883543060200	RED	PAGRUS PAGRUS
883543050300	SAUCEREYE	CALAMUS CALAMUS
883543050700	SHEEPSHEAD	CALAMUS PENNA
883543040200	SILVER	DIPLODUS ARGENTEUS
883543050500	WHITEBONE	CALAMUS LEUCOSTEUS
883540030600	**PORKFISH**	ANISOTREMUS VIRGINICUS
879301160100	**POUT,** OCEAN	MACROZOARCES AMERICANUS
	PRICKLEBACK,	
884212140100	BLACK	XIPHISTER ATROPURPUREUS
884212110100	BLUEBARRED	PLECTOBRANCHUS EVIDES
884212020100	LESSER	ALECTRIDIUM AURANTIACUM
884212080100	LONGSNOUT	LUMPENELLA LONGIROSTRIS
884212220100	MONKEYFACE	CEBIDICHTHYS VIOLACEUS
884212060100	NUTCRACKER	BRYOZOICHTHYS LYSIMUS
884212010100	PIGHEAD	ACANTHOLUMPENUS MACKAYI
884212100100	RIBBON	PHYTICHTHYS CHIRUS
884212140200	ROCK	XIPHISTER MUCOSUS
884212090200	SNAKE	LUMPENUS SAGITTA
884212070100	TRIDENT	GYMNOCLINUS CRISTULATUS
884212120100	WHITEBARRED	POROCLINUS ROTHROCKI
884212030100	Y-	ALLOLUMPENUS HYPOCHROMUS
884215010100	**PROWFISH**	ZAPRORA SILENUS
883901070900	**PUDDINGWIFE**	HALICHOERES RADIATUS
	PUFFER,	
886101021100	BANDTAIL	SPHOEROIDES SPENGLERI
886101020900	BLUNTHEAD	SPHOEROIDES PACHYGASTER
886101020300	BULLSEYE	SPHOEROIDES ANNULATUS
886101020200	CHECKERED	SPHOEROIDES TESTUDINEUS
886101021000	LEAST	SPHOEROIDES PARVUS

886101020500	MARBLED	SPHOEROIDES DORSALIS
886101020100	NORTHERN	SPHOEROIDES MACULATUS
886101010000	OCEANIC	LAGOCEPHALUS LAGOCEPHALUS
886101535700	SHARPNOSE	CANTHGASTER ROSTRATA
886101010100	SMOOTH	LAGOCEPHALUS LAEVIGATUS
886101020800	SOUTHERN	SPHOEROIDES NEPHELUS
883516050500	**PUMPKINSEED**	LEPOMIS GIBBOSUS
883544250100	**QUEENFISH**	SERIPHUS POLITUS
884211010100	**QUILLFISH**	PTILICHTHYS GOODEI
885102010100	**RAG**, SILVER	ARIOMMA BONDI
884301010100	**RAGFISH**	ICOSTEUS AENAGMATICUS
871602010100	**RATFISH**, SPOTTED	HYDROLAGUS COLLIEI
	RAY,	
871307020200	BAT	MYLIOBATIS CALIFORNICA
871307020100	BULLNOSE	MYLIOBATIS FREMINVILLEI
871305020300	CALIFORNIA BUTTERFLY	GYMNURA MARMORATA
871307030100	COWNOSE	RHINOPTERA BONASUS
871308020200	DEVIL	MOBULA HYPOSTOMA
871303040100	LESSER ELECTRIC	NARCINE BRASILIENSIS
871303010100	PACIFIC ELECTRIC	TORPEDO CALIFORNICA
871305020200	SMOOTH BUTTERFLY	GYMNURA MICRURA
871307020300	SOUTHERN EAGLE	MYLIOBATIS GOODEI
871305020100	SPINY BUTTERFLY	GYMNURA ALTAVELA
871307010100	SPOTTED EAGLE	AETOBATUS NARINARI
	RAZORFISH,	
883901080400	GREEN	HEMIPTERONOTUS SPLENDENS
883901080200	PEARLY	HEMIPTERONOTUS NOVACULA
883901080100	ROSY	HEMIPTERONOTUS MARTINICENSIS
	REDFISH,	
882601015100	DEEPWATER	SEBASTES MENTELLA
882601013900	GOLDEN	SEBASTES NORVEGICUS
	REEFFISH,	
883562030700	PURPLE	CHROMIS SCOTTI
883562030200	YELLOWTAIL	CHROMIS ENCHRYSURUS
	REMORA,	
883527010300	COMMON	REMORA REMORA
883527010400	SPEARFISH	REMORA BRACHYPTERA
	RIBBONFISH,	
881502020100	POLKA-DOT	DESMODEMA POLYSTICTUM
881502030100	SCALLOPED	ZU CRISTATUS
881502010300	TAPERTAIL	TRACHIPTERUS FUKUZAKII
	ROCKFISH,	
882601010400	AURORA	SEBASTES AURORA
882601015600	BANK	SEBASTES RUFUS
882601012100	BLACK	SEBASTES MELANOPS
882601014000	BLACK-AND-YELLOW	SEBASTES CHRYSOMELAS
882601012400	BLUE	SEBASTES MYSTINUS
882601014700	BRONZESPOTTED	SEBASTES GILLI
882601010300	BROWN	SEBASTES AURICULATUS
882601014500	CALICO	SEBASTES DALLI
882601012800	CANARY	SEBASTES PINNIGER
882601015300	CHAMELEON	SEBASTES PHILLIPSI
882601011700	CHILIPEPPER	SEBASTES GOODEI
882601012500	CHINA	SEBASTES NEBULOSUS
882601010800	COPPER	SEBASTES CAURINUS
882601011000	DARKBLOTCHED	SEBASTES CRAMERI
882601010900	DUSKY	SEBASTES CILIATUS
882601016400	FRECKLED	SEBASTES LENTIGINOSUS
882601016200	GOPHER	SEBASTES CARNATUS
882601015400	GRASS	SEBASTES RASTRELLIGER
882601016600	GREENBLOTCHED	SEBASTES ROSENBLATTI
882601014300	GREENSPOTTED	SEBASTES CHLOROSTICTUS
882601011200	GREENSTRIPED	SEBASTES ELONGATUS
882601015700	HALFBANDED	SEBASTES SEMICINCTUS

882601016000	HONEYCOMB	SEBASTES UMBROSUS
882601014200	KELP	SEBASTES ATROVIRENS
882601015000	MEXICAN	SEBASTES MACDONALDI
882601012900	NORTHERN	SEBASTES POLYSPINIS
882601015800	OLIVE	SEBASTES SERRANOIDES
882601014600	PINK	SEBASTES EOS
882601016500	PINKROSE	SEBASTES SIMULATOR
882601011300	PUGET SOUND	SEBASTES EMPHAEUS
882601013700	PYGMY	SEBASTES WILSONI
882601012000	QUILLBACK	SEBASTES MALIGER
882601010500	REDBANDED	SEBASTES BABCOCKI
882601013000	REDSTRIPE	SEBASTES PRORIGER
882601011800	ROSETHORN	SEBASTES HELVOMACULATUS
882601013200	ROSY	SEBASTES ROSACEUS
882601010100	ROUGHEYE	SEBASTES ALEUTIANUS
882601013800	SHARPCHIN	SEBASTES ZACENTRUS
882601011900	SHORTBELLY	SEBASTES JORDANI
882601010700	SHORTRAKER	SEBASTES BOREALIS
882601010600	SILVERGRAY	SEBASTES BREVISPINIS
882601015200	SPECKLED	SEBASTES OVALIS
882601011100	SPLITNOSE	SEBASTES DIPLOPROA
882601014800	SQUARESPOTTED	SEBASTES HOPKINSI
882601014400	STARRY	SEBASTES CONSTELLATUS
882601013500	STRIPETAIL	SEBASTES SAXICOLA
882601016300	SWORDSPINE	SEBASTES ENSIFER
882601012600	TIGER	SEBASTES NIGROCINCTUS
882601012300	VERMILION	SEBASTES MINIATUS
882601011400	WIDOW	SEBASTES ENTOMELAS
882601013400	YELLOWEYE	SEBASTES RUBERRIMUS
882601013100	YELLOWMOUTH	SEBASTES REEDI
882601011500	YELLOWTAIL	SEBASTES FLAVIDUS
883108060100	**ROCKHEAD**	BOTHRAGONUS SWANI
879103150100	**ROCKLING**, FOURBEARD	ENCHELYOPUS CIMBRIUS
	RONQUIL,	
884003010100	ALASKAN	BATHYMASTER CAERULEOFASCIATUS
884003020100	NORTHERN	RONQILUS JORDANI
884003010200	SMALLMOUTH	BATHYMASTER LEUROLEPIS
884003030200	STRIPEDFIN	RATHBUNELLA HYPOPLECTA
883528160100	**ROOSTERFISH**	NEMATISTIUS PECTORALIS
882601030100	**ROSEFISH**, BLACKBELLY	HELICOLENUS DACTYLOPTERUS
883528080400	**RUDDERFISH**, BANDED	SERIOLA ZONATA
	RUNNER,	
883528030600	BLUE	CARANX CRYSOS
883528130100	RAINBOW	ELEGATIS BIPINNULATUS
882702010100	**SABLEFISH**	ANOPLOPOMA FIMBRIA
885006010100	**SAILFISH**	ISTIOPHORUS PLATYPTERUS
883540011700	**SAILORS CHOICE**	HAEMULON PARRA
883540100100	**SALEMA**	XENISTIUS CALIFORNIENSIS
	SALMON,	
875501030500	ATLANTIC	SALMO SALAR
875501020600	CHINOOK	ONCORHYNCHUS TSHAWYTSCHA
875501020200	CHUM	ONCORHYNCHUS KETA
875501020300	COHO	ONCORHYNCHUS KISUTCH
881502010100	KING	TRACHIPTERUS ALTIVELIS
875501020100	PINK	ONCORHYNCHUS GORBUSCHA
875501020500	SOCKEYE	ONCORHYNCHUS NERKA
	SAND BASS,	
883502160400	BARRED	PARALABRAX NEBULIFER
883544010100	WHITE	ATRACTOSCION NOBILIS
	SAND LANCE,	
884501010200	AMERICAN	AMMODYTES AMERICANUS
884501010300	NORTHERN	AMMODYTES DUBIUS
884501010100	PACIFIC	AMMODYTES HEXAPTERUS
870703010100	**SAND TIGER**	ODONTASPIS TAURUS

	SANDAB,	
885703011100	LONGFIN	CITHARICHTHYS XANTHOSTIGMA
885703010100	PACIFIC	CITHARICHTHYS SORDIDUS
885703010200	SPECKLED	CITHARICHTHYS STIGMAEUS
	SANDFISH,	
883502230900	BELTED	SERRANUS SUBLIGARIUS
884001020100	PACIFIC	TRICHODON TRICHODON
884001010100	SAILFIN	ARCTOSCOPUS JAPONICUS
	SARDINE,	
874701100200	ORANGESPOT	SARDINELLA BRASILIENSIS
874701030100	PACIFIC	SARDINOPS SAGAX
874701080200	REDEAR	HARENGULA HUMERALIS
874701080400	SCALED	HARENGULA JAGUANA
874701100300	SPANISH	SARDINELLA AURITA
878702010100	**SARGASSUMFISH**	HISTRIO HISTRIO
	SARGENT,	
883562010100	MAJOR	ABUDEFDUF SAXATILIS
883562010200	NIGHT	ABUDEFDUF TAURUS
883540030700	**SARGO**	ANISOTREMUS DAVIDSONI
883520040200	**SAUGER**	STIZOSTEDION CANADENSE
	SAURY,	
880303020100	ATLANTIC	SCOMBERESOX SAURUS
880303010100	PACIFIC	COLOLABIS SAIRA
	SAWFISH,	
871301010200	LARGETOOTH	PRISTIS PRISTIS
871301010100	SMALLTOOTH	PRISTIS PECTINATA
	SCABBARDFISH,	
885002040200	PACIFIC	LEPIDOPUS FITCHI
885002060100	RAZORBACK	ASSURGER ANZAC
	SCAD,	
883528060100	BIGEYE	SELAR CRUMENOPHTHALMUS
883528120100	MACKEREL	DECAPTERUS MACARELLUS
883528120400	MEXICAN	DECAPTERUS SCOMBRINUS
883528120300	REDTAIL	DECAPTERUS TABL
883528010200	ROUGH	TRACHURUS LATHAMI
883528120200	ROUND	DECAPTERUS PUNCTATUS
883502050500	**SCAMP**	MYCTEROPERCA PHENAX
883536010400	**SCHOOLMASTER**	LUTJANUS APODUS
	SCORPIONFISH,	
882601061600	CALIFORNIA	SCORPAENA GUTTATA
882601060200	CORAL	SCORPAENA ALBIFIMBRIA
882601120200	DEEPREEF	SCORPAENODES TREDECIMSPINOSUS
882601060800	DWARF	SCORPAENA ELACHYS
882601060300	GOOSEHEAD	SCORPAENA BERGI
882601050500	HIGHFIN	PONTINUS RATHBUNI
882601060700	HUNCHBACK	SCORPAENA DISPAR
882601060100	LONGFIN	SCORPAENA AGASSIZI
882601050100	LONGSNOUT	PONTINUS CASTOR
882601050300	LONGSPINE	PONTINUS LONGISPINIS
882601061000	MUSHROOM	SCORPAENA INERMIS
882601060900	PLUMED	SCORPAENA GRANDICORNIS
882601120300	RAINBOW	SCORPAENODES XYRIS
882601120100	REEF	SCORPAENODES CARIBBAEUS
882601060400	SHORTFIN	SCORPAENA BRACHYPTERA
882601060600	SMOOTHHEAD	SCORPAENA CALCARATA
882601040200	SPINYCHEEK	NEOMERINTHE HEMINGWAYI
882601050600	SPINYTHROAT	PONTINUS NEMATOPHTHALMUS
882601061400	SPOTTED	SCORPAENA PLUMIERI
	SCULPIN,	
883102100200	ANTLERED	ENOPHRYS DICERAUS
883102320200	ARCHED	SIGMISTES SMITHI
883102030600	ARCTIC HOOKEAR	ARTEDIELLUS UNCINATUS
883102220600	ARCTIC	MYOXOCEPHALUS SCORPIOIDES
883102130200	ARMORHEAD	GYMNOCANTHUS GALEATUS

883102030700	ATLANTIC HOOKEAR	ARTEDIELLUS ATLANTICUS
883102130400	ARCTIC STAGHORN	GYMNOCANTHUS TRICUSPIS
883102070500	BALD	CLINOCOTTUS RECALVUS
883102200100	BELLIGERENT	MEGALOCOTTUS PLATYCEPHALUS
883102380800	BIGEYE	TRIGLOPS NYBELINI
883102150200	BIGMOUTH	HEMITRIPTERUS BOLINI
883102190100	BLACKFIN	MALACOCOTTUS KINCAIDI
883102040500	BONEHEAD	ARTEDIUS NOTOSPILOTUS
883102210100	BRIGHTBELLY	MICROCOTTUS SELLARIS
883102100100	BUFFALO	ENOPHRYS BISON
883102100400	BULL	ENOPHRYS TAURINA
883102440100	BUTTERFLY	HEMILEPIDOTUS PAPILIO
883102070200	CALICO	CLINOCOTTUS EMBRYUM
883102080100	COASTRANGE	COTTUS ALEUTICUS
883102040600	CORRALLINE	ARTEDIUS CORALLINUS
883102060100	CRESTED	BLEPSIAS BILOBUS
883102290200	DARTER	RADULINUS BOLEOIDES
883102160200	DUSKY	ICELINUS BURCHAMI
883102230200	EYESHADE	NAUTICHTHYS PRIBILOVIUS
883102240300	FLUFFY	OLIGOCOTTUS SNYDERI
883102220500	FOURHORN	MYOXOCEPHALUS QUADRICORNIS
883102160700	FRINGED	ICELINUS FIMBRIATUS
883102160500	FROGMOUTH	ICELINUS OCULATUS
883102220400	GREAT	MYOXOCEPHALUS POLYACANTHOCEPHA
883102300100	GRUNT	RHAMPHOCOTTUS RICHARDSONI
883102320100	KELP	SIGMISTES CAULIAS
883102430100	LAVENDER	LEIOCOTTUS HIRUNDO
883102100300	LEISTER	ENOPHRYS LUCASI
883102420100	LONGFIN	JORDANIA ZONOPE
883102220900	LONGHORN	MYOXOCEPHALUS OCTODECEMSPINOSU
883102360100	MANACLED	SYNCHIRUS GILLI
883102070300	MOSSHEAD	CLINOCOTTUS GLOPICEPS
883102380700	MOUSTACHE	TRIGLOPS MURRAYI
883102160100	NORTHERN	ICELINUS BOREALIS
883102180100	PACIFIC STAGHORN	LEPTOCOTTUS ARMATUS
883102040100	PADDED	ARTEDIUS FENESTRALIS
883102160600	PIT-HEAD	ICELINUS CAVIFRONS
883102220100	PLAIN	MYOXOCEPHALUS JAOK
883102080300	PRICKLY	COTTUS ASPER
883102040400	PUGET SOUND	RUSCARIUS MEANYI
883102380500	RIBBED	TRIGLOPS PINGELI
883102050100	ROSYLIP	ASCELICHTHYS RHODORUS
883102400100	ROUGHBACK	CHITONOTUS PUGETTENSIS
883102040700	ROUGHCHEEK	RUSCARIUS CREASERI
883102380300	ROUGHSPINE	TRIGLOPS MACELLUS
883102240200	SADDLEBACK	OLIGOCOTTUS RIMENSIS
883102230100	SAILFIN	NAUTICHTHYS OCULOFASCIATUS
883102010100	SCALED	ARCHAULUS BISERIATUS
883102040200	SCALYHEAD	ARTEDIUS HARRINGTONI
883102380100	SCISSORTAIL	TRIGLOPS FORFICATUS
883102070100	SHARPNOSE	CLINOCOTTUS ACUTICEPS
883102220700	SHORTHORN	MYOXOCEPHALUS SCORPIUS
883102060200	SILVER SPOTTED	BLEPSIAS CIRRHOSUS
883102290100	SLIM	RADULINUS ASPRELLUS
883102290300	SMOOTHGUM	RADULINUS VINCULUS
883102040300	SMOOTHHEAD	ARTEDIUS LATERALIS
883102450100	SNUBNOSE	ORTHONOPIAS TRIACIS
883107030100	SOFT	PSYCHROLUTES SIGALUTES
883101010500	SPATULATE	ICELUS SPATULA
883102380600	SPECTACLED	TRIGLOPS SCEPTICUS
883102260100	SPINELESS	PHALLOCOTTUS OBTUSUS
883102090100	SPINYHEAD	DASYCOTTUS SETIGER
883102410100	SPINYNOSE	ASEMICHTHYS TAYLORI
883102160400	SPOTFIN	ICELINUS TENUIS

883107010100	TADPOLE	PSYCHROLUTES PARADOXUS
883102250100	THORNBACK	PARICELINUS HOPLITICUS
883102160300	THREADFIN	ICELINUS FILAMENTOSUS
883102240100	TIDEPOOL	OLIGOCOTTUS MACULOSUS
883101010100	TWOHORN	ICELUS BICORNIS
883102220300	WARTHEAD	MYOXOCEPHALUS NIGER
883102070400	WOOLY	CLINOCOTTUS ANALIS
883102160800	YELLOWCHIN	ICELINUS QUADRISERIATUS
883543010100	**SCUP**	STENOTOMUS CHRYSOPS
883502030400	**SEA BASS,** BANK	CENTROPRISTIS OCYURUS
883102150300	**SEA RAVEN**	HEMITRIPTERUS AMERICANUS
878808020100	**SEADEVIL,** TRIPLEWART	CRYPTOPSARAS COUESI
	SEAHORSE,	
882002020500	DWARF	HIPPOCAMPUS ZOSTERAE
882002020100	LINED	HIPPOCAMPUS ERECTUS
882002020400	LONGSNOUT	HIPPOCAMPUS REIDI
882002020200	OFFSHORE	HIPPOCAMPUS OBTUSUS
882002020600	PACIFIC	HIPPOCAMPUS INGENS
	SEAPERCH,	
883560110100	PINK	ZALEMBIUS ROSACEUS
883560080100	RAINBOW	HYPSURUS CARYI
883560060200	RUBBERLIP	RHACOCHILUS TOXOTES
883560050200	SHARPNOSE	PHANERODON ATRIPES
883560030100	STRIPED	EMBIOTOCA LATERALIS
883560050100	WHITE	PHANERODON FURCATUS
884003010300	**SEARCHER**	BATHYMASTER SIGNATUS
	SEAROBIN,	
882602030700	ARMORED	PERISTEDION MINIATUM
882602011300	BANDTAIL	PRIONOTUS OPHRYAS
882602011100	BARRED	PRIONOTUS MARTIS
882602011800	BIGEYE	PRIONOTUS LONGISPINOSUS
882602010400	BIGHEAD	PRIONOTUS TRIBULUS
882602012000	BLACKWING	PRIONOTUS RUBIO
882602011700	BLUESPOTTED	PRIONOTUS ROSEUS
882602031300	FLATHEAD	PERISTEDION BREVIROSTRE
882602020300	HORNED	BELLATOR MILITARIS
882602010300	LEOPARD	PRIONOTUS SCITULUS
882602011400	MEXICAN	PRIONOTUS PARALATUS
882602010100	NORTHERN	PRIONOTUS CAROLINUS
882602031100	RIMSPINE	PERISTEDION THOMPSONI
882602020100	SHORTFIN	BELLATOR BRACHYCHIR
882602012100	SHORTWING	PRIONOTUS STEARNSI
882602030300	SLENDER	PERISTEDION GRACILE
882602010500	SPINY	PRIONOTUS ALATUS
882602020500	SPLITNOSE	BELLATOR XENISMA
882602020200	STREAMER	BELLATOR EGRETTA
882602010200	STRIPED	PRIONOTUS EVOLANS
	SEASNAIL,	
883109082600	ATLANTIC	LIPARIS ATLANTICUS
883109081500	GELATINOUS	LIPARIS FRABICII
883109082700	INQUILINE	LIPARIS INQUILINIS
	SEATROUT,	
883544010600	SAND	CYNOSCION ARENARIUS
883544010300	SILVER	CYNOSCION NOTHUS
883544010200	SPOTTED	CYNOSCION NEBULOSUS
	SENNET,	
883701010200	NORTHERN	SPHYRAENA BOREALIS
883701010500	SOUTHERN	SPHYRAENA PICUDILLA
883901110100	**SENORITA**	OXYJULIS CALIFORNICA
	SHAD,	
874701010400	ALABAMA	ALOSA ALABAMAE
874701010100	AMERICAN	ALOSA SAPIDISSIMA
874701050100	GIZZARD	DOROSOMA CEPEDIANUM
874701010300	HICKORY	ALOSA MEDIOCRIS

874701050200	THREADFIN	DOROSOMA PETENENSE
	SHANNY,	
884212130100	ARCTIC	STICHAEUS PUNCTATUS
884212090300	DAUBED	LUMPENUS MACULATUS
884212210100	RADIATED	ULVARIA SUBBIFURCATA
	SHARK,	
871101010100	ANGEL	SQUATINA CALIFORNICA
871101010200	ATLANTIC ANGEL	SQUATINA DUMERIL
870802030100	ATLANTIC SHARPNOSE	RHIZOPRIONODON TERRAENOVAE
870704020100	BASKING	CETORHINUS MAXIMUS
870802050500	BIGNOSE	CARCHARHINUS ALTIMUS
870802050400	BLACKNOSE	CARCHARHINUS ACRONOTUS
870802050700	BLACKTIP	CARCHARHINUS LIMBATUS
870802060100	BLUE	PRIONACE GLAUCA
870801010100	BROWN CAT	APRISTURUS BRUNNEUS
870802050200	BULL	CARCHARHINUS LEUCAS
870802050100	DUSKY	CARCHARHINUS OBSCURUS
870802100100	FINETOOTH	CARCHARHINUS ISODON
870501010100	FRILL	CHLAMYDOSELACHUS ARGUINEUS
871001010200	GREENLAND	SOMNIOSUS MICROCEPHALUS
870401010100	HORN	HETERODONTUS FRANCISCI
871001040100	KITEFIN	DALATIAS LICHA
870802080100	LEMON	NEGAPRION BREVIROSTRIS
870802090200	LEOPARD	TRIAKIS SEMIFASCIATA
870802051300	NARROWTOOTH	CARCHARHINUS BRACHYURUS
870802070100	NIGHT	CARCHARHINUS SIGNATUS
870702010100	NURSE	GINGLYMOSTOMA CIRRATUM
870802050800	OCEAN WHITETIP	CARCHARHINUS LONGIMANUS
870802030400	PACIFIC SHARPNOSE	RHIZOPRIONODON LONGURIO
871001010100	PACIFIC SLEEPER	SOMNIOSUS PACIFICUS
871001100100	PRICKLY	ECHINORHINUS COOKEI
870703010200	RAGGED-TOOTH	ODONTASPIS FEROX
870802051400	REEF	CARCHARHINUS PEREZI
870704030100	SALMON	LAMNA DITROPIS
870802050300	SANDBAR	CARCHARHINUS PLUMBEUS
870502020100	SEVENGILL	NOTORYNCHUS CEPEDIANUS
870802050600	SILKY	CARCHARHINUS FALCIFORMIS
870502010100	SIXGILL	HEXANCHUS GRISEUS
870802051200	SMALLTAIL	CARCHARHINUS POROSUS
870802010100	SOUPFIN	GALEORHINUS ZYOPTERUS
870802050900	SPINNER	CARCHARHINUS BREVIPINNA
870704040100	THRESHER	ALOPIAS VULPINUS
870802020100	TIGER	GALEOCERDO CUVIER
870701010100	WHALE	RHINCODON TYPUS
870704010100	WHITE	CARCHARODON CARCHARIAS
	SHARKSUCKER,	
883527020100	COMMON	ECHENEIS NAUCRATES
883527020200	WHITEFIN	ECHENEIS NEUCRATOIDES
883901120100	**SHEEPHEAD,** CALIFORNIA	SEMICOSSYPHUS PULCHER
883543030100	**SHEEPSHEAD**	ARCHOSARGUS PROBATOCEPHALUS
879301071900	**SHULUPAOLUK**	LYCODES JUGORICUS
	SIERRA,	
885003050400	GULF	SCOMBEROMORUS CONCOLOR
885003050600	PACIFIC	SCOMBEROMORUS SIERRA
	SILVERSIDE,	
880502030200	ATLANTIC	MENIDIA MENIDIA
880502050100	HARDHEAD	ATHERINOMORUS STIPES
880502030100	INLAND	MENIDIA BERYLLINA
880502030300	KEY	MENIDIA CONCHORUM
880502040200	REEF	HYPOATHERINA HARRINGTONENSIS
880502020100	ROUGH	MEMBRAS MARTINICA
	SKATE,	
871304010700	ALASKA	BATHYRAJA PARMIFERA
871304010200	ALEUTIAN	BATHYRAJA ALEUTICA

871304011500	BARNDOOR	RAJA LAEVIS
871304010300	BIG	RAJA BINOCULATA
871304010400	CALIFORNIA	RAJA INORNATA
871304011300	CLEARNOSE	RAJA EGLANTERIA
871304010900	FLATHEAD	BATHYRAJA ROSISPINIS
871304012600	FRECKLED	RAJA LENTIGINOSA
871304011400	LITTLE	RAJA ERINACEA
871304010800	LONGNOSE	RAJA RHINA
871304011700	OSCELLATE	RAJA ACKLEYI
871304012400	ROSETTE	RAJA GARMANI
871304011200	ROUGHTAIL	BATHYRAJA TRACHURA
871304013300	ROUNDEL	RAJA TEXANA
871304010500	SANDPAPER	BATHYRAJA INTERRUPTA
871304013100	SMOOTH	RAJA SENTA
871304013500	SPINYTAIL	RAJA SPINICAUDA
871304012700	SPREADFIN	RAJA OLSENI
871304011100	STARRY	RAJA STELLULATA
871304013400	THORNY	RAJA RADIATA
871304011600	WINTER	RAJA OCELLATA
882702020100	**SKILFISH**	ERILEPIS ZONIFER
878401010200	**SKILLETFISH**	GOBIESOX STRUMOSUS
885003010400	**SKIPJACK**, BLACK	EUTHYNNUS LINEATUS
	SLEEPER,	
884701340100	BIGMOUTH	GOBIOMORUS DORMITOR
884701180100	EMERALD	EROTELIS SMARAGDUS
884701330200	FAT	DORMITATOR MACULATUS
884701330100	PACIFIC FAT	DORMITATOR LATIFRONS
883901070200	**SLIPPERY DICK**	HALICHOERES BIVITTATUS
	SMELT,	
875503010300	DELTA	HYPOMESUS TRANSPACIFICUS
875503040200	LONGFIN	SPIRINCHUS THALEICHTHYS
875503040100	NIGHT	SPIRINCHUS STARKSI
875503030200	RAINBOW	OSMERUS MORDAX
875503010100	SURF	HYPOMESUS PRETIOSUS
875503060100	WHITEBAIT	ALLOSMERUS ELONGATUS
	SMOOTHHOUND,	
870802040500	BROWN	MUSTELUS HENLEI
870802040300	FLORIDA	MUSTELUS NORRISI
870802040400	GRAY	MUSTELUS CALIFORNICUS
870802040600	SICKLEFIN	MUSTELUS LUNULATUS
875602010600	**SMOOTHTONGUE**, CALIFORNIA	LEUROGLOSSUS STILBIUS
	SNAILFISH,	
883109120100	BERING	LIPARIS BERINGIANUS
883109021500	BLACKTAIL	CAREPROCTUS MELANURUS
883109030100	BLOTCHED	CRYSTALLICHTHYS CYCLOPILUS
883109082900	KELP	LIPARIS TUNICATUS
883109120200	LOBEFIN	LIPARIS GREENI
883109023200	LONGFIN	CAREPROCTUS LONGIPINNIS
883109080800	MARBLED	LIPARIS DENNYI
883109110600	PRICKLY	PARALIPARIS DEANI
883109080600	RIBBON	LIPARIS CYCLOPUS
883109082500	RINGTAIL	LIPARIS RUTTERI
883109082200	SHOWY	LIPARIS PULCHELLUS
883109082000	SLIMY	LIPARIS MUCOSUS
883109081100	SLIPSKIN	LIPARIS FUCENSIS
883109080300	SPOTTED	LIPARIS CALLYODON
883109100100	TADPOLE	NECTOLIPARIS PELAGICUS
883109081000	TIDEPOOL	LIPARIS FLORAE
883109080700	VARIEGATED	LIPARIS GIBBUS
	SNAKEBLENNY,	
884212090500	COMMON	LUMPENUS LUMPRETAEFORMIS
884212170100	FOURLINE	EUMESOGRAMMUS PRAECISUS
876202040100	**SNAKEFISH**	TRACHINOCEPHALUS MYOPS

	SNAPPER,	
883536020100	BLACK	APSILUS DENTATUS
883536010600	BLACKFIN	LUTJANUS BUCCANELLA
883536010100	CUBERA	LUTJANUS CYANOPTERUS
883536010900	DOG	LUTJANUS JOCU
883517010200	GLASSEYE	PRIACANTHUS CRUENTATUS
883536010200	GRAY	LUTJANUS GRISEUS
883536011200	LANE	LUTJANUS SYNAGRIS
883536011000	MAHOGANY	LUTJANUS MAHOGONI
883536010300	MUTTON	LUTJANUS ANALIS
883536030100	QUEEN	ETELIS OCULATUS
883536010700	RED	LUTJANUS CAMPECHANUS
883536011300	SILK	LUTJANUS VIVANUS
883536050100	VERMILION	RHOMBOPLITES AURORUBENS
883536040100	YELLOWTAIL	OCYURUS CHRYSURUS
	SNIPEFISH,	
881903010100	LONGSPINE	MACRORHAMPHOSUS SCOLOPAX
881903010200	SLENDER	MACRORHAMPHOSUS GRACILIS
	SNOOK,	
883501010500	COMMON	CENTROPOMUS UNDECIMALIS
883501010300	FAT	CENTROPOMUS PARALLELUS
883501010200	SWORDSPINE	CENTROPOMUS ENSIFERUS
883501010400	TARPON	CENTROPOMUS PECTINATUS
	SOAPFISH,	
883503020200	FRECKLED	RYPTICUS BISTRISPINUS
883503020700	GREATER	RYPTICUS SAPONACEUS
883503020800	SPOTTED	RYPTICUS SUBBIFRENATUS
883503020400	WHITESPOTTED	RYPTICUS MACULATUS
	SOLDIERFISH,	
881008030100	BIGEYE	OSTICHTHYS TRACHYPOMA
881008020100	BLACKBAR	MYRIPRISTIS JACOBUS
881008040100	CARDINAL	PLECTRYPOPS RETROSPINIS
881008060100	SPINYCHEEK	CORNIGER SPINOSUS
	SOLE,	
885703110200	BIGMOUTH	HIPPOGLOSSINA STOMATA
885704070100	BUTTER	PLEURONECTES IPIS
885704160100	C-O	PLEURONICHTHYS COENOSUS
885704160200	CURLFIN	PLEURONICHTHYS DECURRENS
885704030100	DEEPSEA	EMBASSICHTHYS BATHYBIUS
885704120100	DOVER	MICROSTOMUS PACIFICUS
885704130100	ENGLISH	PLEURONECTES VETULUS
885703150100	FANTAIL	XYSTREURYS LIOLEPIS
885704060100	FLATHEAD	HIPPOGLOSSOIDES ELASSODON
885801030200	FRINGED	GYMNACHIRUS TEXAE
885801020200	LINED	ACHIRUS LINEATUS
885801030100	NAKED	GYMNACHIRUS MELAS
885704040100	PETRALE	EOPSETTA JORDANI
885704050100	REX	ERREX ZACHIRUS
885704080100	ROCK	PLEURONECTES BILINEATUS
885704170100	SAND	PSETTICHTHYS MELANOSTICTUS
885801020100	SCRAWLED	TRINECTES INSCRIPTUS
885704110100	SLENDER	EOPSETTA EXILIS
885704090100	YELLOWFIN	PLEURONECTES ASPER
	SPADEFISH,	
883552010100	ATLANTIC	CHAETODIPTERUS FABER
883552010200	PACIFIC	CHAETODIPTERUS ZONATUS
	SPEARFISH,	
885006030400	LONGBILL	TETRAPTURUS PFLEUGERI
885006030500	SHORTBILL	TETRAPTURUS ANGUSTIROSTRIS
886001010200	**SPIKEFISH,** SPOTTED	HOLLARDIA MEADI
883544040100	**SPOT**	LEIOSTOMUS XANTHURUS
	SQUARETAIL,	
885104010200	BIGEYE	TETRAGONURUS ATLANTICUS
885104010100	SMALLEYE	TETRAGONURUS CUVIERI

	SQUIRRELFISH,	
881008010100	COMMON	HOLOCENTRUS ADSCENSIONIS
881008010200	DEEPWATER	HOLOCENTRUS BULLISI
881008010600	DUSKY	HOLOCENTRUS VEXILLARIUS
881008010500	LONGJAW	HOLOCENTRUS MARIANUS
881008010300	LONGSPINE	HOLOCENTRUS RUFUS
881008010400	REEF	HOLOCENTRUS CORUSCUS
	STARGAZER,	
884013010100	ARROW	GILLELLUS GREYAE
884013020200	BIGEYE	DACTYLOSCOPUS CROSSOTUS
884014020100	FRECKLED	GNATHAGNUS EGREGIUS
884014030100	LANCER	KATHETOSTOMA ALBIGUTTA
884014010100	NORTHERN	ASTROSCOPUS GUTTATUS
884013010200	SADDLE	PLATYGILLELLUS RUBROCINCTUS
884013020100	SAND	DACTYLOSCOPUS TRIDIGITATUS
884014030300	SMOOTH	KATHETOSTOMA AVERRUNCUS
884014010200	SOUTHERN	ASTROSCOPUS Y-GRAECUM
884013010300	WARTEYE	GILLELLUS URANIDEA
	STARSNOUT,	
883108040100	GRAY	BATHYAGONUS ALASCANA
883108040200	SPINYCHEEK	BATHYAGONUS INFRASPINATUS
	STICKLEBACK,	
881801010200	BLACKSPOTTED	GASTEROSTEUS WHEATLANDI
881801030100	FOURSPINE	APELTES QUADRACUS
881801020100	NINESPINE	PUNGITIUS PUNGITIUS
881801010100	THREESPINE	GASTEROSTEUS ACULEATUS
	STINGRAY,	
871305010500	ATLANTIC	DASYATIS SABINA
871305010600	BLUNTNOSE	DASYATIS SAY
871305010100	DIAMOND	DASYATIS DIPTERURA
871305010200	PELAGIC	DASYATIS VIOLACEA
871305010400	ROUGHTAIL	DASYATIS CENTROURA
871305030200	ROUND	UROLOPHUS HALLERI
871305010300	SOUTHERN	DASYATIS AMERICANA
	STURGEON,	
872901010500	ATLANTIC	ACIPENSER OXYRHYNCHUS
872901010200	GREEN	ACIPENSER MEDIROSTRIS
872901010400	SHORTNOSE	ACIPENSER BREVIROSTRUM
872901010700	SHOVELNOSE	SCAPHIRHYNCHUS PLATORYNCHUS
872901010300	WHITE	ACIPENSER TRANSMONTANUS
871305030100	YELLOW	UROLOPHUS JAMAICENSIS
	SUCKER,	
883527010200	MARLIN	REMORA OSTEOCHIR
883527010100	WHALE	REMORA AUSTRALIS
877604010200	WHITE	CATOSTOMUS COMMERSONI
883527030100	**SUCKERFISH,** SLENDER	PHTHEIRICHTHYS LINEATUS
	SUNFISH,	
883516050200	GREEN	LEPOMIS CYANELLUS
886104010100	OCEAN	MOLA MOLA
883516050100	REDBREASTED	LEPOMIS AURITUS
883516050900	REDEAR	LEPOMIS MICROLOPHUS
883562030300	**SUNSHINEFISH**	CHROMIS INSOLATA
	SURFPERCH,	
883560070200	BARRED	AMPHISTICHUS ARGENTEUS
883560070300	CALICO	AMPHISTICHUS KOELZI
883560070100	REDTAIL	AMPHISTICHUS RHODOTERUS
883560040200	SILVER	HYPERPROSOPON ELLIPTICUM
883560040300	SPOTFIN	HYPERPROSOPON ANALE
883560040100	WALLEYE	HYPERPROSOPON ARGENTEUM
884901010100	**SURGEON,** OCEAN	ACANTHURUS BAHIANUS
884901010500	**SURGEONFISH,** GULF	ACANTHURUS RANDALLI
883547010100	**SWEEPER,** GLASSY	PEMPHERUS SCHOMBURGKI
885004010100	**SWORDFISH**	XIPHIAS GLADIUS
884901010300	**TANG,** BLUE	ACANTHURUS COERULEUS

873802020100	**TARPON**, ATLANTIC	MEGALOPS ATLANTICUS
883502230800	**TATTLER**	SERRANUS PHOEBE
883901010100	**TAUTOG**	TAUTOGA ONITIS
871302020100	**THORNBACK**	PLATYRHINOIDIS TRISERIATA
	THORNYHEAD,	
882601020200	LONGSPINE	SEBASTOLOBUS ALTIVELIS
882601020100	SHORTSPINE	SEBASTOLOBUS ALASCANUS
	THREADFIN,	
883801010100	ATLANTIC	POLYDACTYLUS OCTONEMUS
883801010400	LITTLESCALE	POLYDACTYLUS OLIGODON
870704040200	**THRESHER**, BIGEYE	ALOPIAS SUPERCILIOSUS
	TILEFISH,	
883522010200	BLACKLINE	CAULOLATILUS CYANOPS
883522020100	COMMON	LOPHOLATILUS CHAMAELEONTICEPS
883522030100	SAND	MALACANTHUS PLUMIERI
880302020300	**TIMUCU**	STRONGYLURA TIMUCU
	TOADFISH,	
878301020200	GULF	OPSANUS BETA
878301020300	LEOPARD	OPSANUS PARDUS
878301020100	OYSTER	OPSANUS TAU
883502231000	**TOBACCOFISH**	SERRANUS TABACARIUS
	TOMCOD,	
879103060200	ATLANTIC	MICROGADUS TOMCOD
879103060100	PACIFIC	MICROGADUS PROXIMUS
883540010100	**TOMTATE**	HAEMULON AUROLINEATUM
885802010100	**TONGUE**, BLACKCHEEK	SYMPHURUS PLAGIUSA
	TONGUEFISH,	
885802010700	DEEPWATER	SYMPHURUS PIGER
885802010500	LARGESCALE	SYMPHURUS MINOR
885802010900	NORTHERN	SYMPHURUS PUSILLUS
885802010200	OFFSHORE	SYMPHURUS CIVITATUS
885802010600	PYGMY	SYMPHURUS PARVUS
885802011000	SPOTTAIL	SYMPHURUS UROSPILUS
885802010300	SPOTTEDFIN	SYMPHURUS DIOMEDIANUS
880404020900	**TOPMINNOW**, SALTMARSH	FUNDULUS JENKINSI
880502010100	**TOPSMELT**	ATHERINOPS AFFINIS
871303010200	**TORPEDO**, ATLANTIC	TORPEDO NOBILIANA
882601015900	**TREEFISH**	SEBASTES SERRICEPS
	TRIGGERFISH,	
886002020300	FINESCALE	BALISTES POLYLEPIS
886002020100	GRAY	BALISTES CAPRISCUS
886002050200	OCEAN	CANTHIDERMIS SUFFLAMEN
886002020200	QUEEN	BALISTES VETULA
886002050100	ROUGH	CANTHIDERMIS MACULATA
886002080100	SARGASSUM	XANTHICHTHYS RINGENS
	TRIPLEFIN,	
884208010100	LOFTY	ENEANECTES ALTIVELIS
884208010300	REDEYE	ENNEANECTES PECTORALIS
883538010100	**TRIPLETAIL**	LOBOTES SURINAMENSIS
	TROUT,	
875501040400	BROOK	SALVELINUS FONTINALIS
875501030600	BROWN	SALMO TRUTTA
875501030100	CUTTHROAT	ONCORHYNCHUS CLARKI
875501040300	LAKE	SALVELINUS NAMAYCUSH
875501030200	RAINBOW	ONCORHYNCHUS MYKISS
881901010100	**TRUMPETFISH**	AULOSTOMUS MACULATUS
	TRUNKFISH,	
886003010100	COMMON	LACTOPHRYS TRIGONUS
886003010300	SMOOTH	LACTOPHRYS TRIQUETER
886003010200	SPOTTED	LACTOPHRYS BICAUDALIS
881601010100	**TUBE-EYE**	STYLEPHORUS CHORDATUS
881802010100	**TUBE-SNOUT**	AULORHYNCHUS FLAVIDUS
	TUNA,	
885003040500	BIGEYE	THUNNUS OBESUS

885003040400	BLACKFIN	THUNNUS ATLANTICUS
885003040200	BLUEFIN	THUNNUS THYNNUS
885003010100	SKIPJACK	KATSUWONUS PELAMIS
885003100100	SLENDER	ALLOTHUNNUS FALLAI
885003040300	YELLOWFIN	THUNNUS ALBACARES
885003010200	**TUNNY**, LITTLE	EUTHYNNUS ALLETTERATUS
	TURBOT,	
885704220100	DIAMOND	HYPOPSETTA GUTTULATA
885704160400	HORNYHEAD	PLEURONICTHYS VERTICALIS
885704160300	SPOTTED	PLEURONICHTHYS RITTERI
881501020100	**UNICORNFISH**	EUMECICHTHYS FISKI
875906010100	**VIPERFISH**, PACIFIC	CHAULIODUS MACOUNI
885003060100	**WAHOO**	ACANTHOCYBIUM SOLANDRI
883520040100	**WALLEYE**	STIZOSTEDION VITREUM
	WARBONNET,	
884212050500	ATLANTIC	CHIROLOPHIS ASCANII
884212050300	DECORATED	CHIROLOPHIS DECORATUS
884212050100	MATCHEEK	CHIROLOPHIS TARSODES
884212050200	MOSSHEAD	CHIROLOPHIS NUGATOR
883516050300	**WARMOUTH**	LEPOMIS GULOSUS
883544010400	**WEAKFISH**	CYNOSCION REGALIS
883536070100	**WENCHMAN**	PRISTIPOMOIDES AQUILONARIS
883527010100	**WHALESUCKER**	REMORA AUSTRALIS
	WHIFF,	
885703011000	BAY	CITHARICHTHYS SPILOPTERUS
885703010600	HORNED	CITHARICHTHYS CORNUTUS
885703010500	SAND	CITHARICHTHYS ARENACEUS
885703010900	SPOTTED	CITHARICHTHYS MACROPS
	WHITEFISH,	
875501010600	LAKE	COREGONUS CLUPEAFORMIS
883522010100	OCEAN	CAULOLATILUS PRINCEPS
885703040100	**WINDOWPANE**	SCOPHTHALMUS AQUOSUS
	WOLFFISH,	
884202010300	ATLANTIC	ANARHICHAS LUPUS
884202010100	BERING	ANARHICHAS ORIENTALIS
884202010200	NORTHERN	ANARHICHAS DENTICULATUS
884202010400	SPOTTED	ANARHICHAS MINOR
	WORMFISH,	
884706010200	LANCETAIL	MICRODESMUS LANCEOLATUS
884706010300	PINK	MICRODESMUS LONGIPINNIS
884706010100	PUGJAW	CERDALE FLORIDANA
	WRASSE,	
883901070800	BLACKEAR	HALICHOERES POEYI
883901070600	CLOWN	HALICHOERES MACULIPINNA
883901040100	CREOLE	CLEPTICUS PARRAE
883901060100	DWARF	DORATONOTUS MEGALEPIS
883901070100	GREENBAND	HALICHOERES BATHYPHILUS
883901070300	PAINTED	HALICHOERES CAUDALIS
883901070700	RAINBOW	HALICHOERES PICTUS
883901071000	ROCK	HALICHOERES SEMICINCTUS
883901070400	YELLOWCHEEK	HALICHOERES CYANOCEPHALUS
883901070500	YELLOWHEAD	HALICHOERES GARNOTI
883502280100	**WRECKFISH**	POLYPRION AMERICANUS
	WRYMOUTH,	
884212160100	DWARF	CRYPTACANTHODES ALEUTENSIS
884212150100	GIANT	CRYPTACANTHODES GIGANTEA
883528080800	**YELLOWTAIL**	SERIOLA LALANDI

APPENDIX B.2

TAXA SORTED BY SCIENTIFIC NAME

CODE	COMMON NAME	SCIENTIFIC NAME
CRUSTACEANS		
618901030100	BLUE CRAB	CALLINECTES SAPIDUS
618803010200	PACIFIC ROCK CRAB	CANCER ANTENNARIUS
618803010800	EASTERN ROCK CRAB	CANCER IRRORATUS
618803010600	DUNGENESS CRAB	CANCER MAGISTER
618803010100	RED CRAB	CANCER PRODUCTUS
618101020100	AMERICAN LOBSTER	HOMARUS AMERICANUS
618902130200	GULF STONE CRAB	MENIPPE ADINA
618201010100	WEST INDIES SPINY LOBSTER	PANULIRUS ARGUS
618201010300	CALIFORNIA ROCK LOBSTER	PANULIRUS INTERRUPTUS
617701010000	WHITE SHRIMP	PENAEUS ?
MOLLUSCS		
551539010100	OCEAN QUAHOG	ARTICA ISLANDICA
551002010100	PACIFIC OYSTER	CRASSOSTREA GIGAS
551002010200	AMERICAN OYSTER	CRASSOSTREA VIRGINICA
551547110100	HARD CLAM	MERCENARIA MERCENARIA
551701020100	SOFT-SHELL CLAM	MYA ARENARIA
550701010200	CALIFORNIA MUSSEL	MYTILUS CALIFORNIAUS
550701010100	BLUE MUSSEL	MYTILUS EDULIS
551547070100	PACIFIC LITTLENECK CLAM	PROTOTHACA STAMINEA
551525010200	SURF CLAM	SPISULA SOLIDISSIMA
551525020100	HORSENECK CLAM	TRESUS CAPAX
551547080100	MANILA CLAM	VENERUPIS JAPONICA
FISH		
880302010100	FLAT NEEDLEFISH	ABLENNES HIANS
883562010100	SERGEANT MAJOR	ABUDEFDUF SAXATILIS
883562010200	NIGHT SERGEANT	ABUDEFDUF TAURUS
884209080100	ROUGHHEAD BLENNY	ACANTHEMBLEMARIA ASPERA
885003060100	WAHOO	ACANTHOCYBIUM SOLANDRI
884701200100	YELLOWFIN GOBY	ACANTHOGOBIUS FLAVIMANUS
884212010100	PIGHEAD PRICKLEBACK	ACANTHOLUMPENUS MACKAYI
884901010100	OCEAN SURGEON	ACANTHURUS BAHIANUS
884901010200	DOCTORFISH	ACANTHURUS CHIRURGUS
884901010300	BLUE TANG	ACANTHURUS COERULEUS
884901010500	GULF SURGEONFISH	ACANTHURUS RANDALLI
885801020200	LINED SOLE	ACHIRUS LINEATUS
872901010400	SHORTNOSE STURGEON	ACIPENSER BREVIROSTRUM
872901010200	GREEN STURGEON	ACIPENSER MEDIROSTRIS
872901010500	ATLANTIC STURGEON	ACIPENSER OXYRHYNCHUS
872901010300	WHITE STURGEON	ACIPENSER TRANSMONTANUS
878401040100	EMERALD CLINGFISH	ACYRTOPS BERYLLINUS
880404040100	DIAMOND KILLIFISH	ADINIA XENICA
871307010100	SPOTTED EAGLE RAY	AETOBATUS NARINARI
883108010200	SOUTHERN SPEARNOSE POACHER	AGONOPSIS STERLETUS
883108010100	NORTHERN SPEARNOSE POACHER	AGONOPSIS VULSA
883601040100	MOUNTAIN MULLET	AGONOSTOMUS MONTICOLA
874113010100	KEYWORM EEL	AHLIA EGMONTIS
873901010100	BONEFISH	ALBULA VULPES
883528020100	AFRICAN POMPANO	ALECTIS CILIARIS
884212190100	STONE COCKSCOMB	ALECTRIAS ALECTROLOPHUS
884212020100	LESSER PRICKLEBACK	ALECTRIDIUM AURANTIACUM

876209010300	SHORTNOSE LANCETFISH	ALEPISAURUS BREVIROSTRIS
876209010200	LONGNOSE LANCETFISH	ALEPISAURUS FEROX
884209090100	ISLAND KELPFISH	ALLOCLINUS HOLDERI
884212030100	Y-PRICKLEBACK	ALLOLUMPENUS HYPOCHROMUS
875503060100	WHITEBAIT SMELT	ALLOSMERUS ELONGATUS
885003100100	SLENDER TUNA	ALLOTHUNNUS FALLAI
870704040200	BIGEYE THRESHER	ALOPIAS SUPERCILIOSUS
870704040100	THRESHER SHARK	ALOPIAS VULPINUS
874701010200	BLUEBACK HERRING	ALOSA AESTIVALIS
874701010400	ALABAMA SHAD	ALOSA ALABAMAE
874701010600	SKIPJACK HERRING	ALOSA CHRYSOCHLORIS
874701010300	HICKORY SHAD	ALOSA MEDIOCRIS
874701010500	ALEWIFE	ALOSA PSEUDOHARENGUS
874701010100	AMERICAN SHAD	ALOSA SAPIDISSIMA.
886002010200	DOTTEREL FILEFISH	ALUTERUS HEUDELOTI
886002010300	UNICORN FILEFISH	ALUTERUS MONOCEROS
886002010100	ORANGE FILEFISH	ALUTERUS SCHOEPFI
886002010400	SCRAWLED FILEFISH	ALUTERUS SCRIPTUS
883516020100	ROCK BASS	AMBLOPLITES RUPESTRIS
883564010100	REDSPOTTED HAWKFISH	AMBLYCIRRHITUS PINOS
877702010100	WHITE CATFISH	AMEIURUS CATUS
877702010600	BLACK BULLHEAD	AMEIURUS MELAS
877702010300	YELLOW BULLHEAD	AMEIURUS NATALIS
877702010400	BROWN BULLHEAD	AMEIURUS NEBULOSUS
873401010100	BOWFIN	AMIA CALVA
884501010200	AMERICAN SAND LANCE	AMMODYTES AMERICANUS
884501010300	NORTHERN SAND LANCE	AMMODYTES DUBIUS
884501010100	PACIFIC SAND LANCE	AMMODYTES HEXAPTERUS
883560070200	BARRED SURFPERCH	AMPHISTICHUS ARGENTEUS
883560070300	CALICO SURFPERCH	AMPHISTICHUS KOELZI
883560070100	REDTAIL SURFPERCH	AMPHISTICHUS RHODOTERUS
874105010100	PYGMY MORAY	ANARCHIAS SIMILIS
882002050100	INSULAR PIPEFISH	ANARCHOPTERUS TECTUS
884202010200	NORTHERN WOLFFISH	ANARHICHAS DENTICULATUS
884202010300	ATLANTIC WOLFFISH	ANARHICHAS LUPUS
884202010400	SPOTTED WOLFFISH	ANARHICHAS MINOR
884202010100	BERING WOLFFISH	ANARHICHAS ORIENTALIS
884202020100	WOLF-EEL	ANARRHICHTHYS OCELLATUS
874702020900	KEY ANCHOVY	ANCHOA CAYORUM
874702021000	DEEPBODY ANCHOVY	ANCHOA COMPRESSA
874702020300	CUBAN ANCHOVY	ANCHOA CUBANA
874702021100	SLOUGH ANCHOVY	ANCHOA DELICATISSIMA
874702021200	NEW JERSEY ANCHOVY	ANCHOA DUODECIUM
874702020100	STRIPED ANCHOVY	ANCHOA HEPSETUS
874702020400	BIGEYE ANCHOVY	ANCHOA LAMPROTAENIA
874702020500	DUSKY ANCHOVY	ANCHOA LYOLEPIS
874702020200	BAY ANCHOVY	ANCHOA MITCHILLI
874702020600	LONGNOSE ANCHOVY	ANCHOA NASUTA
874702030400	FLAT ANCHOVY	ANCHOVIELLA PERFASCIATA
885703050300	THREE-EYE FLOUNDER	ANCYLOPSETTA DILECTA
885703050600	OCELLATED FLOUNDER	ANCYLOPSETTA QUADROCELLATA
874101010100	AMERICAN EEL	ANGUILLA ROSTRATA
883540030700	SARGO	ANISOTREMUS DAVIDSONI
883540030400	BLACK MARGATE	ANISOTREMUS SURINAMENSIS
883540030600	PORKFISH	ANISOTREMUS VIRGINICUS
883108020100	SMOOTH ALLIGATORFISH	ANOPLAGONUS INERMIS
884212040100	SLENDER COCKSCOMB	ANOPLARCHUS INSIGNIS
884212040200	HIGH COCKSCOMB	ANOPLARCHUS PURPURESCENS
882702010100	SABLEFISH	ANOPLOPOMA FIMBRIA
876210010100	DAGGERTOOTH	ANOTOPTERUS PHARAO
878702020700	ROUGHJAW FROGFISH	ANTENNARIUS AVALONIS
878702020100	LONGLURE FROGFISH	ANTENNARIUS MULTIOCELLATUS
878702020200	OCELLATED FROGFISH	ANTENNARIUS OCELLATUS
878702020800	DWARF FROGFISH	ANTENNARIUS PAUCIRADIATUS

878702020300	SINGLESPOT FROGFISH	ANTENNARIUS RADIOSUS
878702020500	STRIATED FROGFISH	ANTENNARIUS STRIATUS
881106010100	DEEPBODY BOARFISH	ANTIGONIA CARPOS
881106010200	SHORTSPINE BOARFISH	ANTIGONIA COMBATIA
881801030100	FOURSPINE STICKLEBACK	APELTES QUADRACUS
883544260100	FRESHWATER DRUM	APLODINOTUS GRUNNIENS
884213010100	PENPOINT GUNNEL	APODICHTHYS FLAVIDUS
884213030100	ROCKWEED GUNNEL	APODICHTHYS FUCORUM
883518010100	BIGTOOTH CARDINALFISH	APOGON AFFINIS
883518010400	BRIDLE CARDINALFISH	APOGON AUROLINEATUS
883518010500	BARRED CARDINALFISH	APOGON BINOTATUS
883518011400	GUADALUPE CARDINALFISH	APOGON GUADALUPENSIS
883518011500	WHITESTAR CARDINALFISH	APOGON LACHNERI
883518010700	FLAMEFISH	APOGON MACULATUS
883518011600	MIMIC CARDINALFISH	APOGON PHENAX
883518011700	BROADSADDLE CARDINALFISH	APOGON PILLIONATUS
883518010900	PALE CARDINALFISH	APOGON PLANIFRONS
883518011000	TWOSPOT CARDINALFISH	APOGON PSEUDOMACULATUS
883518011100	SAWCHEEK CARDINALFISH	APOGON QUADRISQUAMATUS
883518011300	BELTED CARDINALFISH	APOGON TOWNSENDI
870801010100	BROWN CAT SHARK	APRISTURUS BRUNNEUS
874113160100	STRIPE EEL	APROGNATHODON PLATYVENTRIS
883536020100	BLACK SNAPPER	APSILUS DENTATUS
874113120200	ACADEMY EEL	APTERICHTUS ANSP
874113120100	FINLESS EEL	APTERICHTUS KENDALLI
883109010100	SMOOTH LUMPSUCKER	APTOCYCLUS VENTRICOSUS
882002050300	FRINGED PIPEFISH	ARCHANOPTERUS CRINIGER
883102010100	SCALED SCULPIN	ARCHAULUS BISERIATUS
883543030100	SHEEPSHEAD	ARCHOSARGUS PROBATOCEPHALUS
883543030200	SEA BREAM	ARCHOSARGUS RHOMBOIDALIS
879103010100	TOOTHED COD	ARCTOGADUS BORISOVI
879103010200	POLAR COD	ARCTOGADUS GLACIALIS
884001010100	SAILFIN SANDFISH	ARCTOSCOPUS JAPONICUS
875601020600	PACIFIC ARGENTINE	ARGENTINA SIALIS
875601020300	ATLANTIC ARGENTINE	ARGENTINA SILUS
875601020500	STRIATED ARGENTINE	ARGENTINA STRIATA
883544050100	BANDED DRUM	ARIMUS FASCIATUS
885102010100	SILVER-RAG	ARIOMMA BONDI
885101010200	BROWN DRIFTFISH	ARIOMMA MELANUM
885102010400	SPOTTED DRIFTFISH	ARIOMMA REGULUS
874112020200	BANDTOOTH CONGER	ARIOSOMA BALEARICUM
877718020200	HARDHEAD CATFISH	ARIUS FELIS
883102030700	ATLANTIC HOOKEAR SCULPIN	ARTEDIELLUS ATLANTICUS
883102030500	HAMECON	ARTEDIELLUS SCABER
883102030600	ARCTIC HOOKEAR SCULPIN	ARTEDIELLUS UNCINATUS
883102040600	CORRALLINE SCULPIN	ARTEDIUS CORALLINUS
883102040100	PADDED SCULPIN	ARTEDIUS FENESTRALIS
883102040200	SCALYHEAD SCULPIN	ARTEDIUS HARRINGTONI
883102040300	SMOOTHHEAD SCULPIN	ARTEDIUS LATERALIS
883102040500	BONEHEAD SCULPIN	ARTEDIUS NOTOSPILOTUS
883102050100	ROSYLIP SCULPIN	ASCELICHTHYS RHODORUS
883102410100	SPINYNOSE SCULPIN	ASEMICHTHYS TAYLORI
883108030100	ALEUTIAN ALLIGATORFISH	ASPIDOPHOROIDES BARTONI
883108030400	ALLIGATORFISH	ASPIDOPHOROIDES MONOPTERYGIUS
883108030300	ARCTIC ALLIGATORFISH	ASPIDOPHOROIDES OLRIKI
885002060100	RAZORBACK SCABBARDFISH	ASSURGER ANZAC
883518020100	BRONZE CARDINALFISH	ASTRAPOGON ALUTUS
883518020200	BLACKFIN CARDINALFISH	ASTRAPOGON PUNCTICULATUS
883518020300	CONCHFISH	ASTRAPOGON STELLATUS
884014010100	NORTHERN STARGAZER	ASTROSCOPUS GUTTATUS
884014010200	SOUTHERN STARGAZER	ASTROSCOPUS Y-GRAECUM
885704010100	KAMCHATKA FLOUNDER	ATHERESTHES EVERMANNI
885704010200	ARROWTOOTH FLOUNDER	ATHERESTHES STOMIAS
880502050100	HARDHEAD SILVERSIDE	ATHERINOMORUS STIPES

880502010100	TOPSMELT	ATHERINOPS AFFINIS
880502060100	JACKSMELT	ATHERINOPSIS CALIFORNIENSIS
883544010100	WHITE SEABASS	ATRACTOSCION NOBILIS
876201010200	YELLOWFIN AULOPUS	AULOPUS NANAE
881802010100	TUBE-SNOUT	AULORHYNCHUS FLAVIDUS
881901010100	TRUMPETFISH	AULOSTOMUS MACULATUS
885003070100	BULLET MACKEREL	AUXIS ROCHEI
885003070200	FRIGATE MACKEREL	AUXIS THAZARD
884701210100	RIVER GOBY	AWAOUS TAJASICA
877718010100	GAFFTOPSAIL CATFISH	BAGRE MARINUS
883544030400	BLUE CROAKER	BAIRDIELLA BATABANA
883544030100	SILVER PERCH	BAIRDIELLA CHRYSOURA
883544030500	STRIPED CROAKER	BAIRDIELLA SANCTAELUCIAE
886002020100	GRAY TRIGGERFISH	BALISTES CAPRISCUS
886002020300	FINESCALE TRIGGERFISH	BALISTES POLYLEPIS
886002020200	QUEEN TRIGGERFISH	BALISTES VETULA
884701080100	BEARDED GOBY	BARBULIFER CEUTHOECUS
874113020200	SOOTY EEL	BASCANICHTHYS BASCANIUM
874113020100	WHIP EEL	BASCANICHTHYS SCUTICARIS
883108040100	GRAY STARSNOUT	BATHYAGONUS ALASCANA
883108040200	SPINYCHECK STARSNOUT	BATHYAGONUS INFRASPINATUS
883108050100	BLACKFIN POACHER	BATHYAGONUS NIGRIPINNIS
883108040300	BIGEYE POACHER	BATHYAGONUS PENTACANTHUS
884701090100	NOTCHTONGUE GOBY	BATHYGOBIUS CURACAO
884701090200	ISLAND FRILLFIN	BATHYGOBIUS MYSTACIUM
884701090300	FRILLFIN GOBY	BATHYGOBIUS SOPORATOR
884003010100	ALASKAN RONQUIL	BATHYMASTER CAERULEOFASCIATUS
884003010200	SMALLMOUTH RONQUIL	BATHYMASTER LEUROLEPIS
884003010300	SEARCHER	BATHYMASTER SIGNATUS
871304010200	ALEUTIAN SKATE	BATHYRAJA ALEUTICA
871304010500	SANDPAPER SKATE	BATHYRAJA INTERRUPTA
871304010700	ALASKA SKATE	BATHYRAJA PARMIFERA
871304010900	FLATHEAD SKATE	BATHYRAJA ROSISPINIS
871304011200	ROUGHTAIL SKATE	BATHYRAJA TRACHURA
882602020100	SHORTFIN SEAROBIN	BELLATOR BRACHYCHIR
882602020200	STREAMER SEAROBIN	BELLATOR EGRETTA
882602020300	HORNED SEAROBIN	BELLATOR MILITARIS
882602020500	SPLITNOSE SEAROBIN	BELLATOR XENISMA
884007010100	DUCKBILL FLATHEAD	BEMBROPS ANATIROSTRIS
884007010200	GOBY FLATHEAD	BEMBROPS GOBIOIDES
876212010100	NORTHERN PEARLEYE	BENTHALBELLA DENTATA
883102060100	CRESTED SCULPIN	BLEPSIAS BILOBUS
883102060200	SILVER SPOTTED SCULPIN	BLEPSIAS CIRRHOSUS
883901030100	SPOTFIN HOGFISH	BODIANUS PULCHELLUS
883901030200	SPANISH HOGFISH	BODIANUS RUFUS
884701160100	RAGGED GOBY	BOLLMANNIA COMMUNIS
879103020100	ARCTIC COD	BOREOGADUS SAIDA
883108060100	ROCKHEAD	BOTHRAGONUS SWANI
879301020300	ALASKA EELPOUT	BOTHROCARA PUSILLUM
885703060100	PEACOCK FLOUNDER	BOTHUS LUNATUS
885703060300	EYED FLOUNDER	BOTHUS OCELLATUS
883560010100	KELP PERCH	BRACHYISTIUS FRENATUS
883571010200	ATLANTIC POMFRET	BRAMA BRAMA
883571010400	CARIBBEAN POMFRET	BRAMA CARIBBEA
883571010300	LOWFIN POMFRET	BRAMA DUSSUMIERI
883571010100	PACIFIC POMFRET	BRAMA JAPONICA
879102010100	ANTENNA CODLET	BREGMACEROS ATLANTICUS
874701040200	FINESCALE MENHADEN	BREVOORTIA GUNTERI
874701040300	GULF MENHADEN	BREVOORTIA PATRONUS
874701040400	YELLOWFIN MENHADEN	BREVOORTIA SMITHI
874701040100	ATLANTIC MENHADEN	BREVOORTIA TYRANNUS
879103110100	CUSK	BROSME BROSME
879201010100	RED BROTULA	BROSMOPHYCIS MARGINATA
879201040100	BEARDED BROTULA	BROTULA BARBATA

884212060100	NUTCRACKER PRICKLEBACK	*BRYOZOICHTHYS LYSIMUS*
882002010500	PUGNOSE PIPEFISH	BRYX DUNCKERI
883543050100	GRASS PORGY	CALAMUS ARCTIFRONS
883543050200	JOLTHEAD PORGY	CALAMUS BAJONADO
883543050900	PACIFIC PORGY	CALAMUS BRACHYSOMUS
883543050300	SAUCEREYE PORGY	CALAMUS CALAMUS
883543050500	WHITEBONE PORGY	CALAMUS LEUCOSTEUS
883543050600	KNOBBED PORGY	CALAMUS NODOSUS
883543050700	SHEEPSHEAD PORGY	CALAMUS PENNA
883543050800	LITTLEHEAD PORGY	CALAMUS PRORIDENS
874113030200	SHORTTAIL SNAKE EEL	CALLECHELYS GUINIENSIS
874113030100	BLOTCHED SNAKE EEL	CALLECHELYS MURAENA
874113040100	RIDGEFIN EEL	CALLECHELYS SPRINGERI
886002040100	WHITESPOTTED FILEFISH	CANTHERHINES MACROCERUS
886002040200	ORANGESPOTTED FILEFISH	CANTHERHINES PULLUS
886101535700	SHARPNOSE PUFFER	CANTHGASTER ROSTRATA
886002050100	ROUGH TRIGGERFISH	CANTHIDERMIS MACULATA
886002050200	OCEAN TRIGGERFISH	CANTHIDERMIS SUFFLAMEN
874113170100	SLANTLIP EEL	CARALOPHIA LOXOCHILA
883528030100	YELLOW JACK	CARANX BARTHOLOMAEI
883528030500	GREEN JACK	CARANX CABALLUS
883528030600	BLUE RUNNER	CARANX CRYSOS
883528030300	CREVALLE JACK	CARANX HIPPOS
883528030400	HORSE-EYE JACK	CARANX LATUS
883528030700	BLACK JACK	CARANX LUGUBRIS
883528030800	BAR JACK	CARANX RUBER
879202010100	PEARLFISH	CARAPUS BERMUDENSIS
870802050400	BLACKNOSE SHARK	CARCHARHINUS ACRONOTUS
870802050500	BIGNOSE SHARK	CARCHARHINUS ALTIMUS
870802051300	NARROWTOOTH SHARK	CARCHARHINUS BRACHYURUS
870802050900	SPINNER SHARK	CARCHARHINUS BREVIPINNA
870802050600	SILKY SHARK	CARCHARHINUS FALCIFORMIS
870802100100	FINETOOTH SHARK	CARCHARHINUS ISODON
870802050200	BULL SHARK	CARCHARHINUS LEUCAS
870802050700	BLACKTIP SHARK	CARCHARHINUS LIMBATUS
870802050800	OCEAN WHITETIP SHARK	CARCHARHINUS LONGIMANUS
870802050100	DUSKY SHARK	CARCHARHINUS OBSCURUS
870802051400	REEF SHARK	CARCHARHINUS PEREZI
870802050300	SANDBAR SHARK	CARCHARHINUS PLUMBEUS
870802051200	SMALLTAIL SHARK	CARCHARHINUS POROSUS
870802070100	NIGHT SHARK	CARCHARHINUS SIGNATUS
870704010100	WHITE SHARK	CARCHARODON CARCHARIAS
883109023200	LONGFIN SNAILFISH	CAREPROCTUS LONGIPINNIS
883109021500	BLACKTAIL SNAILFISH	CAREPROCTUS MELANURUS
877604010200	WHITE SUCKER	CATOSTOMUS COMMERSONI
883522010200	BLACKLINE TILEFISH	CAULOLATILUS CYANOPS
883522010100	OCEAN WHITEFISH	CAULOLATILUS PRINCEPS
884212220100	MONKEYFACE PRICKLEBACK	CEBIDICHTHYS VIOLACEUS
883501010200	SWORDSPINE SNOOK	CENTROPOMUS ENSIFERUS
883501010300	FAT SNOOK	CENTROPOMUS PARALLELUS
883501010400	TARPON SNOOK	CENTROPOMUS PECTINATUS
883501010500	COMMON SNOOK	CENTROPOMUS UNDECIMALIS
883502030400	BANK SEA BASS	CENTROPRISTIS OCYURUS
883502030500	ROCK SEA BASS	CENTROPRISTIS PHILADELPHICA
883502030100	BLACK SEA BASS	CENTROPRISTIS STRIATA
883555020100	CHERUBFISH	CENTROPYGE ARGI
871001090100	BLACK DOGFISH	CENTROSCYLLIUM FABRICII
876214010100	DOGTOOTH LAMPFISH	CERATOSCOPELUS TOWNSENDI
884706010100	PUGJAW WORMFISH	CERDALE FLORIDANA
874702040200	ANCHOVETA	CETENGRAULIS MYSTICETUS
870704020100	BASKING SHARK	CETORHINUS MAXIMUS
884209100100	ORANGETHROAT PIKEBLENNY	CHAENOPSIS ALEPIDOTA
884209515000	BLUETHROAT PIKEBLENNY	CHAENOPSIS OCELLATA
883552010100	ATLANTIC SPADEFISH	CHAETODIPTERUS FABER

883552010200	PACIFIC SPADEFISH	CHAETODIPTERUS ZONATUS
883555050100	LONGSNOUT BUTTERFLYFISH	CHAETODON ACULEATUS
883555010200	BANK BUTTERFLYFISH	CHAETODON AYA
883555010300	FOUREYE BUTTERFLYFISH	CHAETODON CAPISTRATUS
883555010100	SPOTFIN BUTTERFLYFISH	CHAETODON OCELLATUS
883555010700	REEF BUTTERFLYFISH	CHAETODON SEDENTARIUS
883555010800	BANDED BUTTERFLYFISH	CHAETODON STRIATUS
885703070100	PELICAN FLOUNDER	CHASCANOPSETTA LUGUBRIS
884201030100	STRIPED BLENNY	CHASMODES BOSQUIANUS
884201030200	FLORIDA BLENNY	CHASMODES SABURRAE
875906010100	PACIFIC VIPERFISH	CHAULIODUS MACOUNI
883544230100	BLACK CROAKER	CHEILOTREMA SATURNUM
879201070200	SPOTTED CUSK-EEL	CHILARA TAYLORI
886103010600	PACIFIC BURRFISH	CHILOMYCTERUS AFFINIS
886103010200	BRIDLED BURRFISH	CHILOMYCTERUS ANTENNATUS
886103010300	WEB BURRFISH	CHILOMYCTERUS ANTILLARUM
886103010400	SPOTTED BURRFISH	CHILOMYCTERUS ATINGA
886103010100	STRIPED BURRFISH	CHILOMYCTERUS SCHOEPFI
874104010100	SEAGRASS EEL	CHILORHINUS SUENSONI
884212050500	ATLANTIC WARBONNET	CHIROLOPHIS ASCANII
884212050300	DECORATED WARBONNET	CHIROLOPHIS DECORATUS
884212050200	MOSSHEAD WARBONNET	CHIROLOPHIS NUGATOR
884212050100	MATCHEEK WARBONNET	CHIROLOPHIS TARSODES
883102400100	ROUGHBACK SCULPIN	CHITONOTUS PUGETTENSIS
870501010100	FRILL SHARK	CHLAMYDOSELACHUS ARGUINEUS
874104050100	BICOLOR EEL	CHLOPSIS BICOLOR
876204010100	SHORTNOSE GREENEYE	CHLOROPHTHALMUS AGASSIZI
883528040100	ATLANTIC BUMPER	CHLOROSCOMBRUS CHRYSURUS
883528040200	PACIFIC BUMPER	CHLOROSCOMBRUS ORQUETA
880301040100	HARDHEAD HALFBEAK	CHRIODORUS ATHERINOIDES
883562030100	BLUE CHROMIS	CHROMIS CYANEA
883562030200	YELLOWTAIL REEFFISH	CHROMIS ENCHRYSURUS
883562030300	SUNSHINEFISH	CHROMIS INSOLATA
883562030500	BROWN CHROMIS	CHROMIS MULTILINEATA
883562030600	BLACKSMITH	CHROMIS PUNCTIPINNIS
883562030700	PURPLE REEFFISH	CHROMIS SCOTTI
885703010400	GULF STREAM FLOUNDER	CITHARICHTHYS ARCTIFRONS
885703010500	SAND WHIFF	CITHARICHTHYS ARENACEUS
885703010600	HORNED WHIFF	CITHARICHTHYS CORNUTUS
885703010900	SPOTTED WHIFF	CITHARICHTHYS MACROPS
885703010100	PACIFIC SANDDAB	CITHARICHTHYS SORDIDUS
885703011000	BAY WHIFF	CITHARICHTHYS SPILOPTERUS
885703010200	SPECKLED SANDDAB	CITHARICHTHYS STIGMAEUS
885703011100	LONGFIN SANDDAB	CITHARICHTHYS XANTHOSTIGMA
883901040100	CREOLE WRASSE	CLEPTICUS PARRAE
884701010100	ARROW GOBY	CLEVELANDIA IOS
883102070100	SHARPNOSE SCULPIN	CLINOCOTTUS ACUTICEPS
883102070400	WOOLY SCULPIN	CLINOCOTTUS ANALIS
883102070200	CALICO SCULPIN	CLINOCOTTUS EMBRYUM
883102070300	MOSSHEAD SCULPIN	CLINOCOTTUS GLOPICEPS
883102070500	BALD SCULPIN	CLINOCOTTUS RECALVUS
874701020100	ATLANTIC HERRING	CLUPEA HARENGUS
874701020100	PACIFIC HERRING	CLUPEA PALLASI
880303010100	PACIFIC SAURY	COLOLABIS SAIRA
874112010100	CONGER EEL	CONGER OCEANICUS
874112010200	MANYTOOTH CONGER	CONGER TRIPORICEPS
883540040100	BARRED GRUNT	CONODON NOBILIS
883517030100	BULLEYE	COOKEOLUS JAPONICUS
884209020400	BLACKHEAD BLENNY	CORALLIOZETUS BAHAMENSIS
884209020600	GLASS BLENNY	CORALLIOZETUS DIAPHANUS
875501010600	LAKE WHITEFISH	COREGONUS CLUPEAFORMIS
881008060100	SPINYCHEEK SOLDIERFISH	CORNIGER SPINOSUS
883529010200	POMPANO DOLPHIN	CORYPHAENA EQUISETIS
883529010100	DOLPHIN	CORYPHAENA HIPPURUS

884701020200	BARFIN GOBY	*CORYPHOPTERUS ALLOIDES*
884701020300	COLON GOBY	CORYPHOPTERUS DICRUS
884701020400	PALLID GOBY	CORYPHOPTERUS EIDOLON
884701020500	BRIDLED GOBY	CORYPHOPTERUS GLAUCOFRAENUM
884701020600	GLASS GOBY	CORYPHOPTERUS HYALINUS
884701020700	PEPPERMINT GOBY	CORYPHOPTERUS LIPERNES
884701020100	BLACKEYE GOBY	CORYPHOPTERUS NICHOLSI
884701020800	MASKED GOBY	CORYPHOPTERUS PERSONATUS
884701020900	SPOTTED GOBY	CORYPHOPTERUS PUNCIPECTOPHORUS
884701021000	BARTAIL GOBY	CORYPHOPTERUS THRIX
882002040100	WHITENOSE PIPEFISH	COSMOCAMPUS ALBIROSTRIS
882002040300	CRESTED PIPEFISH	COSMOCAMPUS BRACHYCEPHALUS
882002010600	SHORTFIN PIPEFISH	COSMOCAMPUS ELUCENS
882002011200	DWARF PIPEFISH	COSMOCAMPUS HILDEBRANDI
882002040200	DEEPWATER PIPEFISH	COSMOCAMPUS PROFUNDUS
883102080100	COASTRANGE SCULPIN	COTTUS ALEUTICUS
883102080300	PRICKLY SCULPIN	COTTUS ASPER
884209110100	DEEPWATER BLENNY	CRYPOTREMA CORALLINUM
884212160100	DWARF WRYMOUTH	CRYPTACANTHODES ALEUTENSIS
884212150100	GIANT WRYMOUTH	CRYPTACANTHODES GIGANTEA
884212200100	WRYMOUTH	CRYPTACANTHODES MACULATUS
878808020100	TRIPLEWART SEADEVIL	CRYPTOPSARAS COUESI
883903020100	BLUELIP PARROTFISH	CRYPTOTOMUS ROSEUS
883109030100	BLOTCHED SNAILFISH	CRYSTALLICHTHYS CYCLOPILUS
885102020300	LONGFIN CIGARFISH	CUBICEPS PARADOXUS
885102020100	BIGEYE CIGARFISH	CUBICEPS PAUCIRADIATUS
885703080100	MEXICAN FLOUNDER	CYCLOPSETTA CHITTENDENI
885703080200	SPOTFIN FLOUNDER	CYCLOPSETTA FIMBRIATA
883109040500	ARCTIC LUMPSUCKER	CYCLOPTEROPSIS MACALPINI
883109150100	LUMPFISH	CYCLOPTERUS LUMPUS
883560020100	SHINER PERCH	CYMATOGASTER AGGREGATA
883544010600	SAND SEATROUT	CYNOSCION ARENARIUS
883544010200	SPOTTED SEATROUT	CYNOSCION NEBULOSUS
883544010300	SILVER SEATROUT	CYNOSCION NOTHUS
883544011400	SHORTFIN CORVINA	CYNOSCION PARVIPINNIS
883544010400	WEAKFISH	CYNOSCION REGALIS
880404010100	SHEEPSHEAD MINNOW	CYPRINODON VARIEGATUS
877601010100	COMMON CARP	CYPRINUS CARPIO
880301010700	CALIFORNIA FLYINGFISH	CYPSELURUS CALIFORNICUS
880301010200	CLEARWING FLYINGFISH	CYPSELURUS COMATUS
880301010300	MARGINED FLYINGFISH	CYPSELURUS CYANOPTERUS
880301010400	BANDWING FLYINGFISH	CYPSELURUS EXSILIENS
880301010500	SPOTFIN FLYINGFISH	CYPSELURUS FURCATUS
880301010100	ATLANTIC FLYINGFISH	CYPSELURUS MELANURUS
883201010100	FLYING GURNARD	DACTYLOPTERUS VOLITANS
884013020200	BIGEYE STARGAZER	DACTYLOSCOPUS CROSSOTUS
884013020100	SAND STARGAZER	DACTYLOSCOPUS TRIDIGITATUS
871001040100	KITEFIN SHARK	DALATIAS LICHA
871305010300	SOUTHERN STINGRAY	DASYATIS AMERICANA
871305010400	ROUGHTAIL STINGRAY	DASYATIS CENTROURA
871305010100	DIAMOND STINGRAY	DASYATIS DIPTERURA
871305010500	ATLANTIC STINGRAY	DASYATIS SABINA
871305010600	BLUNTNOSE STINGRAY	DASYATIS SAY
871305010200	PELAGIC STINGRAY	DASYATIS VIOLACEA
883102090100	SPINYHEAD SCULPIN	DASYCOTTUS SETIGER
883528120100	MACKEREL SCAD	DECAPTERUS MACARELLUS
883528120200	ROUND SCAD	DECAPTERUS PUNCTATUS
883528120400	MEXICAN SCAD	DECAPTERUS SCOMBRINUS
883528120300	REDTAIL SCAD	DECAPTERUS TABL
883901050100	RED HOGFISH	DECODON PUELLARIS
881502020100	POLKA-DOT RIBBONFISH	DESMODEMA POLYSTICTUM
876214020100	CALIFORNIA HEADLIGHTFISH	DIAPHUS THETA
883539020100	IRISH POMPANO	DIAPTERUS AURATUS
883539020300	STRIPED MOJARRA	DIAPTERUS PLUMIERI

886103020200	BALLONFISH	DIODON HOLOCANTHUS
886103020100	PORCUPINEFISH	DIODON HYSTRIX
876214080200	DIOGENES LAMPFISH	DIOGENYS LATERNATUS
883502100200	SAND PERCH	DIPLECTRUM FORMOSUM
883502100500	DWARF SAND PERCH	DIPLECTRUM BIVITTATUM
883543040200	SILVER PORGY	DIPLODUS ARGENTEUS
883543040100	SPOTTAIL PINFISH	DIPLODUS HOLBROOKI
884601010300	SPOTTED DRAGONET	DIPLOGRAMMUS PAUCIRADIATUS
883901060100	DWARF WRASSE	DORATONOTUS MEGALEPIS
884701330100	PACIFIC FAT SLEEPER	DORMITATOR LATIFRONS
884701330200	FAT SLEEPER	DORMITATOR MACULATUS
874701050100	GIZZARD SHAD	DOROSOMA CEPEDIANUM
874701050200	THREADFIN SHAD	DOROSOMA PETENENSE
874117010100	SHORTBELLY EEL	DYSOMMA ANGUILLARE
874105030100	VIPER MORAY	ECHELYCORE NIGRICANS
883527020100	SHARKSUCKER	ECHENEIS NAUCRATES
883527020200	WHITEFIN SHARKSUCKER	ECHENEIS NEUCRATOIDES
874105020100	CHAIN MORAY	ECHIDNA CATENATA
871001100100	PRICKLY SHARK	ECHINORHINUS COOKEI
874113090100	SPOTTED SPOON-NOSE EEL	ECHIOPHIS INTERTINCTUS
874113090200	SNAPPER EEL	ECHIOPHIS PUNCTIFER
883528130100	RAINBOW RUNNER	ELEGATIS BIPINNULATUS
879103030100	SAFFRON COD	ELEGINUS GRACILIS
873801010200	MACHETE	ELOPS AFFINIS
873801010100	LADYFISH	ELOPS SAURUS
885704030100	DEEPSEA SOLE	EMBASSICHTHYS BATHYBIUS
883560030200	BLACK PERCH	EMBIOTOCA JACKSONI
883560030100	STRIPED SEAPERCH	EMBIOTOCA LATERALIS
884209020100	BANNER BLENNY	EMBLEMARIA ATLANTICA
884209020200	SAILFIN BLENNY	EMBLEMARIA PANDIONIS
884209020300	PIRATE BLENNY	EMBLEMARIA PIRATULA
883535010100	BONNETMOUTH	EMMELICHTHYOPS ALANTICUS
879103150100	FOURBEARD ROCKLING	ENCHELYOPUS CIMBRIUS
884208010100	LOFTY TRIPLEFIN	ENEANECTES ALTIVELIS
874702010200	CAMIGUANA ANCHOVY	ENGRAULIS ESTAUQUAE
874702010300	SILVER ANCHOVY	ENGRAULIS EURYSTOLE
874702010100	NORTHERN ANCHOVY	ENGRAULIS MORDAX
885703090100	SPINY FLOUNDER	ENGYOPHRYS SENTA
884208010300	REDEYE TRIPLEFIN	ENNEANECTES PECTORALIS
883102100100	BUFFALO SCULPIN	ENOPHRYS BISON
883102100200	ANTLERED SCULPIN	ENOPHRYS DICERAUS
883102100300	LEISTER SCULPIN	ENOPHRYS LUCASI
883102100400	BULL SCULPIN	ENOPHRYS TAURINA
885704110100	SLENDER SOLE	EOPSETTA EXILIS
885704040100	PETRALE SOLE	EOPSETTA JORDANI
883502040200	ROCK HIND	EPINEPHELUS ADSCENSIONIS
883502040300	SPOTTED CABRILLA	EPINEPHELUS ANALOGUS
883502060100	MUTTON HAMLET	EPINEPHELUS AFER
883502180100	GRAYSBY	EPINEPHELUS CRUENTATUS
883502040400	SPECKLED HIND	EPINEPHELUS DRUMMONDHAYI
883502040500	YELLOWEDGE GROUPER	EPINEPHELUS FLAVOLIMBATUS
883502080200	CONEY	EPINEPHALUS FULVA
883502040600	RED HIND	EPINEPHELUS GUTTATUS
883502090100	MARBLED GROUPER	EPINEPHALUS INERMIS
883502040100	JEWFISH	EPINEPHELUS ITAJARA
883502040800	RED GROUPER	EPINEPHELUS MORIO
883502040900	MISTY GROUPER	EPINEPHELUS MYSTACINUS
883502041000	WARSAW GROUPER	EPINEPHELUS NIGRITUS
883502041100	SNOWY GROUPER	EPINEPHELUS NIVEATUS
883502041200	NASSAU GROUPER	EPINEPHELUS STRIATUS
860601010100	BLACK HAGFISH	EPTATRETUS DEANI
860601010200	PACIFIC HAGFISH	EPTATRETUS STOUTI
883544120100	HIGH-HAT	EQUETUS ACUMINATUS
883544120200	JACKKNIFE-FISH	EQUETUS LANCEOLATUS

883544120500	SPOTTED DRUM	EQUETUS PUNCTATUS
883544120600	CUBBYU	EQUETUS UMBROSUS
882702020100	SKILFISH	ERILEPIS ZONIFER
884701180100	EMERALD SLEEPER	EROTELIS SMARAGDUS
885704050100	REX SOLE	ERREX ZACHIRUS
875801010100	NORTHERN PIKE	ESOX LUCIUS
875801010400	MUSKELLUNGE	ESOX MASQUINONGY
875801010300	CHAIN PICKEREL	ESOX NIGER
883536030100	QUEEN SNAPPER	ETELIS OCULATUS
885703020100	FRINGED FLOUNDER	ETROPUS CROSSOTUS
885703020200	SMALLMOUTH FLOUNDER	ETROPUS MICROSTOMUS
885703020400	GRAY FLOUNDER	ETROPUS RIMOSUS
874701060100	ROUND HERRING	ETRUMEUS TERES
883539010100	SPOTFIN MOJARRA	EUCINOSTOMUS ARGENTEUS
883539010700	PACIFIC FLAGFIN MOJARRA	EUCINOSTOMUS GRACILIS
883539010200	SILVER JENNY	EUCINOSTOMUS GULA
883539010800	BIGEYE MOJARRA	EUCINOSTOMUS HAVANA
883539010600	SLENDER MOJARRA	EUCINOSTOMUS JONESI
883539010400	MOTTLED MOJARRA	EUCINOSTOMUS LEFROYI
883539010500	FLAGFIN MOJARRA	EUCINOSTOMUS MELANOPTERUS
884701320100	TIDEWATER GOBY	EUCYCLOGOBIUS NEWBERRYI
880301060100	FLYING HALFBEAK	EULEPTORHAMPHUS VELOX
880301060200	RIBBON HALFBEAK	EULEPTORHAMPHUS VIRIDIS
881501020100	UNICORNFISH	EUMECICHTHYS FISKI
884212170100	FOURLINE SNAKEBLENNY	EUMESOGRAMMUS PRAECISUS
883109050100	PIMPLED LUMPSUCKER	EUMICROTREMUS ANDRIASHEVI
883109050400	LEATHERFIN LUMPSUCKER	EUMICROTREMUS DERJUGINI
883109050600	PACIFIC SPINY LUMPSUCKER	EUMICROTREMUS ORBIS
883109050800	ATLANTIC SPINY LUMPSUCKER	EUMICROTREMUS SPINOSUS
885003010300	KAWAKAWA	EUTHYNNUS AFFINIS
885003010200	LITTLE TUNNY	EUTHYNNUS ALLETTERATUS
885003010400	BLACK SKIPJACK	EUTHYNNUS LINEATUS
884701100200	SPONGE GOBY	EVERMANNICHTHYS SPONGICOLA
884701040100	LYRE GOBY	EVORTHODUS LYRICUS
880301070100	OCEAN TWO-WING FLYINGFISH	EXOCOETUS OBTUSIROSTRIS
880301070200	TROPICAL TWO-WING FLYINGFISH	EXOCOETUS VOLITANS
881902010300	RED CORNETFISH	FISTULARIA PETIMBA
881902010100	BLUESPOTTED CORNETFISH	FISTULARIA TABACARIA
880404050100	GOLDSPOTTED KILLIFISH	FLORIDICHTHYS CARPIO
884601010100	SPOTFIN DRAGONET	FOETOREPUS AGASSIZI
880404020100	MARSH KILLIFISH	FUNDULUS CONFLUENTUS
880404020700	GULF KILLIFISH	FUNDULUS GRANDIS
880404020300	MUMMICHOG	FUNDULUS HETEROCLITUS
880404020900	SALTMARSH TOPMINNOW	FUNDULUS JENKINSI
880404020400	SPOTFIN KILLIFISH	FUNDULUS LUCIAE
880404020500	STRIPED KILLIFISH	FUNDULUS MAJALIS
880404021200	BAYOU KILLIFISH	FUNDULUS PULVEREUS
879103040100	PACIFIC COD	GADUS MACROCEPHALUS
879103040200	ATLANTIC COD	GADUS MORHUA
879103040300	GREENLAND COD	GADUS OGAC
870802020100	TIGER SHARK	GALEOCERDO CUVIER
870802010100	SOUPFIN SHARK	GALEORHINUS ZYOPTERUS
880408010100	WESTERN MOSQUITOFISH	GAMBUSIA AFFINIS
880408010200	MANGROVE GAMBUSIA	GAMBUSIA RHIZOPHORAE
881801010100	THREESPINE STICKLEBACK	GASTEROSTEUS ACULEATUS
881801010200	BLACKSPOTTED STICKLEBACK	GASTEROSTEUS WHEATLANDI
885703100100	SHRIMP FLOUNDER	GASTROPSETTA FRONTALIS
885001020100	SNAKE MACKEREL	GEMPYLUS SERPENS
883544020100	WHITE CROAKER	GENYONEMUS LINEATUS
883539030100	YELLOWFIN MOJARRA	GERRES CINEREUS
884209010300	SPOTTED KELPFISH	GIBBONSIA ELEGANS
884209010100	STRIPED KELPFISH	GIBBONSIA METZI
884209010200	CREVICE KELPFISH	GIBBONSIA MONTEREYENSIS
884013010100	ARROW STARGAZER	GILLELLUS GREYAE

884013010300	WARTEYE STARGAZER	GILLELLUS URANIDEA
870702010100	NURSE SHARK	GINGLYMOSTOMA CIRRATUM
883551020100	OPALEYE	GIRELLA NIGRICANS
875601030200	PYGMY ARGENTINE	GLOSSANODON PYGMAEUS
884014020100	FRECKLED STARGAZER	GNATHAGNUS EGREGIUS
884701110100	GOLDSPOT GOBY	GNATHOLEPIS THOMPSONI
874112040100	CATALINA CONGER	GNATHOPHIS CATALINENSIS
878401010300	LINED CLINGFISH	GOBIESOX EUGRAMMUS
878401010100	NORTHERN CLINGFISH	GOBIESOX MAEANDRICUS
878401010400	BEARDED CLINGFISH	GOBIESOX PAPILLIFER
878401010500	STIPPLED CLINGFISH	GOBIESOX PUNCTULATUS
878401010600	CALIFORNIA CLINGFISH	GOBIESOX RHESSODON
878401010200	SKILLETFISH	GOBIESOX STRUMOSUS
884701120100	VIOLET GOBY	GOBIOIDES BROUSSONNETI
884701340100	BIGMOUTH SLEEPER	GOBIOMORUS DORMITOR
884701051200	DARTER GOBY	GOBIONELLUS BOLEOSOMA
884701050300	HIGHFIN GOBY	GOBIONELLUS OCEANICUS
884701050100	DASH GOBY	GOBIONELLUS SAEPEPALLENS
884701050900	LONGTAIL GOBY	GOBIONELLUS SAGITULLA
884701050400	FRESHWATER GOBY	GOBIONELLUS SHUFELDTI
884701051100	EMERALD GOBY	GOBIONELLUS SMARAGDUS
884701050500	SPOTFIN GOBY	GOBIONELLUS STIGMALOPHIUS
884701050600	SPOTTAIL GOBY	GOBIONELLUS STIGMATURUS
884701060100	NAKED GOBY	GOBIOSOMA BOSC
884701060200	SEABOARD GOBY	GOBIOSOMA GINSBURGI
884701060500	YELLOWLINE GOBY	GOBIOSOMA HORSTI
884701060600	TWOSCALE GOBY	GOBIOSOMA LONGIPALA
884701060700	TIGER GOBY	GOBIOSOMA MACRODON
884701060800	NEON GOBY	GOBIOSOMA OCEANOPS
884701060300	CODE GOBY	GOBIOSOMA ROBUSTUM
884701060900	YELLOWPROW GOBY	GOBIOSOMA XANTHIPRORA
884701220100	PALEBACK GOBY	GOBULUS MYERSI
883502110100	SPANISH FLAG	GONIOPLECTRUS HISPANUS
874113050100	HORSEHAIR EEL	GORDIICHTHYS IRRETITUS
874113050200	THREAD EEL	GORDIICHTHYS SPRINGERI
879201230100	GOLD BROTULA	GUNTERICHTHYS LONGIPENIS
885801030100	NAKED SOLE	GYMNACHIRUS MELAS
885801030200	FRINGED SOLE	GYMNACHIRUS TEXAE
879301040300	FISH DOCTOR	GYMNELUS VIRIDUS
883102130200	ARMORHEAD SCULPIN	GYMNOCANTHUS GALEATUS
883102130400	ARCTIC STAGHORN SCULPIN	GYMNOCANTHUS TRICUSPIS
884212070100	TRIDENT PRICKLEBACK	GYMNOCLINUS CRISTULATUS
874105040100	GREEN MORAY	GYMNOTHORAX FUNEBRIS
874105040900	CALIFORNIA MORAY	GYMNOTHORAX MORDAX
874105040300	SPOTTED MORAY	GYMNOTHORAX MORINGA
874105040400	BLACKEDGE MORAY	GYMNOTHORAX NIGROMARGINATUS
874105040800	PURPLEMOUTH MORAY	GYMNOTHORAX VICINUS
871305020100	SPINY BUTTERFLY RAY	GYMNURA ALTAVELA
871305020300	CALIFORNIA BUTTERFLY RAY	GYMNURA MARMORATA
871305020200	SMOOTH BUTTERFLY RAY	GYMNURA MICRURA
885704050200	WITCH FLOUNDER	GYPTOCEPHALUS CYNOGLOSSUS
883540010300	MARGATE	HAEMULON ALBUM
883540010100	TOMTATE	HAEMULON AUROLINEATUM
883540010600	CAESAR GRUNT	HAEMULON CARBONARIUM
883540010700	SMALLMOUTH GRUNT	HAEMULON CHRYSARGYREUM
883540010800	FRENCH GRUNT	HAEMULON FLAVOLINEATUM
883540011000	SPANISH GRUNT	HAEMULON MACROSTOMUM
883540011100	COTTONWICK	HAEMULON MELANURUM
883540011700	SAILORS CHOICE	HAEMULON PARRA
883540010200	WHITE GRUNT	HAEMULON PLUMIERI
883540011300	BLUESTRIPED GRUNT	HAEMULON SCIURUS
883540011600	STRIPED GRUNT	HAEMULON STRIATUM
883901070100	GREENBAND WRASSE	HALICHOERES BATHYPHILUS
883901070200	SLIPPERY DICK	HALICHOERES BIVITTATUS

883901070300	PAINTED WRASSE	HALICHOERES CAUDALIS
883901070400	YELLOWCHEEK WRASSE	HALICHOERES CYANOCEPHALUS
883901070500	YELLOWHEAD WRASSE	HALICHOERES GARNOTI
883901070600	CLOWN WRASSE	HALICHOERES MACULIPINNA
883901070700	RAINBOW WRASSE	HALICHOERES PICTUS
883901070800	BLACKEAR WRASSE	HALICHOERES POEYI
883901070900	PUDDINGWIFE	HALICHOERES RADIATUS
883901071000	ROCK WRASSE	HALICHOERES SEMICINCTUS
878704030100	PANCAKE BATFISH	HALIEUTICHTHYS ACULEATUS
874701080100	FALSE PILCHARD	HARENGULA CLUPEOLA
874701080200	REDEAR SARDINE	HARENGULA HUMERALIS
874701080400	SCALED SARDINE	HARENGULA JAGUANA
874701080500	FLATIRON HERRING	HARENGULA THRISSINA
882601030100	BLACKBELLY ROSEFISH	HELICOLENUS DACTYLOPTERUS
883502200100	STREAMER BASS	HEMANTHIAS AUROEORUBENS
883502120100	LONGTAIL BASS	HEMANTHIAS LEPTUS
883502120300	SPLITTAIL BASS	HEMANTHIAS SIGNIFER
883502120200	RED BARBIER	HEMANTHIAS VIVANUS
883528140100	BLUNTNOSE JACK	HEMICRANX AMBLYRHYNCHUS
884209120100	WRASSE BLENNY	HEMIEMBLEMARIA SIMULUS
883102140200	RED IRISH LORD	HEMILEPIDOTUS HEMILEPIDOTUS
883102140300	YELLOW IRISH LORD	HEMILEPIDOTUS JORDANI
883102440100	BUTTERFLY SCULPIN	HEMILEPIDOTUS PAPILIO
883102140500	BROWN IRISH LORD	HEMILEPIDOTUS SPINOSUS
883901080100	ROSY RAZORFISH	HEMIPTERONOTUS MARTINICENSIS
883901080200	PEARLY RAZORFISH	HEMIPTERONOTUS NOVACULA
883901080400	GREEN RAZORFISH	HEMIPTERONOTUS SPLENDENS
880301020200	BALAO	HEMIRAMPHUS BALAO
880301020100	BALLYHOO	HEMIRAMPHUS BRASILIENSIS
880301020400	LONGFIN HALFBEAK	HEMIRAMPHUS SALTATOR
883102150300	SEA RAVEN	HEMITRIPTERUS AMERICANUS
883102150200	BIGMOUTH SCULPIN	HEMITRIPTERUS BOLINI
883551030100	ZEBRA PERCH	HERMOSILLA AZUREA
874112110100	BROWN GARDEN EEL	HETEROCONGER HALIS
870401010100	HORN SHARK	HETERODONTUS FRANCISCI
884209505000	GIANT KELPFISH	HETEROSTICHUS ROSTRATUS
882701010100	KELP GREENLING	HEXAGRAMMOS DECAGRAMMUS
882701010200	ROCK GREENLING	HEXAGRAMMOS LAGOCEPHALUS
882701010300	MASKED GREENLING	HEXAGRAMMOS OCTOGRAMMUS
882701010000	GREENLING	HEXAGRAMMOS SPP.
882701010400	WHITESPOTTED GREENLING	HEXAGRAMMOS STELLERI
870502010100	SIX GILL SHARK	HEXANCHUS GRISEUS
874112030200	YELLOW CONGER	HILDEBRANDIA FLAVA
874112030300	WHIPTAIL CONGER	HILDEBRANDIA GRACILIOR
878803020100	ATLANTIC FOOTBALLFISH	HIMANTOLOPHUS GROENLANDICUS
882002020100	LINED SEAHORSE	HIPPOCAMPUS ERECTUS
882002020600	PACIFIC SEAHORSE	HIPPOCAMPUS INGENS
882002020200	OFFSHORE SEAHORSE	HIPPOCAMPUS OBTUSUS
882002020400	LONGSNOUT SEAHORSE	HIPPOCAMPUS REIDI
882002020500	DWARF SEAHORSE	HIPPOCAMPUS ZOSTERAE
885703110200	BIGMOUTH SOLE	HIPPOGLOSSINA STOMATA
885704060100	FLATHEAD SOLE	HIPPOGLOSSOIDES ELASSODON
885704060300	AMERICAN DAB	HIPPOGLOSSOIDES PLATESSOIDES
885704060200	BERING FLOUNDER	HIPPOGLOSSOIDES ROBUSTUS
885704190200	ATLANTIC HALIBUT	HIPPOGLOSSUS HIPPOGLOSSUS
885704190100	PACIFIC HALIBUT	HIPPOGLOSSUS STENOLEPIS
880301090100	FOURWING FLYINGFISH	HIRUNDICHTHYS AFFINIS
880301090300	BLACKWING FLYINGFISH	HIRUNDICHTHYS RONDELETI
878702010100	SARGASSUMFISH	HISTRIO HISTRIO
883555030100	QUEEN ANGELFISH	HOLACANTHUS CILIARIS
883555030300	ROCK BEAUTY	HOLACANTHUS TRICOLOR
883502150100	ROUGHTONGUE BASS	HOLANTHIAS MARTINICENSIS
886001010200	SPOTTED SPIKEFISH	HOLLARDIA MEADI
881008010100	SQUIRRELFISH	HOLOCENTRUS ADSCENSIONIS

883555030400	BLUE ANGELFISH	HOLOCANTHUS BERMUDENSIS
881008010200	DEEPWATER SQUIRRELFISH	HOLOCENTRUS BULLISI
881008010400	REEF SQUIRRELFISH	HOLOCENTRUS CORUSCUS
881008010500	LONGJAW SQUIRRELFISH	HOLOCENTRUS MARIANUS
881008010300	LONGSPINE SQUIRRELFISH	HOLOCENTRUS RUFUS
881008010600	DUSKY SQUIRRELFISH	HOLOCENTRUS VEXILLARIUS
874108010200	FRECKLED PIKE-CONGER	HOPLUNNIS MACRURUS
871602010100	SPOTTED RATFISH	HYDROLAGUS COLLIEI
885101020200	BLACK DRIFTFISH	HYPEROGLYPHE BYTHITES
885101020100	BARRELFISH	HYPEROGLYPHE PERCIFORMIS
883560040300	SPOTFIN SURFPERCH	HYPERPROSOPON ANALE
883560040100	WALLEYE SURFPERCH	HYPERPROSOPON ARGENTEUM
883560040200	SILVER SURFPERCH	HYPERPROSOPON ELLIPTICUM
884201050200	OYSTER BLENNY	HYPLEUROCHILUS AEQUIPINNIS
884201050300	BARRED BLENNY	HYPLEUROCHILUS BERMUDENSIS
884201050100	CRESTED BLENNY	HYPLEUROCHILUS GEMINATUS
884201050400	ORANGESPOTTED BLENNY	HYPLEUROCHILUS SPRINGERI
880502040200	REEF SILVERSIDE	HYPOATHERINA HARRINGTONENSIS
875503010100	SURF SMELT	HYPOMESUS PRETIOSUS
875503010300	DELTA SMELT	HYPOMESUS TRANSPACIFICUS
883502130100	BUTTER HAMLET	HYPOPLECTRUS UNICOLOR
885704220100	DIAMOND TURBOT	HYPOPSETTA GUTTULATA
880301030400	CALIFORNIA HALFBEAK	HYPORHAMPHUS ROSAE
880301030100	SILVERSTRIPE HALFBEAK	HYPORHAMPHUS UNIFASCIATUS
877730010100	SUCKERMOUTH CATFISH	HYPOSTOMUS PLECOSTOMUS
883108070100	FOURHORN POACHER	HYPSAGONUS QUADRICORNIS
884201020400	ROCKPOOL BLENNY	HYPSOBLENNIUS GILBERTI
884201020300	BAY BLENNY	HYPSOBLENNIUS GENTILIS
884201020100	FEATHER BLENNY	HYPSOBLENNIUS HENTZ
884201020200	FRECKLED BLENNY	HYPSOBLENNIUS IONTHAS
884201020500	MUSSEL BLENNY	HYPSOBLENNIUS JENKINSI
883560080100	RAINBOW SEAPERCH	HYPSURUS CARYI
883562070100	GARIBALDI	HYPSYPOPS RUBICUNDA
883102160100	NORTHERN SCULPIN	ICELINUS BOREALIS
883102160200	DUSKY SCULPIN	ICELINUS BURCHAMI
883102160600	PIT-HEAD SCULPIN	ICELINUS CAVIFRONS
883102160300	THREADFIN SCULPIN	ICELINUS FILAMENTOSUS
883102160700	FRINGED SCULPIN	ICELINUS FIMBRIATUS
883102160500	FROGMOUTH SCULPIN	ICELINUS OCULATUS
883102160800	YELLOWCHIN SCULPIN	ICELINUS QUADRISERIATUS
883102160400	SPOTFIN SCULPIN	ICELINUS TENUIS
883101010100	TWOHORN SCULPIN	ICELUS BICORNIS
883101010500	SPATULATE SCULPIN	ICELUS SPATULA
874113110300	SURF EEL	ICHTHYAPUS OPHIONEUS
885101010100	MEDUSAFISH	ICICHTHYS LOCKINGTONI
884301010100	RAGFISH	ICOSTEUS AENAGMATICUS
877702010200	BLUE CATFISH	ICTALURUS FURCATUS
877702010500	CHANNEL CATFISH	ICTALURUS PUNCTATUS
884701230100	CHEEKSPOT GOBY	ILYPNUS GILBERTI
883535020100	BOGA	INERMIA VITTATA
884701140100	BLUE GOBY	IOGLOSSUS CALLIURUS
885006010100	SAILFISH	ISTIOPHORUS PLATYPTERUS
870704050100	SHORTFIN MAKO SHARK	ISURUS OXYRINCHUS
874701090100	DWARF HERRING	JENKINSIA LAMPROTAENIA
874701090200	LITTLE-EYE HERRING	JENKINSIA MAJUA
883102420100	LONGFIN SCULPIN	JORDANIA ZONOPE
884014030100	LANCER STARGAZER	KATHETOSTOMA ALBIGUTTA
884014030300	SMOOTH STARGAZER	KATHETOSTOMA AVERRUNCUS
885003010100	SKIPJACK TUNA	KATSUWONUS PELAMIS
874104020100	FALSE MORAY	KAUPICHTHYS HYOPOROIDES
883551010100	YELLOW CHUB	KYPHOSUS INCISOR
883551010200	BERMUDA CHUB	KYPHOSUS SECTATRIX
884209030100	PUFFCHEEK BLENNY	LABRISOMUS BUCCIFERUS
884209030300	PALEHEAD BLENNY	LABRISOMUS GOBIO

884209030400	MIMIC BLENNY	LABRISOMUS GUPPYI
884209030500	LONGFIN BLENNY	LABRISOMUS HAITIENSIS
884209030800	DOWNY BLENNY	LABRISOMUS KALISHERAE
884209030600	SPOTCHEEK BLENNY	LABRISOMUS NIGRICINCTUS
884209030700	HAIRY BLENNY	LABRISOMUS NUCHIPINNIS
886003010200	SPOTTED TRUNKFISH	LACTOPHRYS BICAUDALIS
886003020200	HONEYCOMB COWFISH	LACTOPHRYS POLYGONIA
886003020100	SCRAWLED COWFISH	LACTOPHRYS QUADRICORNIS
886003010100	TRUNKFISH	LACTOPHRYS TRIGONUS
886003010300	SMOOTH TRUNKFISH	LACTOPHRYS TRIQUETER
886101010100	SMOOTH PUFFER	LAGOCEPHALUS LAEVIGATUS
886101010000	OCEANIC PUFFER	LAGOCEPHALUS LAGOCEPHALUS
883543020100	PINFISH	LAGODON RHOMBOIDES
870704030100	SALMON SHARK	LAMNA DITROPIS
870704030200	PORBEAGLE	LAMNA NASUS
876214030200	PINPOINT LAMPFISH	LAMPANYCTUS REGALIS
860301020300	ARCTIC LAMPREY	LAMPETRA JAPONICA
860301010100	PACIFIC LAMPREY	LAMPETRA TRIDENTATA
881301010100	OPAH	LAMPRIS GUTTATUS
881301010100	OPAH	LAMPRIS REGIUS
883901090100	HOGFISH	LANCHNOLAIMUS MAXIMUS
883102430100	LAVENDER SCULPIN	LEIOCOTTUS HIRUNDO
883544040100	SPOT	LEIOSTOMUS XANTHURUS
885001030100	ESCOLAR	LEPIDOCYBIUM FLAVOBRUNNEUM
884701030100	BAY GOBY	LEPIDOGOBIUS LEPIDUS
885002040200	PACIFIC SCABBARDFISH	LEPIDOPUS FITCHI
873201010200	SPOTTED GAR	LEPISOSTEUS OCULATUS
873201010100	LONGNOSE GAR	LEPISOSTEUS OSSEUS
873201010300	SHORTNOSE GAR	LEPISOSTEUS PLATOSTOMUS
873201010500	FLORIDA GAR	LEPISOSTEUS PLATYRHINCUS
873201010400	ALLIGATOR GAR	LEPISOSTEUS SPATULA
883516050100	REDBREASTED SUNFISH	LEPOMIS AURITUS
883516050200	GREEN SUNFISH	LEPOMIS CYANELLUS
883516050500	PUMPKINSEED	LEPOMIS GIBBOSUS
883516050300	WARMOUTH	LEPOMIS GULOSUS
883516050400	BLUEGILL	LEPOMIS MACROCHIRUS
883516050900	REDEAR SUNFISH	LEPOMIS MICROLOPHUS
879201050400	BLACKEDGE CUSK-EEL	LEPOPHIDIUM BREVIBARBE
879201050500	MOTTLED CUSK-EEL	LEPOPHIDIUM JEANNAE
879201050300	FAWN CUSK-EEL	LEPOPHIDIUM PROFUNDORUM
883108080100	ATLANTIC POACHER	LEPTAGONUS DECAGONUS
883102180100	PACIFIC STAGHORN SCULPIN	LEPTOCOTTUS ARMATUS
874113060100	SAILFIN EEL	LETHARCHUS VELIFER
884701240100	HALFBLIND GOBY	LETHOPS CONNECTENS
880502070100	CALIFORNIA GRUNION	LEURESTHES TENUIS
875602010600	CALIFORNIA SMOOTHTONGUE	LEUROGLOSSUS STILBIUS
883502140200	WRASSE BASS	LIOPROPOMA EUKRINES
883502140300	CAVE BASS	LIOPROPOMA MOWBRAYI
883502140400	PEPPERMINT BASS	LIOPROPOMA RUBRE
883109082600	ATLANTIC SEASNAIL	LIPARIS ATLANTICUS
883109080300	SPOTTED SNAILFISH	LIPARIS CALLYODON
883109080600	RIBBON SNAILFISH	LIPARIS CYCLOPUS
883109080800	MARBLED SNAILFISH	LIPARIS DENNYI
883109081000	TIDEPOOL SNAILFISH	LIPARIS FLORAE
883109081500	GELATINOUS SEASNAIL	LIPARIS FRABICII
883109081100	SLIPSKIN SNAILFISH	LIPARIS FUCENSIS
883109080700	VARIEGATED SNAILFISH	LIPARIS GIBBUS
883109120200	LOBEFIN SNAILFISH	LIPARIS GREENI
883109082700	INQUILINE SEASNAIL	LIPARIS INQUILINIS
883109082000	SLIMY SNAILFISH	LIPARIS MUCOSUS
883109082200	SHOWY SNAILFISH	LIPARIS PULCHELLUS
883109082500	RINGTAIL SNAILFISH	LIPARIS RUTTERI
883109082900	KELP SNAILFISH	LIPARIS TUNICATUS
883538010100	TRIPLETAIL	LOBOTES SURINAMENSIS

884002010200	SWORDTAIL JAWFISH	LONCHOPISTHUS MICROGNATHUS
878601010100	GOOSEFISH	LOPHIUS AMERICANUS
884701250100	CRESTED GOBY	LOPHOGOBIUS CYPRINOIDES
883522020100	TILEFISH	LOPHOLATILUS CHAMAELEONTICEPS
879103080100	BURBOT	LOTA LOTA
880404030100	RAINWATER KILLIFISH	LUCANIA PARVA
884212080100	LONGSNOUT PRICKLEBACK	LUMPENELLA LONGIROSTRIS
884212090100	SLENDER EELBLENNY	LUMPENUS FABRICII
884212090500	SNAKEBLENNY	LUMPENUS LUMPRETAEFORMIS
884212090300	DAUBED SHANNY	LUMPENUS MACULATUS
884212090400	STOUT EELBLENNY	LUMPENUS MEDIUS
884212090200	SNAKE PRICKLEBACK	LUMPENUS SAGITTA
884201010300	HIGHFIN BLENNY	LUPINOBLENNIUS NICHOLSI
883536010300	MUTTON SNAPPER	LUTJANUS ANALIS
883536010400	SCHOOLMASTER	LUTJANUS APODUS
883536010600	BLACKFIN SNAPPER	LUTJANUS BUCCANELLA
883536010700	RED SNAPPER	LUTJANUS CAMPECHANUS
883536010200	GRAY SNAPPER	LUTJANUS GRISEUS
883536010100	CUBERA SNAPPER	LUTJANUS CYANOPTERUS
883536010900	DOG SNAPPER	LUTJANUS JOCU
883536011000	MAHOGANY SNAPPER	LUTJANUS MAHOGONI
883536011200	LANE SNAPPER	LUTJANUS SYNAGRIS
883536011300	SILK SNAPPER	LUTJANUS VIVANUS
885005010100	LOUVAR	LUVARUS IMPERIALIS
879301051200	WOLF EELPOUT	LYCENCHELYS VERRILLI
879301060400	PALLID EELPOUT	LYCODAPUS MANDIBULARIS
879301070300	SHORTFIN EELPOUT	LYCODES BREVIPES
879301010100	BIGFIN EELPOUT	LYCODES CORTEZIANUS
879301070600	BLACK EELPOUT	LYCODES DIAPTERUS
879301071900	SHULUPAOLUK	LYCODES JUGORICUS
879301072000	NEWFOUNDLAND EELPOUT	LYCODES LAVALEI
879301071000	WATTLED EELPOUT	LYCODES PALEARIS
879301072100	PALE EELPOUT	LYCODES PALLIDUS
879301071100	CANADIAN EELPOUT	LYCODES POLARIS
879301072200	ARCTIC EELPOUT	LYCODES RETICULATUS
879301071400	POLAR EELPOUT	LYCODES TURNERI
879301080100	BLACKBELLY EELPOUT	LYCODOPSIS PACIFICA
879301170100	BEARDED EELPOUT	LYCONEMA BARBATUM
884701265000	BLUEBANDED GOBY	LYTHRYPNUS DALLI
884701260200	ISLAND GOBY	LYTHRYPNUS NESIOTES
884701260300	CONVICT GOBY	LYTHRYPNUS PHORELLUS
884701260400	BLUEGOLD GOBY	LYTHRYPNUS SPILUS
884701260500	ZEBRA GOBY	LYTHRYPNUS ZEBRA
875603010100	BARRELEYE	MACROPINNA MICROSTOMA
881903010200	SLENDER SNIPEFISH	MACRORHAMPHOSUS GRACILIS
881903010100	LONGSPINE SNIPEFISH	MACRORHAMPHOSUS SCOLOPAX
879301160100	OCEAN POUT	MACROZOARCES AMERICANUS
885006020200	BLACK MARLIN	MAKAIRA INDICA
885006020100	BLUE MARLIN	MAKAIRA NIGRICANS
883522030100	SAND TILEFISH	MALACANTHUS PLUMIERI
883102190100	BLACKFIN SCULPIN	MALACOCOTTUS KINCAIDI
884209040100	GOLDLINE BLENNY	MALACOCTENUS AUROLINEATUS
884209040300	ROSY BLENNY	MALACOCTENUS MACROPUS
884209040400	SADDLED BLENNY	MALACOCTENUS TRIANGULATUS
875503020100	CAPELIN	MALLOTUS VILLOSUS
871308010200	MANTA	MANTA BIROSTRIS
883551040100	HALFMOON	MEDIALUNA CALIFORNIENSIS
883102200100	BELLIGERENT SCULPIN	MEGALOCOTTUS PLATYCEPHALUS
873802020100	ATLANTIC TARPON	MEGALOPS ATLANTICUS
879103130100	HADDOCK	MELANOGRAMMUS AEGLEFINUS
886002060100	BLACK DURGON	MELICHTHYS NIGER
880502020100	ROUGH SILVERSIDE	MEMBRAS MARTINICA
880502030100	INLAND SILVERSIDE	MENIDIA BERYLLINA
880502030300	KEY SILVERSIDE	MENIDIA CONCHORUM

880502030200	ATLANTIC SILVERSIDE	*MENIDIA MENIDIA*
883544060100	SOUTHERN KINGFISH	MENTICIRRHUS AMERICANUS
883544060200	GULF KINGFISH	MENTICIRRHUS LITTORALIS
883544060300	NORTHERN KINGFISH	MENTICIRRHUS SAXATILIS
883544060700	CALIFORNIA CORBINA	MENTICIRRHUS UNDULATUS
879104010100	SILVER HAKE	MERLUCCIUS BILINEARIS
879104010200	PACIFIC HAKE	MERLUCCIUS PRODUCTUS
883102210100	BRIGHTBELLY SCULPIN	MICROCOTTUS SELLARIS
884706010200	LANCETAIL WORMFISH	MICRODESMUS LANCEOLATUS
884706010300	PINK WORMFISH	MICRODESMUS LONGIPINNIS
879103060100	PACIFIC TOMCOD	MICROGADUS PROXIMUS
879103060200	ATLANTIC TOMCOD	MICROGADUS TOMCOD
882002050200	BANDED PIPEFISH	MICROGNATHUS CRINITUS
884701070300	SEMINOLE GOBY	MICROGOBIUS CARRI
884701070100	CLOWN GOBY	MICROGOBIUS GULOSUS
884701070400	BANNER GOBY	MICROGOBIUS MICROLEPIS
884701070200	GREEN GOBY	MICROGOBIUS THALASSINUS
883560100100	REEF PERCH	MICROMETRUS AURORA
883560100200	DWARF PERCH	MICROMETRUS MINIMUS
882002070100	OPOSSUM PIPEFISH	MICROPHIS BRACHYURUS
883544070200	ATLANTIC CROAKER	MICROPOGONIAS UNDULATUS
883516060100	SMALLMOUTH BASS	MICROPTERUS DOLOMIEUI
883516060300	SPOTTED BASS	MICROPTERUS PUNCTULATUS
883516060200	LARGEMOUTH BASS	MICROPTERUS SALMOIDES
883562040100	YELLOWTAIL DAMSELFISH	MICROSPATHODON CHRYSURUS
885704120100	DOVER SOLE	MICROSTOMUS PACIFICUS
885006020100	BLUE MARLIN	MKAIRA NIGRICANS
871308020200	DEVIL RAY	MOBULA HYPOSTOMA
871308020300	SPINETAIL MOBULA	MOBULA JAPANICA
871308020400	SMOOTHTAIL MOBULA	MOBULA THURSTONI
886104010200	SHARPTAIL MOLA	MOLA LANCEOLATA
886104010100	OCEAN SUNFISH	MOLA MOLA
886002070100	FRINGED FILEFISH	MONACANTHUS CILIATUS
886002030100	PLANEHEAD FILEFISH	MONACANTHUS HISPIDUS
886002030300	PYGMY FILEFISH	MONACANTHUS SETIFER
886002070200	SLENDER FILEFISH	MONACANTHUS TUCKERI
885703120100	SLIM FLOUNDER	MONOLENE ANTILLARUM
885703120400	DEEPWATER FLOUNDER	MONOLENE SESSILICAUDA
874102010100	SPAGHETTI EEL	MORINGUA EDWARDSI
883502010100	WHITE PERCH	MORONE AMERICANA
883502010400	WHITE BASS	MORONE CHRYSOPS
883502010400	WHITE BASS	MORONE CHRYSOPS
883502010500	YELLOW BASS	MORONE MISSISSIPPIENSIS
883502010200	STRIPED BASS	MORONE SAXATILIS
883502010300	HYBRID STRIPED BASS	MORONE SAXATILIS X M.
883601010100	STRIPED MULLET	MUGIL CEPHALUS
883601010100	STRIPED MULLET	MUGIL CEPHALUS
883601010200	WHITE MULLET	MUGIL CUREMA
883601010300	REDEYE MULLET	MUGIL GAIMARDIANUS
883601010500	FANTAIL MULLET	MUGIL GYRANS
883601010400	LIZA	MUGIL LIZA
883545010100	YELLOW GOATFISH	MULLOIDICHTHYS MARTINICUS
883545020100	RED GOATFISH	MULLUS AURATUS
874105050100	GOLDENTAIL MORAY	MURAENA MILARIS
874105050200	RETICULATE MORAY	MURAENA RETIFERA
870802040400	GRAY SMOOTHHOUND	MUSTELUS CALIFORNICUS
870802040100	SMOOTH DOGFISH	MUSTELUS CANIS
870802040500	BROWN SMOOTHHOUND	MUSTELUS HENLEI
870802040600	SICKLEFIN SMOOTHHOUND	MUSTELUS LUNULATUS
870802040300	FLORIDA SMOOTHHOUND	MUSTELUS NORRISI
883502050200	BLACK GROUPER	MYCTEROPERCA BONACI
883502050400	YELLOWMOUTH GROUPER	MYCTEROPERCA INTERSTITALIS
883502050700	GULF GROUPER	MYCTEROPERCA JORDANI
883502050100	GAG	MYCTEROPERCA MICROLEPIS

883502050500	SCAMP	MYCTEROPERCA PHENAX
883502051000	COMB GROUPER	MYCTEROPERCA RUBRA
883502055000	TIGER GROUPER	MYCTEROPERCA TIGRIS
883502050600	YELLOWFIN GROUPER	MYCTEROPERCA VENENOSA
883502050800	BROOMTAIL GROUPER	MYCTEROPERCA XENARCHA
871307020200	BAT RAY	MYLIOBATIS CALIFORNICA
871307020100	BULLNOSE RAY	MYLIOBATIS FREMINVILLEI
871307020300	SOUTHERN EAGLE RAY	MYLIOBATIS GOODEI
883102221000	GRUBBY	MYOXOCEPHALUS AENAEUS
883102220100	PLAIN SCULPIN	MYOXOCEPHALUS JAOK
883102220300	WARTHEAD SCULPIN	MYOXOCEPHALUS NIGER
883102220900	LONGHORN SCULPIN	MYOXOCEPHALUS OCTODECEMSPINOSU
883102220400	GREAT SCULPIN	MYOXOCEPHALUS POLYACANTHOCEPHA
883102220500	FOURHORN SCULPIN	MYOXOCEPHALUS QUADRICORNIS
883102220600	ARCTIC SCULPIN	MYOXOCEPHALUS SCORPIOIDES
883102220700	SHORTHORN SCULPIN	MYOXOCEPHALUS SCORPIUS
874113070300	SHARPTAIL EEL	MYRICHTHYS BREVICEPS
874113070100	GOLDSPOTTED EEL	MYRICHTHYS OCELLATUS
881008020100	BLACKBAR SOLDIERFISH	MYRIPRISTIS JACOBUS
874113080200	SPECKLED WORM EEL	MYROPHIS PUNCTATUS
860601020100	ATLANTIC HAGFISH	MYXINE GLUTINOSA
871303040100	LESSER ELECTRIC RAY	NARCINE BRASILIENSIS
883528150100	PILOTFISH	NAUCRATES DUCTOR
883102230100	SAILFIN SCULPIN	NAUTICHTHYS OCULOFASCIATUS
883102230200	EYESHADE SCULPIN	NAUTICHTHYS PRIBILOVIUS
883109100100	TADPOLE SNAILFISH	NECTOLIPARIS PELAGICUS
870802080100	LEMON SHARK	NEGAPRION BREVIROSTRIS
883528160100	ROOSTERFISH	NEMATISTIUS PECTORALIS
874121020200	SLENDER SNAKE EEL	NEMICHTHYS SCOLOPACEUS
884209140300	ONESPOT FRINGEHEAD	NEOCLINUS UNINOTATUS
884209140100	SARCASTIC FRINGEHEAD	NEOCLINUS BLANCHARDI
884209140200	YELLOWFIN FRINGEHEAD	NEOCLINUS STEPHENSAE
874102020100	RIDGED EEL	NEOCONGER MUCRONATUS
882601040200	SPINYCHEEK SCORPIONFISH	NEOMERINTHE HEMINGWAYI
884701270100	ORANGESPOTTED GOBY	NES LONGUS
879401080200	MARLIN-SPIKE	NEZUMIA BAIRDI
883903030100	EMERALD PARROTFISH	NICHOLSINA USTA
885102030100	MAN-OF-WAR FISH	NOMEUS GRONOVII
874303030100	SPINY EEL	NOTACANTHUS CHEMNITZI
870502020100	SEVENGILL SHARK	NOTORYNCHUS CEPEDIANUS
876214040100	PATCHWORK LAMPFISH	NOTOSCOPELUS RESPLENDENS
883108090100	BERING POACHER	OCCELLA DODECAEDRON
883108090300	WARTY POACHER	OCCELLA VERRUCOSA
883536040100	YELLOWTAIL SNAPPER	OCYURUS CHRYSURUS
870703010200	RAGGED-TOOTH SHARK	ODONTASPIS FEROX
870703010100	SAND TIGER	ODONTASPIS TAURUS
883108100100	PYGMY POACHER	ODONTOPYXIS TRISPINOSA
883544130100	REEF CROAKER	ODONTOSCION DENTEX
878704010100	LONGNOSE BATFISH	OGCOCEPHALUS CORNIGER
878704010300	SHORTNOSE BATFISH	OGCOCEPHALUS NASUTUS
878704010500	ROUGHBACK BATFISH	OGCOCEPHALUS PARVUS
878704010600	POLKA-DOT BATFISH	OGCOCEPHALUS RADIATUS
879201240100	KEY BROTULA	OGILBIA CAYORUM
883102240100	TIDEPOOL SCULPIN	OLIGOCOTTUS MACULOSUS
883102240200	SADDLEBACK SCULPIN	OLIGOCOTTUS RIMENSIS
883102240300	FLUFFY SCULPIN	OLIGOCOTTUS SNYDERI
883528050100	LEATHERJACK	OLIGOPLITES SAURUS
879201250100	REEF-CAVE BROTULA	OLIGOPUS CLAUDEI
879201250200	PURPLE BROTULA	OLIGOPUS DIAGRAMMUS
875501030100	CUTTHROAT TROUT	ONCORHYNCHUS CLARKI
875501020100	PINK SALMON	ONCORHYNCHUS GORBUSCHA
875501020200	CHUM SALMON	ONCORHYNCHUS KETA
875501020300	COHO SALMON	ONCORHYNCHUS KISUTCH
875501030200	RAINBOW TROUT	ONCORHYNCHUS MYKISS

875501020500	SOCKEYE SALMON	ONCORHYNCHUS NERKA
875501020600	CHINOOK SALMON	ONCORHYNCHUS TSHAWYTSCHA
882002010800	SARGASSUM PIPEFISH	ONYGNATHUS PELAGICUS
874113100100	SHRIMP EEL	OPHICHTHUS GOMESI
874113100200	BLACKPORED EEL	OPHICHTHUS MELANOPORUS
874113100400	SPOTTED SNAKE EEL	OPHICHTHUS OPHIS
874113100300	PALESPOTTED EEL	OPHICHTHUS PUNCTICEPSS
874113100600	PACIFIC SNAKE EEL	OPHICHTHUS TRISERIALIS
874113100700	YELLOW SNAKE EEL	OPHICHTHUS ZOPHOCHIR
879201060100	LONGNOSE CUSK-EEL	OPHIDION BEANI
879201060200	BLOTCHED CUSK-EEL	OPHIDION GRAYI
879201060300	BANK CUSK-EEL	OPHIDION HOLBROOKI
879201090100	STRIPED CUSK-EEL	OPHIDION MARGINATUM
879201070400	BASKETWEAVE CUSK-EEL	OPHIDION SCRIPPSAE
879201060400	MOONEYE CUSK-EEL	OPHIDION SELENOPS
879201060500	CRESTED CUSK-EEL	OPHIDION WELSHI
884201060100	REDLIP BLENNY	OPHIOBLENNIUS ATLANTICUS
882701020100	LINGCOD	OPHIODON ELONGATUS
874701070100	ATLANTIC THREAD HERRING	OPISTHONEMA OGLINUM
874701070400	MIDDLING THREAD HERRING	OPISTHONEMA MEDIRASTRE
884002020300	YELLOWHEAD JAWFISH	OPISTOGNATHUS AURIFRONS
884002020100	MOUSTACHE JAWFISH	OPISTOGNATHUS LONCHURUS
884002020500	BANDED JAWFISH	OPISTOGNATHUS MACROGNATHUS
884002020200	MOTTLED JAWFISH	OPISTOGNATHUS MAXILLOSUS
884002020700	DUSKY JAWFISH	OPISTOGNATHUS WHITEHURSTI
878301020200	GULF TOADFISH	OPSANUS BETA
878301020300	LEOPARD TOADFISH	OPSANUS PARDUS
878301020100	OYSTER TOADFISH	OPSANUS TAU
883102450100	SNUBNOSE SCULPIN	ORTHONOPIAS TRIACIS
883540020100	PIGFISH	ORTHOPRISTIS CHRYSOPTERA
875503030200	RAINBOW SMELT	OSMERUS MORDAX
881008030100	BIGEYE SOLDIERFISH	OSTICHTHYS TRACHYPOMA
879201070300	SLEEPER CUSK-EEL	OTOPHIDIUM DORMITATOR
879201070100	POLKA-DOT CUSK-EEL	OTOPHIDIUM OMOSTIGMUM
883901110100	SENORITA	OXYJULIS CALIFORNICA
882702030100	PAINTED GREENLING	OXYLEBIUS PICTUS
880301100100	SMALLWING FLYINGFISH	OXYPORHAMPHUS MICROPTERUS
883543060200	RED PORGY	PAGRUS PAGRUS
883108110100	TUBENOSE POACHER	PALLASINA BARBATA
884201010100	SEAWEED BLENNY	PARABLENNIUS MARMOREUS
884209050200	CORAL BLENNY	PARACLINUS CINGULATUS
884209050300	BANDED BLENNY	PARACLINUS FASCIATUS
884209050100	HORNED BLENNY	PARACLINUS GRANDICOMIS
884209050400	BALD BLENNY	PARACLINUS INFRONS
884209050500	REEF FINSPOT	PARACLINUS INTEGRIPINNIS
884209050600	MARBLED BLENNY	PARACLINUS MARMORATUS
874112050100	MARGINTAIL CONGER	PARACONGER CAUDILIMBATUS
884601010200	LANCER DRAGONET	PARADIPLOGRAMMUS BAIRDI
886001030100	JAMBEAU	PARAHOLLARDIA LINEATA
883502160200	KELP BASS	PARALABRAX CLATHRATUS
883502160300	SPOTTED SAND BASS	PARALABRAX MACULATOFASCIATUS
883502160400	BARRED SAND BASS	PARALABRAX NEBULIFER
885703030200	GULF FLOUNDER	PARALICHTHYS ALBIGUTTA
885703030900	CALIFORNIA HALIBUT	PARALICHTHYS CALIFORNICUS
885703030100	SUMMER FLOUNDER	PARALICHTHYS DENTATUS
885703030400	SOUTHERN FLOUNDER	PARALICHTHYS LETHOSTIGMA
885703030500	FOURSPOT FLOUNDER	PARALICHTHYS OBLONGUS
885703030600	BROAD FLOUNDER	PARALICHTHYS SQUAMILENTUS
883109110600	PRICKLY SNAILFISH	PARALIPARIS DEANI
883502170100	CREOLE-FISH	PARANTHIAS FURCIFER
876204020100	LONGNOSE GREENEYE	PARASUDIS TRUCULENTA
880301110100	SAILFIN FLYINGFISH	PAREXOCOETUS BRACHYPTERUS
883102250100	THORNBACK SCULPIN	PARICELINUS HOPLITICUS
879201260100	DUSKY CUSK EEL	PAROPHIDION SCHMIDTI

883547010100	GLASSY SWEEPER	PEMPHERUS SCHOMBURGKI
883557010100	LONGFIN ARMORHEAD	PENTACEROS PECTORALIS
885103010600	HARVESTFISH	PEPRILUS ALEPIDOTUS
885103010400	GULF BUTTERFISH	PEPRILUS BURTI
885103010100	PACIFIC POMPANO	PEPRILUS SIMILLIMUS
885103010300	BUTTERFISH	PEPRILUS TRIACANTHUS
883520020100	YELLOW PERCH	PERCA FLAVESCENS
882602031300	FLATHEAD SEAROBIN	PERISTEDION BREVIROSTRE
882602030300	SLENDER SEAROBIN	PERISTEDION GRACILE
882602030700	ARMORED SEAROBIN	PERISTEDION MINIATUM
882602031100	RIMSPINE SEAROBIN	PERISTEDION THOMPSONI
860301030100	SEA LAMPREY	PETROMYZON MARINUS
883518050100	FRECKLED CARDINALFISH	PHAEOPTYX CONKLINI
883518050300	DUSKY CARDINALFISH	PHAEOPTYX PIGMENTARIA
879201270100	REDFIN BROTULA	PETROTYX SANGUINEUS
883518050200	SPONGE CARDINALFISH	PHAEOPTYX XENUS
883102260100	SPINELESS SCULPIN	PHALLOCOTTUS OBTUSUS
883560050200	SHARPNOSE SEAPERCH	PHANERODON ATRIPES
883560050100	WHITE SEAPERCH	PHANERODON FURCATUS
884213020100	LONGFIN GUNNEL	PHOLIS CLEMENSI
884213020300	BANDED GUNNEL	PHOLIS FASCIATA
884213020400	BERING GUNNEL	PHOLIS GILLI
884213020900	ROCK GUNNEL	PHOLIS GUNNELLUS
884213020500	CRESCENT GUNNEL	PHOLIS LAETA
884213020600	SADDLEBACK GUNNEL	PHOLIS ORNATA
884213020800	RED GUNNEL	PHOLIS SCHULTZI
883527030100	SLENDER SUCKERFISH	PHTHEIRICHTHYS LINEATUS
884212100100	RIBBON PRICKLEBACK	PHYTICHTHYS CHIRUS
883502190200	YELLOWTAIL BASS	PIKEA MEXICANA
885704140100	STARRY FLOUNDER	PLATICHTHYS STELLATUS
880302040100	KEELTAIL NEEDLEFISH	PLATYBELONE ARGALUS
884013010200	SADDLE STARGAZER	PLATYGILLELLUS RUBROCINCTUS
871302020100	THORNBACK	PLATYRHINOIDIS TRISERIATA
884212110100	BLUEBARRED PRICKLEBACK	PLECTOBRANCHUS EVIDES
881008040100	CARDINAL SOLDIERFISH	PLECTRYPOPS RETROSPINIS
882701050100	ATKA MACKEREL	PLEUROGRAMMUS MONOPTERYGIUS
885704200100	WINTER FLOUNDER	PLEURONECTES AMERICANUS
885704090100	YELLOWFIN SOLE	PLEURONECTES ASPER
885704080100	ROCK SOLE	PLEURONECTES BILINEATUS
885704090300	YELLOWTAIL FLOUNDER	PLEURONECTES FERRUGINEUS
885704100100	ARCTIC FLOUNDER	PLEURONECTES GLACIALIS
885704070100	BUTTER SOLE	PLEURONECTES ISOLEPIS
885704090200	LONGHEAD DAB	PLEURONECTES PROBOSCIDEUS
885704100300	SMOOTH FLOUNDER	PLEURONECTES PUTNAMI
885704150100	ALASKA PLAICE	PLEURONECTES QUADRITUBERCULATU
885704130100	ENGLISH SOLE	PLEURONECTES VETULUS
885704160100	C-O SOLE	PLEURONICHTHYS COENOSUS
885704160200	CURLFIN SOLE	PLEURONICHTHYS DECURRENS
885704160300	SPOTTED TURBOT	PLEURONICHTHYS RITTERI
885704160400	HORNYHEAD TURBOT	PLEURONICTHYS VERTICALIS
883108080200	STURGEON POACHER	PODOTHECUS ACIPENSERINUS
880408020100	SAILFIN MOLLY	POECILIA LATIPINNA
883544080100	BLACK DRUM	POGONIAS CROMIS
879103090100	POLLOCK	POLLACHIUS VIRENS
875901060100	STAREYE LIGHTFISH	POLLICHTHYS MAULI
883801010300	BLUE BOBO	POLYDACTYLUS APPROXIMANS
883801010100	ATLANTIC THREADFIN	POLYDACTYLUS OCTONEMUS
883801010400	LITTLESCALE THREADFIN	POLYDACTYLUS OLIGODON
883801010500	YELLOW BOBO	POLYDACTYLUS OPERCULARIS
883801010200	BARBU	POLYDACTYLUS VIRGINICUS
880901010100	BEARDFISH	POLYMIXIA LOWEI
883502280100	WRECKFISH	POLYPRION AMERICANUS
883555040100	GRAY ANGELFISH	POMACANTHUS ARCUATUS
883555040200	FRENCH ANGELFISH	POMACANTHUS PARU

883562050100	DUSKY DAMSELFISH	POMACENTRUS FUSCUS
883562050200	BEAUGREGORY	POMACENTRUS LEUCOSTICTUS
883562050600	BICOLOR DAMSELFISH	POMACENTRUS PARTITUS
883562050400	THREESPOT DAMSELFISH	POMACENTRUS PLANIFRONS
883562050500	COCOA DAMSELFISH	POMACENTRUS VARIABILIS
883540050200	BURRO GRUNT	POMADASYS CROCRO
883525010100	BLUEFISH	POMATOMUS SALTATRIX
883516070100	WHITE CRAPPIE	POMOXIS ANNULARIS
883516070200	BLACK CRAPPIE	POMOXIS NIGROMACULATUS
882601050100	LONGSNOUT SCORPIONFISH	PONTINUS CASTOR
882601050300	LONGSPINE SCORPIONFISH	PONTINUS LONGISPINIS
882601050600	SPINYTHROAT SCORPIONFISH	PONTINUS NEMATOPHTHALMUS
882601050500	HIGHFIN SCORPIONFISH	PONTINUS RATHBUNI
878301010700	SPECKLEFIN MIDSHIPMAN	PORICHTHYS MYRIASTER
878301010100	PLAINFIN MIDSHIPMAN	PORICHTHYS NOTATUS
878301010600	ATLANTIC MIDSHIPMAN	PORICHTHYS PLECTRODON
884212120100	WHITEBARRED PRICKLEBACK	POROCLINUS ROTHROCKI
883517010100	BIGEYE	PRIACANTHUS ARENATUS
883517010200	GLASSEYE SNAPPER	PRIACANTHUS CRUENTATUS
884701290100	RUSTY GOBY	PRIOLEPIS HIPOLITI
870802060100	BLUE SHARK	PRIONACE GLAUCA
882602010400	BIGHEAD SEAROBIN	PRIONOTUS TRIBULUS
882602010500	SPINY SEAROBIN	PRIONOTUS ALATUS
882602010100	NORTHERN SEAROBIN	PRIONOTUS CAROLINUS
882602010200	STRIPED SEAROBIN	PRIONOTUS EVOLANS
882602011800	BIGEYE SEAROBIN	PRIONOTUS LONGISPINOSUS
882602011100	BARRED SEAROBIN	PRIONOTUS MARTIS
882602011300	BANDTAIL SEAROBIN	PRIONOTUS OPHRYAS
882602011400	MEXICAN SEAROBIN	PRIONOTUS PARALATUS
882602011700	BLUESPOTTED SEAROBIN	PRIONOTUS ROSEUS
882602012000	BLACKWING SEAROBIN	PRIONOTUS RUBIO
882602010300	LEOPARD SEAROBIN	PRIONOTUS SCITULUS
882602012100	SHORTWING SEAROBIN	PRIONOTUS STEARNSI
883517020100	SHORT BIGEYE	PRISTIGENYS ALTA
883536070100	WENCHMAN	PRISTIPOMOIDES AQUILONARIS
871301010100	SMALLTOOTH SAWFISH	PRISTIS PECTINATA
871301010200	LARGETOOTH SAWFISH	PRISTIS PRISTIS
880301120100	BLUNTNOSE FLYINGFISH	PROGNICHTHYS GIBBIFRONS
876214100100	CALIFORNIA FLASHLIGHTFISH	PROTOMYCTOPHUM CROCKERI
885102040100	FRECKLED DRIFTFISH	PSENES CYANOPHRYS
885102040200	SILVER DRIFTFISH	PSENES MACULATUS
885102040300	BLUEFIN DRIFTFISH	PSENES PELLUCIDUS
885704170100	SAND SOLE	PSETTICHTHYS MELANOSTICTUS
883503010100	REEF BASS	PSEUDOGRAMMA GREGORYI
883545030200	MEXICAN GOATFISH	PSEUDUPENEUS DENTATUS
883545030100	SPOTTED GOATFISH	PSEUDUPENEUS MACULATUS
883107010100	TADPOLE SCULPIN	PSYCHROLUTES PARADOXUS
883107030100	SOFT SCULPIN	PSYCHROLUTES SIGALUTES
883571030100	ATLANTIC FANFISH	PTERYCOMBUS BRAMA
884211010100	QUILLFISH	PTILICHTHYS GOODEI
881801020100	NINESPINE STICKLEBACK	PUNGITIUS PUNGITIUS
877702030100	FLATHEAD CATFISH	PYLODICTIS OLIVARIS
884701280100	SHADOW GOBY	QUIETULA Y-CAUDA
883526010100	COBIA	RACHYCENTRON CANADUM
883102290100	SLIM SCULPIN	RADULINUS ASPRELLUS
883102290200	DARTER SCULPIN	RADULINUS BOLEOIDES
883102290300	SMOOTHGUM SCULPIN	RADULINUS VINCULUS
871304011700	OSCELLATE SKATE	RAJA ACKLEYI
871304010300	BIG SKATE	RAJA BINOCULATA
871304011300	CLEARNOSE SKATE	RAJA EGLANTERIA
871304011400	LITTLE SKATE	RAJA ERINACEA
871304012400	ROSETTE SKATE	RAJA GARMANI
871304010400	CALIFORNIA SKATE	RAJA INORNATA
871304011500	BARNDOOR SKATE	RAJA LAEVIS

871304012600	FRECKLED SKATE	RAJA LENTIGINOSA
871304011600	WINTER SKATE	RAJA OCELLATA
871304012700	SPREADFIN SKATE	RAJA OLSENI
871304013400	THORNY SKATE	RAJA RADIATA
871304010800	LONGNOSE SKATE	RAJA RHINA
871304013100	SMOOTH SKATE	RAJA SENTA
871304013500	SPINYTAIL SKATE	RAJA SPINICAUDA
871304011100	STARRY SKATE	RAJA STELLULATA
871304013300	ROUNDEL SKATE	RAJA TEXANA
886104020100	SLENDER MOLA	RANZANIA LAEVIS
884003030200	STRIPEDFIN RONQUIL	RATHBUNELLA HYPOPLECTA
881503010100	OARFISH	REGALECUS GLESNE
885704180100	GREENLAND HALIBUT	REINHARDTIUS HIPPOGLOSSOIDES
883527010100	WHALE-SUCKER	REMORA AUSTRALIS
883527010400	SPEARFISH REMORA	REMORA BRACHYPTERA
883527010200	MARLIN-SUCKER	REMORA OSTEOCHIR
883527010300	REMORA	REMORA REMORA
883560060100	PILE PERCH	RHACOCHILUS VACCA
883560060200	RUBBERLIP SEAPERCH	RHACOCHILUS TOXOTES
883102300100	GRUNT SCULPIN	RHAMPHOCOTTUS RICHARDSONI
870701010100	WHALE SHARK	RHINCODON TYPUS
871302010100	ATLANTIC GUITARFISH	RHINOBATOS LENTIGINOSUS
871302010400	SHOVELNOSE GUITARFISH	RHINOBATOS PRODUCTUS
871307030100	COWNOSE RAY	RHINOPTERA BONASUS
870802030400	PACIFIC SHARPNOSE SHARK	RHIZOPRIONODON LONGURIO
870802030100	ATLANTIC SHARPNOSE SHARK	RHIZOPRIONODON TERRAENOVAE
884213020200	STIPPLED GUNNEL	RHODYMENICHTHYS DOLICHOGASTER
883536050100	VERMILION SNAPPER	RHOMBOPLITES AURORUBENS
878401020200	SLENDER CLINGFISH	RIMICOLA EIGENMANNI
878401020100	KELP CLINGFISH	RIMICOLA MUSCARUM
884701150100	TUSKED GOBY	RISOR RUBER
883544240100	SPOTFIN CROAKER	RONCADOR STEARNSI
884003020100	NORTHERN RONQUIL	RONQILUS JORDANI
883102040700	ROUGHCHEEK SCULPIN	RUSCARIUS CREASERI
883102040400	PUGET SOUND SCULPIN	RUSCARIUS MEANYI
885001040100	OILFISH	RUVETTUS PRETIOSUS
883503020200	FRECKLED SOAPFISH	RYPTICUS BISTRISPINUS
883503020700	GREATER SOAPFISH	RYPTICUS SAPONACEUS
883503020800	SPOTTED SOAPFISH	RYPTICUS SUBBIFRENATUS
883503020400	WHITESPOTTED SOAPFISH	RYPTICUS MACULATUS
875501030500	ATLANTIC SALMON	SALMO SALAR
875501030600	BROWN TROUT	SALMO TRUTTA
875501040200	ARCTIC CHAR	SALVELINUS ALPINUS
875501040400	BROOK TROUT	SALVELINUS FONTINALIS
875501040100	DOLLY VARDEN	SALVELINUS MALMA
875501040300	LAKE TROUT	SALVELINUS NAMAYCUSH
885003020100	PACIFIC BONITO	SARDA CHILIENSIS
885003020200	ATLANTIC BONITO	SARDA SARDA
874701100300	SPANISH SARDINE	SARDINELLA AURITA
874701100200	ORANGESPOT SARDINE	SARDINELLA BRASILIENSIS
874701030100	PACIFIC SARDINE	SARDINOPS SAGAX
876202030100	LARGESCALE LIZARDFISH	SAURIDA BRASILIENSIS
876202030200	SMALLSCALE LIZARDFISH	SAURIDA CARIBBAEA
876202030300	SHORTJAW LIZARDFISH	SAURIDA NORMANI
872901010700	SHOVELNOSE STURGEON	SCAPHIRHYNCHUS PLATORYNCHUS
884201010200	MOLLY MILLER	SCARTELLA CRISTATA
883903010200	MIDNIGHT PARROTFISH	SCARUS COELESTINUS
883903010100	BLUE PARROTFISH	SCARUS COERULEUS
883903010300	STRIPED PARROTFISH	SCARUS CROICENSIS
883903010400	RAINBOW PARROTFISH	SCARUS GUACAMAIA
883903010500	PRINCESS PARROTFISH	SCARUS TAENIOPTERUS
883903010600	QUEEN PARROTFISH	SCARUS VETULA
883502210100	SCHOOL BASS	SCHULTZEA BETA
883544090100	RED DRUM	SCIAENOPS OCELLATA

885003030100	CHUB MACKEREL	SCOMBER JAPONICUS
885003030200	ATLANTIC MACKEREL	SCOMBER SCOMBRUS
880303020100	ATLANTIC SAURY	SCOMBERESOX SAURUS
885003050100	KING MACKEREL	SCOMBEROMORUS CAVALLA
885003050400	GULF SIERRA	SCOMBEROMORUS CONCOLOR
885003050200	SPANISH MACKEREL	SCOMBEROMORUS MACULATUS
885003050300	CERO	SCOMBEROMORUS REGALIS
885003050600	PACIFIC SIERRA	SCOMBEROMORUS SIERRA
885703040100	WINDOWPANE	SCOPHTHALMUS AQUOSUS
882601060100	LONGFIN SCORPIONFISH	SCORPAENA AGASSIZI
882601060200	CORAL SCORPIONFISH	SCORPAENA ALBIFIMBRIA
882601060300	GOOSEHEAD SCORPIONFISH	SCORPAENA BERGI
882601060400	SHORTFIN SCORPIONFISH	SCORPAENA BRACHYPTERA
882601060500	BARBFISH	SCORPAENA BRASILIENSIS
882601060600	SMOOTHHEAD SCORPIONFISH	SCORPAENA CALCARATA
882601060700	HUNCHBACK SCORPIONFISH	SCORPAENA DISPAR
882601060800	DWARF SCORPIONFISH	SCORPAENA ELACHYS
882601060900	PLUMED SCORPIONFISH	SCORPAENA GRANDICORNIS
882601061600	CALIFORNIA SCORPIONFISH	SCORPAENA GUTTATA
882601061000	MUSHROOM SCORPIONFISH	SCORPAENA INERMIS
882601061400	SPOTTED SCORPIONFISH	SCORPAENA PLUMIERI
882601060000	SCORPIONFISH	SCORPAENA SPP.
883102310100	CABEZON	SCORPAENICHTHYS MARMORATUS
882601120300	RAINBOW SCORPIONFISH	SCORPAENODES XYRIS
882601120100	REEF SCORPIONFISH	SCORPAENODES CARIBBAEUS
882601120200	DEEPREEF SCORPIONFISH	SCORPAENODES TREDECIMSPINOSUS
870801030400	CHAIN DOGFISH	SCYLIORHINUS RETIFER
884214010100	GRAVEL DIVER	SCYTALINA CERDALE
882601010100	ROUGHEYE ROCKFISH	SEBASTES ALEUTIANUS
882601010200	PACIFIC OCEAN PERCH	SEBASTES ALUTUS
882601014200	KELP ROCKFISH	SEBASTES ATROVIRENS
882601010300	BROWN ROCKFISH	SEBASTES AURICULATUS
882601010400	AURORA ROCKFISH	SEBASTES AURORA
882601010500	REDBANDED ROCKFISH	SEBASTES BABCOCKI
882601010700	SHORTRAKER ROCKFISH	SEBASTES BOREALIS
882601010600	SILVERGRAY ROCKFISH	SEBASTES BREVISPINIS
882601016200	GOPHER ROCKFISH	SEBASTES CARNATUS
882601010800	COPPER ROCKFISH	SEBASTES CAURINUS
882601014300	GREENSPOTTED ROCKFISH	SEBASTES CHLOROSTICTUS
882601014000	BLACK-AND-YELLOW ROCKFISH	SEBASTES CHRYSOMELAS
882601010900	DUSKY ROCKFISH	SEBASTES CILIATUS
882601014400	STARRY ROCKFISH	SEBASTES CONSTELLATUS
882601011000	DARKBLOTCHED ROCKFISH	SEBASTES CRAMERI
882601014500	CALICO ROCKFISH	SEBASTES DALLI
882601011100	SPLITNOSE ROCKFISH	SEBASTES DIPLOPROA
882601011200	GREENSTRIPED ROCKFISH	SEBASTES ELONGATUS
882601011300	PUGET SOUND ROCKFISH	SEBASTES EMPHAEUS
882601016300	SWORDSPINE ROCKFISH	SEBASTES ENSIFER
882601011400	WIDOW ROCKFISH	SEBASTES ENTOMELAS
882601014600	PINK ROCKFISH	SEBASTES EOS
882601011500	YELLOWTAIL ROCKFISH	SEBASTES FLAVIDUS
882601014700	BRONZESPOTTED ROCKFISH	SEBASTES GILLI
882601011700	CHILIPEPPER ROCKFISH	SEBASTES GOODEI
882601011800	ROSETHORN ROCKFISH	SEBASTES HELVOMACULATUS
882601014800	SQUARESPOTTED ROCKFISH	SEBASTES HOPKINSI
882601011900	SHORTBELLY ROCKFISH	SEBASTES JORDANI
882601016400	FRECKLED ROCKFISH	SEBASTES LENTIGINOSUS
882601014900	COWCOD	SEBASTES LEVIS
882601015000	MEXICAN ROCKFISH	SEBASTES MACDONALDI
882601012000	QUILLBACK ROCKFISH	SEBASTES MALIGER
882601012100	BLACK ROCKFISH	SEBASTES MELANOPS
882601015100	DEEPWATER REDFISH	SEBASTES MENTELLA
882601012300	VERMILION ROCKFISH	SEBASTES MINIATUS
882601012400	BLUE ROCKFISH	SEBASTES MYSTINUS

882601012500	CHINA ROCKFISH	SEBASTES NEBULOSUS
882601012600	TIGER ROCKFISH	SEBASTES NIGROCINCTUS
882601013900	GOLDEN REDFISH	SEBASTES NORVEGICUS
882601015200	SPECKLED ROCKFISH	SEBASTES OVALIS
882601012700	BOCACCIO	SEBASTES PAUCISPINIS
882601015300	CHAMELEON ROCKFISH	SEBASTES PHILLIPSI
882601012800	CANARY ROCKFISH	SEBASTES PINNIGER
882601012900	NORTHERN ROCKFISH	SEBASTES POLYSPINIS
882601013000	REDSTRIPE ROCKFISH	SEBASTES PRORIGER
882601015400	GRASS ROCKFISH	SEBASTES RASTRELLIGER
882601013100	YELLOWMOUTH ROCKFISH	SEBASTES REEDI
882601012400	BLUE ROCKFISH	SEBASTES MYSTINUS
882601013200	ROSY ROCKFISH	SEBASTES ROSACEUS
882601016600	GREENBLOTCHED ROCKFISH	SEBASTES ROSENBLATTI
882601013400	YELLOWEYE ROCKFISH	SEBASTES RUBERRIMUS
882601016700	DWARF-RED ROCKFISH	SEBASTES RUFINANUS
882601015600	BANK ROCKFISH	SEBASTES RUFUS
882601013500	STRIPETAIL ROCKFISH	SEBASTES SAXICOLA
882601015700	HALFBANDED ROCKFISH	SEBASTES SEMICINCTUS
882601015800	OLIVE ROCKFISH	SEBASTES SERRANOIDES
882601015900	TREEFISH	SEBASTES SERRICEPS
882601016500	PINKROSE ROCKFISH	SEBASTES SIMULATOR
882601016000	HONEYCOMB ROCKFISH	SEBASTES UMBROSUS
882601013700	PYGMY ROCKFISH	SEBASTES WILSONI
882601013800	SHARPCHIN ROCKFISH	SEBASTES ZACENTRUS
882601020100	SHORTSPINE THORNYHEAD	SEBASTOLOBUS ALASCANUS
882601020200	LONGSPINE THORNYHEAD	SEBASTOLOBUS ALTIVELIS
883528060100	BIGEYE SCAD	SELAR CRUMENOPHTHALMUS
883528100200	PACIFIC MOONFISH	SELENE PERUVIANA
883528100100	ATLANTIC MOONFISH	SELENE SETAPINNIS
883528070100	LOOKDOWN	SELENE VOMER
883901120100	CALIFORNIA SHEEPHEAD	SEMICOSSYPHUS PULCHER
883528080100	GREATER AMBERJACK	SERIOLA DUMERILI
883528080200	LESSER AMBERJACK	SERIOLA FASCIATA
883528080800	YELLOWTAIL	SERIOLA LALANDI
883528080300	ALMACO JACK	SERIOLA RIVOLIANA
883528080700	ALMACO JACK	SERIOLA RIVOLIANA
883528080400	BANDED RUDDERFISH	SERIOLA ZONATA
883544505000	QUEENFISH	SERIPHUS POLITUS
883544250100	QUEENFISH	SERIPHUS POLITUS
883502220100	PYGMY SEA BASS	SERRANICULUS PUMILIO
883502230100	ORANGEBACK BASS	SERRANUS ANNULARIS
883502230200	BLACKEAR BASS	SERRANUS ATROBRANCHUS
883502230300	LANTERN BASS	SERRANUS BALDWINI
883502230400	SNOW BASS	SERRANUS CHIONARAIA
883502230700	SADDLE BASS	SERRANUS NOTOSPILUS
883502230800	TATTLER	SERRANUS PHOEBE
883502230900	BELTED SANDFISH	SERRANUS SUBLIGARIUS
883502231000	TOBACCOFISH	SERRANUS TABACARIUS
883502231100	HARLEQUIN BASS	SERRANUS TIGRINUS
883502231200	CHALK BASS	SERRANUS TORTUGARUM
883102320100	KELP SCULPIN	SIGMISTES CAULIAS
883102320200	ARCHED SCULPIN	SIGMISTES SMITHI
882002010400	CHAIN PIPEFISH	SNYGNATHUS LOUISIANAE
871001010200	GREENLAND SHARK	SOMNIOSUS MICROCEPHALUS
871001010100	PACIFIC SLEEPER SHARK	SOMNIOSUS PACIFICUS
883903040100	GREENBLOTCH PARROTFISH	SPARISOMA ATOMARIUM
883903040200	REDBAND PARROTFISH	SPARISOMA AUROFRENATUM
883903040300	REDTAIL PARROTFISH	SPARISOMA CHRYSOPTERUM
883903040400	BUCKTOOTH PARROTFISH	SPARISOMA RADIANS
883903040500	REDFIN PARROTFISH	SPARISOMA RUBRIPINNE
883903040600	STOPLIGHT PARROTFISH	SPARISOMA VIRIDE
886101020300	BULLSEYE PUFFER	SPHOEROIDES ANNULATUS
886101020500	MARBLED PUFFER	SPHOEROIDES DORSALIS

886101020100	NORTHERN PUFFER	SPHOEROIDES MACULATUS
886101020800	SOUTHERN PUFFER	SPHOEROIDES NEPHELUS
886101020900	BLUNTHEAD PUFFER	SPHOEROIDES PACHYGASTER
886101021000	LEAST PUFFER	SPHOEROIDES PARVUS
886101021100	BANDTAIL PUFFER	SPHOEROIDES SPENGLERI
886101020200	CHECKERED PUFFER	SPHOEROIDES TESTUDINEUS
883701010100	PACIFIC BARRACUDA	SPHYRAENA ARGENTEA
883701010400	GREAT BARRACUDA	SPHYRAENA BARRACUDA
883701010200	NORTHERN SENNET	SPHYRAENA BOREALIS
883701010300	GUAGUANCHE	SPHYRAENA GUACHANCHO
883701010500	SOUTHERN SENNET	SPHYRAENA PICUDILLA
870803010300	SCALLOPED HAMMERHEAD	SPHYRNA LEWINI
870803010400	GREAT HAMMERHEAD	SPHYRNA MOKARRAN
870803010100	BONNETHEAD	SPHYRNA TIBURO
870803010500	SMALLEYE HAMMERHEAD	SPHYRNA TUDES
870803010200	SMOOTH HAMMERHEAD	SPHYRNA ZYGAENA
875503040100	NIGHT SMELT	SPIRINCHUS STARKSI
875503040200	LONGFIN SMELT	SPIRINCHUS THALEICHTHYS
871001020100	SPINY DOGFISH	SQUALUS ACANTHIAS
871001020300	CUBAN DOGFISH	SQUALUS CUBENSIS
871101010100	ANGEL SHARK	SQUATINA CALIFORNICA
871101010200	ATLANTIC ANGEL SHARK	SQUATINA DUMERIL
884209060200	CHECKERED BLENNY	STARKSIA OCELLATA
884209070100	BLACKBELLY BLENNY	STATHMONOTUS HEMPHILLI
884209070200	EELGRASS BLENNY	STATHMONOTUS STAHLI
879104020100	LUMINOUS HAKE	STEINDACHNERIA ARGENTEA
883108150100	PRICKLEBREAST POACHER	STELLERINA XYOSTERNA
883544100100	STAR DRUM	STELLIFER LANCEOLATUS
876214050100	NORTHERN LAMPFISH	STENOBRACHIUS LEUCOPSARUS
883543010200	LONGSPINE PORGY	STENOTOMUS CAPRINUS
883543010100	SCUP	STENOTOMUS CHRYSOPS
883502290100	GIANT SEA BASS	STEREOLEPIS GIGAS
884212130100	ARCTIC SHANNY	STICHAEUS PUNCTATUS
883520040200	SAUGER	STIZOSTEDION CANADENSE
883520040100	WALLEYE	STIZOSTEDION VITREUM
880302020100	ATLANTIC NEEDLEFISH	STRONGYLURA MARINA
880302020200	REDFIN NEEDLEFISH	STRONGYLURA NOTATA
880302020400	CALIFORNIA NEEDLEFISH	STRONGYLURA EXILIS
880302020300	TIMUCU	STRONGYLURA TIMUCU
879201280100	BLACK BROTULA	STYGNOBROTULA LATEBRICOLA
881601010100	TUBE-EYE	STYLEPHORUS CHORDATUS
885703130100	SHOAL FLOUNDER	SYACIUM GUNTERI
885703130200	CHANNEL FLOUNDER	SYACIUM MICRURUM
885703130300	DUSKY FLOUNDER	SYACIUM PAPILLOSUM
885802010200	OFFSHORE TONGUEFISH	SYMPHURUS CIVITATUS
885802010300	SPOTTEDFIN TONGUEFISH	SYMPHURUS DIOMEDIANUS
885802010500	LARGESCALE TONGUEFISH	SYMPHURUS MINOR
885802010600	PYGMY TONGUEFISH	SYMPHURUS PARVUS
885802010700	DEEPWATER TONGUEFISH	SYMPHURUS PIGER
885802010100	BLACKCHEEK TONGUE	SYMPHURUS PLAGIUSA
885802010900	NORTHERN TONGUEFISH	SYMPHURUS PUSILLUS
885802011000	SPOTTAIL TONGUEFISH	SYMPHURUS UROSPILUS
883102360100	MANACLED SCULPIN	SYNCHIRUS GILLI
882002011000	BARRED PIPEFISH	SYNGNATHUS AULISCUS
882002011100	KELP PIPEFISH	SYNGNATHUS CALIFORNIENSIS
882002010200	DUSKY PIPEFISH	SYNGATHUS FLORIDAE
882002010300	NORTHERN PIPEFISH	SYNGNATHUS FUSCUS
882002010100	BAY PIPEFISH	SYNGNATHUS LEPTORHYNCHUS
882002011300	GULF PIPEFISH	SYNGNATHUS SCOVELLI
876202010100	INSHORE LIZARDFISH	SYNODUS FOETENS
876202010200	SAND DIVER	SYNODUS INTERMEDIUS
876202010300	CALIFORNIA LIZARDFISH	SYNODUS LUCIOCEPS
876202010400	OFFSHORE LIZARDFISH	SYNODUS POEYI
876202010600	RED LIZARDFISH	SYNODUS SYNODUS

875904030100	LONGFIN DRAGONFISH	TACTOSTOMA MACROPUS
883571040100	BIGSCALE POMFRET	TARATICHTHYS LONGIPINNIS
876214070100	BLUE LANTERNFISH	TARLETONBEANIA CRENULARIS
883901010100	TAUTOG	TAUTOGA ONITIS
883901020100	CUNNER	TAUTOGOLABRUS ADSPERSUS
885104010200	BIGEYE SQUARETAIL	TETRAGONURUS ATLANTICUS
885104010100	SMALLEYE SQUARETAIL	TETRAGONURUS CUVIERI
885006030100	WHITE MARLIN	TETRAPTURUS ALBIDUS
885006030500	SHORTBILL SPEARFISH	TETRAPTURUS ANGUSTIROSTRIS
885006030400	LONGBILL SPEARFISH	TETRAPTURUS PFLEUGERI
883901100100	BLUEHEAD	THALASSOMA BIFASCIATUM
875503050100	EULACHON	THALEICHTHYS PACIFICUS
879103070100	WALLEYE POLLOCK	THERAGRA CHALCOGRAMMA
885003040100	ALBACORE	THUNNUS ALALUNGA
885003040300	YELLOWFIN TUNA	THUNNUS ALBACARES
885003040400	BLACKFIN TUNA	THUNNUS ATLANTICUS
885003040500	BIGEYE TUNA	THUNNUS OBESUS
885003040200	BLUEFIN TUNA	THUNNUS THYNNUS
871303010100	PACIFIC ELECTRIC RAY	TORPEDO CALIFORNICA
871303010200	ATLANTIC TORPEDO	TORPEDO NOBILIANA
876202040100	SNAKEFISH	TRACHINOCEPHALUS MYOPS
883528090100	FLORIDA POMPANO	TRACHINOTUS CAROLINUS
883528090200	PERMIT	TRACHINOTUS FALCATUS
883528090300	PALOMETA	TRACHINOTUS GOODEI
883528090700	PALOMA POMPANO	TRACHINOTUS PAITENSIS
883528090800	GAFFTOPSAIL POMPANO	TRACHINOTUS RHODOPUS
881502010100	KING-OF-THE-SALMON	TRACHIPTERUS ALTIVELIS
881502010200	DEALFISH	TRACHIPTERUS ARCTICUS
881502010300	TAPERTAIL RIBBONFISH	TRACHIPTERUS FUKUZAKI
881502010300	TAPERTAIL RIBBONFISH	TRACHIPTERUS FUKUZAKII
883528010200	ROUGH SCAD	TRACHURUS LATHAMI
883528010100	JACK MACKEREL	TRACHURUS SYMMETRICUS
870802090200	LEOPARD SHARK	TRIAKIS SEMIFASCIATA
885002020100	ATLANTIC CUTLASSFISH	TRICHIURUS LEPTURUS
885002020200	PACIFIC CUTLASSFISH	TRICHIURUS NITENS
884001020100	PACIFIC SANDFISH	TRICHODON TRICHODON
885703140400	SASH FLOUNDER	TRICHOPSETTA VENTRALIS
884701300100	CHAMELEON GOBY	TRIDENTIGER TRIGONOCEPHALUS
883102380100	SCISSORTAIL SCULPIN	TRIGLOPS FORFICATUS
883102380300	ROUGHSPINE SCULPIN	TRIGLOPS MACELLUS
883102380700	MOUSTACHE SCULPIN	TRIGLOPS MURRAYI
883102380800	BIGEYE SCULPIN	TRIGLOPS NYBELINI
883102380500	RIBBED SCULPIN	TRIGLOPS PINGELI
883102380500	RIBBED SCULPIN	TRIGLOPS PINGELI
883102380600	SPECTACLED SCULPIN	TRIGLOPS SCEPTICUS
885801020100	SCRAWLED SOLE	TRINECTES INSCRIPTUS
885801010100	HOGCHOKER	TRINECTES MACULATUS
876214240100	MEXICAN LAMPFISH	TRIPHOTURUS MEXICANUS
880302030100	AGUJON	TYLOSURUS ACUS
880302030200	HOUNDFISH	TYLOSURUS CROCODILUS
884701310100	BLIND GOBY	TYPHLOGOBIUS CALIFORNIENSIS
884212210100	RADIATED SHANNY	ULVARIA SUBBIFURCATA
884213040100	KELP GUNNEL	ULVICOLA SANTAEROSAE
883544110100	SAND DRUM	UMBRINA COROIDES
883544110500	YELLOWFIN CROAKER	UMBRINA RONCADOR
883545040200	DWARF GOATFISH	UPENEUS PARVUS
883528170100	COTTONMOUTH JACK	URASPIS SECUNDA
871305030200	ROUND STINGRAY	UROLOPHUS HALLERI
871305030100	YELLOW STINGRAY	UROLOPHUS JAMAICENSIS
879103160100	LONGFIN HAKE	UROPHYCIS CHESTERI
879103100100	RED HAKE	UROPHYCIS CHUSS
879103100500	GULF HAKE	UROPHYCIS CIRRATA
879103100600	CAROLINA HAKE	UROPHYCIS EARLLI
879103100700	SOUTHERN HAKE	UROPHYCIS FLORIDANA

879103100200	SPOTTED HAKE	UROPHYCIS REGIA
879103100300	WHITE HAKE	UROPHYCIS TENUIS
874105070200	MARBLED MORAY	UROPTERYGIUS MACULARIUS
886002080100	SARGASSUM TRIGGERFISH	XANTHICHTHYS RINGENS
883108130100	BLACKTIP POACHER	XENERETMUS LATIFRONS
883108130200	BLUESPOTTED POACHER	XENERETMUS TRIACANTHUS
883540100100	SALEMA	XENISTIUS CALIFORNIENSIS
885004010100	SWORDFISH	XIPHIAS GLADIUS
884212140100	BLACK PRICKLEBACK	XIPHISTER ATROPURPUREUS
884212140200	ROCK PRICKLEBACK	XIPHISTER MUCOSUS
885703150100	FANTAIL SOLE	XYSTREURYS LIOLEPIS
883560110100	PINK SEAPERCH	ZALEMBIUS ROSACEUS
878704040100	TRICORN BATFISH	ZALIEUTES MCGINTYI
882701040200	SHORTSPINE COMBFISH	ZANIOLEPIS FRENATA
882701040100	LONGSPINE COMBFISH	ZANIOLEPIS LATIPINNIS
884215010100	PROWFISH	ZAPRORA SILENUS
871302030100	BANDED GUITARFISH	ZAPTERYX EXASPERATA
881103020100	BUCKLER DORY	ZENOPSIS CONCHIFERA
881502030100	SCALLOPED RIBBONFISH	ZU CRISTATUS

APPENDIX B.3

TAXA SORTED BY CODE

CODE	COMMON NAME	SCIENTIFIC NAME
CRUSTACEANS		
617701010000	WHITE SHRIMP	PENAEUS ?
618101020100	AMERICAN LOBSTER	HOMARUS AMERICANUS
618201010100	WEST INDIES SPINY LOBSTER	PANULIRUS ARGUS
618201010300	CALIFORNIA ROCK LOBSTER	PANULIRUS INTERRUPTUS
618803010100	RED CRAB	CANCER PRODUCTUS
618803010200	PACIFIC ROCK CRAB	CANCER ANTENNARIUS
618803010600	DUNGENESS CRAB	CANCER MAGISTER
618803010800	EASTERN ROCK CRAB	CANCER IRRORATUS
618901030100	BLUE CRAB	CALLINECTES SAPIDUS
618902130200	GULF STONE CRAB	MENIPPE ADINA
MOLLUSCS		
550701010100	BLUE MUSSEL	MYTILUS EDULIS
550701010200	CALIFORNIA MUSSEL	MYTILUS CALIFORNIAUS
551002010100	PACIFIC OYSTER	CRASSOSTREA GIGAS
551002010200	AMERICAN OYSTER	CRASSOSTREA VIRGINICA
551525010200	SURF CLAM	SPISULA SOLIDISSIMA
551525020100	HORSENECK CLAM	TRESUS CAPAX
551539010100	OCEAN QUAHOG	ARTICA ISLANDICA
551547070100	PACIFIC LITTLENECK CLAM	PROTOTHACA STAMINEA
551547080100	MANILA CLAM	VENERUPIS JAPONICA
551547110100	HARD CLAM	MERCENARIA MERCENARIA
551701020100	SOFT-SHELL CLAM	MYA ARENARIA
FISH		
860301010100	PACIFIC LAMPREY	LAMPETRA TRIDENTATA
860301020300	ARCTIC LAMPREY	LAMPETRA JAPONICA
860301030100	SEA LAMPREY	PETROMYZON MARINUS
860601010100	BLACK HAGFISH	EPTATRETUS DEANI
860601010200	PACIFIC HAGFISH	EPTATRETUS STOUTI
860601020100	ATLANTIC HAGFISH	MYXINE GLUTINOSA
870401010100	HORN SHARK	HETERODONTUS FRANCISCI
870501010100	FRILL SHARK	CHLAMYDOSELACHUS ARGUINEUS
870502010100	SIX GILL SHARK	HEXANCHUS GRISEUS
870502020100	SEVENGILL SHARK	NOTORYNCHUS CEPEDIANUS
870701010100	WHALE SHARK	RHINCODON TYPUS
870702010100	NURSE SHARK	GINGLYMOSTOMA CIRRATUM
870703010100	SAND TIGER	ODONTASPIS TAURUS
870703010200	RAGGED-TOOTH SHARK	ODONTASPIS FEROX
870704010100	WHITE SHARK	CARCHARODON CARCHARIAS
870704020100	BASKING SHARK	CETORHINUS MAXIMUS
870704030100	SALMON SHARK	LAMNA DITROPIS
870704030200	PORBEAGLE	LAMNA NASUS
870704040100	THRESHER SHARK	ALOPIAS VULPINUS
870704040200	BIGEYE THRESHER	ALOPIAS SUPERCILIOSUS
870704050100	SHORTFIN MAKO SHARK	ISURUS OXYRINCHUS
870801010100	BROWN CAT SHARK	APRISTURUS BRUNNEUS
870801030400	CHAIN DOGFISH	SCYLIORHINUS RETIFER
870802010100	SOUPFIN SHARK	GALEORHINUS ZYOPTERUS
870802020100	TIGER SHARK	GALEOCERDO CUVIER
870802030100	ATLANTIC SHARPNOSE SHARK	RHIZOPRIONODON TERRAENOVAE
870802030400	PACIFIC SHARPNOSE SHARK	RHIZOPRIONODON LONGURIO

870802040100	SMOOTH DOGFISH	MUSTELUS CANIS
870802040300	FLORIDA SMOOTHHOUND	MUSTELUS NORRISI
870802040400	GRAY SMOOTHHOUND	MUSTELUS CALIFORNICUS
870802040500	BROWN SMOOTHHOUND	MUSTELUS HENLEI
870802040600	SICKLEFIN SMOOTHHOUND	MUSTELUS LUNULATUS
870802050100	DUSKY SHARK	CARCHARHINUS OBSCURUS
870802050200	BULL SHARK	CARCHARHINUS LEUCAS
870802050300	SANDBAR SHARK	CARCHARHINUS PLUMBEUS
870802050400	BLACKNOSE SHARK	CARCHARHINUS ACRONOTUS
870802050500	BIGNOSE SHARK	CARCHARHINUS ALTIMUS
870802050600	SILKY SHARK	CARCHARHINUS FALCIFORMIS
870802050700	BLACKTIP SHARK	CARCHARHINUS LIMBATUS
870802050800	OCEAN WHITETIP SHARK	CARCHARHINUS LONGIMANUS
870802050900	SPINNER SHARK	CARCHARHINUS BREVIPINNA
870802051200	SMALLTAIL SHARK	CARCHARHINUS POROSUS
870802051300	NARROWTOOTH SHARK	CARCHARHINUS BRACHYURUS
870802051400	REEF SHARK	CARCHARHINUS PEREZI
870802060100	BLUE SHARK	PRIONACE GLAUCA
870802070100	NIGHT SHARK	CARCHARHINUS SIGNATUS
870802080100	LEMON SHARK	NEGAPRION BREVIROSTRIS
870802090200	LEOPARD SHARK	TRIAKIS SEMIFASCIATA
870802100100	FINETOOTH SHARK	CARCHARHINUS ISODON
870803010100	BONNETHEAD	SPHYRNA TIBURO
870803010200	SMOOTH HAMMERHEAD	SPHYRNA ZYGAENA
870803010300	SCALLOPED HAMMERHEAD	SPHYRNA LEWINI
870803010400	GREAT HAMMERHEAD	SPHYRNA MOKARRAN
870803010500	SMALLEYE HAMMERHEAD	SPHYRNA TUDES
871001010100	PACIFIC SLEEPER SHARK	SOMNIOSUS PACIFICUS
871001010200	GREENLAND SHARK	SOMNIOSUS MICROCEPHALUS
871001020100	SPINY DOGFISH	SQUALUS ACANTHIAS
871001020300	CUBAN DOGFISH	SQUALUS CUBENSIS
871001040100	KITEFIN SHARK	DALATIAS LICHA
871001090100	BLACK DOGFISH	CENTROSCYLLIUM FABRICII
871001100100	PRICKLY SHARK	ECHINORHINUS COOKEI
871101010100	ANGEL SHARK	SQUATINA CALIFORNICA
871101010200	ATLANTIC ANGEL SHARK	SQUATINA DUMERIL
871301010100	SMALLTOOTH SAWFISH	PRISTIS PECTINATA
871301010200	LARGETOOTH SAWFISH	PRISTIS PRISTIS
871302010100	ATLANTIC GUITARFISH	RHINOBATOS LENTIGINOSUS
871302010400	SHOVELNOSE GUITARFISH	RHINOBATOS PRODUCTUS
871302020100	THORNBACK	PLATYRHINOIDIS TRISERIATA
871302030100	BANDED GUITARFISH	ZAPTERYX EXASPERATA
871303010100	PACIFIC ELECTRIC RAY	TORPEDO CALIFORNICA
871303010200	ATLANTIC TORPEDO	TORPEDO NOBILIANA
871303040100	LESSER ELECTRIC RAY	NARCINE BRASILIENSIS
871304010200	ALEUTIAN SKATE	BATHYRAJA ALEUTICA
871304010300	BIG SKATE	RAJA BINOCULATA
871304010400	CALIFORNIA SKATE	RAJA INORNATA
871304010500	SANDPAPER SKATE	BATHYRAJA INTERRUPTA
871304010700	ALASKA SKATE	BATHYRAJA PARMIFERA
871304010800	LONGNOSE SKATE	RAJA RHINA
871304010900	FLATHEAD SKATE	BATHYRAJA ROSISPINIS
871304011100	STARRY SKATE	RAJA STELLULATA
871304011200	ROUGHTAIL SKATE	BATHYRAJA TRACHURA
871304011300	CLEARNOSE SKATE	RAJA EGLANTERIA
871304011400	LITTLE SKATE	RAJA ERINACEA
871304011500	BARNDOOR SKATE	RAJA LAEVIS
871304011600	WINTER SKATE	RAJA OCELLATA
871304011700	OSCELLATE SKATE	RAJA ACKLEYI
871304012400	ROSETTE SKATE	RAJA GARMANI
871304012600	FRECKLED SKATE	RAJA LENTIGINOSA
871304012700	SPREADFIN SKATE	RAJA OLSENI
871304013100	SMOOTH SKATE	RAJA SENTA
871304013300	ROUNDEL SKATE	RAJA TEXANA

871304013400	THORNY SKATE	RAJA RADIATA
871304013500	SPINYTAIL SKATE	RAJA SPINICAUDA
871305010100	DIAMOND STINGRAY	DASYATIS DIPTERURA
871305010200	PELAGIC STINGRAY	DASYATIS VIOLACEA
871305010300	SOUTHERN STINGRAY	DASYATIS AMERICANA
871305010400	ROUGHTAIL STINGRAY	DASYATIS CENTROURA
871305010500	ATLANTIC STINGRAY	DASYATIS SABINA
871305010600	BLUNTNOSE STINGRAY	DASYATIS SAY
871305020100	SPINY BUTTERFLY RAY	GYMNURA ALTAVELA
871305020200	SMOOTH BUTTERFLY RAY	GYMNURA MICRURA
871305020300	CALIFORNIA BUTTERFLY RAY	GYMNURA MARMORATA
871305030100	YELLOW STINGRAY	UROLOPHUS JAMAICENSIS
871305030200	ROUND STINGRAY	UROLOPHUS HALLERI
871307010100	SPOTTED EAGLE RAY	AETOBATUS NARINARI
871307020100	BULLNOSE RAY	MYLIOBATIS FREMINVILLEI
871307020200	BAT RAY	MYLIOBATIS CALIFORNICA
871307020300	SOUTHERN EAGLE RAY	MYLIOBATIS GOODEI
871307030100	COWNOSE RAY	RHINOPTERA BONASUS
871308010200	MANTA	MANTA BIROSTRIS
871308020200	DEVIL RAY	MOBULA HYPOSTOMA
871308020300	SPINETAIL MOBULA	MOBULA JAPANICA
871308020400	SMOOTHTAIL MOBULA	MOBULA THURSTONI
871602010100	SPOTTED RATFISH	HYDROLAGUS COLLIEI
872901010200	GREEN STURGEON	ACIPENSER MEDIROSTRIS
872901010300	WHITE STURGEON	ACIPENSER TRANSMONTANUS
872901010400	SHORTNOSE STURGEON	ACIPENSER BREVIROSTRUM
872901010500	ATLANTIC STURGEON	ACIPENSER OXYRHYNCHUS
872901010700	SHOVELNOSE STURGEON	SCAPHIRHYNCHUS PLATORYNCHUS
873201010100	LONGNOSE GAR	LEPISOSTEUS OSSEUS
873201010200	SPOTTED GAR	LEPISOSTEUS OCULATUS
873201010300	SHORTNOSE GAR	LEPISOSTEUS PLATOSTOMUS
873201010400	ALLIGATOR GAR	LEPISOSTEUS SPATULA
873201010500	FLORIDA GAR	LEPISOSTEUS PLATYRHINCUS
873401010100	BOWFIN	AMIA CALVA
873801010100	LADYFISH	ELOPS SAURUS
873801010200	MACHETE	ELOPS AFFINIS
873802020100	ATLANTIC TARPON	MEGALOPS ATLANTICUS
873901010100	BONEFISH	ALBULA VULPES
874101010100	AMERICAN EEL	ANGUILLA ROSTRATA
874102010100	SPAGHETTI EEL	MORINGUA EDWARDSI
874102020100	RIDGED EEL	NEOCONGER MUCRONATUS
874104010100	SEAGRASS EEL	CHILORHINUS SUENSONI
874104020100	FALSE MORAY	KAUPICHTHYS HYOPOROIDES
874104050100	BICOLOR EEL	CHLOPSIS BICOLOR
874105010100	PYGMY MORAY	ANARCHIAS SIMILIS
874105020100	CHAIN MORAY	ECHIDNA CATENATA
874105030100	VIPER MORAY	ECHELYCORE NIGRICANS
874105040100	GREEN MORAY	GYMNOTHORAX FUNEBRIS
874105040300	SPOTTED MORAY	GYMNOTHORAX MORINGA
874105040400	BLACKEDGE MORAY	GYMNOTHORAX NIGROMARGINATUS
874105040800	PURPLEMOUTH MORAY	GYMNOTHORAX VICINUS
874105040900	CALIFORNIA MORAY	GYMNOTHORAX MORDAX
874105050100	GOLDENTAIL MORAY	MURAENA MILARIS
874105050200	RETICULATE MORAY	MURAENA RETIFERA
874105070200	MARBLED MORAY	UROPTERYGIUS MACULARIUS
874108010200	FRECKLED PIKE-CONGER	HOPLUNNIS MACRURUS
874112010100	CONGER EEL	CONGER OCEANICUS
874112010200	MANYTOOTH CONGER	CONGER TRIPORICEPS
874112020200	BANDTOOTH CONGER	ARIOSOMA BALEARICUM
874112030200	YELLOW CONGER	HILDEBRANDIA FLAVA
874112030300	WHIPTAIL CONGER	HILDEBRANDIA GRACILIOR
874112040100	CATALINA CONGER	GNATHOPHIS CATALINENSIS
874112050100	MARGINTAIL CONGER	PARACONGER CAUDILIMBATUS
874112110100	BROWN GARDEN EEL	HETEROCONGER HALIS

874113010100	KEYWORM EEL	AHLIA EGMONTIS
874113020100	WHIP EEL	BASCANICHTHYS SCUTICARIS
874113020200	SOOTY EEL	BASCANICHTHYS BASCANIUM
874113030100	BLOTCHED SNAKE EEL	CALLECHELYS MURAENA
874113030200	SHORTTAIL SNAKE EEL	CALLECHELYS GUINIENSIS
874113040100	RIDGEFIN EEL	CALLECHELYS SPRINGERI
874113050100	HORSEHAIR EEL	GORDIICHTHYS IRRETITUS
874113050200	THREAD EEL	GORDIICHTHYS SPRINGERI
874113060100	SAILFIN EEL	LETHARCHUS VELIFER
874113070100	GOLDSPOTTED EEL	MYRICHTHYS OCELLATUS
874113070300	SHARPTAIL EEL	MYRICHTHYS BREVICEPS
874113080200	SPECKLED WORM EEL	MYROPHIS PUNCTATUS
874113090100	SPOTTED SPOON-NOSE EEL	ECHIOPHIS INTERTINCTUS
874113090200	SNAPPER EEL	ECHIOPHIS PUNCTIFER
874113100100	SHRIMP EEL	OPHICHTHUS GOMESI
874113100200	BLACKPORED EEL	OPHICHTHUS MELANOPORUS
874113100300	PALESPOTTED EEL	OPHICHTHUS PUNCTICEPSS
874113100400	SPOTTED SNAKE EEL	OPHICHTHUS OPHIS
874113100600	PACIFIC SNAKE EEL	OPHICHTHUS TRISERIALIS
874113100700	YELLOW SNAKE EEL	OPHICHTHUS ZOPHOCHIR
874113110300	SURF EEL	ICHTHYAPUS OPHIONEUS
874113120100	FINLESS EEL	APTERICHTUS KENDALLI
874113120200	ACADEMY EEL	APTERICHTUS ANSP
874113160100	STRIPE EEL	APROGNATHODON PLATYVENTRIS
874113170100	SLANTLIP EEL	CARALOPHIA LOXOCHILA
874117010100	SHORTBELLY EEL	DYSOMMA ANGUILLARE
874121020200	SLENDER SNAKE EEL	NEMICHTHYS SCOLOPACEUS
874303030100	SPINY EEL	NOTACANTHUS CHEMNITZI
874701010100	AMERICAN SHAD	ALOSA SAPIDISSIMA
874701010200	BLUEBACK HERRING	ALOSA AESTIVALIS
874701010300	HICKORY SHAD	ALOSA MEDIOCRIS
874701010400	ALABAMA SHAD	ALOSA ALABAMAE
874701010500	ALEWIFE	ALOSA PSEUDOHARENGUS
874701010600	SKIPJACK HERRING	ALOSA CHRYSOCHLORIS
874701020100	ATLANTIC HERRING	CLUPEA HARENGUS
874701020100	PACIFIC HERRING	CLUPEA PALLASI
874701030100	PACIFIC SARDINE	SARDINOPS SAGAX
874701040100	ATLANTIC MENHADEN	BREVOORTIA TYRANNUS
874701040200	FINESCALE MENHADEN	BREVOORTIA GUNTERI
874701040300	GULF MENHADEN	BREVOORTIA PATRONUS
874701040400	YELLOWFIN MENHADEN	BREVOORTIA SMITHI
874701050100	GIZZARD SHAD	DOROSOMA CEPEDIANUM
874701050200	THREADFIN SHAD	DOROSOMA PETENENSE
874701060100	ROUND HERRING	ETRUMEUS TERES
874701070100	ATLANTIC THREAD HERRING	OPISTHONEMA OGLINUM
874701070400	MIDDLING THREAD HERRING	OPISTHONEMA MEDIRASTRE
874701080100	FALSE PILCHARD	HARENGULA CLUPEOLA
874701080200	REDEAR SARDINE	HARENGULA HUMERALIS
874701080400	SCALED SARDINE	HARENGULA JAGUANA
874701080500	FLATIRON HERRING	HARENGULA THRISSINA
874701090100	DWARF HERRING	JENKINSIA LAMPROTAENIA
874701090200	LITTLE-EYE HERRING	JENKINSIA MAJUA
874701100200	ORANGESPOT SARDINE	SARDINELLA BRASILIENSIS
874701100300	SPANISH SARDINE	SARDINELLA AURITA
874702010100	NORTHERN ANCHOVY	ENGRAULIS MORDAX
874702010200	CAMIGUANA ANCHOVY	ENGRAULIS ESTAUQUAE
874702010300	SILVER ANCHOVY	ENGRAULIS EURYSTOLE
874702020100	STRIPED ANCHOVY	ANCHOA HEPSETUS
874702020200	BAY ANCHOVY	ANCHOA MITCHILLI
874702020300	CUBAN ANCHOVY	ANCHOA CUBANA
874702020400	BIGEYE ANCHOVY	ANCHOA LAMPROTAENIA
874702020500	DUSKY ANCHOVY	ANCHOA LYOLEPIS
874702020600	LONGNOSE ANCHOVY	ANCHOA NASUTA
874702020900	KEY ANCHOVY	ANCHOA CAYORUM

874702021000	DEEPBODY ANCHOVY	ANCHOA COMPRESSA
874702021100	SLOUGH ANCHOVY	ANCHOA DELICATISSIMA
874702021200	NEW JERSEY ANCHOVY	ANCHOA DUODECIUM
874702030400	FLAT ANCHOVY	ANCHOVIELLA PERFASCIATA
874702040200	ANCHOVETA	CETENGRAULIS MYSTICETUS
875501010600	LAKE WHITEFISH	COREGONUS CLUPEAFORMIS
875501020100	PINK SALMON	ONCORHYNCHUS GORBUSCHA
875501020200	CHUM SALMON	ONCORHYNCHUS KETA
875501020300	COHO SALMON	ONCORHYNCHUS KISUTCH
875501020500	SOCKEYE SALMON	ONCORHYNCHUS NERKA
875501020600	CHINOOK SALMON	ONCORHYNCHUS TSHAWYTSCHA
875501030100	CUTTHROAT TROUT	ONCORHYNCHUS CLARKI
875501030200	RAINBOW TROUT	ONCORHYNCHUS MYKISS
875501030500	ATLANTIC SALMON	SALMO SALAR
875501030600	BROWN TROUT	SALMO TRUTTA
875501040100	DOLLY VARDEN	SALVELINUS MALMA
875501040200	ARCTIC CHAR	SALVELINUS ALPINUS
875501040300	LAKE TROUT	SALVELINUS NAMAYCUSH
875501040400	BROOK TROUT	SALVELINUS FONTINALIS
875503010100	SURF SMELT	HYPOMESUS PRETIOSUS
875503010300	DELTA SMELT	HYPOMESUS TRANSPACIFICUS
875503020100	CAPELIN	MALLOTUS VILLOSUS
875503030200	RAINBOW SMELT	OSMERUS MORDAX
875503040100	NIGHT SMELT	SPIRINCHUS STARKSI
875503040200	LONGFIN SMELT	SPIRINCHUS THALEICHTHYS
875503050100	EULACHON	THALEICHTHYS PACIFICUS
875503060100	WHITEBAIT SMELT	ALLOSMERUS ELONGATUS
875601020300	ATLANTIC ARGENTINE	ARGENTINA SILUS
875601020500	STRIATED ARGENTINE	ARGENTINA STRIATA
875601020600	PACIFIC ARGENTINE	ARGENTINA SIALIS
875601030200	PYGMY ARGENTINE	GLOSSANODON PYGMAEUS
875602010600	CALIFORNIA SMOOTHTONGUE	LEUROGLOSSUS STILBIUS
875603010100	BARRELEYE	MACROPINNA MICROSTOMA
875801010100	NORTHERN PIKE	ESOX LUCIUS
875801010300	CHAIN PICKEREL	ESOX NIGER
875801010400	MUSKELLUNGE	ESOX MASQUINONGY
875901060100	STAREYE LIGHTFISH	POLLICHTHYS MAULI
875904030100	LONGFIN DRAGONFISH	TACTOSTOMA MACROPUS
875906010100	PACIFIC VIPERFISH	CHAULIODUS MACOUNI
876201010200	YELLOWFIN AULOPUS	AULOPUS NANAE
876202010100	INSHORE LIZARDFISH	SYNODUS FOETENS
876202010200	SAND DIVER	SYNODUS INTERMEDIUS
876202010300	CALIFORNIA LIZARDFISH	SYNODUS LUCIOCEPS
876202010400	OFFSHORE LIZARDFISH	SYNODUS POEYI
876202010600	RED LIZARDFISH	SYNODUS SYNODUS
876202030100	LARGESCALE LIZARDFISH	SAURIDA BRASILIENSIS
876202030200	SMALLSCALE LIZARDFISH	SAURIDA CARIBBAEA
876202030300	SHORTJAW LIZARDFISH	SAURIDA NORMANI
876202040100	SNAKEFISH	TRACHINOCEPHALUS MYOPS
876204010100	SHORTNOSE GREENEYE	CHLOROPHTHALMUS AGASSIZI
876204020100	LONGNOSE GREENEYE	PARASUDIS TRUCULENTA
876209010200	LONGNOSE LANCETFISH	ALEPISAURUS FEROX
876209010300	SHORTNOSE LANCETFISH	ALEPISAURUS BREVIROSTRIS
876210010100	DAGGERTOOTH	ANOTOPTERUS PHARAO
876212010100	NORTHERN PEARLEYE	BENTHALBELLA DENTATA
876214010100	DOGTOOTH LAMPFISH	CERATOSCOPELUS TOWNSENDI
876214020100	CALIFORNIA HEADLIGHTFISH	DIAPHUS THETA
876214030200	PINPOINT LAMPFISH	LAMPANYCTUS REGALIS
876214040100	PATCHWORK LAMPFISH	NOTOSCOPELUS RESPLENDENS
876214050100	NORTHERN LAMPFISH	STENOBRACHIUS LEUCOPSARUS
876214070100	BLUE LANTERNFISH	TARLETONBEANIA CRENULARIS
876214080200	DIOGENES LAMPFISH	DIOGENYS LATERNATUS
876214100100	CALIFORNIA FLASHLIGHTFISH	PROTOMYCTOPHUM CROCKERI
876214240100	MEXICAN LAMPFISH	TRIPHOTURUS MEXICANUS

877601010100	COMMON CARP	CYPRINUS CARPIO
877604010200	WHITE SUCKER	CATOSTOMUS COMMERSONI
877702010100	WHITE CATFISH	AMEIURUS CATUS
877702010200	BLUE CATFISH	ICTALURUS FURCATUS
877702010300	YELLOW BULLHEAD	AMEIURUS NATALIS
877702010400	BROWN BULLHEAD	AMEIURUS NEBULOSUS
877702010500	CHANNEL CATFISH	ICTALURUS PUNCTATUS
877702010600	BLACK BULLHEAD	AMEIURUS MELAS
877702030100	FLATHEAD CATFISH	PYLODICTIS OLIVARIS
877718010100	GAFFTOPSAIL CATFISH	BAGRE MARINUS
877718020200	HARDHEAD CATFISH	ARIUS FELIS
877730010100	SUCKERMOUTH CATFISH	HYPOSTOMUS PLECOSTOMUS
878301010100	PLAINFIN MIDSHIPMAN	PORICHTHYS NOTATUS
878301010600	ATLANTIC MIDSHIPMAN	PORICHTHYS PLECTRODON
878301010700	SPECKLEFIN MIDSHIPMAN	PORICHTHYS MYRIASTER
878301020100	OYSTER TOADFISH	OPSANUS TAU
878301020200	GULF TOADFISH	OPSANUS BETA
878301020300	LEOPARD TOADFISH	OPSANUS PARDUS
878401010100	NORTHERN CLINGFISH	GOBIESOX MAEANDRICUS
878401010200	SKILLETFISH	GOBIESOX STRUMOSUS
878401010300	LINED CLINGFISH	GOBIESOX EUGRAMMUS
878401010400	BEARDED CLINGFISH	GOBIESOX PAPILLIFER
878401010500	STIPPLED CLINGFISH	GOBIESOX PUNCTULATUS
878401010600	CALIFORNIA CLINGFISH	GOBIESOX RHESSODON
878401020100	KELP CLINGFISH	RIMICOLA MUSCARUM
878401020200	SLENDER CLINGFISH	RIMICOLA EIGENMANNI
878401040100	EMERALD CLINGFISH	ACYRTOPS BERYLLINUS
878601010100	GOOSEFISH	LOPHIUS AMERICANUS
878702010100	SARGASSUMFISH	HISTRIO HISTRIO
878702020100	LONGLURE FROGFISH	ANTENNARIUS MULTIOCELLATUS
878702020200	OCELLATED FROGFISH	ANTENNARIUS OCELLATUS
878702020300	SINGLESPOT FROGFISH	ANTENNARIUS RADIOSUS
878702020500	STRIATED FROGFISH	ANTENNARIUS STRIATUS
878702020700	ROUGHJAW FROGFISH	ANTENNARIUS AVALONIS
878702020800	DWARF FROGFISH	ANTENNARIUS PAUCIRADIATUS
878704010100	LONGNOSE BATFISH	OGCOCEPHALUS CORNIGER
878704010300	SHORTNOSE BATFISH	OGCOCEPHALUS NASUTUS
878704010500	ROUGHBACK BATFISH	OGCOCEPHALUS PARVUS
878704010600	POLKA-DOT BATFISH	OGCOCEPHALUS RADIATUS
878704030100	PANCAKE BATFISH	HALIEUTICHTHYS ACULEATUS
878704040100	TRICORN BATFISH	ZALIEUTES MCGINTYI
878803020100	ATLANTIC FOOTBALLFISH	HIMANTOLOPHUS GROENLANDICUS
878808020100	TRIPLEWART SEADEVIL	CRYPTOPSARAS COUESI
879102010100	ANTENNA CODLET	BREGMACEROS ATLANTICUS
879103010100	TOOTHED COD	ARCTOGADUS BORISOVI
879103010200	POLAR COD	ARCTOGADUS GLACIALIS
879103020100	ARCTIC COD	BOREOGADUS SAIDA
879103030100	SAFFRON COD	ELEGINUS GRACILIS
879103040100	PACIFIC COD	GADUS MACROCEPHALUS
879103040200	ATLANTIC COD	GADUS MORHUA
879103040300	GREENLAND COD	GADUS OGAC
879103060100	PACIFIC TOMCOD	MICROGADUS PROXIMUS
879103060200	ATLANTIC TOMCOD	MICROGADUS TOMCOD
879103070100	WALLEYE POLLOCK	THERAGRA CHALCOGRAMMA
879103080100	BURBOT	LOTA LOTA
879103090100	POLLOCK	POLLACHIUS VIRENS
879103100100	RED HAKE	UROPHYCIS CHUSS
879103100200	SPOTTED HAKE	UROPHYCIS REGIA
879103100300	WHITE HAKE	UROPHYCIS TENUIS
879103100500	GULF HAKE	UROPHYCIS CIRRATA
879103100600	CAROLINA HAKE	UROPHYCIS EARLLI
879103100700	SOUTHERN HAKE	UROPHYCIS FLORIDANA
879103110100	CUSK	BROSME BROSME
879103130100	HADDOCK	MELANOGRAMMUS AEGLEFINUS

879103150100	FOURBEARD ROCKLING	ENCHELYOPUS CIMBRIUS
879103160100	LONGFIN HAKE	UROPHYCIS CHESTERI
879104010100	SILVER HAKE	MERLUCCIUS BILINEARIS
879104010200	PACIFIC HAKE	MERLUCCIUS PRODUCTUS
879104020100	LUMINOUS HAKE	STEINDACHNERIA ARGENTEA
879201010100	RED BROTULA	BROSMOPHYCIS MARGINATA
879201040100	BEARDED BROTULA	BROTULA BARBATA
879201050300	FAWN CUSK-EEL	LEPOPHIDIUM PROFUNDORUM
879201050400	BLACKEDGE CUSK-EEL	LEPOPHIDIUM BREVIBARBE
879201050500	MOTTLED CUSK-EEL	LEPOPHIDIUM JEANNAE
879201060100	LONGNOSE CUSK-EEL	OPHIDION BEANI
879201060200	BLOTCHED CUSK-EEL	OPHIDION GRAYI
879201060300	BANK CUSK-EEL	OPHIDION HOLBROOKI
879201060400	MOONEYE CUSK-EEL	OPHIDION SELENOPS
879201060500	CRESTED CUSK-EEL	OPHIDION WELSHI
879201070100	POLKA-DOT CUSK-EEL	OTOPHIDIUM OMOSTIGMUM
879201070200	SPOTTED CUSK-EEL	CHILARA TAYLORI
879201070300	SLEEPER CUSK-EEL	OTOPHIDIUM DORMITATOR
879201070400	BASKETWEAVE CUSK-EEL	OPHIDION SCRIPPSAE
879201090100	STRIPED CUSK-EEL	OPHIDION MARGINATUM
879201230100	GOLD BROTULA	GUNTERICHTHYS LONGIPENIS
879201240100	KEY BROTULA	OGILBIA CAYORUM
879201250100	REEF-CAVE BROTULA	OLIGOPUS CLAUDEI
879201250200	PURPLE BROTULA	OLIGOPUS DIAGRAMMUS
879201260100	DUSKY CUSK EEL	PAROPHIDION SCHMIDTI
879201270100	REDFIN BROTULA	PETROTYX SANGUINEUS
879201280100	BLACK BROTULA	STYGNOBROTULA LATEBRICOLA
879202010100	PEARLFISH	CARAPUS BERMUDENSIS
879301010100	BIGFIN EELPOUT	LYCODES CORTEZIANUS
879301020300	ALASKA EELPOUT	BOTHROCARA PUSILLUM
879301040300	FISH DOCTOR	GYMNELUS VIRIDUS
879301051200	WOLF EELPOUT	LYCENCHELYS VERRILLI
879301060400	PALLID EELPOUT	LYCODAPUS MANDIBULARIS
879301070300	SHORTFIN EELPOUT	LYCODES BREVIPES
879301070600	BLACK EELPOUT	LYCODES DIAPTERUS
879301071000	WATTLED EELPOUT	LYCODES PALEARIS
879301071100	CANADIAN EELPOUT	LYCODES POLARIS
879301071400	POLAR EELPOUT	LYCODES TURNERI
879301071900	SHULUPAOLUK	LYCODES JUGORICUS
879301072000	NEWFOUNDLAND EELPOUT	LYCODES LAVALEI
879301072100	PALE EELPOUT	LYCODES PALLIDUS
879301072200	ARCTIC EELPOUT	LYCODES RETICULATUS
879301080100	BLACKBELLY EELPOUT	LYCODOPSIS PACIFICA
879301160100	OCEAN POUT	MACROZOARCES AMERICANUS
879301170100	BEARDED EELPOUT	LYCONEMA BARBATUM
879401080200	MARLIN-SPIKE	NEZUMIA BAIRDI
880301010100	ATLANTIC FLYINGFISH	CYPSELURUS MELANURUS
880301010200	CLEARWING FLYINGFISH	CYPSELURUS COMATUS
880301010300	MARGINED FLYINGFISH	CYPSELURUS CYANOPTERUS
880301010400	BANDWING FLYINGFISH	CYPSELURUS EXSILIENS
880301010500	SPOTFIN FLYINGFISH	CYPSELURUS FURCATUS
880301010700	CALIFORNIA FLYINGFISH	CYPSELURUS CALIFORNICUS
880301020100	BALLYHOO	HEMIRAMPHUS BRASILIENSIS
880301020200	BALAO	HEMIRAMPHUS BALAO
880301020400	LONGFIN HALFBEAK	HEMIRAMPHUS SALTATOR
880301030100	SILVERSTRIPE HALFBEAK	HYPORHAMPHUS UNIFASCIATUS
880301030400	CALIFORNIA HALFBEAK	HYPORHAMPHUS ROSAE
880301040100	HARDHEAD HALFBEAK	CHRIODORUS ATHERINOIDES
880301060100	FLYING HALFBEAK	EULEPTORHAMPHUS VELOX
880301060200	RIBBON HALFBEAK	EULEPTORHAMPHUS VIRIDIS
880301070100	OCEAN TWO-WING FLYINGFISH	EXOCOETUS OBTUSIROSTRIS
880301070200	TROPICAL TWO-WING FLYINGFISH	EXOCOETUS VOLITANS
880301090100	FOURWING FLYINGFISH	HIRUNDICHTHYS AFFINIS
880301090300	BLACKWING FLYINGFISH	HIRUNDICHTHYS RONDELETI

880301100100	SMALLWING FLYINGFISH	*OXYPORHAMPHUS MICROPTERUS*
880301110100	SAILFIN FLYINGFISH	PAREXOCOETUS BRACHYPTERUS
880301120100	BLUNTNOSE FLYINGFISH	PROGNICHTHYS GIBBIFRONS
880302010100	FLAT NEEDLEFISH	ABLENNES HIANS
880302020100	ATLANTIC NEEDLEFISH	STRONGYLURA MARINA
880302020200	REDFIN NEEDLEFISH	STRONGYLURA NOTATA
880302020300	TIMUCU	STRONGYLURA TIMUCU
880302020400	CALIFORNIA NEEDLEFISH	STRONGYLURA EXILIS
880302030100	AGUJON	TYLOSURUS ACUS
880302030200	HOUNDFISH	TYLOSURUS CROCODILUS
880302040100	KEELTAIL NEEDLEFISH	PLATYBELONE ARGALUS
880303010100	PACIFIC SAURY	COLOLABIS SAIRA
880303020100	ATLANTIC SAURY	SCOMBERESOX SAURUS
880404010100	SHEEPSHEAD MINNOW	CYPRINODON VARIEGATUS
880404020100	MARSH KILLIFISH	FUNDULUS CONFLUENTUS
880404020300	MUMMICHOG	FUNDULUS HETEROCLITUS
880404020400	SPOTFIN KILLIFISH	FUNDULUS LUCIAE
880404020500	STRIPED KILLIFISH	FUNDULUS MAJALIS
880404020700	GULF KILLIFISH	FUNDULUS GRANDIS
880404020900	SALTMARSH TOPMINNOW	FUNDULUS JENKINSI
880404021200	BAYOU KILLIFISH	FUNDULUS PULVEREUS
880404030100	RAINWATER KILLIFISH	LUCANIA PARVA
880404040100	DIAMOND KILLIFISH	ADINIA XENICA
880404050100	GOLDSPOTTED KILLIFISH	FLORIDICHTHYS CARPIO
880408010100	WESTERN MOSQUITOFISH	GAMBUSIA AFFINIS
880408010200	MANGROVE GAMBUSIA	GAMBUSIA RHIZOPHORAE
880408020100	SAILFIN MOLLY	POECILIA LATIPINNA
880502010100	TOPSMELT	ATHERINOPS AFFINIS
880502020100	ROUGH SILVERSIDE	MEMBRAS MARTINICA
880502030100	INLAND SILVERSIDE	MENIDIA BERYLLINA
880502030200	ATLANTIC SILVERSIDE	MENIDIA MENIDIA
880502030300	KEY SILVERSIDE	MENIDIA CONCHORUM
880502040200	REEF SILVERSIDE	HYPOATHERINA HARRINGTONENSIS
880502050100	HARDHEAD SILVERSIDE	ATHERINOMORUS STIPES
880502060100	JACKSMELT	ATHERINOPSIS CALIFORNIENSIS
880502070100	CALIFORNIA GRUNION	LEURESTHES TENUIS
880901010100	BEARDFISH	POLYMIXIA LOWEI
881008010100	SQUIRRELFISH	HOLOCENTRUS ADSCENSIONIS
881008010200	DEEPWATER SQUIRRELFISH	HOLOCENTRUS BULLISI
881008010300	LONGSPINE SQUIRRELFISH	HOLOCENTRUS RUFUS
881008010400	REEF SQUIRRELFISH	HOLOCENTRUS CORUSCUS
881008010500	LONGJAW SQUIRRELFISH	HOLOCENTRUS MARIANUS
881008010600	DUSKY SQUIRRELFISH	HOLOCENTRUS VEXILLARIUS
881008020100	BLACKBAR SOLDIERFISH	MYRIPRISTIS JACOBUS
881008030100	BIGEYE SOLDIERFISH	OSTICHTHYS TRACHYPOMA
881008040100	CARDINAL SOLDIERFISH	PLECTRYPOPS RETROSPINIS
881008060100	SPINYCHEEK SOLDIERFISH	CORNIGER SPINOSUS
881103020100	BUCKLER DORY	ZENOPSIS CONCHIFERA
881106010100	DEEPBODY BOARFISH	ANTIGONIA CARPOS
881106010200	SHORTSPINE BOARFISH	ANTIGONIA COMBATIA
881301010100	OPAH	LAMPRIS GUTTATUS
881301010100	OPAH	LAMPRIS REGIUS
881501020100	UNICORNFISH	EUMECICHTHYS FISKI
881502010100	KING-OF-THE-SALMON	TRACHIPTERUS ALTIVELIS
881502010200	DEALFISH	TRACHIPTERUS ARCTICUS
881502010300	TAPERTAIL RIBBONFISH	TRACHIPTERUS FUKUZAKII
881502010300	TAPERTAIL RIBBONFISH	TRACHIPTERUS FUKUZAKI
881502020100	POLKA-DOT RIBBONFISH	DESMODEMA POLYSTICTUM
881502030100	SCALLOPED RIBBONFISH	ZU CRISTATUS
881503010100	OARFISH	REGALECUS GLESNE
881601010100	TUBE-EYE	STYLEPHORUS CHORDATUS
881801010100	THREESPINE STICKLEBACK	GASTEROSTEUS ACULEATUS
881801010200	BLACKSPOTTED STICKLEBACK	GASTEROSTEUS WHEATLANDI
881801020100	NINESPINE STICKLEBACK	PUNGITIUS PUNGITIUS

881801030100	FOURSPINE STICKLEBACK	APELTES QUADRACUS
881802010100	TUBE-SNOUT	AULORHYNCHUS FLAVIDUS
881901010100	TRUMPETFISH	AULOSTOMUS MACULATUS
881902010100	BLUESPOTTED CORNETFISH	FISTULARIA TABACARIA
881902010300	RED CORNETFISH	FISTULARIA PETIMBA
881903010100	LONGSPINE SNIPEFISH	MACRORHAMPHOSUS SCOLOPAX
881903010200	SLENDER SNIPEFISH	MACRORHAMPHOSUS GRACILIS
882002010100	BAY PIPEFISH	SYNGNATHUS LEPTORHYNCHUS
882002010200	DUSKY PIPEFISH	SYNGATHUS FLORIDAE
882002010300	NORTHERN PIPEFISH	SYNGNATHUS FUSCUS
882002010400	CHAIN PIPEFISH	SNYGNATHUS LOUISIANAE
882002010500	PUGNOSE PIPEFISH	BRYX DUNCKERI
882002010600	SHORTFIN PIPEFISH	COSMOCAMPUS ELUCENS
882002010800	SARGASSUM PIPEFISH	ONYGNATHUS PELAGICUS
882002011000	BARRED PIPEFISH	SYNGNATHUS AULISCUS
882002011100	KELP PIPEFISH	SYNGNATHUS CALIFORNIENSIS
882002011200	DWARF PIPEFISH	COSMOCAMPUS HILDEBRANDI
882002011300	GULF PIPEFISH	SYNGNATHUS SCOVELLI
882002020100	LINED SEAHORSE	HIPPOCAMPUS ERECTUS
882002020200	OFFSHORE SEAHORSE	HIPPOCAMPUS OBTUSUS
882002020400	LONGSNOUT SEAHORSE	HIPPOCAMPUS REIDI
882002020500	DWARF SEAHORSE	HIPPOCAMPUS ZOSTERAE
882002020600	PACIFIC SEAHORSE	HIPPOCAMPUS INGENS
882002040100	WHITENOSE PIPEFISH	COSMOCAMPUS ALBIROSTRIS
882002040200	DEEPWATER PIPEFISH	COSMOCAMPUS PROFUNDUS
882002040300	CRESTED PIPEFISH	COSMOCAMPUS BRACHYCEPHALUS
882002050100	INSULAR PIPEFISH	ANARCHOPTERUS TECTUS
882002050200	BANDED PIPEFISH	MICROGNATHUS CRINITUS
882002050300	FRINGED PIPEFISH	ARCHANOPTERUS CRINIGER
882002070100	OPOSSUM PIPEFISH	MICROPHIS BRACHYURUS
882601010100	ROUGHEYE ROCKFISH	SEBASTES ALEUTIANUS
882601010200	PACIFIC OCEAN PERCH	SEBASTES ALUTUS
882601010300	BROWN ROCKFISH	SEBASTES AURICULATUS
882601010400	AURORA ROCKFISH	SEBASTES AURORA
882601010500	REDBANDED ROCKFISH	SEBASTES BABCOCKI
882601010600	SILVERGRAY ROCKFISH	SEBASTES BREVISPINIS
882601010700	SHORTRAKER ROCKFISH	SEBASTES BOREALIS
882601010800	COPPER ROCKFISH	SEBASTES CAURINUS
882601010900	DUSKY ROCKFISH	SEBASTES CILIATUS
882601011000	DARKBLOTCHED ROCKFISH	SEBASTES CRAMERI
882601011100	SPLITNOSE ROCKFISH	SEBASTES DIPLOPROA
882601011200	GREENSTRIPED ROCKFISH	SEBASTES ELONGATUS
882601011300	PUGET SOUND ROCKFISH	SEBASTES EMPHAEUS
882601011400	WIDOW ROCKFISH	SEBASTES ENTOMELAS
882601011500	YELLOWTAIL ROCKFISH	SEBASTES FLAVIDUS
882601011700	CHILIPEPPER ROCKFISH	SEBASTES GOODEI
882601011800	ROSETHORN ROCKFISH	SEBASTES HELVOMACULATUS
882601011900	SHORTBELLY ROCKFISH	SEBASTES JORDANI
882601012000	QUILLBACK ROCKFISH	SEBASTES MALIGER
882601012100	BLACK ROCKFISH	SEBASTES MELANOPS
882601012300	VERMILION ROCKFISH	SEBASTES MINIATUS
882601012400	BLUE ROCKFISH	SEBASTES MYSTINUS
882601012400	BLUE ROCKFISH	SEBASTES MYSTINUS
882601012500	CHINA ROCKFISH	SEBASTES NEBULOSUS
882601012600	TIGER ROCKFISH	SEBASTES NIGROCINCTUS
882601012700	BOCACCIO	SEBASTES PAUCISPINIS
882601012800	CANARY ROCKFISH	SEBASTES PINNIGER
882601012900	NORTHERN ROCKFISH	SEBASTES POLYSPINIS
882601013000	REDSTRIPE ROCKFISH	SEBASTES PRORIGER
882601013100	YELLOWMOUTH ROCKFISH	SEBASTES REEDI
882601013200	ROSY ROCKFISH	SEBASTES ROSACEUS
882601013400	YELLOWEYE ROCKFISH	SEBASTES RUBERRIMUS
882601013500	STRIPETAIL ROCKFISH	SEBASTES SAXICOLA
882601013700	PYGMY ROCKFISH	SEBASTES WILSONI

882601013800	SHARPCHIN ROCKFISH	SEBASTES ZACENTRUS
882601013900	GOLDEN REDFISH	SEBASTES NORVEGICUS
882601014000	BLACK-AND-YELLOW ROCKFISH	SEBASTES CHRYSOMELAS
882601014200	KELP ROCKFISH	SEBASTES ATROVIRENS
882601014300	GREENSPOTTED ROCKFISH	SEBASTES CHLOROSTICTUS
882601014400	STARRY ROCKFISH	SEBASTES CONSTELLATUS
882601014500	CALICO ROCKFISH	SEBASTES DALLI
882601014600	PINK ROCKFISH	SEBASTES EOS
882601014700	BRONZESPOTTED ROCKFISH	SEBASTES GILLI
882601014800	SQUARESPOTTED ROCKFISH	SEBASTES HOPKINSI
882601014900	COWCOD	SEBASTES LEVIS
882601015000	MEXICAN ROCKFISH	SEBASTES MACDONALDI
882601015100	DEEPWATER REDFISH	SEBASTES MENTELLA
882601015200	SPECKLED ROCKFISH	SEBASTES OVALIS
882601015300	CHAMELEON ROCKFISH	SEBASTES PHILLIPSI
882601015400	GRASS ROCKFISH	SEBASTES RASTRELLIGER
882601015600	BANK ROCKFISH	SEBASTES RUFUS
882601015700	HALFBANDED ROCKFISH	SEBASTES SEMICINCTUS
882601015800	OLIVE ROCKFISH	SEBASTES SERRANOIDES
882601015900	TREEFISH	SEBASTES SERRICEPS
882601016000	HONEYCOMB ROCKFISH	SEBASTES UMBROSUS
882601016200	GOPHER ROCKFISH	SEBASTES CARNATUS
882601016300	SWORDSPINE ROCKFISH	SEBASTES ENSIFER
882601016400	FRECKLED ROCKFISH	SEBASTES LENTIGINOSUS
882601016500	PINKROSE ROCKFISH	SEBASTES SIMULATOR
882601016600	GREENBLOTCHED ROCKFISH	SEBASTES ROSENBLATTI
882601016700	DWARF-RED ROCKFISH	SEBASTES RUFINANUS
882601020100	SHORTSPINE THORNYHEAD	SEBASTOLOBUS ALASCANUS
882601020200	LONGSPINE THORNYHEAD	SEBASTOLOBUS ALTIVELIS
882601030100	BLACKBELLY ROSEFISH	HELICOLENUS DACTYLOPTERUS
882601040200	SPINYCHEEK SCORPIONFISH	NEOMERINTHE HEMINGWAYI
882601050100	LONGSNOUT SCORPIONFISH	PONTINUS CASTOR
882601050300	LONGSPINE SCORPIONFISH	PONTINUS LONGISPINIS
882601050500	HIGHFIN SCORPIONFISH	PONTINUS RATHBUNI
882601050600	SPINYTHROAT SCORPIONFISH	PONTINUS NEMATOPHTHALMUS
882601060000	SCORPIONFISH	SCORPAENA SPP.
882601060100	LONGFIN SCORPIONFISH	SCORPAENA AGASSIZI
882601060200	CORAL SCORPIONFISH	SCORPAENA ALBIFIMBRIA
882601060300	GOOSEHEAD SCORPIONFISH	SCORPAENA BERGI
882601060400	SHORTFIN SCORPIONFISH	SCORPAENA BRACHYPTERA
882601060500	BARBFISH	SCORPAENA BRASILIENSIS
882601060600	SMOOTHHEAD SCORPIONFISH	SCORPAENA CALCARATA
882601060700	HUNCHBACK SCORPIONFISH	SCORPAENA DISPAR
882601060800	DWARF SCORPIONFISH	SCORPAENA ELACHYS
882601060900	PLUMED SCORPIONFISH	SCORPAENA GRANDICORNIS
882601061000	MUSHROOM SCORPIONFISH	SCORPAENA INERMIS
882601061400	SPOTTED SCORPIONFISH	SCORPAENA PLUMIERI
882601061600	CALIFORNIA SCORPIONFISH	SCORPAENA GUTTATA
882601120100	REEF SCORPIONFISH	SCORPAENODES CARIBBAEUS
882601120200	DEEPREEF SCORPIONFISH	SCORPAENODES TREDECIMSPINOSUS
882601120300	RAINBOW SCORPIONFISH	SCORPAENODES XYRIS
882602010100	NORTHERN SEAROBIN	PRIONOTUS CAROLINUS
882602010200	STRIPED SEAROBIN	PRIONOTUS EVOLANS
882602010300	LEOPARD SEAROBIN	PRIONOTUS SCITULUS
882602010400	BIGHEAD SEAROBIN	PRIONOTUS TRIBULUS
882602010500	SPINY SEAROBIN	PRIONOTUS ALATUS
882602011100	BARRED SEAROBIN	PRIONOTUS MARTIS
882602011300	BANDTAIL SEAROBIN	PRIONOTUS OPHRYAS
882602011400	MEXICAN SEAROBIN	PRIONOTUS PARALATUS
882602011700	BLUESPOTTED SEAROBIN	PRIONOTUS ROSEUS
882602011800	BIGEYE SEAROBIN	PRIONOTUS LONGISPINOSUS
882602012000	BLACKWING SEAROBIN	PRIONOTUS RUBIO
882602012100	SHORTWING SEAROBIN	PRIONOTUS STEARNSI
882602020100	SHORTFIN SEAROBIN	BELLATOR BRACHYCHIR

882602020200	STREAMER SEAROBIN	BELLATOR EGRETTA
882602020300	HORNED SEAROBIN	BELLATOR MILITARIS
882602020500	SPLITNOSE SEAROBIN	BELLATOR XENISMA
882602030300	SLENDER SEAROBIN	PERISTEDION GRACILE
882602030700	ARMORED SEAROBIN	PERISTEDION MINIATUM
882602031100	RIMSPINE SEAROBIN	PERISTEDION THOMPSONI
882602031300	FLATHEAD SEAROBIN	PERISTEDION BREVIROSTRE
882701010000	GREENLING	HEXAGRAMMOS SPP.
882701010100	KELP GREENLING	HEXAGRAMMOS DECAGRAMMUS
882701010200	ROCK GREENLING	HEXAGRAMMOS LAGOCEPHALUS
882701010300	MASKED GREENLING	HEXAGRAMMOS OCTOGRAMMUS
882701010400	WHITESPOTTED GREENLING	HEXAGRAMMOS STELLERI
882701020100	LINGCOD	OPHIODON ELONGATUS
882701040100	LONGSPINE COMBFISH	ZANIOLEPIS LATIPINNIS
882701040200	SHORTSPINE COMBFISH	ZANIOLEPIS FRENATA
882701050100	ATKA MACKEREL	PLEUROGRAMMUS MONOPTERYGIUS
882702010100	SABLEFISH	ANOPLOPOMA FIMBRIA
882702020100	SKILFISH	ERILEPIS ZONIFER
882702030100	PAINTED GREENLING	OXYLEBIUS PICTUS
883101010100	TWOHORN SCULPIN	ICELUS BICORNIS
883101010500	SPATULATE SCULPIN	ICELUS SPATULA
883102010100	SCALED SCULPIN	ARCHAULUS BISERIATUS
883102030500	HAMECON	ARTEDIELLUS SCABER
883102030600	ARCTIC HOOKEAR SCULPIN	ARTEDIELLUS UNCINATUS
883102030700	ATLANTIC HOOKEAR SCULPIN	ARTEDIELLUS ATLANTICUS
883102040100	PADDED SCULPIN	ARTEDIUS FENESTRALIS
883102040200	SCALYHEAD SCULPIN	ARTEDIUS HARRINGTONI
883102040300	SMOOTHHEAD SCULPIN	ARTEDIUS LATERALIS
883102040400	PUGET SOUND SCULPIN	RUSCARIUS MEANYI
883102040500	BONEHEAD SCULPIN	ARTEDIUS NOTOSPILOTUS
883102040600	CORRALLINE SCULPIN	ARTEDIUS CORALLINUS
883102040700	ROUGHCHEEK SCULPIN	RUSCARIUS CREASERI
883102050100	ROSYLIP SCULPIN	ASCELICHTHYS RHODORUS
883102060100	CRESTED SCULPIN	BLEPSIAS BILOBUS
883102060200	SILVER SPOTTED SCULPIN	BLEPSIAS CIRRHOSUS
883102070100	SHARPNOSE SCULPIN	CLINOCOTTUS ACUTICEPS
883102070200	CALICO SCULPIN	CLINOCOTTUS EMBRYUM
883102070300	MOSSHEAD SCULPIN	CLINOCOTTUS GLOPICEPS
883102070400	WOOLY SCULPIN	CLINOCOTTUS ANALIS
883102070500	BALD SCULPIN	CLINOCOTTUS RECALVUS
883102080100	COASTRANGE SCULPIN	COTTUS ALEUTICUS
883102080300	PRICKLY SCULPIN	COTTUS ASPER
883102090100	SPINYHEAD SCULPIN	DASYCOTTUS SETIGER
883102100100	BUFFALO SCULPIN	ENOPHRYS BISON
883102100200	ANTLERED SCULPIN	ENOPHRYS DICERAUS
883102100300	LEISTER SCULPIN	ENOPHRYS LUCASI
883102100400	BULL SCULPIN	ENOPHRYS TAURINA
883102130200	ARMORHEAD SCULPIN	GYMNOCANTHUS GALEATUS
883102130400	ARCTIC STAGHORN SCULPIN	GYMNOCANTHUS TRICUSPIS
883102140200	RED IRISH LORD	HEMILEPIDOTUS HEMILEPIDOTUS
883102140300	YELLOW IRISH LORD	HEMILEPIDOTUS JORDANI
883102140500	BROWN IRISH LORD	HEMILEPIDOTUS SPINOSUS
883102150200	BIGMOUTH SCULPIN	HEMITRIPTERUS BOLINI
883102150300	SEA RAVEN	HEMITRIPTERUS AMERICANUS
883102160100	NORTHERN SCULPIN	ICELINUS BOREALIS
883102160200	DUSKY SCULPIN	ICELINUS BURCHAMI
883102160300	THREADFIN SCULPIN	ICELINUS FILAMENTOSUS
883102160400	SPOTFIN SCULPIN	ICELINUS TENUIS
883102160500	FROGMOUTH SCULPIN	ICELINUS OCULATUS
883102160600	PIT-HEAD SCULPIN	ICELINUS CAVIFRONS
883102160700	FRINGED SCULPIN	ICELINUS FIMBRIATUS
883102160800	YELLOWCHIN SCULPIN	ICELINUS QUADRISERIATUS
883102180100	PACIFIC STAGHORN SCULPIN	LEPTOCOTTUS ARMATUS
883102190100	BLACKFIN SCULPIN	MALACOCOTTUS KINCAIDI

883102200100	BELLIGERENT SCULPIN	MEGALOCOTTUS PLATYCEPHALUS
883102210100	BRIGHTBELLY SCULPIN	MICROCOTTUS SELLARIS
883102220100	PLAIN SCULPIN	MYOXOCEPHALUS JAOK
883102220300	WARTHEAD SCULPIN	MYOXOCEPHALUS NIGER
883102220400	GREAT SCULPIN	MYOXOCEPHALUS POLYACANTHOCEPHA
883102220500	FOURHORN SCULPIN	MYOXOCEPHALUS QUADRICORNIS
883102220600	ARCTIC SCULPIN	MYOXOCEPHALUS SCORPIOIDES
883102220700	SHORTHORN SCULPIN	MYOXOCEPHALUS SCORPIUS
883102220900	LONGHORN SCULPIN	MYOXOCEPHALUS OCTODECEMSPINOSU
883102221000	GRUBBY	MYOXOCEPHALUS AENAEUS
883102230100	SAILFIN SCULPIN	NAUTICHTHYS OCULOFASCIATUS
883102230200	EYESHADE SCULPIN	NAUTICHTHYS PRIBILOVIUS
883102240100	TIDEPOOL SCULPIN	OLIGOCOTTUS MACULOSUS
883102240200	SADDLEBACK SCULPIN	OLIGOCOTTUS RIMENSIS
883102240300	FLUFFY SCULPIN	OLIGOCOTTUS SNYDERI
883102250100	THORNBACK SCULPIN	PARICELINUS HOPLITICUS
883102260100	SPINELESS SCULPIN	PHALLOCOTTUS OBTUSUS
883102290100	SLIM SCULPIN	RADULINUS ASPRELLUS
883102290200	DARTER SCULPIN	RADULINUS BOLEOIDES
883102290300	SMOOTHGUM SCULPIN	RADULINUS VINCULUS
883102300100	GRUNT SCULPIN	RHAMPHOCOTTUS RICHARDSONI
883102310100	CABEZON	SCORPAENICHTHYS MARMORATUS
883102320100	KELP SCULPIN	SIGMISTES CAULIAS
883102320200	ARCHED SCULPIN	SIGMISTES SMITHI
883102360100	MANACLED SCULPIN	SYNCHIRUS GILLI
883102380100	SCISSORTAIL SCULPIN	TRIGLOPS FORFICATUS
883102380300	ROUGHSPINE SCULPIN	TRIGLOPS MACELLUS
883102380500	RIBBED SCULPIN	TRIGLOPS PINGELI
883102380500	RIBBED SCULPIN	TRIGLOPS PINGELI
883102380600	SPECTACLED SCULPIN	TRIGLOPS SCEPTICUS
883102380700	MOUSTACHE SCULPIN	TRIGLOPS MURRAYI
883102380800	BIGEYE SCULPIN	TRIGLOPS NYBELINI
883102400100	ROUGHBACK SCULPIN	CHITONOTUS PUGETTENSIS
883102410100	SPINYNOSE SCULPIN	ASEMICHTHYS TAYLORI
883102420100	LONGFIN SCULPIN	JORDANIA ZONOPE
883102430100	LAVENDER SCULPIN	LEIOCOTTUS HIRUNDO
883102440100	BUTTERFLY SCULPIN	HEMILEPIDOTUS PAPILIO
883102450100	SNUBNOSE SCULPIN	ORTHONOPIAS TRIACIS
883107010100	TADPOLE SCULPIN	PSYCHROLUTES PARADOXUS
883107030100	SOFT SCULPIN	PSYCHROLUTES SIGALUTES
883108010100	NORTHERN SPEARNOSE POACHER	AGONOPSIS VULSA
883108010200	SOUTHERN SPEARNOSE POACHER	AGONOPSIS STERLETUS
883108020100	SMOOTH ALLIGATORFISH	ANOPLAGONUS INERMIS
883108030100	ALEUTIAN ALLIGATORFISH	ASPIDOPHOROIDES BARTONI
883108030300	ARCTIC ALLIGATORFISH	ASPIDOPHOROIDES OLRIKI
883108030400	ALLIGATORFISH	ASPIDOPHOROIDES MONOPTERYGIUS
883108040100	GRAY STARSNOUT	BATHYAGONUS ALASCANA
883108040200	SPINYCHECK STARSNOUT	BATHYAGONUS INFRASPINATUS
883108040300	BIGEYE POACHER	BATHYAGONUS PENTACANTHUS
883108050100	BLACKFIN POACHER	BATHYAGONUS NIGRIPINNIS
883108060100	ROCKHEAD	BOTHRAGONUS SWANI
883108070100	FOURHORN POACHER	HYPSAGONUS QUADRICORNIS
883108080100	ATLANTIC POACHER	LEPTAGONUS DECAGONUS
883108080200	STURGEON POACHER	PODOTHECUS ACIPENSERINUS
883108090100	BERING POACHER	OCCELLA DODECAEDRON
883108090300	WARTY POACHER	OCCELLA VERRUCOSA
883108100100	PYGMY POACHER	ODONTOPYXIS TRISPINOSA
883108110100	TUBENOSE POACHER	PALLASINA BARBATA
883108130100	BLACKTIP POACHER	XENERETMUS LATIFRONS
883108130200	BLUESPOTTED POACHER	XENERETMUS TRIACANTHUS
883108150100	PRICKLEBREAST POACHER	STELLERINA XYOSTERNA
883109010100	SMOOTH LUMPSUCKER	APTOCYCLUS VENTRICOSUS
883109021500	BLACKTAIL SNAILFISH	CAREPROCTUS MELANURUS
883109023200	LONGFIN SNAILFISH	CAREPROCTUS LONGIPINNIS

883109030100	BLOTCHED SNAILFISH	CRYSTALLICHTHYS CYCLOPILUS
883109040500	ARCTIC LUMPSUCKER	CYCLOPTEROPSIS MACALPINI
883109050100	PIMPLED LUMPSUCKER	EUMICROTREMUS ANDRIASHEVI
883109050400	LEATHERFIN LUMPSUCKER	EUMICROTREMUS DERJUGINI
883109050600	PACIFIC SPINY LUMPSUCKER	EUMICROTREMUS ORBIS
883109050800	ATLANTIC SPINY LUMPSUCKER	EUMICROTREMUS SPINOSUS
883109080300	SPOTTED SNAILFISH	LIPARIS CALLYODON
883109080600	RIBBON SNAILFISH	LIPARIS CYCLOPUS
883109080700	VARIEGATED SNAILFISH	LIPARIS GIBBUS
883109080800	MARBLED SNAILFISH	LIPARIS DENNYI
883109081000	TIDEPOOL SNAILFISH	LIPARIS FLORAE
883109081100	SLIPSKIN SNAILFISH	LIPARIS FUCENSIS
883109081500	GELATINOUS SEASNAIL	LIPARIS FRABICII
883109082000	SLIMY SNAILFISH	LIPARIS MUCOSUS
883109082200	SHOWY SNAILFISH	LIPARIS PULCHELLUS
883109082500	RINGTAIL SNAILFISH	LIPARIS RUTTERI
883109082600	ATLANTIC SEASNAIL	LIPARIS ATLANTICUS
883109082700	INQUILINE SEASNAIL	LIPARIS INQUILINIS
883109082900	KELP SNAILFISH	LIPARIS TUNICATUS
883109100100	TADPOLE SNAILFISH	NECTOLIPARIS PELAGICUS
883109110600	PRICKLY SNAILFISH	PARALIPARIS DEANI
883109120200	LOBEFIN SNAILFISH	LIPARIS GREENI
883109150100	LUMPFISH	CYCLOPTERUS LUMPUS
883201010100	FLYING GURNARD	DACTYLOPTERUS VOLITANS
883501010200	SWORDSPINE SNOOK	CENTROPOMUS ENSIFERUS
883501010300	FAT SNOOK	CENTROPOMUS PARALLELUS
883501010400	TARPON SNOOK	CENTROPOMUS PECTINATUS
883501010500	COMMON SNOOK	CENTROPOMUS UNDECIMALIS
883502010100	WHITE PERCH	MORONE AMERICANA
883502010200	STRIPED BASS	MORONE SAXATILIS
883502010300	HYBRID STRIPED BASS	MORONE SAXATILIS X M.
883502010400	WHITE BASS	MORONE CHRYSOPS
883502010400	WHITE BASS	MORONE CHRYSOPS
883502010500	YELLOW BASS	MORONE MISSISSIPPIENSIS
883502030100	BLACK SEA BASS	CENTROPRISTIS STRIATA
883502030400	BANK SEA BASS	CENTROPRISTIS OCYURUS
883502030500	ROCK SEA BASS	CENTROPRISTIS PHILADELPHICA
883502040100	JEWFISH	EPINEPHELUS ITAJARA
883502040200	ROCK HIND	EPINEPHELUS ADSCENSIONIS
883502040300	SPOTTED CABRILLA	EPINEPHELUS ANALOGUS
883502040400	SPECKLED HIND	EPINEPHELUS DRUMMONDHAYI
883502040500	YELLOWEDGE GROUPER	EPINEPHELUS FLAVOLIMBATUS
883502040600	RED HIND	EPINEPHELUS GUTTATUS
883502040800	RED GROUPER	EPINEPHELUS MORIO
883502040900	MISTY GROUPER	EPINEPHELUS MYSTACINUS
883502041000	WARSAW GROUPER	EPINEPHELUS NIGRITUS
883502041100	SNOWY GROUPER	EPINEPHELUS NIVEATUS
883502041200	NASSAU GROUPER	EPINEPHELUS STRIATUS
883502050100	GAG	MYCTEROPERCA MICROLEPIS
883502050200	BLACK GROUPER	MYCTEROPERCA BONACI
883502050400	YELLOWMOUTH GROUPER	MYCTEROPERCA INTERSTITALIS
883502050500	SCAMP	MYCTEROPERCA PHENAX
883502050600	YELLOWFIN GROUPER	MYCTEROPERCA VENENOSA
883502050700	GULF GROUPER	MYCTEROPERCA JORDANI
883502050800	BROOMTAIL GROUPER	MYCTEROPERCA XENARCHA
883502051000	COMB GROUPER	MYCTEROPERCA RUBRA
883502055000	TIGER GROUPER	MYCTEROPERCA TIGRIS
883502060100	MUTTON HAMLET	EPINEPHELUS AFER
883502080200	CONEY	EPINEPHALUS FULVA
883502090100	MARBLED GROUPER	EPINEPHALUS INERMIS
883502100200	SAND PERCH	DIPLECTRUM FORMOSUM
883502100500	DWARF SAND PERCH	DIPLECTRUM BIVITTATUM
883502110100	SPANISH FLAG	GONIOPLECTRUS HISPANUS
883502120100	LONGTAIL BASS	HEMANTHIAS LEPTUS

883502120200	RED BARBIER	*HEMANTHIAS VIVANUS*
883502120300	SPLITTAIL BASS	HEMANTHIAS SIGNIFER
883502130100	BUTTER HAMLET	HYPOPLECTRUS UNICOLOR
883502140200	WRASSE BASS	LIOPROPOMA EUKRINES
883502140300	CAVE BASS	LIOPROPOMA MOWBRAYI
883502140400	PEPPERMINT BASS	LIOPROPOMA RUBRE
883502150100	ROUGHTONGUE BASS	HOLANTHIAS MARTINICENSIS
883502160200	KELP BASS	PARALABRAX CLATHRATUS
883502160300	SPOTTED SAND BASS	PARALABRAX MACULATOFASCIATUS
883502160400	BARRED SAND BASS	PARALABRAX NEBULIFER
883502170100	CREOLE-FISH	PARANTHIAS FURCIFER
883502180100	GRAYSBY	EPINEPHELUS CRUENTATUS
883502190200	YELLOWTAIL BASS	PIKEA MEXICANA
883502200100	STREAMER BASS	HEMANTHIAS AUROEORUBENS
883502210100	SCHOOL BASS	SCHULTZEA BETA
883502220100	PYGMY SEA BASS	SERRANICULUS PUMILIO
883502230100	ORANGEBACK BASS	SERRANUS ANNULARIS
883502230200	BLACKEAR BASS	SERRANUS ATROBRANCHUS
883502230300	LANTERN BASS	SERRANUS BALDWINI
883502230400	SNOW BASS	SERRANUS CHIONARAIA
883502230700	SADDLE BASS	SERRANUS NOTOSPILUS
883502230800	TATTLER	SERRANUS PHOEBE
883502230900	BELTED SANDFISH	SERRANUS SUBLIGARIUS
883502231000	TOBACCOFISH	SERRANUS TABACARIUS
883502231100	HARLEQUIN BASS	SERRANUS TIGRINUS
883502231200	CHALK BASS	SERRANUS TORTUGARUM
883502280100	WRECKFISH	POLYPRION AMERICANUS
883502290100	GIANT SEA BASS	STEREOLEPIS GIGAS
883503010100	REEF BASS	PSEUDOGRAMMA GREGORYI
883503020200	FRECKLED SOAPFISH	RYPTICUS BISTRISPINUS
883503020400	WHITESPOTTED SOAPFISH	RYPTICUS MACULATUS
883503020700	GREATER SOAPFISH	RYPTICUS SAPONACEUS
883503020800	SPOTTED SOAPFISH	RYPTICUS SUBBIFRENATUS
883516020100	ROCK BASS	AMBLOPLITES RUPESTRIS
883516050100	REDBREASTED SUNFISH	LEPOMIS AURITUS
883516050200	GREEN SUNFISH	LEPOMIS CYANELLUS
883516050300	WARMOUTH	LEPOMIS GULOSUS
883516050400	BLUEGILL	LEPOMIS MACROCHIRUS
883516050500	PUMPKINSEED	LEPOMIS GIBBOSUS
883516050900	REDEAR SUNFISH	LEPOMIS MICROLOPHUS
883516060100	SMALLMOUTH BASS	MICROPTERUS DOLOMIEUI
883516060200	LARGEMOUTH BASS	MICROPTERUS SALMOIDES
883516060300	SPOTTED BASS	MICROPTERUS PUNCTULATUS
883516070100	WHITE CRAPPIE	POMOXIS ANNULARIS
883516070200	BLACK CRAPPIE	POMOXIS NIGROMACULATUS
883517010100	BIGEYE	PRIACANTHUS ARENATUS
883517010200	GLASSEYE SNAPPER	PRIACANTHUS CRUENTATUS
883517020100	SHORT BIGEYE	PRISTIGENYS ALTA
883517030100	BULLEYE	COOKEOLUS JAPONICUS
883518010100	BIGTOOTH CARDINALFISH	APOGON AFFINIS
883518010400	BRIDLE CARDINALFISH	APOGON AUROLINEATUS
883518010500	BARRED CARDINALFISH	APOGON BINOTATUS
883518010700	FLAMEFISH	APOGON MACULATUS
883518010900	PALE CARDINALFISH	APOGON PLANIFRONS
883518011000	TWOSPOT CARDINALFISH	APOGON PSEUDOMACULATUS
883518011100	SAWCHEEK CARDINALFISH	APOGON QUADRISQUAMATUS
883518011300	BELTED CARDINALFISH	APOGON TOWNSENDI
883518011400	GUADALUPE CARDINALFISH	APOGON GUADALUPENSIS
883518011500	WHITESTAR CARDINALFISH	APOGON LACHNERI
883518011600	MIMIC CARDINALFISH	APOGON PHENAX
883518011700	BROADSADDLE CARDINALFISH	APOGON PILLIONATUS
883518020100	BRONZE CARDINALFISH	ASTRAPOGON ALUTUS
883518020200	BLACKFIN CARDINALFISH	ASTRAPOGON PUNCTICULATUS
883518020300	CONCHFISH	ASTRAPOGON STELLATUS

883518050100	FRECKLED CARDINALFISH	PHAEOPTYX CONKLINI
883518050200	SPONGE CARDINALFISH	PHAEOPTYX XENUS
883518050300	DUSKY CARDINALFISH	PHAEOPTYX PIGMENTARIA
883520020100	YELLOW PERCH	PERCA FLAVESCENS
883520040100	WALLEYE	STIZOSTEDION VITREUM
883520040200	SAUGER	STIZOSTEDION CANADENSE
883522010100	OCEAN WHITEFISH	CAULOLATILUS PRINCEPS
883522010200	BLACKLINE TILEFISH	CAULOLATILUS CYANOPS
883522020100	TILEFISH	LOPHOLATILUS CHAMAELEONTICEPS
883522030100	SAND TILEFISH	MALACANTHUS PLUMIERI
883525010100	BLUEFISH	POMATOMUS SALTATRIX
883526010100	COBIA	RACHYCENTRON CANADUM
883527010100	WHALE-SUCKER	REMORA AUSTRALIS
883527010200	MARLIN-SUCKER	REMORA OSTEOCHIR
883527010300	REMORA	REMORA REMORA
883527010400	SPEARFISH REMORA	REMORA BRACHYPTERA
883527020100	SHARKSUCKER	ECHENEIS NAUCRATES
883527020200	WHITEFIN SHARKSUCKER	ECHENEIS NEUCRATOIDES
883527030100	SLENDER SUCKERFISH	PHTHEIRICHTHYS LINEATUS
883528010100	JACK MACKEREL	TRACHURUS SYMMETRICUS
883528010200	ROUGH SCAD	TRACHURUS LATHAMI
883528020100	AFRICAN POMPANO	ALECTIS CILIARIS
883528030100	YELLOW JACK	CARANX BARTHOLOMAEI
883528030300	CREVALLE JACK	CARANX HIPPOS
883528030400	HORSE-EYE JACK	CARANX LATUS
883528030500	GREEN JACK	CARANX CABALLUS
883528030600	BLUE RUNNER	CARANX CRYSOS
883528030700	BLACK JACK	CARANX LUGUBRIS
883528030800	BAR JACK	CARANX RUBER
883528040100	ATLANTIC BUMPER	CHLOROSCOMBRUS CHRYSURUS
883528040200	PACIFIC BUMPER	CHLOROSCOMBRUS ORQUETA
883528050100	LEATHERJACK	OLIGOPLITES SAURUS
883528060100	BIGEYE SCAD	SELAR CRUMENOPHTHALMUS
883528070100	LOOKDOWN	SELENE VOMER
883528080100	GREATER AMBERJACK	SERIOLA DUMERILI
883528080200	LESSER AMBERJACK	SERIOLA FASCIATA
883528080300	ALMACO JACK	SERIOLA RIVOLIANA
883528080400	BANDED RUDDERFISH	SERIOLA ZONATA
883528080700	ALMACO JACK	SERIOLA RIVOLIANA
883528080800	YELLOWTAIL	SERIOLA LALANDI
883528090100	FLORIDA POMPANO	TRACHINOTUS CAROLINUS
883528090200	PERMIT	TRACHINOTUS FALCATUS
883528090300	PALOMETA	TRACHINOTUS GOODEI
883528090700	PALOMA POMPANO	TRACHINOTUS PAITENSIS
883528090800	GAFFTOPSAIL POMPANO	TRACHINOTUS RHODOPUS
883528100100	ATLANTIC MOONFISH	SELENE SETAPINNIS
883528100200	PACIFIC MOONFISH	SELENE PERUVIANA
883528120100	MACKEREL SCAD	DECAPTERUS MACARELLUS
883528120200	ROUND SCAD	DECAPTERUS PUNCTATUS
883528120300	REDTAIL SCAD	DECAPTERUS TABL
883528120400	MEXICAN SCAD	DECAPTERUS SCOMBRINUS
883528130100	RAINBOW RUNNER	ELEGATIS BIPINNULATUS
883528140100	BLUNTNOSE JACK	HEMICRANX AMBLYRHYNCHUS
883528150100	PILOTFISH	NAUCRATES DUCTOR
883528160100	ROOSTERFISH	NEMATISTIUS PECTORALIS
883528170100	COTTONMOUTH JACK	URASPIS SECUNDA
883529010100	DOLPHIN	CORYPHAENA HIPPURUS
883529010200	POMPANO DOLPHIN	CORYPHAENA EQUISETIS
883535010100	BONNETMOUTH	EMMELICHTHYOPS ALANTICUS
883535020100	BOGA	INERMIA VITTATA
883536010100	CUBERA SNAPPER	LUTJANUS CYANOPTERUS
883536010200	GRAY SNAPPER	LUTJANUS GRISEUS
883536010300	MUTTON SNAPPER	LUTJANUS ANALIS
883536010400	SCHOOLMASTER	LUTJANUS APODUS

883536010600	BLACKFIN SNAPPER	LUTJANUS BUCCANELLA
883536010700	RED SNAPPER	LUTJANUS CAMPECHANUS
883536010900	DOG SNAPPER	LUTJANUS JOCU
883536011000	MAHOGANY SNAPPER	LUTJANUS MAHOGONI
883536011200	LANE SNAPPER	LUTJANUS SYNAGRIS
883536011300	SILK SNAPPER	LUTJANUS VIVANUS
883536020100	BLACK SNAPPER	APSILUS DENTATUS
883536030100	QUEEN SNAPPER	ETELIS OCULATUS
883536040100	YELLOWTAIL SNAPPER	OCYURUS CHRYSURUS
883536050100	VERMILION SNAPPER	RHOMBOPLITES AURORUBENS
883536070100	WENCHMAN	PRISTIPOMOIDES AQUILONARIS
883538010100	TRIPLETAIL	LOBOTES SURINAMENSIS
883539010100	SPOTFIN MOJARRA	EUCINOSTOMUS ARGENTEUS
883539010200	SILVER JENNY	EUCINOSTOMUS GULA
883539010400	MOTTLED MOJARRA	EUCINOSTOMUS LEFROYI
883539010500	FLAGFIN MOJARRA	EUCINOSTOMUS MELANOPTERUS
883539010600	SLENDER MOJARRA	EUCINOSTOMUS JONESI
883539010700	PACIFIC FLAGFIN MOJARRA	EUCINOSTOMUS GRACILIS
883539010800	BIGEYE MOJARRA	EUCINOSTOMUS HAVANA
883539020100	IRISH POMPANO	DIAPTERUS AURATUS
883539020300	STRIPED MOJARRA	DIAPTERUS PLUMIERI
883539030100	YELLOWFIN MOJARRA	GERRES CINEREUS
883540010100	TOMTATE	HAEMULON AUROLINEATUM
883540010200	WHITE GRUNT	HAEMULON PLUMIERI
883540010300	MARGATE	HAEMULON ALBUM
883540010600	CAESAR GRUNT	HAEMULON CARBONARIUM
883540010700	SMALLMOUTH GRUNT	HAEMULON CHRYSARGYREUM
883540010800	FRENCH GRUNT	HAEMULON FLAVOLINEATUM
883540011000	SPANISH GRUNT	HAEMULON MACROSTOMUM
883540011100	COTTONWICK	HAEMULON MELANURUM
883540011300	BLUESTRIPED GRUNT	HAEMULON SCIURUS
883540011600	STRIPED GRUNT	HAEMULON STRIATUM
883540011700	SAILORS CHOICE	HAEMULON PARRA
883540020100	PIGFISH	ORTHOPRISTIS CHRYSOPTERA
883540030400	BLACK MARGATE	ANISOTREMUS SURINAMENSIS
883540030600	PORKFISH	ANISOTREMUS VIRGINICUS
883540030700	SARGO	ANISOTREMUS DAVIDSONI
883540040100	BARRED GRUNT	CONODON NOBILIS
883540050200	BURRO GRUNT	POMADASYS CROCRO
883540100100	SALEMA	XENISTIUS CALIFORNIENSIS
883543010100	SCUP	STENOTOMUS CHRYSOPS
883543010200	LONGSPINE PORGY	STENOTOMUS CAPRINUS
883543020100	PINFISH	LAGODON RHOMBOIDES
883543030100	SHEEPSHEAD	ARCHOSARGUS PROBATOCEPHALUS
883543030200	SEA BREAM	ARCHOSARGUS RHOMBOIDALIS
883543040100	SPOTTAIL PINFISH	DIPLODUS HOLBROOKI
883543040200	SILVER PORGY	DIPLODUS ARGENTEUS
883543050100	GRASS PORGY	CALAMUS ARCTIFRONS
883543050200	JOLTHEAD PORGY	CALAMUS BAJONADO
883543050300	SAUCEREYE PORGY	CALAMUS CALAMUS
883543050500	WHITEBONE PORGY	CALAMUS LEUCOSTEUS
883543050600	KNOBBED PORGY	CALAMUS NODOSUS
883543050700	SHEEPSHEAD PORGY	CALAMUS PENNA
883543050800	LITTLEHEAD PORGY	CALAMUS PRORIDENS
883543050900	PACIFIC PORGY	CALAMUS BRACHYSOMUS
883543060200	RED PORGY	PAGRUS PAGRUS
883544010100	WHITE SEABASS	ATRACTOSCION NOBILIS
883544010200	SPOTTED SEATROUT	CYNOSCION NEBULOSUS
883544010300	SILVER SEATROUT	CYNOSCION NOTHUS
883544010400	WEAKFISH	CYNOSCION REGALIS
883544010600	SAND SEATROUT	CYNOSCION ARENARIUS
883544011400	SHORTFIN CORVINA	CYNOSCION PARVIPINNIS
883544020100	WHITE CROAKER	GENYONEMUS LINEATUS
883544030100	SILVER PERCH	BAIRDIELLA CHRYSOURA

883544030400	BLUE CROAKER	BAIRDIELLA BATABANA
883544030500	STRIPED CROAKER	BAIRDIELLA SANCTAELUCIAE
883544040100	SPOT	LEIOSTOMUS XANTHURUS
883544050100	BANDED DRUM	ARIMUS FASCIATUS
883544060100	SOUTHERN KINGFISH	MENTICIRRHUS AMERICANUS
883544060200	GULF KINGFISH	MENTICIRRHUS LITTORALIS
883544060300	NORTHERN KINGFISH	MENTICIRRHUS SAXATILIS
883544060700	CALIFORNIA CORBINA	MENTICIRRHUS UNDULATUS
883544070200	ATLANTIC CROAKER	MICROPOGONIAS UNDULATUS
883544080100	BLACK DRUM	POGONIAS CROMIS
883544090100	RED DRUM	SCIAENOPS OCELLATA
883544100100	STAR DRUM	STELLIFER LANCEOLATUS
883544110100	SAND DRUM	UMBRINA COROIDES
883544110500	YELLOWFIN CROAKER	UMBRINA RONCADOR
883544120100	HIGH-HAT	EQUETUS ACUMINATUS
883544120200	JACKKNIFE-FISH	EQUETUS LANCEOLATUS
883544120500	SPOTTED DRUM	EQUETUS PUNCTATUS
883544120600	CUBBYU	EQUETUS UMBROSUS
883544130100	REEF CROAKER	ODONTOSCION DENTEX
883544230100	BLACK CROAKER	CHEILOTREMA SATURNUM
883544240100	SPOTFIN CROAKER	RONCADOR STEARNSI
883544250100	QUEENFISH	SERIPHUS POLITUS
883544260100	FRESHWATER DRUM	APLODINOTUS GRUNNIENS
883544505000	QUEENFISH	SERIPHUS POLITUS
883545010100	YELLOW GOATFISH	MULLOIDICHTHYS MARTINICUS
883545020100	RED GOATFISH	MULLUS AURATUS
883545030100	SPOTTED GOATFISH	PSEUDUPENEUS MACULATUS
883545030200	MEXICAN GOATFISH	PSEUDUPENEUS DENTATUS
883545040200	DWARF GOATFISH	UPENEUS PARVUS
883547010100	GLASSY SWEEPER	PEMPHERUS SCHOMBURGKI
883551010100	YELLOW CHUB	KYPHOSUS INCISOR
883551010200	BERMUDA CHUB	KYPHOSUS SECTATRIX
883551020100	OPALEYE	GIRELLA NIGRICANS
883551030100	ZEBRA PERCH	HERMOSILLA AZUREA
883551040100	HALFMOON	MEDIALUNA CALIFORNIENSIS
883552010100	ATLANTIC SPADEFISH	CHAETODIPTERUS FABER
883552010200	PACIFIC SPADEFISH	CHAETODIPTERUS ZONATUS
883555010100	SPOTFIN BUTTERFLYFISH	CHAETODON OCELLATUS
883555010200	BANK BUTTERFLYFISH	CHAETODON AYA
883555010300	FOUREYE BUTTERFLYFISH	CHAETODON CAPISTRATUS
883555010700	REEF BUTTERFLYFISH	CHAETODON SEDENTARIUS
883555010800	BANDED BUTTERFLYFISH	CHAETODON STRIATUS
883555020100	CHERUBFISH	CENTROPYGE ARGI
883555030100	QUEEN ANGELFISH	HOLACANTHUS CILIARIS
883555030300	ROCK BEAUTY	HOLACANTHUS TRICOLOR
883555030400	BLUE ANGELFISH	HOLOCANTHUS BERMUDENSIS
883555040100	GRAY ANGELFISH	POMACANTHUS ARCUATUS
883555040200	FRENCH ANGELFISH	POMACANTHUS PARU
883555050100	LONGSNOUT BUTTERFLYFISH	CHAETODON ACULEATUS
883557010100	LONGFIN ARMORHEAD	PENTACEROS PECTORALIS
883560010100	KELP PERCH	BRACHYISTIUS FRENATUS
883560020100	SHINER PERCH	CYMATOGASTER AGGREGATA
883560030100	STRIPED SEAPERCH	EMBIOTOCA LATERALIS
883560030200	BLACK PERCH	EMBIOTOCA JACKSONI
883560040100	WALLEYE SURFPERCH	HYPERPROSOPON ARGENTEUM
883560040200	SILVER SURFPERCH	HYPERPROSOPON ELLIPTICUM
883560040300	SPOTFIN SURFPERCH	HYPERPROSOPON ANALE
883560050100	WHITE SEAPERCH	PHANERODON FURCATUS
883560050200	SHARPNOSE SEAPERCH	PHANERODON ATRIPES
883560060100	PILE PERCH	RHACOCHILUS VACCA
883560060200	RUBBERLIP SEAPERCH	RHACOCHILUS TOXOTES
883560070100	REDTAIL SURFPERCH	AMPHISTICHUS RHODOTERUS
883560070200	BARRED SURFPERCH	AMPHISTICHUS ARGENTEUS
883560070300	CALICO SURFPERCH	AMPHISTICHUS KOELZI

883560080100	RAINBOW SEAPERCH	*HYPSURUS CARYI*
883560100100	REEF PERCH	MICROMETRUS AURORA
883560100200	DWARF PERCH	MICROMETRUS MINIMUS
883560110100	PINK SEAPERCH	ZALEMBIUS ROSACEUS
883562010100	SERGEANT MAJOR	ABUDEFDUF SAXATILIS
883562010200	NIGHT SERGEANT	ABUDEFDUF TAURUS
883562030100	BLUE CHROMIS	CHROMIS CYANEA
883562030200	YELLOWTAIL REEFFISH	CHROMIS ENCHRYSURUS
883562030300	SUNSHINEFISH	CHROMIS INSOLATA
883562030500	BROWN CHROMIS	CHROMIS MULTILINEATA
883562030600	BLACKSMITH	CHROMIS PUNCTIPINNIS
883562030700	PURPLE REEFFISH	CHROMIS SCOTTI
883562040100	YELLOWTAIL DAMSELFISH	MICROSPATHODON CHRYSURUS
883562050100	DUSKY DAMSELFISH	POMACENTRUS FUSCUS
883562050200	BEAUGREGORY	POMACENTRUS LEUCOSTICTUS
883562050400	THREESPOT DAMSELFISH	POMACENTRUS PLANIFRONS
883562050500	COCOA DAMSELFISH	POMACENTRUS VARIABILIS
883562050600	BICOLOR DAMSELFISH	POMACENTRUS PARTITUS
883562070100	GARIBALDI	HYPSYPOPS RUBICUNDA
883564010100	REDSPOTTED HAWKFISH	AMBLYCIRRHITUS PINOS
883571010100	PACIFIC POMFRET	BRAMA JAPONICA
883571010200	ATLANTIC POMFRET	BRAMA BRAMA
883571010300	LOWFIN POMFRET	BRAMA DUSSUMIERI
883571010400	CARIBBEAN POMFRET	BRAMA CARIBBEA
883571030100	ATLANTIC FANFISH	PTERYCOMBUS BRAMA
883571040100	BIGSCALE POMFRET	TARATICHTHYS LONGIPINNIS
883601010100	STRIPED MULLET	MUGIL CEPHALUS
883601010100	STRIPED MULLET	MUGIL CEPHALUS
883601010200	WHITE MULLET	MUGIL CUREMA
883601010300	REDEYE MULLET	MUGIL GAIMARDIANUS
883601010400	LIZA	MUGIL LIZA
883601010500	FANTAIL MULLET	MUGIL GYRANS
883601040100	MOUNTAIN MULLET	AGONOSTOMUS MONTICOLA
883701010100	PACIFIC BARRACUDA	SPHYRAENA ARGENTEA
883701010200	NORTHERN SENNET	SPHYRAENA BOREALIS
883701010300	GUAGUANCHE	SPHYRAENA GUACHANCHO
883701010400	GREAT BARRACUDA	SPHYRAENA BARRACUDA
883701010500	SOUTHERN SENNET	SPHYRAENA PICUDILLA
883801010100	ATLANTIC THREADFIN	POLYDACTYLUS OCTONEMUS
883801010200	BARBU	POLYDACTYLUS VIRGINICUS
883801010300	BLUE BOBO	POLYDACTYLUS APPROXIMANS
883801010400	LITTLESCALE THREADFIN	POLYDACTYLUS OLIGODON
883801010500	YELLOW BOBO	POLYDACTYLUS OPERCULARIS
883901010100	TAUTOG	TAUTOGA ONITIS
883901020100	CUNNER	TAUTOGOLABRUS ADSPERSUS
883901030100	SPOTFIN HOGFISH	BODIANUS PULCHELLUS
883901030200	SPANISH HOGFISH	BODIANUS RUFUS
883901040100	CREOLE WRASSE	CLEPTICUS PARRAE
883901050100	RED HOGFISH	DECODON PUELLARIS
883901060100	DWARF WRASSE	DORATONOTUS MEGALEPIS
883901070100	GREENBAND WRASSE	HALICHOERES BATHYPHILUS
883901070200	SLIPPERY DICK	HALICHOERES BIVITTATUS
883901070300	PAINTED WRASSE	HALICHOERES CAUDALIS
883901070400	YELLOWCHEEK WRASSE	HALICHOERES CYANOCEPHALUS
883901070500	YELLOWHEAD WRASSE	HALICHOERES GARNOTI
883901070600	CLOWN WRASSE	HALICHOERES MACULIPINNA
883901070700	RAINBOW WRASSE	HALICHOERES PICTUS
883901070800	BLACKEAR WRASSE	HALICHOERES POEYI
883901070900	PUDDINGWIFE	HALICHOERES RADIATUS
883901071000	ROCK WRASSE	HALICHOERES SEMICINCTUS
883901080100	ROSY RAZORFISH	HEMIPTERONOTUS MARTINICENSIS
883901080200	PEARLY RAZORFISH	HEMIPTERONOTUS NOVACULA
883901080400	GREEN RAZORFISH	HEMIPTERONOTUS SPLENDENS
883901090100	HOGFISH	LANCHNOLAIMUS MAXIMUS

883901100100	BLUEHEAD	THALASSOMA BIFASCIATUM
883901110100	SENORITA	OXYJULIS CALIFORNICA
883901120100	CALIFORNIA SHEEPHEAD	SEMICOSSYPHUS PULCHER
883903010100	BLUE PARROTFISH	SCARUS COERULEUS
883903010200	MIDNIGHT PARROTFISH	SCARUS COELESTINUS
883903010300	STRIPED PARROTFISH	SCARUS CROICENSIS
883903010400	RAINBOW PARROTFISH	SCARUS GUACAMAIA
883903010500	PRINCESS PARROTFISH	SCARUS TAENIOPTERUS
883903010600	QUEEN PARROTFISH	SCARUS VETULA
883903020100	BLUELIP PARROTFISH	CRYPTOTOMUS ROSEUS
883903030100	EMERALD PARROTFISH	NICHOLSINA USTA
883903040100	GREENBLOTCH PARROTFISH	SPARISOMA ATOMARIUM
883903040200	REDBAND PARROTFISH	SPARISOMA AUROFRENATUM
883903040300	REDTAIL PARROTFISH	SPARISOMA CHRYSOPTERUM
883903040400	BUCKTOOTH PARROTFISH	SPARISOMA RADIANS
883903040500	REDFIN PARROTFISH	SPARISOMA RUBRIPINNE
883903040600	STOPLIGHT PARROTFISH	SPARISOMA VIRIDE
884001010100	SAILFIN SANDFISH	ARCTOSCOPUS JAPONICUS
884001020100	PACIFIC SANDFISH	TRICHODON TRICHODON
884002010200	SWORDTAIL JAWFISH	LONCHOPISTHUS MICROGNATHUS
884002020100	MOUSTACHE JAWFISH	OPISTOGNATHUS LONCHURUS
884002020200	MOTTLED JAWFISH	OPISTOGNATHUS MAXILLOSUS
884002020300	YELLOWHEAD JAWFISH	OPISTOGNATHUS AURIFRONS
884002020500	BANDED JAWFISH	OPISTOGNATHUS MACROGNATHUS
884002020700	DUSKY JAWFISH	OPISTOGNATHUS WHITEHURSTI
884003010100	ALASKAN RONQUIL	BATHYMASTER CAERULEOFASCIATUS
884003010200	SMALLMOUTH RONQUIL	BATHYMASTER LEUROLEPIS
884003010300	SEARCHER	BATHYMASTER SIGNATUS
884003020100	NORTHERN RONQUIL	RONQILUS JORDANI
884003030200	STRIPEDFIN RONQUIL	RATHBUNELLA HYPOPLECTA
884007010100	DUCKBILL FLATHEAD	BEMBROPS ANATIROSTRIS
884007010200	GOBY FLATHEAD	BEMBROPS GOBIOIDES
884013010100	ARROW STARGAZER	GILLELLUS GREYAE
884013010200	SADDLE STARGAZER	PLATYGILLELLUS RUBROCINCTUS
884013010300	WARTEYE STARGAZER	GILLELLUS URANIDEA
884013020100	SAND STARGAZER	DACTYLOSCOPUS TRIDIGITATUS
884013020200	BIGEYE STARGAZER	DACTYLOSCOPUS CROSSOTUS
884014010100	NORTHERN STARGAZER	ASTROSCOPUS GUTTATUS
884014010200	SOUTHERN STARGAZER	ASTROSCOPUS Y-GRAECUM
884014020100	FRECKLED STARGAZER	GNATHAGNUS EGREGIUS
884014030100	LANCER STARGAZER	KATHETOSTOMA ALBIGUTTA
884014030300	SMOOTH STARGAZER	KATHETOSTOMA AVERRUNCUS
884201010100	SEAWEED BLENNY	PARABLENNIUS MARMOREUS
884201010200	MOLLY MILLER	SCARTELLA CRISTATA
884201010300	HIGHFIN BLENNY	LUPINOBLENNIUS NICHOLSI
884201020100	FEATHER BLENNY	HYPSOBLENNIUS HENTZ
884201020200	FRECKLED BLENNY	HYPSOBLENNIUS IONTHAS
884201020300	BAY BLENNY	HYPSOBLENNIUS GENTILIS
884201020400	ROCKPOOL BLENNY	HYPSOBLENNIUS GILBERTI
884201020500	MUSSEL BLENNY	HYPSOBLENNIUS JENKINSI
884201030100	STRIPED BLENNY	CHASMODES BOSQUIANUS
884201030200	FLORIDA BLENNY	CHASMODES SABURRAE
884201050100	CRESTED BLENNY	HYPLEUROCHILUS GEMINATUS
884201050200	OYSTER BLENNY	HYPLEUROCHILUS AEQUIPINNIS
884201050300	BARRED BLENNY	HYPLEUROCHILUS BERMUDENSIS
884201050400	ORANGESPOTTED BLENNY	HYPLEUROCHILUS SPRINGERI
884201060100	REDLIP BLENNY	OPHIOBLENNIUS ATLANTICUS
884202010100	BERING WOLFFISH	ANARHICHAS ORIENTALIS
884202010200	NORTHERN WOLFFISH	ANARHICHAS DENTICULATUS
884202010300	ATLANTIC WOLFFISH	ANARHICHAS LUPUS
884202010400	SPOTTED WOLFFISH	ANARHICHAS MINOR
884202020100	WOLF-EEL	ANARRHICHTHYS OCELLATUS
884208010100	LOFTY TRIPLEFIN	ENEANECTES ALTIVELIS
884208010300	REDEYE TRIPLEFIN	ENNEANECTES PECTORALIS

884209010100	STRIPED KELPFISH	GIBBONSIA METZI
884209010200	CREVICE KELPFISH	GIBBONSIA MONTEREYENSIS
884209010300	SPOTTED KELPFISH	GIBBONSIA ELEGANS
884209020100	BANNER BLENNY	EMBLEMARIA ATLANTICA
884209020200	SAILFIN BLENNY	EMBLEMARIA PANDIONIS
884209020300	PIRATE BLENNY	EMBLEMARIA PIRATULA
884209020400	BLACKHEAD BLENNY	CORALLIOZETUS BAHAMENSIS
884209020600	GLASS BLENNY	CORALLIOZETUS DIAPHANUS
884209030100	PUFFCHEEK BLENNY	LABRISOMUS BUCCIFERUS
884209030300	PALEHEAD BLENNY	LABRISOMUS GOBIO
884209030400	MIMIC BLENNY	LABRISOMUS GUPPYI
884209030500	LONGFIN BLENNY	LABRISOMUS HAITIENSIS
884209030600	SPOTCHEEK BLENNY	LABRISOMUS NIGRICINCTUS
884209030700	HAIRY BLENNY	LABRISOMUS NUCHIPINNIS
884209030800	DOWNY BLENNY	LABRISOMUS KALISHERAE
884209040100	GOLDLINE BLENNY	MALACOCTENUS AUROLINEATUS
884209040300	ROSY BLENNY	MALACOCTENUS MACROPUS
884209040400	SADDLED BLENNY	MALACOCTENUS TRIANGULATUS
884209050100	HORNED BLENNY	PARACLINUS GRANDICOMIS
884209050200	CORAL BLENNY	PARACLINUS CINGULATUS
884209050300	BANDED BLENNY	PARACLINUS FASCIATUS
884209050400	BALD BLENNY	PARACLINUS INFRONS
884209050500	REEF FINSPOT	PARACLINUS INTEGRIPINNIS
884209050600	MARBLED BLENNY	PARACLINUS MARMORATUS
884209060200	CHECKERED BLENNY	STARKSIA OCELLATA
884209070100	BLACKBELLY BLENNY	STATHMONOTUS HEMPHILLI
884209070200	EELGRASS BLENNY	STATHMONOTUS STAHLI
884209080100	ROUGHHEAD BLENNY	ACANTHEMBLEMARIA ASPERA
884209090100	ISLAND KELPFISH	ALLOCLINUS HOLDERI
884209100100	ORANGETHROAT PIKEBLENNY	CHAENOPSIS ALEPIDOTA
884209110100	DEEPWATER BLENNY	CRYPOTREMA CORALLINUM
884209120100	WRASSE BLENNY	HEMIEMBLEMARIA SIMULUS
884209140100	SARCASTIC FRINGEHEAD	NEOCLINUS BLANCHARDI
884209140200	YELLOWFIN FRINGEHEAD	NEOCLINUS STEPHENSAE
884209140300	ONESPOT FRINGEHEAD	NEOCLINUS UNINOTATUS
884209505000	GIANT KELPFISH	HETEROSTICHUS ROSTRATUS
884209515000	BLUETHROAT PIKEBLENNY	CHAENOPSIS OCELLATA
884211010100	QUILLFISH	PTILICHTHYS GOODEI
884212010100	PIGHEAD PRICKLEBACK	ACANTHOLUMPENUS MACKAYI
884212020100	LESSER PRICKLEBACK	ALECTRIDIUM AURANTIACUM
884212030100	Y-PRICKLEBACK	ALLOLUMPENUS HYPOCHROMUS
884212040100	SLENDER COCKSCOMB	ANOPLARCHUS INSIGNIS
884212040200	HIGH COCKSCOMB	ANOPLARCHUS PURPURESCENS
884212050100	MATCHEEK WARBONNET	CHIROLOPHIS TARSODES
884212050200	MOSSHEAD WARBONNET	CHIROLOPHIS NUGATOR
884212050300	DECORATED WARBONNET	CHIROLOPHIS DECORATUS
884212050500	ATLANTIC WARBONNET	CHIROLOPHIS ASCANII
884212060100	NUTCRACKER PRICKLEBACK	BRYOZOICHTHYS LYSIMUS
884212070100	TRIDENT PRICKLEBACK	GYMNOCLINUS CRISTULATUS
884212080100	LONGSNOUT PRICKLEBACK	LUMPENELLA LONGIROSTRIS
884212090100	SLENDER EELBLENNY	LUMPENUS FABRICII
884212090200	SNAKE PRICKLEBACK	LUMPENUS SAGITTA
884212090300	DAUBED SHANNY	LUMPENUS MACULATUS
884212090400	STOUT EELBLENNY	LUMPENUS MEDIUS
884212090500	SNAKEBLENNY	LUMPENUS LUMPRETAEFORMIS
884212100100	RIBBON PRICKLEBACK	PHYTICHTHYS CHIRUS
884212110100	BLUEBARRED PRICKLEBACK	PLECTOBRANCHUS EVIDES
884212120100	WHITEBARRED PRICKLEBACK	POROCLINUS ROTHROCKI
884212130100	ARCTIC SHANNY	STICHAEUS PUNCTATUS
884212140100	BLACK PRICKLEBACK	XIPHISTER ATROPURPUREUS
884212140200	ROCK PRICKLEBACK	XIPHISTER MUCOSUS
884212150100	GIANT WRYMOUTH	CRYPTACANTHODES GIGANTEA
884212160100	DWARF WRYMOUTH	CRYPTACANTHODES ALEUTENSIS
884212170100	FOURLINE SNAKEBLENNY	EUMESOGRAMMUS PRAECISUS

884212190100	STONE COCKSCOMB	ALECTRIAS ALECTROLOPHUS
884212200100	WRYMOUTH	CRYPTACANTHODES MACULATUS
884212210100	RADIATED SHANNY	ULVARIA SUBBIFURCATA
884212220100	MONKEYFACE PRICKLEBACK	CEBIDICHTHYS VIOLACEUS
884213010100	PENPOINT GUNNEL	APODICHTHYS FLAVIDUS
884213020100	LONGFIN GUNNEL	PHOLIS CLEMENSI
884213020200	STIPPLED GUNNEL	RHODYMENICHTHYS DOLICHOGASTER
884213020300	BANDED GUNNEL	PHOLIS FASCIATA
884213020400	BERING GUNNEL	PHOLIS GILLI
884213020500	CRESCENT GUNNEL	PHOLIS LAETA
884213020600	SADDLEBACK GUNNEL	PHOLIS ORNATA
884213020800	RED GUNNEL	PHOLIS SCHULTZI
884213020900	ROCK GUNNEL	PHOLIS GUNNELLUS
884213030100	ROCKWEED GUNNEL	APODICHTHYS FUCORUM
884213040100	KELP GUNNEL	ULVICOLA SANTAEROSAE
884214010100	GRAVEL DIVER	SCYTALINA CERDALE
884215010100	PROWFISH	ZAPRORA SILENUS
884301010100	RAGFISH	ICOSTEUS AENAGMATICUS
884501010100	PACIFIC SAND LANCE	AMMODYTES HEXAPTERUS
884501010200	AMERICAN SAND LANCE	AMMODYTES AMERICANUS
884501010300	NORTHERN SAND LANCE	AMMODYTES DUBIUS
884601010100	SPOTFIN DRAGONET	FOETOREPUS AGASSIZI
884601010200	LANCER DRAGONET	PARADIPLOGRAMMUS BAIRDI
884601010300	SPOTTED DRAGONET	DIPLOGRAMMUS PAUCIRADIATUS
884701010100	ARROW GOBY	CLEVELANDIA IOS
884701020100	BLACKEYE GOBY	CORYPHOPTERUS NICHOLSI
884701020200	BARFIN GOBY	CORYPHOPTERUS ALLOIDES
884701020300	COLON GOBY	CORYPHOPTERUS DICRUS
884701020400	PALLID GOBY	CORYPHOPTERUS EIDOLON
884701020500	BRIDLED GOBY	CORYPHOPTERUS GLAUCOFRAENUM
884701020600	GLASS GOBY	CORYPHOPTERUS HYALINUS
884701020700	PEPPERMINT GOBY	CORYPHOPTERUS LIPERNES
884701020800	MASKED GOBY	CORYPHOPTERUS PERSONATUS
884701020900	SPOTTED GOBY	CORYPHOPTERUS PUNCIPECTOPHORUS
884701021000	BARTAIL GOBY	CORYPHOPTERUS THRIX
884701030100	BAY GOBY	LEPIDOGOBIUS LEPIDUS
884701040100	LYRE GOBY	EVORTHODUS LYRICUS
884701050100	DASH GOBY	GOBIONELLUS SAEPEPALLENS
884701050300	HIGHFIN GOBY	GOBIONELLUS OCEANICUS
884701050400	FRESHWATER GOBY	GOBIONELLUS SHUFELDTI
884701050500	SPOTFIN GOBY	GOBIONELLUS STIGMALOPHIUS
884701050600	SPOTTAIL GOBY	GOBIONELLUS STIGMATURUS
884701050900	LONGTAIL GOBY	GOBIONELLUS SAGITULLA
884701051100	EMERALD GOBY	GOBIONELLUS SMARAGDUS
884701051200	DARTER GOBY	GOBIONELLUS BOLEOSOMA
884701060100	NAKED GOBY	GOBIOSOMA BOSC
884701060200	SEABOARD GOBY	GOBIOSOMA GINSBURGI
884701060300	CODE GOBY	GOBIOSOMA ROBUSTUM
884701060500	YELLOWLINE GOBY	GOBIOSOMA HORSTI
884701060600	TWOSCALE GOBY	GOBIOSOMA LONGIPALA
884701060700	TIGER GOBY	GOBIOSOMA MACRODON
884701060800	NEON GOBY	GOBIOSOMA OCEANOPS
884701060900	YELLOWPROW GOBY	GOBIOSOMA XANTHIPRORA
884701070100	CLOWN GOBY	MICROGOBIUS GULOSUS
884701070200	GREEN GOBY	MICROGOBIUS THALASSINUS
884701070300	SEMINOLE GOBY	MICROGOBIUS CARRI
884701070400	BANNER GOBY	MICROGOBIUS MICROLEPIS
884701080100	BEARDED GOBY	BARBULIFER CEUTHOECUS
884701090100	NOTCHTONGUE GOBY	BATHYGOBIUS CURACAO
884701090200	ISLAND FRILLFIN	BATHYGOBIUS MYSTACIUM
884701090300	FRILLFIN GOBY	BATHYGOBIUS SOPORATOR
884701100200	SPONGE GOBY	EVERMANNICHTHYS SPONGICOLA
884701110100	GOLDSPOT GOBY	GNATHOLEPIS THOMPSONI
884701120100	VIOLET GOBY	GOBIOIDES BROUSSONNETI

884701140100	BLUE GOBY	*IOGLOSSUS CALLIURUS*
884701150100	TUSKED GOBY	RISOR RUBER
884701160100	RAGGED GOBY	BOLLMANNIA COMMUNIS
884701180100	EMERALD SLEEPER	EROTELIS SMARAGDUS
884701200100	YELLOWFIN GOBY	ACANTHOGOBIUS FLAVIMANUS
884701210100	RIVER GOBY	AWAOUS TAJASICA
884701220100	PALEBACK GOBY	GOBULUS MYERSI
884701230100	CHEEKSPOT GOBY	ILYPNUS GILBERTI
884701240100	HALFBLIND GOBY	LETHOPS CONNECTENS
884701250100	CRESTED GOBY	LOPHOGOBIUS CYPRINOIDES
884701260200	ISLAND GOBY	LYTHRYPNUS NESIOTES
884701260300	CONVICT GOBY	LYTHRYPNUS PHORELLUS
884701260400	BLUEGOLD GOBY	LYTHRYPNUS SPILUS
884701260500	ZEBRA GOBY	LYTHRYPNUS ZEBRA
884701265000	BLUEBANDED GOBY	LYTHRYPNUS DALLI
884701270100	ORANGESPOTTED GOBY	NES LONGUS
884701280100	SHADOW GOBY	QUIETULA Y-CAUDA
884701290100	RUSTY GOBY	PRIOLEPIS HIPOLITI
884701300100	CHAMELEON GOBY	TRIDENTIGER TRIGONOCEPHALUS
884701310100	BLIND GOBY	TYPHLOGOBIUS CALIFORNIENSIS
884701320100	TIDEWATER GOBY	EUCYCLOGOBIUS NEWBERRYI
884701330100	PACIFIC FAT SLEEPER	DORMITATOR LATIFRONS
884701330200	FAT SLEEPER	DORMITATOR MACULATUS
884701340100	BIGMOUTH SLEEPER	GOBIOMORUS DORMITOR
884706010100	PUGJAW WORMFISH	CERDALE FLORIDANA
884706010200	LANCETAIL WORMFISH	MICRODESMUS LANCEOLATUS
884706010300	PINK WORMFISH	MICRODESMUS LONGIPINNIS
884901010100	OCEAN SURGEON	ACANTHURUS BAHIANUS
884901010200	DOCTORFISH	ACANTHURUS CHIRURGUS
884901010300	BLUE TANG	ACANTHURUS COERULEUS
884901010500	GULF SURGEONFISH	ACANTHURUS RANDALLI
885001020100	SNAKE MACKEREL	GEMPYLUS SERPENS
885001030100	ESCOLAR	LEPIDOCYBIUM FLAVOBRUNNEUM
885001040100	OILFISH	RUVETTUS PRETIOSUS
885002020100	ATLANTIC CUTLASSFISH	TRICHIURUS LEPTURUS
885002020200	PACIFIC CUTLASSFISH	TRICHIURUS NITENS
885002040200	PACIFIC SCABBARDFISH	LEPIDOPUS FITCHI
885002060100	RAZORBACK SCABBARDFISH	ASSURGER ANZAC
885003010100	SKIPJACK TUNA	KATSUWONUS PELAMIS
885003010200	LITTLE TUNNY	EUTHYNNUS ALLETTERATUS
885003010300	KAWAKAWA	EUTHYNNUS AFFINIS
885003010400	BLACK SKIPJACK	EUTHYNNUS LINEATUS
885003020100	PACIFIC BONITO	SARDA CHILIENSIS
885003020200	ATLANTIC BONITO	SARDA SARDA
885003030100	CHUB MACKEREL	SCOMBER JAPONICUS
885003030200	ATLANTIC MACKEREL	SCOMBER SCOMBRUS
885003040100	ALBACORE	THUNNUS ALALUNGA
885003040200	BLUEFIN TUNA	THUNNUS THYNNUS
885003040300	YELLOWFIN TUNA	THUNNUS ALBACARES
885003040400	BLACKFIN TUNA	THUNNUS ATLANTICUS
885003040500	BIGEYE TUNA	THUNNUS OBESUS
885003050100	KING MACKEREL	SCOMBEROMORUS CAVALLA
885003050200	SPANISH MACKEREL	SCOMBEROMORUS MACULATUS
885003050300	CERO	SCOMBEROMORUS REGALIS
885003050400	GULF SIERRA	SCOMBEROMORUS CONCOLOR
885003050600	PACIFIC SIERRA	SCOMBEROMORUS SIERRA
885003060100	WAHOO	ACANTHOCYBIUM SOLANDRI
885003070100	BULLET MACKEREL	AUXIS ROCHEI
885003070200	FRIGATE MACKEREL	AUXIS THAZARD
885003100100	SLENDER TUNA	ALLOTHUNNUS FALLAI
885004010100	SWORDFISH	XIPHIAS GLADIUS
885005010100	LOUVAR	LUVARUS IMPERIALIS
885006010100	SAILFISH	ISTIOPHORUS PLATYPTERUS
885006020100	BLUE MARLIN	MAKAIRA NIGRICANS

885006020100	BLUE MARLIN	MKAIRA NIGRICANS
885006020200	BLACK MARLIN	MAKAIRA INDICA
885006030100	WHITE MARLIN	TETRAPTURUS ALBIDUS
885006030400	LONGBILL SPEARFISH	TETRAPTURUS PFLEUGERI
885006030500	SHORTBILL SPEARFISH	TETRAPTURUS ANGUSTIROSTRIS
885101010100	MEDUSAFISH	ICICHTHYS LOCKINGTONI
885101010200	BROWN DRIFTFISH	ARIOMMA MELANUM
885101020100	BARRELFISH	HYPEROGLYPHE PERCIFORMIS
885101020200	BLACK DRIFTFISH	HYPEROGLYPHE BYTHITES
885102010100	SILVER-RAG	ARIOMMA BONDI
885102010400	SPOTTED DRIFTFISH	ARIOMMA REGULUS
885102020100	BIGEYE CIGARFISH	CUBICEPS PAUCIRADIATUS
885102020300	LONGFIN CIGARFISH	CUBICEPS PARADOXUS
885102030100	MAN-OF-WAR FISH	NOMEUS GRONOVII
885102040100	FRECKLED DRIFTFISH	PSENES CYANOPHRYS
885102040200	SILVER DRIFTFISH	PSENES MACULATUS
885102040300	BLUEFIN DRIFTFISH	PSENES PELLUCIDUS
885103010100	PACIFIC POMPANO	PEPRILUS SIMILLIMUS
885103010300	BUTTERFISH	PEPRILUS TRIACANTHUS
885103010400	GULF BUTTERFISH	PEPRILUS BURTI
885103010600	HARVESTFISH	PEPRILUS ALEPIDOTUS
885104010100	SMALLEYE SQUARETAIL	TETRAGONURUS CUVIERI
885104010200	BIGEYE SQUARETAIL	TETRAGONURUS ATLANTICUS
885703010100	PACIFIC SANDDAB	CITHARICHTHYS SORDIDUS
885703010200	SPECKLED SANDDAB	CITHARICHTHYS STIGMAEUS
885703010400	GULF STREAM FLOUNDER	CITHARICHTHYS ARCTIFRONS
885703010500	SAND WHIFF	CITHARICHTHYS ARENACEUS
885703010600	HORNED WHIFF	CITHARICHTHYS CORNUTUS
885703010900	SPOTTED WHIFF	CITHARICHTHYS MACROPS
885703011000	BAY WHIFF	CITHARICHTHYS SPILOPTERUS
885703011100	LONGFIN SANDDAB	CITHARICHTHYS XANTHOSTIGMA
885703020100	FRINGED FLOUNDER	ETROPUS CROSSOTUS
885703020200	SMALLMOUTH FLOUNDER	ETROPUS MICROSTOMUS
885703020400	GRAY FLOUNDER	ETROPUS RIMOSUS
885703030100	SUMMER FLOUNDER	PARALICHTHYS DENTATUS
885703030200	GULF FLOUNDER	PARALICHTHYS ALBIGUTTA
885703030400	SOUTHERN FLOUNDER	PARALICHTHYS LETHOSTIGMA
885703030500	FOURSPOT FLOUNDER	PARALICHTHYS OBLONGUS
885703030600	BROAD FLOUNDER	PARALICHTHYS SQUAMILENTUS
885703030900	CALIFORNIA HALIBUT	PARALICHTHYS CALIFORNICUS
885703040100	WINDOWPANE	SCOPHTHALMUS AQUOSUS
885703050300	THREE-EYE FLOUNDER	ANCYLOPSETTA DILECTA
885703050600	OCELLATED FLOUNDER	ANCYLOPSETTA QUADROCELLATA
885703060100	PEACOCK FLOUNDER	BOTHUS LUNATUS
885703060300	EYED FLOUNDER	BOTHUS OCELLATUS
885703070100	PELICAN FLOUNDER	CHASCANOPSETTA LUGUBRIS
885703080100	MEXICAN FLOUNDER	CYCLOPSETTA CHITTENDENI
885703080200	SPOTFIN FLOUNDER	CYCLOPSETTA FIMBRIATA
885703090100	SPINY FLOUNDER	ENGYOPHRYS SENTA
885703100100	SHRIMP FLOUNDER	GASTROPSETTA FRONTALIS
885703110200	BIGMOUTH SOLE	HIPPOGLOSSINA STOMATA
885703120100	SLIM FLOUNDER	MONOLENE ANTILLARUM
885703120400	DEEPWATER FLOUNDER	MONOLENE SESSILICAUDA
885703130100	SHOAL FLOUNDER	SYACIUM GUNTERI
885703130200	CHANNEL FLOUNDER	SYACIUM MICRURUM
885703130300	DUSKY FLOUNDER	SYACIUM PAPILLOSUM
885703140400	SASH FLOUNDER	TRICHOPSETTA VENTRALIS
885703150100	FANTAIL SOLE	XYSTREURYS LIOLEPIS
885704010100	KAMCHATKA FLOUNDER	ATHERESTHES EVERMANNI
885704010200	ARROWTOOTH FLOUNDER	ATHERESTHES STOMIAS
885704030100	DEEPSEA SOLE	EMBASSICHTHYS BATHYBIUS
885704040100	PETRALE SOLE	EOPSETTA JORDANI
885704050100	REX SOLE	ERREX ZACHIRUS
885704050200	WITCH FLOUNDER	GYPTOCEPHALUS CYNOGLOSSUS

885704060100	FLATHEAD SOLE	*HIPPOGLOSSOIDES ELASSODON*
885704060200	BERING FLOUNDER	HIPPOGLOSSOIDES ROBUSTUS
885704060300	AMERICAN DAB	HIPPOGLOSSOIDES PLATESSOIDES
885704070100	BUTTER SOLE	PLEURONECTES ISOLEPIS
885704080100	ROCK SOLE	PLEURONECTES BILINEATUS
885704090100	YELLOWFIN SOLE	PLEURONECTES ASPER
885704090200	LONGHEAD DAB	PLEURONECTES PROBOSCIDEUS
885704090300	YELLOWTAIL FLOUNDER	PLEURONECTES FERRUGINEUS
885704100100	ARCTIC FLOUNDER	PLEURONECTES GLACIALIS
885704100300	SMOOTH FLOUNDER	PLEURONECTES PUTNAMI
885704110100	SLENDER SOLE	EOPSETTA EXILIS
885704120100	DOVER SOLE	MICROSTOMUS PACIFICUS
885704130100	ENGLISH SOLE	PLEURONECTES VETULUS
885704140100	STARRY FLOUNDER	PLATICHTHYS STELLATUS
885704150100	ALASKA PLAICE	PLEURONECTES QUADRITUBERCULATU
885704160100	C-O SOLE	PLEURONICHTHYS COENOSUS
885704160200	CURLFIN SOLE	PLEURONICHTHYS DECURRENS
885704160300	SPOTTED TURBOT	PLEURONICHTHYS RITTERI
885704160400	HORNYHEAD TURBOT	PLEURONICTHYS VERTICALIS
885704170100	SAND SOLE	PSETTICHTHYS MELANOSTICTUS
885704180100	GREENLAND HALIBUT	REINHARDTIUS HIPPOGLOSSOIDES
885704190100	PACIFIC HALIBUT	HIPPOGLOSSUS STENOLEPIS
885704190200	ATLANTIC HALIBUT	HIPPOGLOSSUS HIPPOGLOSSUS
885704200100	WINTER FLOUNDER	PLEURONECTES AMERICANUS
885704220100	DIAMOND TURBOT	HYPOPSETTA GUTTULATA
885801010100	HOGCHOKER	TRINECTES MACULATUS
885801020100	SCRAWLED SOLE	TRINECTES INSCRIPTUS
885801020200	LINED SOLE	ACHIRUS LINEATUS
885801030100	NAKED SOLE	GYMNACHIRUS MELAS
885801030200	FRINGED SOLE	GYMNACHIRUS TEXAE
885802010100	BLACKCHEEK TONGUE	SYMPHURUS PLAGIUSA
885802010200	OFFSHORE TONGUEFISH	SYMPHURUS CIVITATUS
885802010300	SPOTTEDFIN TONGUEFISH	SYMPHURUS DIOMEDIANUS
885802010500	LARGESCALE TONGUEFISH	SYMPHURUS MINOR
885802010600	PYGMY TONGUEFISH	SYMPHURUS PARVUS
885802010700	DEEPWATER TONGUEFISH	SYMPHURUS PIGER
885802010900	NORTHERN TONGUEFISH	SYMPHURUS PUSILLUS
885802011000	SPOTTAIL TONGUEFISH	SYMPHURUS UROSPILUS
886001010200	SPOTTED SPIKEFISH	HOLLARDIA MEADI
886001030100	JAMBEAU	PARAHOLLARDIA LINEATA
886002010100	ORANGE FILEFISH	ALUTERUS SCHOEPFI
886002010200	DOTTEREL FILEFISH	ALUTERUS HEUDELOTI
886002010300	UNICORN FILEFISH	ALUTERUS MONOCEROS
886002010400	SCRAWLED FILEFISH	ALUTERUS SCRIPTUS
886002020100	GRAY TRIGGERFISH	BALISTES CAPRISCUS
886002020200	QUEEN TRIGGERFISH	BALISTES VETULA
886002020300	FINESCALE TRIGGERFISH	BALISTES POLYLEPIS
886002030100	PLANEHEAD FILEFISH	MONACANTHUS HISPIDUS
886002030300	PYGMY FILEFISH	MONACANTHUS SETIFER
886002040100	WHITESPOTTED FILEFISH	CANTHERHINES MACROCERUS
886002040200	ORANGESPOTTED FILEFISH	CANTHERHINES PULLUS
886002050100	ROUGH TRIGGERFISH	CANTHIDERMIS MACULATA
886002050200	OCEAN TRIGGERFISH	CANTHIDERMIS SUFFLAMEN
886002060100	BLACK DURGON	MELICHTHYS NIGER
886002070100	FRINGED FILEFISH	MONACANTHUS CILIATUS
886002070200	SLENDER FILEFISH	MONACANTHUS TUCKERI
886002080100	SARGASSUM TRIGGERFISH	XANTHICHTHYS RINGENS
886003010100	TRUNKFISH	LACTOPHRYS TRIGONUS
886003010200	SPOTTED TRUNKFISH	LACTOPHRYS BICAUDALIS
886003010300	SMOOTH TRUNKFISH	LACTOPHRYS TRIQUETER
886003020100	SCRAWLED COWFISH	LACTOPHRYS QUADRICORNIS
886003020200	HONEYCOMB COWFISH	LACTOPHRYS POLYGONIA
886101010000	OCEANIC PUFFER	LAGOCEPHALUS LAGOCEPHALUS
886101010100	SMOOTH PUFFER	LAGOCEPHALUS LAEVIGATUS

886101020100	NORTHERN PUFFER	SPHOEROIDES MACULATUS
886101020200	CHECKERED PUFFER	SPHOEROIDES TESTUDINEUS
886101020300	BULLSEYE PUFFER	SPHOEROIDES ANNULATUS
886101020500	MARBLED PUFFER	SPHOEROIDES DORSALIS
886101020800	SOUTHERN PUFFER	SPHOEROIDES NEPHELUS
886101020900	BLUNTHEAD PUFFER	SPHOEROIDES PACHYGASTER
886101021000	LEAST PUFFER	SPHOEROIDES PARVUS
886101021100	BANDTAIL PUFFER	SPHOEROIDES SPENGLERI
886101535700	SHARPNOSE PUFFER	CANTHGASTER ROSTRATA
886103010100	STRIPED BURRFISH	CHILOMYCTERUS SCHOEPFI
886103010200	BRIDLED BURRFISH	CHILOMYCTERUS ANTENNATUS
886103010300	WEB BURRFISH	CHILOMYCTERUS ANTILLARUM
886103010400	SPOTTED BURRFISH	CHILOMYCTERUS ATINGA
886103010600	PACIFIC BURRFISH	CHILOMYCTERUS AFFINIS
886103020100	PORCUPINEFISH	DIODON HYSTRIX
886103020200	BALLONFISH	DIODON HOLOCANTHUS
886104010100	OCEAN SUNFISH	MOLA MOLA
886104010200	SHARPTAIL MOLA	MOLA LANCEOLATA
886104020100	SLENDER MOLA	RANZANIA LAEVIS

APPENDIX B.4

LIST OF FAMILIES

CODE	COMMON NAME	FAMILY NAME
874702000000	ANCHOVIES	ENGRAULIDAE
871101000000	ANGEL SHARKS	SQUATINIDAE
875601000000	ARGENTINES	ARGENTINIDAE
883557000000	ARMORHEADS	PENTACEROTIDAE
883701000000	BARRACUDAS	SPHYRAENIDAE
878704000000	BATFISHES	OGCOCEPHALIDAE
883517000000	BIGEYES	PRIACANTHIDAE
885006000000	BILLFISHES	ISTIOPHORIDAE
873901000000	BONEFISHES	ALBULIDAE
886003000000	BOXFISHES	OSTRACIIDAE
870401000000	BULLHEAD SHARKS	HETERODONTIDAE
885103000000	BUTTERFISHES	STROMATEIDAE
883555000000	BUTTERFLYFISHES	CHAETODONTIDAE
883518000000	CARDINALFISHES	APOGONIDAE
870701000000	CARPET SHARKS	RHINCODONTIDAE
870801000000	CAT SHARKS	SCYLIORHINIDAE
871602000000	CHIMAERAS	CHIMAERIDAE
878401000000	CLINGFISHES	GOBIESOCIDAE
884209000000	CLINIDS	CLINIDAE
879103000000	CODS & HAKES	GADIDAE
884201000000	COMBTOOTH BLENNIES	BLENNIIDAE
874112000000	CONGER EELS	CONGRIDAE
870502000000	COW SHARKS	HEXANCHIDAE
881501000000	CRESTFISHES	LOPHOTIDAE
879201000000	CUSK-EELS	OPHIDIIDAE
876210000000	DAGGERTOOTHS	ANOTOPTERIDAE
883562000000	DAMSELFISHES	POMACENTRIDAE
875602000000	DEEPSEA SMELTS	BATHYLAGIDAE
871001000000	DOGFISH SHARKS	SQUALIDAE
883529000000	DOLPHINS	CORYPHAENIDAE
881103000000	DORIES	ZEIDAE
875904000000	DRAGONFISHES	STOMIIDAE
883544000000	DRUMS	SCIAENIDAE
871307000000	EAGLE RAYS	MYLIOBATIDAE
879301000000	EELPOUTS	ZOARCIDAE
871303000000	ELECTRIC RAYS	TORPEDINIDAE
885704000000	FLOUNDERS RIGHTEYE	PLEURONECTIDAE
880301000000	FLYINGFISHES	EXOCOETIDAE
870501000000	FRILL SHARKS	CHLAMYDOSELACHIDAE
878702000000	FROGFISHES	ANTENNARIIDAE
883545000000	GOATFISHES	MULLIDAE
884701000000	GOBIES	GOBIIDAE
884214000000	GRAVELDIVERS	SCYTALINIDAE
882701000000	GREENLINGS	HEXAGRAMMIDAE
883540000000	GRUNTS	HAEMULIDAE
871302000000	GUITARFISHES	RHINOBATIDAE
884213000000	GUNNELS	PHOLIDAE
860601000000	HAGFISHES	MYXINIDAE
870803000000	HAMMERHEAD SHARKS	SPHYRNIDAE
874701000000	HERRINGS	CLUPEIDAE
883528000000	JACKS	CARANGIDAE
880404000000	KILLIFISHES	CYPRINODONTIDAE
873801000000	LADYFISHES	ELOPIDAE
860301000000	LAMPREYS	PETROMYZONTIDAE
876209000000	LANCETFISHES	ALEPISAURIDAE
876214000000	LANTERNFISHES	MYCTOPHIDAE

886002000000	LEATHERJACKETS	BALISTIDAE
885703000000	LEFTEYE FLOUNDERS	BOTHIDAE
876202000000	LIZARDFISHES	SYNODONTIDAE
885005000000	LOUVARS	LUVARIDAE
870704000000	MACKEREL SHARKS	LAMNIDAE
885003000000	MACKERELS & TUNAS	SCOMBRIDAE
871308000000	MANTAS	MOBULIDAE
877601000000	MINNOWS & CARPS	CYPRINIDAE
883539000000	MOJARRAS	GERRIDAE
886104000000	MOLAS	MOLIDAE
874105000000	MORAYS	MURAENIDAE
883601000000	MULLETS	MUGILIDAE
880302000000	NEEDLEFISHES	BELONIDAE
881503000000	OARFISHES	REGALECIDAE
881301000000	OPAHS	LAMPRIDAE
876212000000	PEARLEYES	SCOPELARCHIDAE
883520000000	PERCHES	PERCIDAE
883108000000	POACHERS	AGONIDAE
883571000000	POMFRETS	BRAMIDAE
883543000000	PORGIES	SPARIDAE
884212000000	PRICKLEBACKS	STICHAEIDAE
884215000000	PROWFISHES	ZAPRORIDAE
886101000000	PUFFERS	TETRAODONTIDAE
884211000000	QUILLFISHES	PTILICHTHYIDAE
884301000000	RAGFISHES	ICOSTEIDAE
883527000000	REMORAS	ECHENEIDAE
870802000000	REQUIEM SHARKS	CARCHARHINIDAE
881502000000	RIBBONFISHES	TRACHIPTERIDAE
884003000000	RONQUILS	BATHYMASTERIDAE
882702000000	SABLEFISHES	ANOPLOPOMATIDAE
870703000000	SAND TIGERS	ODONTASPIDIDAE
884501000000	SAND LANCES	AMMODYTIDAE
884001000000	SANDFISHES	TRICHODONTIDAE
880303000000	SAURIES	SCOMBERESOCIDAE
882601000000	SCORPIONFISHES	SCORPAENIDAE
883102000000	SCULPINS	COTTIDAE
883551000000	SEA CHUBS	KYPHOSIDAE
883502000000	SEA BASSES	SERRANIDAE
877718000000	SEA CATFISHES	ARIIDAE
878808000000	SEADEVILS	CERATIIDAE
882602000000	SEAROBINS	TRIGLIDAE
880502000000	SILVERSIDES	ATHERINIDAE
875503000000	SMELTS	OSMERIDAE
883109000000	SNAILFISHES & LUMPFISHES	CYCLOPTERIDAE
874113000000	SNAKE EELS	OPHICHTHIDAE
885001000000	SNAKE MACKERELS	TRICHIURIDAE
874121000000	SNIPE EELS	NEMICHTHYIDAE
881903000000	SNIPEFISHES	CENTRISCIDAE
883552000000	SPADEFISHES	EPHIPPIDAE
884014000000	STARGAZERS	URANOSCOPIDAE
881801000000	STICKLEBACKS	GASTEROSTEIDAE
871305000000	STINGRAYS	DASYATIDAE
872901010000	STURGEONS	ACIPENSER SPP.
883516000000	SUNFISHES	CENTRARCHIDAE
883560000000	SURFPERCHES	EMBIOTOCIDAE
885004000000	SWORDFISHES	XIPHIIDAE
883801000000	THREADFINS	POLYNEMIDAE
878301000000	TOADFISHES	BATRACHOIDIDAE
884202000000	WOLFFISHES	ANARHICHADIDAE
883901000000	WRASSES	LABRIDAE

APPENDIX C

ODES Chemical Codes

ODES Code	= Chemical Name
ABIETIC AC	= ABIETIC ACID (= SYLVIC ACID)
ACENAPE	= ACENAPHTHENE
ACENAP-D10	= ACENAPHTHENE-D10, DEUTERATED (SURROGATE)
ACENPHEN	= ACENAPHTHENE/PHENANTHRENE
ACENAPTYLE	= ACENAPHTHYLENE
ACETAL	= ACETALDEHYDE
AC-CELOSOL	= ACETIC ACID (= CELLOSOLVE ACETATE = 2-ETHOXYETHYL ACET
VINYL ACET	= ACETIC ACID, ETHENYL ESTER (= VINYL ACETATE)
ETHYL ACET	= ACETIC ACID, ETHYL ESTER (= ETHYL ACETATE)
ACETONE	= ACETONE
ACETONTRLE	= ACETONITRILE
ACETOPHENO	= ACETOPHENONE
1A-2THUREA	= ACETYL-2-THIOUREA (1-Acetyl-2-thiourea)
N2FLACETAM	= ACETYLAMINOFLUORENE (2-Acetylaminofluorene = N-2-FLUOR
12-C2CLETH	= ACETYLENE DICHLORIDE (= 1,2-DICHLOROETHENE), cis
1122-4CLET	= ACETYLENE TETRACHLORIDE (= 1,1,2,2-TETRACHLOROETHANE)
AVS	= ACID VOLATILE SULFIDES
ACROLEIN	= ACROLEIN
ACRYLAMIDE	= ACRYLAMIDE
ACRYLNTRLE	= ACRYLONITRILE
ACTINIDES	= ACTINIDES
AFLATOXIN	= AFLATOXIN
ETHANOL	= ALCOHOL, ANHYDROUS (= ETHANOL = ETHYL ALCOHOL = METHYL
ALDEHYDES	= ALDEHYDES
ALDRIN	= ALDRIN (PESTICIDE)
ALGICIDES	= ALGICIDES
ALIPH HCBN	= ALIPHATIC HYDROCARBON
ALIPH SOLV	= ALIPHATIC SOLVENT
ALKLNTY	= ALKALINITY
C3-ALKBNZ	= ALKYL BENZENE (C3)
C3ALKBENTL	= ALKYL BENZENE (C3) + ALKANE
3-CLPRPE	= ALLYL CHLORIDE (= 3-CHLOROPROPENE)
SAFROLE	= ALLYL-3,4-METHYLENEDIOXYBENZENE (1-Allyl-3,4-Methylene
ALUMINUM	= ALUMINUM, TOTAL
DMAAZOBNZ	= AMINO-5-AZOTOLUENE, 2- (= DIMETHYLAMINOAZOBENZENE)
AMAQUINONE	= AMINOANTHRAQUINONE (2-Aminoanthraquinone)
AAZOBENZ	= AMINOAZOBENZENE (= p-(PHENYAZO)ANILINE)
ANILINE	= AMINOBENZENE (= ANILINE = PHENYLAMINE)
4AMINOBIP	= AMINOBIPHENYL (4-Aminobiphenyl = p-BIPHENYLAMINE)
MTHYLAMINE	= AMINOMETHANE (= METHYLAMINE)
1-NAPAMINE	= AMINONAPTHALENE (1-Aminonapthalene = 1-NAPTHYLAMINE)
2-NAPAMINE	= AMINONAPTHALENE (2-Aminonapthalene = 2-NAPTHYLAMINE)
O-TOLUIDIN	= AMINOTOLUENE (2-aminotoluene = o-TOLUIDINE = 2 METHYLA
O-TOLI-HCL	= AMINOTOLUENE HYDROCHLORIDE (2-Aminotol. Hcl=o-TOLUIDIN
AMMONIA-N	= AMMONIA-NITROGEN (NH3)
AMMONIA-D	= AMMONIA, DISSOLVED (NH3)
AMMONIA	= AMMONIA, TOTAL (NH3)
AMMONIUM-D	= AMMONIUM, DISSOLVED (NH4)
AMMONIUM	= AMMONIUM, TOTAL (NH4)
ANILINE	= ANILINE (= AMINOBENZENE = PHENYLAMINE)
O-ANISIDIN	= ANISIDINE (o-Anisidine = 2-METHOXYANILINE)
ANTHRACENE	= ANTHRACENE
YPHPA	= ANTHRACENE + PHENANTHRENE
ANTH-D10	= ANTHRACENE, D-10 (SURROGATE)

```
DANTIMONY  S ANTIMONY, DISSOLVED
ANTIMONY   = ANTIMONY, TOTAL (SB)
ARAMITE    = ARAMITE
AROM HCBN  = AROMATIC HYDROCARBONS
ARSENATE   = ARSENATE
DARSENIC   S ARSENIC, DISSOLVED
ARSENIC    = ARSENIC, TOTAL
ASBESTOS   = ASBESTOS
ATRAZINE   = ATRAZINE (PESTICIDE)
PYRIDINE   = AZINE (= PYRIDINE)
GUTHION    = AZINPHOS-METHYL (= GUTHION)
AZOBENZENE = AZOBENZENE
BARIUM     = BARIUM, TOTAL
FLUORANTHN = BENZACENAPTHENE (1,2-Benzacenapthene = FLUORANTHENE)
BENZENE    = BENZENE
BENZOIC AC = BENZENE CARBOXYLIC ACID (= BENZOIC ACID)
BSO        = BENZENE SOLUBLE ORGANICS
THIOPHENOL = BENZENETHIOL (= THIOPHENOL = MERCAPTOBENZENE)
PHENOL     = BENZENOL (= PHENOL = CARBOLIC ACID = HYDROXYBENZENE)
BZID       = BENZIDINE (= 4,4-DIAMINOBYPHENYL)
FLUORENE   = BENZINDENE (2,3-Benzindene = FLUORENE = DIPHENYLENEMET
BAA        = BENZO(A)ANTHRACENE
BENZCHRY   = BENZO(A)ANTHRACENE/CHRYSENE
BAF        = BENZO(A)FLUORANTHENE
CHRYSENE   = BENZO(A)PHENANTHRENE (= CHRYSENE = 1,2-BENZPHENANTHREN
BAP        = BENZO(A)PYRENE (3,4-Benzpyrene)
BBF        = BENZO(B)FLUORANTHENE
BBKF       = BENZO(B,K)FLUORANTHENE
PYRENE     = BENZO(D,E,F)PHENANTHRENE (= PYRENE)
BEP        = BENZO(E)PYRENE
TBEP       = BENZO(E)PYRENE, TOTAL
BGHIP      = BENZO(G,H,I)PERYLENE
BKF        = BENZO(K)FLUORANTHENE
TOTAL BF   = BENZOFLUORANTHENES, TOTAL
BENZOIC AC = BENZOIC ACID (= BENZENE CARBOXYLIC ACID)
QUINONE    = BENZOQUINONE (= QUINONE)
C10BTRIAZ  = BENZOTRIAZOLE-C10
BENZYL-OH  = BENZYL ALCOHOL (= alpha-HYDROXY-TOLUENE)
DBERYLLIUM S BERYLLIUM, DISSOLVED
BERYLLIUM  = BERYLLIUM, TOTAL
BIPHENOL   = BIPHENOL (= DIHYDROXYBIPHENYL)
BIPHENOL25 = BIPHENOL, 2,5- (= 2,5-DIHYDROXYBIPHENYL)
BIPHENOL44 = BIPHENOL, 4,4- (= 4,4-DIHYDROXYBIPHENYL)
BIPHENYL   = BIPHENYL (= DIPHENYL = PHENYLBENZENE)
4AMINOBIP  = BIPHENYLAMINE (p-Biphenylamine = 4-AMINOBIPHENYL)
BCEOM      = BIS(2-CHLOROETHOXY) METHANE
BCEESTER   = BIS(2-CHLOROETHYL) ESTER
BCEE       = BIS(2-CHLOROETHYL) ETHER
B2CIESTER  = BIS(2-CHLOROISOPROPYL) ESTER
B2CIE      = BIS(2-CHLOROISOPROPYL) ETHER
DEHP       = BIS(2-ETHYLHEXYL) PHTHALATE (= DI(2-ETHYLHEXYL)PHTHLAT
BCME       = BIS-CHLOROMETHYL ETHER
13-BUTAD   = BIVINYL (= 1,3-BUTADIENE)
BORATE     = BORATE
BORNYL AC  = BORNYL ACETATE
BORON      = BORON
5CLNBNZ    = BRASSICOL (= PENTACHLORONITROBENZENE = QUINTOZENE = TR
BROMACIL   = BROMACIL
BROMIDE-D  = BROMIDE, DISSOLVED
BROMINE    = BROMINE
BR2CLMETH  = BROMODICHLOROMETHANE (DCBM)
```

```
BRFLBNZ     = BROMOFLUOROBENZENE (1-Fluoro-2-Bromobenzene)
BRFLBNZ13   = BROMOFLUOROBENZENE (1-Fluoro-3-Bromobenzene)
3-BRMETHA   = BROMOFORM (= TRIBROMOMETHANE)
246-3BRPHN  = BROMOL (= 2,4,6-TRIBROMOPHENOL)
METHYL BR   = BROMOMETHANE (= METHYL BROMIDE)
4-BPE       = BROMOPHENYL ETHER (4-Bromophenyl Ether)
4-BPPESTER  = BROMOPHENYL PHENYL ESTER (4-Bromophenyl Phenyl Ester)
4-BPPE      = BROMOPHENYL PHENYL ETHER (4-Bromophenyl Phenyl Ether)
13-BUTAD    = BUTADIENE (1,3-Butadiene = BIVINYL)
BUTYRAL     = BUTANAL (= BUTYRALDEHYDE)
BUTANE      = BUTANE
2-BUTANONE  = BUTANONE (2-Butanone = METHYL ETHYL KETONE)
2-BUTE1-OL  = BUTENE-1-OL (2-BUTENE-1-OL = CROTYL ALCOHOL)
PHOSDRIN    = BUTENOIC ACID (2-Butenoic Acid = CROTONIC ACID)
2BPHOSETHA  = BUTOXY PHOSPHATE ETHANOL (2-Butoxy Phosphate Ethanol)
2-BUTOXETH  = BUTOXYETHANOL (2-Butoxyethanol=BUTYL CELLOSOLVE=GLYCOL
BUTYL ACET  = BUTYL ACETATE
BUTYLALCHL  = BUTYL ALCOHOL
BUTBNZ PHT  = BUTYL BENZYL PHTHALATE
BUTYL BR    = BUTYL BROMIDE
2-BUTOXETH  = BUTYL CELLOSOLVE (= BUTOXYETHANOL)
3-M2-PNTNO  = BUTYL METHYL KETONE (= 3-METHYL-2-PENTANONE)
I BUT BENZ  = BUTYLBENZENE ISOMERS
DBT         = BUTYLTINS (Dibutyltin)
MBT         = BUTYLTINS (Monobutyltin)
TTBT        = BUTYLTINS (Tetrabutyltin)
TBT         = BUTYLTINS (Tributyltin)
BUTYRAL     = BUTYRALDEHYDE (= BUTANAL)
CACODYL AC S CACODYLIC ACID (= DIMETHYLARSENIC ACID)
DCADMIUM    = CADMIUM, DISSOLVED
CADMIUM     = CADMIUM, TOTAL
CAFFEINE    = CAFFEINE
SELENITE    = CALCIUM SULFATE (= SELENITE)
CALCIUM-D   = CALCIUM, DISSOLVED
CALCIUM     = CALCIUM, TOTAL
177-3M2CYC  = CAMPHOR (1,7,7-TRIMETHYLBICYCLO[2.2.1]HEPTAN-2-ONE = C
HEX-METHES  = CAPROIC ACID, METHYL ESTER = METHYL CAPROATE = HEXANOI
URETHAN     = CARBAMIC ACID, ETHYL ESTER (= URETHANE = ETHYL CARBAMA
CARBARYL    = CARBARYL (PESTICIDE)
CARBAZOLE   = CARBAZOLE (= DIBENZOPYRROLE = DIPHENYLENIMINE)
METHANOL    = CARBINOL (= METHANOL = METHYL ALCOHOL)
CARBOFURAN  = CARBOFURAN
PHENOL      = CARBOLIC ACID (= PHENOL = BENZENOL = HYDROXYBENZENE)
CO2         = CARBON DIOXIDE
CS2         = CARBON DISULFIDE
CO          = CARBON MONOXIDE
4CLMETHA    = CARBON TETRACHLORIDE (= TETRACHLOROMETHANE)
TOC         = CARBON, TOTAL ORGANIC
C03         = CARBONATE
TRITHION    = CARBOPHENOTHION (= TRITHION)
CELLOSOLVE  = CELLOSOLVE (= 2-ETHOXYETHANOL)
AC-CELOSOL  = CELLOSOLVE ACETATE (= 2-ETHOXYETHYL ACETATE = ACETIC A
COD         = CHEMICAL OXYGEN DEMAND
CHLORDAN-A  = CHLORDANE (ALPHA)
CHLORDAN-B  = CHLORDANE (CIS CHLORDANE)
CHLORDAN-G  = CHLORDANE (GAMMA)
CHLORDANE   = CHLORDANE (PESTICIDE)
CHLORDAN-T  = CHLORDANE, TOTAL
KEPONE      = CHLORDECONE (= KEPONE)
CHLORIDE-D  = CHLORIDE, DISSOLVED
CHLORIDE    = CHLORIDE, TOTAL
```

```
CL PHENOLS = CHLORINATED PHENOLS, TOTAL
CHLORINE   = CHLORINE
CLO2       = CHLORINE DIOXIDE
TOT RES CL = CHLORINE, TOTAL RESIDUAL
4-CL3-NPHN = CHLORO-m-CRESOL (4-Chloro-m-Cresol = 4-CHLORO-3-METHYL
6-CL3-MPHN = CHLORO-m-CRESOL (6-Chloro-m-Cresol = 6-CHLORO-3-METHYL
4-CL2-MPHN = CHLORO-o-CRESOL (4-Chloro-o-Cresol = 4-CHLORO-2-METHYL
CLOROPRENE = CHLORO-1,3-BUTADIENE (2-Chloro-1,3-Butadiene = CHLOROP
EPICLHYD   = CHLORO-1,3-EPOXYPROPANE (2-Chloro-1,3-Ep.Prop.= EPICHL
5CL-2MANIL = CHLORO-2-METHYLANILINE (5-Chloro-2-methylaniline)
4-CL2-MPHN = CHLORO-2-METHYLPHENOL (4-Chloro-2-Methylphenol = 4-CHL
4-CL3-MPHN = CHLORO-3-METHYLPHENOL (4-Chloro-3-Methylphenol = 4-CHL
6-CL3-MPHN = CHLORO-3-METHYLPHENOL (6-Chloro-3-Methylphenol = 6-CHL
CLACETAL   = CHLOROACETALDEHYDE (= CHLOROETHANAL)
CLALKETHRS = CHLOROALKLY ETHERS
2CLANILINE = CHLOROANILINE (2-chloroaniline = 4,4'-METHYLENEBIS)
4-CLANILIN = CHLOROANILINE (4-Chloroaniline or p-Chloroaniline)
CLBNZ      = CHLOROBENZENE (= PHENYL CHLORIDE)
CBTRIAZOLE = CHLOROBENZOTRIAZOLE
CLBUTAD    = CHLOROBUTADIENE
CLDEHAB    = CHLORODEHYDROABIETIC ACID
CLACETAL   = CHLOROETHANAL (= CHLOROACETALDEHYDE)
ETHYL CL   = CHLOROETHANE (= ETHYL CHLORIDE)
VINYL CL   = CHLOROETHENE (= VINYL CHLORIDE)
B2CLETET   = CHLOROETHYL ETHYL (bis(2-Chloroethyl)ethyL)
2-CLEVESTR = CHLOROETHYLVINYL ESTER (2-Chloroethylvinyl Ester)
2-CLEVE    = CHLOROETHYLVINYL ETHER (2-Chloroethylvinyl Ether)
CHLOROFORM = CHLOROFORM (= TRICHLOROMETHANE)
B2CIETH    = CHLOROISOPROPYL ETHYL (bis(2-Chloroisopropyl)ethyl)
METHYL CL  = CHLOROMETHANE (= METHYL CHLORIDE)
CMME       = CHLOROMETHYL METHYL ETHER
3CLMPYRID  = CHLOROMETHYL PYRIDINE (3-(Chloromethyl)pyridine)
1CLNAPTH   = CHLORONAPHTHALENE (1-Chloronaphthalene)
2-CLNAP    = CHLORONAPHTHALENE (2-Chloronaphthalene)
3-CLPHN    = CHLOROPHENOL (m-Chlorophenol)
2-CLPHN    = CHLOROPHENOL (o-Chlorophenol)
4-CLPHN    = CHLOROPHENOL (p-Chlorophenol or 4-Chlorophenol)
D4-2-CLPHN = CHLOROPHENOL, 2-, DEUTERATED SURROGATE
4-CPESTER  = CHLOROPHENYL ESTER (4-Chlorophenyl Ester)
4-CPE      = CHLOROPHENYL ETHER (4-Chlorophenyl Ether)
4-CPPESTER = CHLOROPHENYL PHENYL ESTER (4-Chlorophenyl Phenyl Ester
4-CPPE     = CHLOROPHENYL PHENYL ETHER (4-Chlorophenyl Phenyl Ether
CLOROPRENE = CHLOROPRENE (= 2-CHLORO-1,3-BUTADIENE)
3-CLPRPE   = CHLOROPROPENE (3-Chloropropene = ALLYL CHLORIDE)
EPICLHYD   = CHLOROROOXETANE (3-Chlororooxetane = EPICHLOROHYDRIN)
4CLSL      = CHLOROSAILINE (4-Chlorosailine)
M-CLTOLUEN = CHLOROTOLUENE (m-Chlorotoluene = m-TOLYL CHLORIDE)
O-CLTOLUEN = CHLOROTOLUENE (o-Chlorotoluene = o-TOLYL CHLORIDE)
P-CLTOLUEN = CHLOROTOLUENE (p-Chlorotoluene = p-TOLYL CHLORIDE)
CHLORPYRIF = CHLORPYRIFOS
CHOLESTNOL = CHOLESTANOL
CHOLESTROL = CHOLESTEROL
DCHROMIUM  = CHROMIUM, DISSOLVED
CHROMIUM-6 = CHROMIUM, HEXAVALENT
CHROMIUM-T = CHROMIUM, TOTAL
CHROMIUM-3 = CHROMIUM, TRIVALENT
CHRYSENE   = CHRYSENE (= 1,2-BENZPHENANTHRENE = BENZO(A)PHENANTHREN
C1CHRYSEN  = CHRYSENE (C1 homologs)
C2CHRYSEN  = CHRYSENE (C2 homologs)
C3CHRYSEN  = CHRYSENE (C3 HOMOLOGS)
C4CHRYSEN  = CHRYSENE (C4 HOMOLOGS)
```

```
CHRY+TRIPH = CHRYSENE AND TRIPHENYLENE
COBALT     = COBALT, TOTAL
DCOPPER    = COPPER, DISSOLVED
COPPER     = COPPER, TOTAL
COPROSTNOL = COPROSTANOL (= COPROSTEROL)
CORONENE   = CORONENE (= HEXABENZOBENZENE)
CREOSOTE   = CREOSOTE
P-CRESIDIN = CRESIDINE (p-Cresidine)
3-METHPHN  = CRESOL (m-Cresol = 3-METHYLPHENOL)
2-METHPHN  = CRESOL (o-Cresol = 2-METHYLPHENOL = 2-HYDROXYTOLUENE)
4-METHPHN  = CRESOL (p-Cresol = 4-METHYLPHENOL = 4-HYDROXYTOLUENE)
P-CL-MCRSL = CRESOL (p-CHLORO-m-CRESOL)
CRESOLS    = CRESOLS, TOTAL (= METHYLPHENOLS)
PHOSDRIN   = CROTONIC ACID (= trans-2-BUTENOIC ACID)
2-BUTE1-OL = CROTYL ALCOHOL (= 2-BUTENE-1-OL)
CUMENE     = CUMENE (= ISOPROPYL BENZENE)
CYANIDE    = CYANIDE
CYCHBUTAN  = CYCLOBUTANOL
CYCHEXANE  = CYCLOHEXANE (= HEXAHYDROBENZENE = HEXAMETHYLENE)
CYCHEXANON = CYCLOHEXANONE (= KETOHEXAMETHYLENE = PIMELIC KETONE)
CYCHEXENE  = CYCLOHEXENE (= 3,4,5,6-TETRAHYDROBENZENE)
2CH46-2NPH = CYCLOHEXYL-4,6-DINITROPHENOL (2-Cyclohexyl-4,6-Dinitro
CYMENE     = CYMENE (= ISOPROPYL-(METHYL)-BENZENE = ISOPROPYLTOLUEN
2,4 D      = D (2,4-D or 2,4-Dichlorophenoxy Acetic Acid) (PESTICID
2,4 DESTRS = D ESTERS (2,4-D Esters)
DACTHAL    = DACTHAL
OP DDD     = DDD (o,p-DDD)
PP DDD     = DDD (p,p-DDD)
DDD        = DDD (PESTICIDE)
DDD        S DDE (= DDD)
OP DDE     = DDE (o,p-DDE)
PP DDE     = DDE (p,p-DDE)
DDE        = DDE (PESTICIDE)
OP DDT     = DDT (o,p-DDT)
PP DDT     = DDT (p,p-DDT)
DDT        = DDT (PESTICIDE)
DDT-T      = DDT, TOTAL
10CLBIP    = DECACHLOROBIPHENYL
DECHMNAPTA = DECAHYDROMETHYLNAPTHANE
DECANE     = DECANE (C10)
MIREX      = DECHLORANE (= MIREX)
DECYNE     = DECYNE
DEF        = DEF
DHYABIETIC = DEHYDROABIETIC ACID
DELNAV     = DELNAV (= DIOXATHION)
DEMETON    = DEMETON (= SYSTOX) (PESTICIDE)
DEHP       = DI(2-ETHYLHEXYL)PHTHALATE (= BIS(2-ETHYLHEXYL) PHTHALA
DINBP      = DI-N-BUTYL PHTHALATE
2NOCTP     = DI-N-OCTYL PHTHALATE
DISULFOTON = DI-SYSTON (= DISULFOTON)
14-PHE2AM  = DIAMINOBENZENE (= 1,4-PHENYLENEDIAMINE)
BZID       = DIAMINOBIPHENYL (4,4'-Diaminobiphenyl = BENZIDINE)
24-2AMTOL  = DIAMINOTOLUENE (2,4-Diaminotoluene = TOLUENE-2,4-DIAMI
2ANISIDINE = DIANISIDINE (3,3'-DIMETHOXYBENZIDINE)
DIAZINON   = DIAZINON (PESTICIDE)
2BANTH     = DIBENZ(A,H)ANTHRACENE (=1,2:5,6-Dibenzanthracene)
DBAJACRID  = DIBENZ(A,J)ACRIDINE
1245-2BPYR = DIBENZO(A,E)PYRENE (= 1,2:4,5-DIBENZOPYRENE)
DIBNZFURAN = DIBENZOFURAN (= DIPHENYLENE OXIDE)
1245-2BPYR = DIBENZOPYRENE (1,2:4,5-Dibenzopyrene = DIBENZO(A,E)PYR
CARBAZOLE  = DIBENZOPYRROLE (= CARBAZOLE = DIPHENYLENIMINE)
```

DIBNZTHIO = DIBENZOTHIOPHENE (= DIPHENYLENE SULFIDE)
C1DIBNZTHP = DIBENZOTHIOPHENE (C1 homologs)
C2DIBNZTHP = DIBENZOTHIOPHENE (C2 homologs)
C3DIBNZTHP = DIBENZOTHIOPHENE (C3 homologs)
12-2BR3CLP = DIBROMO-3-CHLOROPROPANE (1,2-Dibromo-3-Chloropropane =
2BRCLETH = DIBROMOCHLOROETHANE (DBCE)
2BRCLMETH = DIBROMOCHLOROMETHANE (DBCM)
METHYLE BR = DIBROMOMETHANE (= METHYLENE BROMIDE)
DBOFB = DIBROMOOCTAFLUOROBIPHENYL (SURROGATE)
T23-2BPPO4 = DIBROMOPROPYL PHOSPHATE (tris-2,3-Dibromopropyl phosph
DBT = DIBUTYLTIN
DICAMBA = DICAMBA
23-2CL1PRE = DICHLORO-1-PROPENE (2,3-Dichloro-1-Propene)
13-2CLBNZ = DICHLOROBENZENE (m-Dichlorobenzene or 1,3-Dichlorobenz
12-2CLBNZ = DICHLOROBENZENE (o-Dichlorobenzene or 1,2-Dichlorobenz
14-2CLBNZ = DICHLOROBENZENE (p-Dichlorobenzene or 1,4-Dichlorobenz
2CLBNZ = DICHLOROBENZENE NOS
D4-12-2CLB = DICHLOROBENZENE, 1,2-, DEUTERATED SURROGATE
33-2CLBZID = DICHLOROBENZIDINE (3,3'-Dichlorobénzidine)
2CLBZID = DICHLOROBENZIDINE BASE
2CLBNZPHN = DICHLOROBENZOPHENOL
2CLBPHNL-T = DICHLOROBIPHENYL, TOTAL
DCLDEHAB = DICHLORODEHYDROABIETIC ACID
FREON = DICHLORODIFLUOROMETHANE (= FREON)
12-C2CLETE = DICHLOROETHANE (cis-1,2-Dichloroethane)
11-2CLETH = DICHLOROETHANE (1,1-Dichloroethane = ETHYLIDENE CHLORI
12-2CLETH = DICHLOROETHANE (1,2-Dichloroethane = ETHYLENE DICHLORI
12-2CLE-D4 = DICHLOROETHANE, DEUTERATED (1,2-Dichloroethane-D4)
12-C2CLETH = DICHLOROETHENE (cis-1,2-Dichloroethene = ACETYLENE DIC
12-T2CLETH = DICHLOROETHENE (trans-1,2-Dichloroethene = ACETYLENE D
11-2CLETHE = DICHLOROETHENE (1,1-Dichloroethene = VINYLIDENE CHLORI
2CLETHENES = DICHLOROETHENES (Sum of Acetylene Dichloride and Vinyl
GUAIA45 = DICHLOROGUAIACOL (4,5-Dichloroguaiacol)
2CLMETHA = DICHLOROMETHANE (= METHYLENE CHLORIDE)
2-2CLPHN = DICHLOROPHENOL (2-Dichlorophenol)
23-2CLPHN = DICHLOROPHENOL (2,3-Dichlorophenol)
24-2CLPHN = DICHLOROPHENOL (2,4-Dichlorophenol)
25-2CLPHN = DICHLOROPHENOL (2,5-Dichlorophenol)
26-2CLPHN = DICHLOROPHENOL (2,6-Dichlorophenol)
34-2CLPHN = DICHLOROPHENOL (3,4-Dichlorophenol)
2,4 D = DICHLOROPHENOXY ACETIC ACID (2,4-Dichlorophenoxy Aceti
C13-2CLPRP = DICHLOROPROPANE (cis-1,3-Dichloropropane)
T13-2CLPRP = DICHLOROPROPANE (trans-1,3-Dichloropropane)
12-2CLPRP = DICHLOROPROPANE (1,2-Dichloropropane = PROPYLENE DICHL
13-2CLPRP = DICHLOROPROPANE (1,3-Dichloropropane = TRIMETHYLENE CH
2CLPRPANES = DICHLOROPROPANES (Sum of Propylidene Chloride and Prop
C13-2CLPRE = DICHLOROPROPENE (cis-1,3-Dichloropropene)
T13-2CLPRE = DICHLOROPROPENE (trans-1,3-Dichloropropene)
13C2CLPRPE = DICHLOROPROPENE (CIS-1,3-DICHLOROPROPENE)
13T2CLPRPE = DICHLOROPROPENE (TRANS-1,3-DICHLOROPROPENE)
12-2CLPRPE = DICHLOROPROPENE (1,2-Dichloropropene)
13-2CLPRPE = DICHLOROPROPENE (1,3-Dichloropropene or 1,3-DICHLOROPR
2CLPRPENES = DICHLOROPROPENES, TOTAL
13-2CLPRPE = DICHLOROPROPYLENE (1,3-Dichloropropylene = 1,3-DICHLOR
2CL3FLETH = DICHLOROTRIFLUOROETHANE
KELTHANE = DICOFOL (= KELTHANE)
DIELDRIN = DIELDRIN (PESTICIDE)
DIESEL = DIESEL FUEL
PARATHION = DIETHYL p-NITROPHEMYL MONOTHIOPHOSPHATE (= PARATHION)
DEHA = DIETHYL HEXYL ADIPATE
DETHYLSO4 = DIETHYL SULFATE

```
I DIETBENZ = DIETHYLBENZENE ISOMERS
DIOXANE    = DIETHYLENE DIOXIDE (1,4-Diethylene Diox.=DIOXANE=GLYCO
23-2ETHLOX = DIETHYLOXIRANE (2,3-Diethyloxirane)
DEP        = DIETHYLPHTHALATE (= PHTHALIC ACID, ETHYL ESTER)
DESTILBEST = DIETHYLSTILBESTEROL
14-NAPQUIN = DIHYDRO-1,4-DIKETONAPTHALENE (1,4-Dihy.1,4-Diket.=1,4-
RESORCINOL = DIHYDROXYBENZENE (1,3-Dihydroxybenzene = RESORCINOL)
HYDROQUIN  = DIHYDROXYBENZENE (1,4-Dihydroxybenzene = HYDROQUINONE)
BIPHENOL   = DIHYDROXYBIPHENYL (= BIPHENOL)
BIPHENOL25 = DIHYDROXYBIPHENYL, 2,5- (= 2,5-BIPHENOL)
BIPHENOL44 = DIHYDROXYBIPHENYL, 4,4- (= 4,4-BIPHENOL)
ETHE GLYCL = DIHYDROXYETHANE (= 1,2-ETHANEDIOL = ETHYLENE GLYCOL)
PHENYTOIN  = DILANTIN (= PHENYTOIN sodium = 5,5'-DIPHENYLHYDANTOIN)
DIMETHOATE = DIMETHOATE
2ANISIDINE = DIMETHOXYBENZIDINE (3,3'-Dimethoxybenzidine = DIANISID
2METH-AS   = DIMETHYL ARSENATE
2METH2SULF = DIMETHYL DISULFIDE
DIMP       = DIMETHYL PHTHALATE (= PHTHALIC ACID, METHYL ESTER)
DIMSO4     = DIMETHYL SULFATE
2METHSULF  = DIMETHYL SULFIDE (= DIMETHYL SULFONE)
DMAAZOBNZ  = DIMETHYLAMINOAZOBENZENE (= METHYL YELLOW = 2-AMINO-5-A
CACODYL AC = DIMETHYLARSINIC ACID (= CACODYLIC ACID)
DMBA       = DIMETHYLBENZ(A)ANTHRACENE (7,12-Dimethylbenz(a)anthrac
XYLENE     = DIMETHYLBENZENE, TOTAL (= XYLENE, TOTAL)
O-TOLIDINE = DIMETHYLBENZIDINE (3,3'-Dimethylbenzidine = o-TOLIDINE
P2M2AMBNZ  = DIMETHYLDIAMINOBENZENE (p-Dimethyldiaminobenzene)
12-2MHYZ   = DIMETHYLHYDRAZINE (1,2-Dimethylhydrazine)
METHYL-HG  = DIMETHYLMERCURY (= METHYL MERCURY)
26-2MNAP   = DIMETHYLNAPHTHALENE (2,6-Dimethylnaphthalene)
NNDMA      = DIMETHYLNITROSAMINE (= N-NITROSO DIMETHYLAMINE)
PHENTERMIN = DIMETHYLPHENETHYLAMINE (a,a-Dimethylphenethylamine = P
24-2MPHN   = DIMETHYLPHENOL (2,4-Dimethylphenol = as-m-XYLENOL)
PERYLENE   = DINAPTHALENE (peri-Dinapthalene = PERYLENE)
DINOCRESOL = DINITRO-O-CRESOL
45-2NOCRES = DINITRO-O-CRESOL (4,5-Dinitro-o-Cresol = 4,5-DINITRO-2
46-2N2MPHN = DINITRO-O-CRESOL (4,6-Dinitro-o-Cresol = 4,6-DINITRO-2
45-2NOCRES = DINITRO-2-HYDROXYTOLUENE (3,4-DINITRO-2-HYDROXTOL=4,5-
46-2N2MPHN = DINITRO-2-METHYLPHENOL (4,6-Dinitro-2-Methylphenol = D
12-2NBNZ   = DINITROBENZENE (1,2-Dinitrobenzene = o-Dinitrobenzene)
13-2NBNZ   = DINITROBENZENE (1,3-Dinitrobenzene = m-Dinitrobenzene)
14-2NBNZ   = DINITROBENZENE (1,4-Dinitrobenzene = p-Dinitrobenzene)
24-2NPHN   = DINITROPHENOL (2,4-Dinitrophenol)
26-2NPHN   = DINITROPHENOL (2,6-Dinitrophenol)
24-2NTOL   = DINITROTOLUENE (2,4-Dinitrotoluene)
26-2NTOL   = DINITROTOLUENE (2,6-Dinitrotoluene)
DIOXANE    = DIOXANE
DELNAV     = DIOXATHION (= DELNAV)
TCDD       = DIOXIN (2,3,7,8-TETRACHLORODIBENZODIOXIN = TCDD)
BIPHENYL   = DIPHENYL (= BIPHENYL = PHENYLBENZENE)
2PHEN2SULF = DIPHENYL DISULFIDE
DPA        = DIPHENYLAMINE (= N-PHENYLANILINE)
O-3PHEN    = DIPHENYLBENZENE (1,2-Diphenylbenzene = o-TERPHENYL)
M-3PHEN    = DIPHENYLBENZENE (1,3-Diphenylbenzene = m-TERPHENYL)
P-3PHEN    = DIPHENYLBENZENE (1,4-Diphenylbenzene = p-TERPHENYL)
DIBNZFURAN = DIPHENYLENE OXIDE (= DIBENZOFURAN)
DIBNZTHIO  = DIPHENYLENE SULFIDE (= DIBENZOTHIOPHENE)
FLUORENE   = DIPHENYLENEMETHANE (= 2,3-BENZINDENE = FLUORENE)
CARBAZOLE  = DIPHENYLENIMINE (= CARBAZOLE = DIBENZOPYRROLE)
PHENYTOIN  = DIPHENYLHYDANTOIN (5,5'-Diphenylhydantoin = PHENYTOIN
12-2PHHYZ  = DIPHENYLHYDRAZINE (1,2-Diphenylhydrazine = HYDRAZOBENZ
DISULFOTON = DISULFOTON (=OXYDISULFOTON)
```

```
DIURON     = DIURON
DODECANE   = DODECANE (C12)
DOEICOSANE = DOEICOSANE (C22)
DO3CONTAN  = DOTRIACONTANE (C32)
ETHE GLYCL = DYHYDROXYETHANE (= 1,2-ETHANEDIOL = ETHYLENE GLYCOL)
EH         = EH
EICOSANE   = EICOSANE (C20)
ENDOSLFN-A = ENDOSULFAN (ALPHA)
ENDOSLFN-B = ENDOSULFAN (BETA)
ENDOSULFAN = ENDOSULFAN (PESTICIDE)
ENDOSLFN-S = ENDOSULFAN SULFATE
ENDRIN     = ENDRIN (PESTICIDE)
ENDRIN-ALD = ENDRIN ALDEHYDE
ENDRIN-KET = ENDRIN KETONE
EPICLHYD   = EPICHLOROHYDRIN (= 2-CHLORO-1,3-EPOXY PROPANE=3-CHLORO
EPOXYSTEAR = EPOXY OCTADECANOIC ACID (= EPOXYSTEARIC ACID, cis-9,10
4HYDRFURAN = EPOXYBUTANE (1,4-Epoxybutane = TETRAHYDROFURAN= TETRAM
ETHYLENE O = EPOXYETHANE (1,2-Epoxyethane = ETHYLENE OXIDE)
PRPE O     = EPOXYPROPANE (1,2-Epoxypropane = PROPYLENE OXIDE)
EPOXYSTEAR = EPOXYSTEARIC ACID (= EPOXY OCTADECANOIC ACID)
ETHE GLYCL = ETHANEDIOL (1,2-Ethanediol = ETHYLENE GLYCOL = DIHYDRO
ETHANOL    = ETHANOL (= ALCOHOL, ANHYDROUS = ETHYL ALCOHOL = METHYL
STYRENE    = ETHENYLBENZENE (= STYRENE = PHENYLETHYLENE = VINYLBENZ
ETHION     = ETHION
CELLOSOLVE = ETHOXYETHANOL (2-Ethoxyethanol = CELLOSOLVE)
AC-CELOSOL = ETHOXYETHYL ACETATE (2-Ethoxyethyl Acetate = CELLOSOLV
PHENACETIN = ETHOXYPHENYL-ACETIC ACID, AMIDE (N(4-Ethoxyph.)-Acet.A
ETHYL ACET = ETHYL ACETATE (= ACETIC ACID, ETHYL ESTER)
ETHANOL    = ETHYL ALCOHOL (= ETHANOL = ALCOHOL, ANHYDROUS = METHYL
URETHAN    = ETHYL CARBAMATE (= URETHAN = CARBAMIC ACID, ETHYL ESTE
ETHYL CL   = ETHYL CHLORIDE (= CHLOROETHANE)
ET METSULF = ETHYL METHANESULFONATE
ETH PARA   = ETHYL PARATHION
PHENOBARB  = ETHYL-5-PHENYL BARBITURIC ACID (5-Ethyl-5-phen barb ac
ETHYL BENZ = ETHYLBENZENE
2PHEN2PROP = ETHYLBENZYL ALCOHOL (= 2-PHENYL-2-PROPANOL)
12-2BRETH  = ETHYLENE BROMIDE (= 1,2-DIBROMOETHANE)
12-2CLETH  = ETHYLENE CHLORIDE (= 1,2-DICHLOROETHANE = ETHYLENE DIC
ETHE GLYCL = ETHYLENE GLYCOL (= 1,2-ETHANEDIOL = DIHYDROXYETHANE)
ETHYLENE O = ETHYLENE OXIDE (= 1,2-EPOXYETHANE)
ETHETHIO U = ETHYLENE THIOUREA (= 2-IMIDAZOLIDINETHION)
EBDCAS     = ETHYLENE(BIS)DITHIO CARBAMIC ACID SALTS (= NABAM)
11-2CLETH  = ETHYLIDENE CHLORIDE (= 1,1-DICHLOROETHANE)
I ETHY TOL = ETHYLTOLUENE ISOMERS
FENAMIPHOS = FENAMIPHOS (Nemacur)
FENTHION   = FENTHION
FLOAT PART = FLOATABLE PARTICULATES
C1FLUORENE = FLOURENE (C1 homologs)
C2FLUORENE = FLOURENE (C2 homologs)
C3FLUORENE = FLOURENE (C3 homologs)
FLUORANTHN = FLUORANTHENE (= 1,2-BENZACENAPTHENE)
C1FLPYR    = FLUORANTHENE + PYRENES (C1 HOMOLOGS)
FLUORENE   = FLUORENE (= 2,3-BENZINDENE = DIPHENYLENEMETHANE)
FLUOR-D10  = FLUORENE, D-10 (SURROGATE)
N2FLACETAM = FLUORENYLACETAMIDE (N-2-Fluorenylacetamide = 2-ACETYLA
FLUORIDE   = FLUORIDE
FLUORIDE-D = FLUORIDE, DISSOLVED
FLUORIDES  = FLUORIDES, TOTAL
FLUORINE   = FLUORINE
2FLUOROBIP = FLUOROBIPHENYL (2-Fluorobiphenyl) (SURROGATE)
2FLUOROPHN = FLUOROPHENOL (2-Fluorophenol) (SURROGATE)
```

```
FORMALDEHY = FORMALDEHYDE (= METHANAL)
FREE_CN    = FREE CYANIDE
FREON      = FREON (= DICHLORODIFLUOROMETHANE)
FREON 113  = FREON 113 (= TRICHLOROTRIFLUOROETHANE)
GALLASIDES = GALLIUM ARSENIDES
DIOXANE    = GLYCOL ETHYLENE ETHER (= 1,4-DIOXANE = 1,4-DIETHYLENE
2-BUTOXETH = GLYCOL MONOBUTYL ETHER (= BUTOXYETHANOL = BUTYL CELLOS
GLYPHOSATE = GLYPHOSATE
GOLD       = GOLD
GUAIACOL   = GUAIACOL (= 2-METHOXYPHENOL)
GUTHION    = GUTHION (= AZINPHOS-METHYL) (PESTICIDE)
H-ETHERS   = HALOETHERS, TOTAL
H-METHANES = HALOMETHANES, TOTAL
HEMPA      = HEMPA (= HEXAMETHYL PHOSPHORAMIDE)
UNDECANE   = HENDECANE (= UNDECANE)
HEPDECANE  = HEPDECANE (C17)
HEPEICOSAN = HEPEICOSAN (C27)
HEPTACHLOR = HEPTACHLOR (3,4,5,6,7,8,9-Heptachlor Dicyclopentadiene
HEPTACHLOR = HEPTACHLOR DICYCLOPENTADIENE (3,4,5,6,7,8,9-HEPTACHLOR
HEPCL EPOX = HEPTACHLOR EPOXIDE (PESTICIDE METAB)
7CLBPHNL-T = HEPTACHLOROBIPHENYL, TOTAL
HPCDD-A    = HEPTACHLORODIBENZODIOXIN (1,2,3,4,6,7,8-HEPTACHLORODIB
HPCDD-AC13 = HEPTACHLORODIBENZODIOXIN, C13 (1,2,3,4,6,7,8-HEPTACHLO
HPCDD-T    = HEPTACHLORODIBENZODIOXINS, TOTAL
HPCDF-A    = HEPTACHLORODIBENZOFURAN (1,2,3,4,6,7,8-HEPTACHLORODIBE
HPCDF-B    = HEPTACHLORODIBENZOFURAN (1,2,3,4,7,8,9-HEPTACHLORODIBE
HPCDF-AC13 = HEPTACHLORODIBENZOFURAN, C13 (1,2,3,4,6,7,8-HEPTACHLOR
HPCDF-BC13 = HEPTACHLORODIBENZOFURAN, C13 (1,2,3,4,7,8,9-HEPTACHLOR
HPCDF-T    = HEPTACHLORODIBENZOFURANS, TOTAL
CORONENE   = HEXABENZOBENZENE (= CORONENE)
6BUTAD     = HEXABUTADIENE
HXCDF-BC13 = HEXACHLORDIBENZOFURAN, C13 (1,2,3,6,7,8-HEXACHLORODIBE
6CLBNZ     = HEXACHLOROBENZENE
6CLBPHNL-T = HEXACHLOROBIPHENYL, TOTAL
6CLBUTAD   = HEXACHLOROBUTADIENE
BHC-LNDANE = HEXACHLOROCYCLOHEXANE (All isomers except gamma (Linda
6CL-CHX    = HEXACHLOROCYCLOHEXANE (FORMERLY BHC)
6CL-CHX-A  = HEXACHLOROCYCLOHEXANE-ALPHA (trans BHC)
6CL-CHX-B  = HEXACHLOROCYCLOHEXANE-BETA (cis BHC)
6CL-CHX-D  = HEXACHLOROCYCLOHEXANE-DELTA (DELTA BHC)
6CL-CHX-G  = HEXACHLOROCYCLOHEXANE-GAMMA (= LINDANE)
6CL-CHX-T  = HEXACHLOROCYCLOHEXANE-TECH GRADE
6CL-CHX-T  = HEXACHLOROCYCLOHEXANES, TOTAL (TOTAL BHCs)
6CLCYPEN   = HEXACHLOROCYCLOPENTADIENE (= PERCHLOROCYCLOPENTADIENE)
HXCDD-A    = HEXACHLORODIBENZODIOXIN (1,2,3,4,7,8-HEXACHLORODIBENZO
HXCDD-B    = HEXACHLORODIBENZODIOXIN (1,2,3,6,7,8-HEXACHLORODIBENZO
HXCDD-C    = HEXACHLORODIBENZODIOXIN (1,2,3,7,8,9-HEXACHLORODIBENZO
HXCDD-AC13 = HEXACHLORODIBENZODIOXIN, C13 (1,2,3,4,7,8-HEXACHLORODI
HXCDD-BC13 = HEXACHLORODIBENZODIOXIN, C13 (1,2,3,6,7,8-HEXACHLORDIB
HXCDD-CC13 = HEXACHLORODIBENZODIOXIN, C13 (1,2,3,7,8,9-HEXACHLORODI
HXCDD-T    = HEXACHLORODIBENZODIOXINS, TOTAL
HXCDF-E    = HEXACHLORODIBENZOFURAN (1,2,3,4,6,7-HEXACHLORODIBENZOF
HXCDF-A    = HEXACHLORODIBENZOFURAN (1,2,3,4,7,8-HEXACHLORODIBENZOF
HXCDF-B    = HEXACHLORODIBENZOFURAN (1,2,3,6,7,8-HEXACHLORODIBENZOF
HXCDF-C    = HEXACHLORODIBENZOFURAN (1,2,3,7,8,9-HEXACHLORODIBENZOF
HXCDF-D    = HEXACHLORODIBENZOFURAN (2,3,4,6,7,8-HEXACHLORODIBENZOF
HXCDF-AC13 = HEXACHLORODIBENZOFURAN, C13 (1,2,3,4,7,8-HEXACHLORODIB
HXCDF-CC13 = HEXACHLORODIBENZOFURAN, C13 (1,2,3,7,8,9-HEXACHLORODIB
HXCDF-DC13 = HEXACHLORODIBENZOFURAN, C13 (2,3,4,6,7,8-HEXACHLORODIB
HXCDF-T    = HEXACHLORODIBENZOFURANS, TOTAL
6CLETH     = HEXACHLOROETHANE (= PERCHLOROETHANE)
```

```
6CLPHENE   = HEXACHLOROPHENE (= bis(2-HYDROXY-3,5,6-TRICHLOROPHENYL
6CLPROPENE = HEXACHLOROPROPENE
CYCHEXANE  = HEXAHYDROBENZENE (= CYCLOHEXANE = HEXAMETHYLENE)
METCYCHHEX = HEXAHYDROTOLUENE (= METHYL CYCLOHEXENE)
CYCHEXANE  = HEXAMETHYLENE (= CYCLOHEXANE = HEXAHYDROBENZENE)
HEMPA      = HEXAMETHYLPHOSPHORAMIDE (= HEMPA)
6MET4COHEX = HEXAMETHYLTETRACOSAHEXANE (= SQUALENE)
N-HEXANE   = HEXANE (N-Hexane)
HEX-METHES = HEXANOIC ACID, METHYL ESTER (= METHYL CAPROATE OR n-CA
2-HEXANONE = HEXANONE (2-Hexanone = METHYL BUTYL KETONE)
HEXDECANE  = HEXDECANE (C16)
HEXEICOSAN = HEXEICOSAN (C26)
METHAPYRIL = HISTADYL BASE (= METHAPYRILINE = TENALIN BASE = THENYL
HYZ        = HYDRAZINE
12-2PHHYZ  = HYDRAZOBENZENE (= 1,2-DIPHENYLHYDRAZINE)
ALIPH HCBN = HYDROCARBONS, ALIPHATIC
AROM HCBN  = HYDROCARBONS, AROMATIC
HC NEC     = HYDROCARBONS, NEC
OZONE      = HYDROCARBONS, OZONE
PET HC     = HYDROCARBONS, PETROLEUM
PAH        = HYDROCARBONS, POLYNUCLEAR AROMATIC
TOT HC     = HYDROCARBONS, TOTAL
TOT AH     = HYDROCARBONS, TOTAL AROMATIC
TOTAL PAH  = HYDROCARBONS, TOTAL POLYAROMATIC
HCL        = HYDROCHLORIC ACID
H2S        = HYDROGEN SULFIDE
HYDROQUIN  = HYDROQUINONE (= 1,4-DIHYDROXYBENZENE)
6CLPHENE   = HYDROXY-3,5,6-TRICHLOROPHENYLMETHANE (bis(2-Hydroxy...
PHENOL     = HYDROXYBENZENE (= PHENOL = CARBOLIC ACID = BENZENOL)
BENZYL-OH  = HYDROXYTOLUENE (alpha-Hydroxytoluene = BENZYL ALCOHOL)
2-METHPHN  = HYDROXYTOLUENE (2-Hydroxytoluene = 2-METHYLPHENOL = o-
4-METHPHN  = HYDROXYTOLUENE (4-Hydroxytoluene = 4-METHYLPHENOL = p-
ETHETHIO U = IMIDAZOLIDINETHION (2-Imidazolidinethion = ETHYLENE TH
ICDP       = INDENO(1,2,3-CD)PYRENE
DIRON      = IRON, DISSOLVED
PIRON      = IRON, PARTICULATE
IRON       = IRON, TOTAL
4-M2-PNTNO = ISOBUTYL METHYL KETONE (= 4-METHYL-2-PENTANONE = ISOPR
ISOPHORONE = ISOPHORONE (=ISOACETOPHORONE=3,5,3-TRIMETHYL-2-CYCLOHE
ISO1380    = ISOPRENOIDS, 1380
ISO1470    = ISOPRENOIDS, 1470
ISO1650    = ISOPRENOIDS, 1650
PRISTANE   = ISOPRENOIDS, 1708 (= PRISTANE)
PHYTANE    = ISOPRENOIDS, 1810 (= PHYTANE)
ISOPROPALN = ISOPROPALIN
ISOPROPANL = ISOPROPANOL (= ISOPROPYL ALCOHOL = 2-PROPANOL)
4-M2-PNTNO = ISOPROPYL ACETONE (= 4-METHYL-2-PENTANONE = ISOBUTYL M
ISOPROPANL = ISOPROPYL ALCOHOL (= ISOPROPANOL = 2-PROPANOL)
CUMENE     = ISOPROPYL BENZENE (= CUMENE)
CYMENE     = ISOPROPYL-(METHYL)-BENZENE (= CYMENE = ISOPROPYLTOLUEN
RETENE     = ISOPROPYL-1-METHYL-PHENANTHRENE (7-Isoprop-1-Met-Phena
CYMENE     = ISOPROPYLTOLUENE (= CYMENE = ISOPROPYL-(METHYL)-BENZEN
ISOSAFROLE = ISOSAFROLE
PIP SULFOX = ISOSAFROLE-N-OCTYLSULFOXIDE (= PIPERONYL SULFOXIDE)
KELTHANE   = KELTHANE (= DICOFOL) (PESTICIDE)
KEPONE     = KEPONE (= CHLORDECONE) (PESTICIDE)
CYCHEXANON = KETOHEXAMETHYLENE (= CYCLOHEXANONE = PIMELIC KETONE)
DKN        = KJELDAHL NITROGEN, DISSOLVED
SKN        = KJELDAHL NITROGEN, SUSPENDED
TKN        = KJELDAHL NITROGEN, TOTAL
LANTHNIDES = LANTHANIDES
```

```
LEAD CHROM = LEAD CHROMATE
LEAD OXIDE = LEAD OXIDE
LEADTALL   = LEAD TALLATE
DLEAD      = LEAD, DISSOLVED
PLEAD      = LEAD, PARTICULATE
LEAD       = LEAD, TOTAL
6CL-CHX-G  = LINDANE (= HEXACHLOROCYCLOHEXANE-GAMMA = 1,2,3,4,5,6-H
LITHIUM    = LITHIUM, TOTAL
MAGNESIUM  = MAGNESIUM, TOTAL
MALATHION  = MALATHION (= S(1,2-DICARBOXYETHYL)-O,O-DIMETHYLDITHIOP
MALEIC A   = MALEIC ANHYDRIDE
MANGANESE  = MANGANESE
THIOPHENOL = MERCAPTOBENZENE (= THIOPHENOL = BENZENETHIOL)
DMERCURY   S MERCURY, DISSOLVED
MERCURY    = MERCURY, TOTAL
MESTRANOL  = MESTRANOL
METALDEHYD = METALDEHYDE (= METACETALDEHYDE)
METHADATH  = METHADATHION
FORMALDEHY = METHANAL (= FORMALDEHYDE)
METH THIO  = METHANETHIOL (= METHYLMERCAPTAN)
METHANOL   = METHANOL (= CARBINOL = METHYL ALCOHOL)
METHAPYRIL = METHAPYRILINE (= HISTADYL BASE = TENALIN BASE = THENYL
METHOMYL   = METHOMYL (PESTICIDE)
O-ANISIDIN = METHOXYANILINE (2-Methoxyaniline = o-ANISIDINE)
METHOXYCL  = METHOXYCHLOR (2,2-bis(4-METHOXYPHENYL)-1,1,1-TRICHLORO
ME-CELOSOL = METHOXYETHANOL (2-Methoxyethanol = METHYL CELLOSOLVE)
MTXYMETHPR = METHOXYMETHYLPROPANOL
GUAIACOL   = METHOXYPHENOL (2-Methoxyphenol = GUAIACOL)
GUAIATET   = METHOXYTETRACHLOROPHENOL (2-Methoxytetrachlorophn=TETR
METHANOL   = METHYL ALCOHOL (= METHANOL = CARBINOL)
METHYL BR  = METHYL BROMIDE (= BROMOMETHANE)
METHYL CL  = METHYL CHLORIDE (= CHLOROMETHANE)
NEOABIETIC = METHYL NEOABIETATE (= NEOABIETIC ACID)
ME-CELOSOL = METHYL-CELLOSOLVE (= 2-METHOXYETHANOL)
METH PARA  = METHYL-PARATHION
C6H12O     = METHYL-1-BUTANOL (2-Methyl-1-Butanol)
2-M1-PENTE = METHYL-1-PENTENE (2-Methyl-1-Pentene)
4-M2-PNTNO = METHYL-2-PENTANONE (= ISOPROPYL ACETONE = ISOBUTYL MET
3-M2-PNTNO = METHYL-2-PENTANONE (3-Methyl-2-Pentanone = BUTYL METHY
MIBK       = METHYL-2-PENTANONE(4-Met-2-Pent=METHYL ISOBUTYL KETONE
MTHYLAMINE = METHYLAMINE (= AMINOMETHANE)
O-TOLUIDIN = METHYLANILINE (2-Methylaniline = o-TOLUIDINE = 2-AMINO
METH-AS    = METHYLARSENATE
TOLUENE    = METHYLBENZENE (='TOLUENE = PHENYLMETHANE)
2-HEXANONE = METHYLBUTYL KETONE (= 2-HEXANONE)
HEX-METHES = METHYLCAPROATE (= HEXANOIC ACID, METHYL ESTER = n-CAPR
ETHANOL    = METHYLCARBINOL (= ETHANOL = ALCOHOL, ANHYDROUS = ETHYL
111-3CLETH = METHYLCHLOROFORM (= 1,1,1-TRICHLOROETHANE)
3MCHOLANTH = METHYLCHOLANTHRENE (3-Methylcholoanthrene)
MCYCHEXANM = METHYLCYCLOHEXANE METHANOL
METCYCHHEX = METHYLCYCLOHEXENE (= HEXAHYDROTOLUENE)
MCYCPENT   = METHYLCYCLOPENTANE
METHYLE BR = METHYLENE BROMIDE (= DIBROMOMETHANE)
2CLMETHA   = METHYLENE CHLORIDE (= DICHLOROMETHANE)
2CLANILINE = METHYLENEBIS (4,4'-Methylenebis = 2-CHLOROANILINE)
2-BUTANONE = METHYLETHYL KETONE (= 2-BUTANONE)
METH HYZ   = METHYLHYDRAZINE
METHYL I   = METHYLIODIDE
MIBK       = METHYLISOBUTYL KETONE (= ISOPROPYLACETONE = 4-METHYL-2
METH THIO  = METHYLMERCAPTAN (= METHANETHIOL)
METHYL-HG  = METHYLMERCURY (= DIMETHYLMERCURY)
```

```
MET MESULF = METHYLMETHANESULFONATE
1-METHNAP  = METHYLNAPHTHALENE (1-Methylnaphthalene)
2-METHNAP  = METHYLNAPHTHALENE (2-Methylnaphthalene)
1-MPENT    = METHYLPENTANE (1-Methylpentane)
2-MPENT    = METHYLPENTANE (2-Methylpentane)
3-MPENT    = METHYLPENTANE (3-Methylpentane)
1-MPHENAH  = METHYLPHENANTHRENE (1-Methylphenanthrene)
2-METHPHN  = METHYLPHENOL (2-Methylphenol = o-CRESOL = 2-HYDROXYTOL
3-METHPHN  = METHYLPHENOL (3-Methylphenol = m-CRESOL)
4-METHPHN  = METHYLPHENOL (4-Methylphenol = p-CRESOL = 4-HYDROXYTOL
2-PICOLINE = METHYLPYRIDINE (= 2-PICOLINE)
THIOBMETHA = METHYLSULFIDE (= THIOBISMETHANE)
MIREX      = MIREX (= DECHLORANE) (PESTICIDE)
MOLYBDENUM = MOLYBDENUM, TOTAL
MBT        = MONOBUTYLTIN
4DECANOIC  = MYRISTIC ACID (= TETRADECANOIC ACID)
N-ALKANES  = N-ALKANES, CPI (Carbon Preference Index)
NNPPD      = N-NITROSO-HEXAHYDROPYRIDINE (= N-NITROSOPIPERIDINE)
NNPYRD     = N-NITROSO-1-AZACYCLOPENTANE (= N-NITROSOPYRROLIDINE)
NAPTHA     = NAPHTHA + SP NAPHTHAS
NAPTHALENE = NAPHTHALENE
C1NAPTHALN = NAPHTHALENE (C1 homologs)
C2NAPTHALN = NAPHTHALENE (C2 homologs)
C3NAPTHALN = NAPHTHALENE (C3 homologs)
C4NAPTHALN = NAPHTHALENE (C4 homologs)
14-NAPQUIN = NAPHTHOQUINONE (1,4-Naphthoquinone = 1,4-DIHYDRO-1,4-D
1-NAPAMINE = NAPHTHYLAMINE (a-Naphthylamine or 1-Naphthylamine = 1-
2-NAPAMINE = NAPHTHYLAMINE (b-Naphthylamine or 2-Naphthylamine = 2-
12-2BR3CLP = NEMAGON (= 1,2-DIBROMO-3-CHLOROPROPANE)
NEOABIETIC = NEOABIETIC ACID (= METHYL NEOABIETATE)
DNICKEL    S NICKEL, DISSOLVED
NICKEL     = NICKEL, TOTAL
NICOTINE   = NICOTINE
NITRATE    = NITRATE NITROGEN, TOTAL (NO3-N)
NITRATE-D  = NITRATE, DISSOLVED
NO2NO3-N   = NITRITE AND NITRATE, COMBINED
NITRITE    = NITRITE NITROGEN, TOTAL (NO2-N)
5N-O-ANIS  = NITRO-O-ANISIDINE (5-Nitro-o-anisidine)
5N-O-TOL   = NITRO-O-TOLUIDINE (5-Nitro-o-toluidine)
5NACENAP   = NITROACENAPHTHENE (5-Nitroacenaphthene = 5-NITRONAPTHY
2-NANILINE = NITROANILINE (2-Nitroaniline)
3-NANILINE = NITROANILINE (3-Nitroaniline = 3-NITROBENZENAMINE)
4-NANILINE = NITROANILINE (4-Nitroaniline)
NBNZ       = NITROBENZENE
NBNZ-D5    = NITROBENZENE-D5, DEUTERATED (SURRAGATE)
3-NANILINE = NITROBENZENEAMINE (3-Nitrobenzeneamine = 3-NITROANILIN
P-NBIP     = NITROBIPHENYL (4-Nitrobiphenyl or p-Nitrobiphenyl)
NITROFEN   = NITROFEN, TOTAL
NOX        = NITROGEN OXIDES
NO2NO3-N   = NITROGEN, COMBINED NITRATE AND NITRITE (NO3 + NO2)
NITROGEN-D = NITROGEN, DISSOLVED (NO2 +NO3)
NITROGN-DO = NITROGEN, DISSOLVED ORGANIC
NITROGEN   = NITROGEN, TOTAL
NITROGEN-O = NITROGEN, TOTAL ORGANIC
4-NPHN     = NITROPHENOL (p-Nitrophenol or 4-Nitrophenol)
2-NPHN     = NITROPHENOL (2-Nitrophenol or o-Nitrophenol)
N-PHENOLS  = NITROPHENOLS, TOTAL
P-NQU-1OX  = NITROQUINOLINE-1-OXIDE (4-Nitroquinoline-1-oxide)
NITROSAMIN = NITROSAMINE
NNDNPRA    = NITROSO DI-N-PROPYLAMINE (N-Nitroso Di-N-Propylamine)
NNDBA      = NITROSO DIBUTYLAMINE (N-Nitroso Dibutylamine)
```

```
NNDEA      = NITROSO DIETHYLAMINE (N-Nitroso Diethylamine)
NNDMA      = NITROSO DIMETHYLAMINE (N-Nitroso Dimethylamine = NITRO
NNP        = NITROSO DIPHENYLAMINE (N-Nitroso Diphenylamine = NITRO
NEU        = NITROSO-N-ETHYLUREA (N-Nitroso-N-Ethylurea)
NMU        = NITROSO-N-METHYLUREA (N-Nitroso-N-Methylurea)
NNMEA      = NITROSOMETHYLETHYLAMINE (N-Nitrosomethylethylamine)
NNPPD      = NITROSOPIPERIDINE (N-Nitrosopiperidine = N-NITROSO-1-H
NNPYRD     = NITROSOPYRROLIDINE (N-Nitrosopyrrolidine = N-NITROSO-1
T-NONACHLR = NONACHLOR (trans-Nonachlor)
C-NONACHLR = NONACHLOR (CIS-NONACHLOR)
9CLBPHNL-T = NONACHLOROBIPHENYL, TOTAL
NONDECANE  = NONDECANE (C19)
NONEICOSAN = NONEICOSAN (C29)
8CLBPHNL-T = OCTACHLOROBIPHENYL, TOTAL
OCDD-T     = OCTACHLORODIBENZODIOXINS, TOTAL
OCDD-C13   = OCTACHLORODIBENZODIOXINS, TOTAL C13
OCDF-T     = OCTACHLORODIBENZOFURANS, TOTAL
8DECANOIC  = OCTADECANOIC ACID, OCTADECYL ESTER (= OCTADECYL STEARA
OLEIC      = OCTADECENOIC ACID (9-Octadecenoic acid, cis = OLEIC AC
8MPPHAMIDE = OCTAMETHYL PYROPHOSPHORAMIDE (= SCHRADAN)
OCTDECANE  = OCTDECANE (C18)
OCTEICOSAN = OCTEICOSAN (C28)
8CLSTYRENE = OCTOCHLOROSTYRENE
OCTYPHN    = OCTYLPHENOL
OIL/GREASE = OIL AND GREASE
OLEIC      = OLEIC ACID (= 9-OCTACECENOIC ACID, cis)
ORGLIQ NEC = ORGANIC LIQUIDS, NEC
ORTHO PHOS = ORTHOPHOSPHATE
REDOX      = OXIDATION REDUCTION POTENTIAL
OXYCHLORDN = OXYCHLORDANE
OP-OXY2ANI = OXYDIANILINE (4,4-Oxydianiline)
DISULFOTON = OXYDISULFOTON (= DISULFOTON = DI=SYSTON)
OXYFLRFEN  = OXYFLOURFEN
UOD        = OXYGEN DEMAND, ULTIMATE
OZONE      = OZONE (HYDROCARBONS)
TOTAL PAH  = PAH (Sum of all PAH)
PAH276     = PAH276 (Sum of molecular weight 276 PAHs)
PAH278     = PAH278 (Sum of molecular weight 278 PAHs)
PAH302     = PAH302 (Sum of molecular weight 302 PAHs)
PALUSTRIC  = PALUSTRIC ACID
PARATHION  = PARATHION (= DIETHYL p-NITROPHEMYL MONOTHIOPHOSPHATE)
PCB-16+42  = PCB ARACLORS 1016 AND 1242
PCB100     = PCB 100
PCB129     = PCB 129
PCB136     = PCB 136
PCB137     = PCB 137
PCB141     = PCB 141
PCB146     = PCB 146
PCB149     = PCB 149
PCB15      = PCB 15
PCB158     = PCB 158
PCB16/32   = PCB 16 AND 32 (COELUTION)
PCB167     = PCB 167
PCB172     = PCB 172
PCB174     = PCB 174
PCB177     = PCB 177
PCB178     = PCB 178
PCB183     = PCB 183
PCB185     = PCB 185
PCB188     = PCB 188
PCB189     = PCB 189
```

```
PCB191      = PCB 191
PCB196      = PCB 196
PCB200      = PCB 200 .
PCB201      = PCB 201
PCB205      = PCB 205
PCB22       = PCB 22
PCB24       = PCB 24
PCB25       = PCB 25
PCB26       = PCB 26
PCB29       = PCB 29
PCB33       = PCB 33
PCB37/42    = PCB 37 AND 42 (COELUTION)
PCB40       = PCB 40
PCB41/64    = PCB 41 AND 64 (COELUTION)
PCB45       = PCB 45
PCB46       = PCB 46
PCB47/48    = PCB 47 AND 48 (COELUTION)
PCB49       = PCB 49
PCB50       = PCB 50
PCB60/56    = PCB 60 AND 56 (COELUTION)
PCB7        = PCB 7
PCB70       = PCB 70
PCB74       = PCB 74
PCB82       = PCB 82
PCB83       = PCB 83
PCB84       = PCB 84
PCB85       = PCB 85
PCB88       = PCB 88
PCB92       = PCB 92
PCB97       = PCB 97
PCB 1016    = PCB-1016 (Aroclor)
PCB 1221    = PCB-1221 (Aroclor)
PCB 1232    = PCB-1232 (Aroclor)
PCB 1242    = PCB-1242 (Aroclor)
PCB 1248    = PCB-1248 (Aroclor)
PCB 1254    = PCB-1254 (Aroclor)
PCB 1260    = PCB-1260 (Aroclor)
PCB 1262    = PCB-1262 (PCB Aroclor 1262)
PCBS        = PCB, TOTAL
PCBTRI2     = PCBS 107/108/144 (COELUTION)
PCBTRI3     = PCBS 118/108/149 (COELUTION)
PCBTRI      = PCBS 153, 132, AND 105 (COELUTION)
PCBTRI4     = PCBS 156/171/202 (COELUTION)
PCB163/138  = PCBS 163 AND 138 (COELUTION)
PCBTRI5     = PCBS 187/182/159 (COELUTION)
PCB31/28    = PCBS 31 AND 28(COELUTION)
PCB92/84    = PCBS 92 AND 84 (COELUTION)
PCB047      = PCB047 (2,2',4,4'-Tetrachlorobiphenyl)
PCB052      = PCB052 (2,2',5,5'-Tetrachlorobiphenyl)
PCB101      = PCB101 (2,2',4,5,5'-Pentachlorobiphenyl)
PCB105      = PCB105
PCB110/77   = PCB110/77 (COELUTION)
PCB118      = PCB118
PCB118      = PCB118 (2,2',4,4',5-Pentachlorobiphenyl)
PCB126      = PCB126
PCB128      = PCB128
PCB128      = PCB128 (2,2',3,3',4,4'-Hexachlorobiphenyl)
PCB138      = PCB138 (2,2',3,4,4',5'-Hexachlorobiphenyl)
PCB151      = PCB151 (2,2',3,5,5',6-Hexachlorobiphenyl)
PCB153      = PCB153 (2,2',4,4',5,5'-Hexachlorobiphenyl)
PCB170      = PCB170
```

```
PCB18       = PCB18
PCB180      = PCB180 (2,2',3,4,4',5,5'-Heptachlorobiphenyl)
PCB187      = PCB187
PCB194      = PCB194 (2,2',3,3',4,4',5,5'-Octachlorobiphenyl)
PCB195      = PCB195
PCB206      = PCB206 (2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl)
PCB209      = PCB209 (2,2',3,3',4,4',5,5',6,6'-Decachlorobiphenyl)
PCB28       = PCB28
PCB44       = PCB44
PCB66       = PCB66
PCB8        = PCB8
PCB87       = PCB87 (2,2',3,4,5'-Pentachlorobiphenyl)
PCB99       = PCB99 (2,2',4,4',5-Pentachlorobiphenyl)
PENDECANE   = PENDECANE (C15)
PENEICOSAN  = PENEICOSAN (C25)
CLANISOLE   = PENTACHLORANISOLE
5CLANISOLE  = PENTACHLORANISOLE
PECDF-BC13  = PENTACHLORDIBENZOFURAN, C13 (2,3,4,7,8-PENTACHLORODIBE
5CLBNZ      = PENTACHLOROBENZENE
5CLBPHNL-T  = PENTACHLOROBIPHENYL, TOTAL
PENCBD      = PENTACHLOROBUTADIENE
I PENCBD    = PENTACHLOROBUTADIENE ISOMERS
PECDD-A     = PENTACHLORODIBENZODIOXIN (1,2,3,7,8-PENTACHLORODIBENZO
PECDD-AC13  = PENTACHLORODIBENZODIOXIN, C13 (1,2,3,7,8-PENTACHLORODI
PECDD-T     = PENTACHLORODIBENZODIOXINS, TOTAL
PECDF-A     = PENTACHLORODIBENZOFURAN (1,2,3,7,8-PENTACHLORODIBENZOF
PECDF-C     = PENTACHLORODIBENZOFURAN (2,3,4,6,7-PENTACHLORODIBENZOF
PECDF-B     = PENTACHLORODIBENZOFURAN (2,3,4,7,8-PENTACHLORODIBENZOF
PECDF-AC13  = PENTACHLORODIBENZOFURAN, C13 (1,2,3,7,8-PENTACHLORODIB
PECDF-T     = PENTACHLORODIBENZOFURANS, TOTAL
5CLETHAN    = PENTACHLOROETHANE (= PENTALIN)
5CLNBNZ     = PENTACHLORONITROBENZENE (= QUINTOZENE = BRASSICOL = TR
5CLPHN      = PENTACHLOROPHENOL
5CLETHAN    = PENTALIN (= PENTACHLOROETHANE)
6CLCYPEN    = PERCHLOROCYCLOPENTADIENE (= HEXACHLOROCYCLOPENTADIENE)
6CLETH      = PERCHLOROETHANE (= HEXACHLOROETHANE)
4CLETHE     S PERCHLOROETHYLENE (= TETRACHLOROETHYLENE = TETRACHLOR
PERTHANE    = PERTHANE
PERYLENE    = PERYLENE (= peri-DINAPTHALENE)
PET HC      = PETROLEUM HYDROCARBONS
PET NAPTHA  = PETROLEUM NAPTHA
PHENACETIN  = PHENACETIN (N(4-ETHOXYPHENYL)-ACETIC ACID, AMIDE)
PHENANTHRN  = PHENANTHRENE
C1YPHPA     = PHENANTHRENE/ANTHRACENE (Sum of the C1 homologs)
C2YPHPA     = PHENANTHRENE/ANTHRACENE (Sum of the C2 homologs)
C3YPHPA     = PHENANTHRENE/ANTHRACENE (Sum of the C3 homologs)
C4YPHPA     = PHENANTHRENE/ANTHRACENE (Sum of the C4 homologs)
PHENOBARB   = PHENOBARBITAL (= 5-ETHYL-5-PHENYL BARBITURIC ACID)
PHENOL      = PHENOL (= CARBOLIC ACID = BENZENOL = HYDROXYBENZENE)
PHENOL-D5   = PHENOL-D5, DEUTERATED (SURROGATE)
PHENOLICS   = PHENOLICS
PHENOLS     = PHENOLS, TOTAL
PHENTERMIN  = PHENTERMINE (a,a-DIMETHYLPHENETHYLAMINE)
AAZOBENZ    = PHENYAZO ANILINE, p- (= AMINOAZOBENZENE)
CLBNZ       = PHENYL CHLORIDE (= CHLOROBENZENE)
2PHEN2PROP  = PHENYL-2-PROPANOL (2-Phenyl-2-Propanol = ETHYLBENZYL A
ANILINE     = PHENYLAMINE (= ANILINE = AMINOBENZENE)
BIPHENYL    = PHENYLBENZENE (= BIPHENYL)
14-PHE2AM   = PHENYLENEDIAMINE (1,4-Phenylenediamine = DIAMINOBENZEN
STYRENE     = PHENYLETHYLENE (= STYRENE = ETHENYLBENZENE = VINYLBENZ
TOLUENE     = PHENYLMETHANE (= TOLUENE = METHYLBENZENE)
```

```
PHENYTOIN  = PHENYTOIN SODIUM (= 5,5'-DIPHENYLHYDANTOIN = DILANTIN)
THIMET     = PHORATE (= THIMET)
PHOSALONE  = PHOSALONE (PESTICIDE)
PHOSPHTE-D = PHOSPHATE, DISSOLVED
O-PO4-D    = PHOSPHATE, DISSOLVED (Orthophosphate)
PHOSPHATE  = PHOSPHATE, TOTAL
OPHOSPHATE = PHOSPHATES, ORGANIC
PHOSPHORUS = PHOSPHORUS
PHTH-ESTRS = PHTHALATE ESTERS
PHTH ANHYD = PHTHALIC ACID, ANHYDRIDE
DEP        = PHTHALIC ACID, ETHYL ESTER (= DIETHYL PHTHALATE)
DIMP       = PHTHALIC ACID, METHYL ESTER (= DIMETHYL PHTHALATE)
PHYTANE    = PHYTANE (= ISOPRENOID 1810)
2-PICOLINE = PICOLINE (2-Picoline = METHYLPYRIDINE)
CYCHEXANON = PIMELIC KETONE (= CYCLOHEXANONE = KETOHEXAMETHYLENE)
PIP SULFOX = PIPERONYL SULFOXIDE (= ISOSAFROLE-N-OCTYLSULFOXIDE)
PCBS       = POLYCHLORINATED BIPHENYLS, TOTAL
PCNB       = POLYCHLORINATED NITROBENZENE
HPAH       = POLYCYCLIC AROMATIC HYDROCARBON-HEAVY
LPAH       = POLYCYCLIC AROMATIC HYDROCARBON-LIGHT
PAH        = POLYNUCLEAR AROMATIC HYDROCARBONS
POLYPROPYL = POLYPROPYLENE
POTASS-D   = POTASSIUM, DISSOLVED
POTASSIUM  = POTASSIUM, TOTAL
PRISTANE   = PRISTANE (= ISOPRENOID 1708)
PRIST/PHYT = PRISTANE/PHYTANE RATIO
PROMETON   = PROMETON
ISOPROPANL = PROPANOL (2-Propanol = ISOPROPANOL = ISOPROPYL ALCOHOL
PROPYLIMIN = PROPYLAMINE
12-2CLPRP  = PROPYLENE CHLORIDE (1,2-DICHLOROPROPANE)
PRPE O     = PROPYLENE OXIDE (= 1,2-EPOXYPROPANE)
2-PRPHEPTO = PROPYLHEPTANOL (2-Propylheptanol)
PRTHIOURAC = PROPYLTHIOURACIL (6-Propyl-2-thiouracil)
ALL PURGEA = PURGEABLE PRIORITY POLLUTANTS (ALL)
PYRENE     = PYRENE (= BENZO (D,E,F) PHENANTHRENE)
PYRENE-D10 = PYRENE, D-10 (SURROGATE)
PYRIDINE   = PYRIDINE (= AZINE)
3CLMPYRID  = PYRIDINE, 3-(CHLOROMETHYL)
QUINONE    = QUINONE (p-BENZOQUINONE)
5CLNBNZ    = QUINTOZENE (= PENTACHLORONITROBENZENE = BRASSICOL = TR
RADIOACTVS = RADIOACTIVITY
RADIOACTVA = RADIOACTIVITY (GROSS ALPHA)
RADIOACTVB = RADIOACTIVITY (GROSS BETA)
RESORCINOL = RESORCINOL (= 1,3-DIHYDROXYBENZENE)
RETENE     = RETENE (= 7-ISOPROPYL-1-METHYL-PHENANTHRENE)
SAFROLE    = SAFROLE (= 1-ALLYL-3,4-METHYLENEDIOXYBENZENE)
SPIMAR AC  = SANDACOMPIMARIC ACID
SELENATE   = SELENATE
SELENITE   = SELENITE (= CALCIUM SULFATE)
DSELENIUM  S SELENIUM, DISSOLVED
SELENIUM   = SELENIUM, TOTAL
SILICA-D   = SILICA, DISSOLVED (= SILICON DIOXIDE)
SILICATE   = SILICATE
SILICON    = SILICON
SILICA-D   = SILICON DIOXIDE (= SILICA), DISSOLVED
DSILVER    = SILVER, DISSOLVED
PSILVER    = SILVER, PARTICULATE
SILVER     = SILVER, TOTAL
SILVEX     = SILVEX (PESTICIDE)
SIMAZINE   = SIMAZINE (PESTICIDE)
SODIUM     = SODIUM
```

```
SODCRO      = SODIUM CHROMATE
TOT SOLIDS = SOLIDS, TOTAL
TVS         = SOLIDS, TOTAL VOLATILE
6MET4COHEX = SQUALENE (= HEXAMETHYL TETRACOSAHEXANE)
STRONTIUM   = STRONTIUM
STRYCHNINE = STRYCHNINE
STYRENE     = STYRENE (= ETHENYLBENZENE = PHENYLETHYLENE = VINYLBENZ
SO4-D       = SULFATE, DISSOLVED
SO4-P       = SULFATE, PARTICULATE
SULFATE     = SULFATE, TOTAL
SULFIDES    = SULFIDES
SULFUR      = SULFUR
SOX         = SULFUR OXIDES
SULFRYLFL   = SULFURYL FLUORIDE
ABIETIC AC = SYLVIC ACID (= ABIETIC ACID)
DEMETON     = SYSTOX (= DEMETON) (PESTICIDE)
2,4,5 T     = T (2,4,5-T or 2,4,5-Trichlorophenoxy Acetic Acid) (PES
TCDD        = TCDD (= 2,3,7,8-TETRACHLORODIBENZODIOXIN = DIOXIN)
TEBUTHIURN = TEBUTHIURON
METHAPYRIL = TENALIN BASE (= METHAPYRILINE = HISTADYL BASE = THENYL
TERBUFOS    = TERBUFOS
M-3PHEN     = TERPHENYL (m-Terphenyl = 1,3-DIPHENYLBENZENE)
O-3PHEN     = TERPHENYL (o-Terphenyl = 1,2-DIPHENYLBENZENE)
P-3PHEN     = TERPHENYL (p-Terphenyl = 1,4-DIPHENYLBENZENE)
4TERP-D14   = TERPHENYL-D14, DEUTERATED (SURROGATE)
TERPINEOL   = TERPINEOL
TETDECANE   = TETDECANE (C14)
TETEICOSAN = TETEICOSAN (C24)
TTBT        = TETRABUTYLTIN
4CLMXYL     = TETRACHLORO-M-XYLENE (SURROGATE)
1234-4CLBZ = TETRACHLOROBENZENE (1,2,3,4-Tetrachlorobenzene)
1235-4CLBZ = TETRACHLOROBENZENE (1,2,3,5-Tetrachlorobenzene)
1245-4CLBZ = TETRACHLOROBENZENE (1,2,4,5-Tetrachlorobenzene)
4CLBPHNL-T = TETRACHLOROBIPHENYL, TOTAL
TETCBD      = TETRACHLOROBUTADIENE
I TETCBD    = TETRACHLOROBUTADIENE ISOMERS
TCDD        = TETRACHLORODIBENZODIOXIN (2,3,7,8-Tetrachlorodibenzodi
TCDD-CL37   = TETRACHLORODIBENZODIOXIN, CL37 (2,3,7,8-TETRACHLORODIB
TCDD-AC13   = TETRACHLORODIBENZODIOXIN, C13 (1,2,3,4-TETRACHLORODIBE
TCDD-C13    = TETRACHLORODIBENZODIOXIN, C13 (2,3,7,8-TETRACHLORODIBE
TCDD-T      = TETRACHLORODIBENZODIOXINS, TOTAL
2367TCDF    = TETRACHLORODIBENZOFURAN (2,3,6,7-Tetrachlorodibenzofur
TCDF        = TETRACHLORODIBENZOFURAN (2,3,7,8-Tetrachlorodibenzofur
3467TCDF    = TETRACHLORODIBENZOFURAN (3,4,6,7-Tetrachlorodibenzofur
TCDF-C13    = TETRACHLORODIBENZOFURAN, C13 (2,3,7,8-TETRACHLORODIBEN
TCDF-T      = TETRACHLORODIBENZOFURANS, TOTAL
4CLETHAN    = TETRACHLOROETHANE
1122-4CLET = TETRACHLOROETHANE (1,1,2,2-Tetrachloroethane = ACETYLE
4CLETHE     = TETRACHLOROETHENE (= PERCHLOROETHYLENE)
4CLSTYRENE = TETRACHLOROETHENYLBENZENE (=TETRACHLOROSTYRENE=TETRACH
4CLETHE     = TETRACHLOROETHYLENE (= TETRACHLOROETHENE = PERCHLOROET
GUAIATET    = TETRACHLOROGUAIACOL (= 2-METHOXY-TETRACHLOROPHENOL)
4CLMETHA    = TETRACHLOROMETHANE (= CARBON TETRACHLORIDE)
2346CLPHN   = TETRACHLOROPHENOL (2,3,4,6-Tetrachlorophenol)
2356CLPHN   = TETRACHLOROPHENOL (2,3,5,6-Tetrachlorophenol)
4CLSTYRENE = TETRACHLOROPHENYLETHYLENE (= TETRACHLOROSTYRENE)
4CLSTYRENE = TETRACHLOROSTYRENE (=TETRACHLOROETHENYLBENZENE=TETRACH
4CLSTYRENE = TETRACHLOROVINYLBENZENE (= TETRACHLOROSTYRENE)
4DECANOIC  S TETRADECANOIC ACID (= MYRISTIC ACID)
CYCHEXENE   = TETRAHYDROBENZENE (3,4,5,6-Tetrahydrobenzene = CYCLOHE
4HYDRFURAN = TETRAHYDROFURAN (= 1,4-EPOXYBUTANE = TETRAMETHYLENE OX
```

```
4HYDRFURAN = TETRAMETHYLENE OXIDE (= TETRAHYDROFURAN = 1,4-EPOXYBUT
TET3CONTAN = TETRATRIACONTANE (C34)
DTHALLIUM  = THALLIUM, DISSOLVED
THALLIUM   = THALLIUM, TOTAL
METHAPYRIL = THENYLENE BASE (= METHAPYRILINE = HISTADYL BASE = TENA
THIMET     = THIMET (= PHORATE)
THIOBMETHA = THIOBISMETHANE (= METHYL SULFIDE)
SCN        = THIOCYANATE
THIONAZIN  = THIONAZIN
THIOPHENOL = THIOPHENOL (= BENZENETHIOL = MERCAPTOBENZENE)
THIOUREA   = THIOUREA (2-Thio-urea)
TIN        = TIN (SN)
TITANIUM   = TITANIUM
O-TOLIDINE = TOLIDINE (o-Tolidine = 3,3'-DIMETHYLBENZIDINE)
TOLUENE    = TOLUENE (= METHYLBENZENE = PHENYLMETHANE
TDI        = TOLUENE DIISOCYANATE
TOLUENE D8 = TOLUENE-D8, DEUTERATED (SURROGATE)
24-2AMTOL  = TOLUENE-2,4-DIAMINE (= 2,4-DIAMINOTOLUENE)
O-TOLUIDIN = TOLUIDINE (o-Toluidine = 2-AMINOTOLUENE = 2-METHYLANIL
O-TOLI-HCL = TOLUIDINE HYDROCHLORIDE (o-Toluidine Hydrochloride=2-A
M-CLTOLUEN = TOLYL CHLORIDE (m-Tolyl Chloride = m-CHLOROTOLUENE)
O-CLTOLUEN = TOLYL CHLORIDE (o-Tolyl Chloride = o-CHLOROTOLUENE)
P-CLTOLUEN = TOLYL CHLORIDE (p-Tolyl Chloride = p-CHLOROTOLUENE)
TALK       = TOTAL ALKANES
PCB10CL    = TOTAL DECACHLOROBIPHENYLS
PCB2CL     = TOTAL DICHLOROBIPHENYLS
T-DIELD    = TOTAL DIELDRIN (PESTICIDE)
PCB7CL     = TOTAL HEPTACHLOROBIPHENYLS
PCB6CL     = TOTAL HEXACHLOROBIPHENYLS
PCB1CL     = TOTAL MONOCHLOROBIPHENYLS
PCB9CL     = TOTAL NONACHLOROBIPHENYLS
PCB8CL     = TOTAL OCTACHLOROBIPHENYLS
PCB5CL     = TOTAL PENTACHLOROBIPHENYLS
TOT RES VL = TOTAL RESIDUE - VOLATILE
TSS        = TOTAL SUSPENDED SOLIDS (CONCENTRATION)
PCB4CL     = TOTAL TETRACHLOROBIPHENYLS
PCB3CL     = TOTAL TRICHLOROBIPHENYLS
TOXAPHENE  = TOXAPHENE (PESTICIDE)
TEC        = TOXICITY EQUIVALENCE CONCENTRATION (BASED ON 2378 TCDD
T-CHLORDAN = TRANS CHLORDANE
3PT PHOS   = TRI-p-CRESYL PHOSPHATE (= TRI-4-TOLYL PHOSPHATE)
3PT PHOS   = TRI-p-TOLYL PHOSPHATE (= TRI-p-CRESYL PHOSPHATE)
TRICONTANE = TRIACONTANE (C30)
3-BRMETHA  = TRIBROMOMETHANE (= BROMOFORM)
246-3BRPHN = TRIBROMOPHENOL (2,4,6-Tribromophenol = BROMOL)
TBT        = TRIBUTYLTIN
TRICHLORFO = TRICHLORFON (PESTICIDE)
3CLBNZ     = TRICHLOROBENZENE
123-3CLBNZ = TRICHLOROBENZENE (1,2,3-Trichlorobenzene)
124-3CLBNZ = TRICHLOROBENZENE (1,2,4-Trichlorobenzene)
135-3CLBNZ = TRICHLOROBENZENE (1,3,5 Trichlorobenzene)
3CLBPHNL-T = TRICHLOROBIPHENYL, TOTAL
TRICBD     = TRICHLOROBUTADIENE
I TRICBD   = TRICHLOROBUTADIENE ISOMERS
111-3CLETH = TRICHLOROETHANE (1,1,1-Trichloroethane = METHYLCHLOROF
112-3CLETH = TRICHLOROETHANE (1,1,2-Trichloroethane)
3CLETHE    = TRICHLOROETHENE (= TRICHLOROETHYLENE)
3CLETHE    = TRICHLOROETHYLENE (= TRICHLOROETHENE)
3CLFLMETH  = TRICHLOROFLUOROMETHANE
3CLGUAIA   = TRICHLOROGUAIACOL
GUAIA345   = TRICHLOROGUAIACOL (3,4,5-Trichloroguaiacol)
```

GUAIA456 = TRICHLOROGUAIACOL (4,5,6-Trichloroguaiacol)
CHLOROFORM = TRICHLOROMETHANE (= CHLOROFORM)
236-3CLPHN = TRICHLOROPHENOL (2,3,6-Trichlorophenol)
245-3CLPHN = TRICHLOROPHENOL (2,4,5-Trichlorophenol)
246-3CLPHN = TRICHLOROPHENOL (2,4,6-Trichlorophenol)
2,4,5 T = TRICHLOROPHENOXY ACETIC ACID (2,4,5-Trichlorophenoxy A
FREON 113 = TRICHLOROTRIFLUOROETHANE (= FREON 113)
TRICLOPYR = TRICLOPYR
TRIDECANE = TRIDECANE (C13)
TRIEICOSAN = TRIEICOSAN (C23)
TRIFLUR = TRIFLURALIN
3MCYCHEXEM = TRIMETHYL CYCLOHEXENE-METHANOL
3MCYHEXE1M = TRIMETHYL CYCLOHEXENE-1-METHANOL
3MET PHOS = TRIMETHYL PHOSPHATE
3MET3NITRL = TRIMETHYL-TRIDECATRIENENITRILE
245-3METAN = TRIMETHYLANILINE (2,4,5-Trimethylaniline)
I TM BENZ = TRIMETHYLBENZENE ISOMERS
177-3M2CYC = TRIMETHYLBICYCLO[2.2.1]HEPTAN-2-ONE (= CAMPHOR)
13-2CLPRP = TRIMETHYLENE CHLORIDE (1,3-DICHLOROPROPANE)
TRIMEFLSI = TRIMETHYLFLUOROSILANE
235-3MNAP = TRIMETHYLNAPHTHALENE (2,3,5-Trimethylnaphthalene)
234-3MNAP = TRIMETHYLNAPTHALENE (2,3,4-TRIMETHYLNAPTHALENE)
135-3NBNZ = TRINITROBENZENE (1,3,5-Trinitrobenzene)
3PHEN PHOS = TRIPHENYL PHOSPHATE
T23-2BPPO4 = TRIS-(2,3-DIBROMOPROPYL)PHOSPHATE (= DIBROMOPROPYL PHO
TRITHION = TRITHION (= CARBOPHENOTHION)
5CLNBNZ = TRITISAN (= PENTACHLORONITROBENZENE = QUINTOZENE = BRA
TRI3CONTAN = TRITRIACONTANE (C33)
UNDECANE = UNDECANE (= HENDECANE)
UNEICOSANE = UNEICOSANE (C21)
UNKALKENE = UNKNOWN ALKENE
PCBCL6? = UNKNOWN HEXACHLOROBIPHENYL
UCM = UNRESOLVED COMPLEX MIXTURE
UN3CONTAN = UNTRIACONTANE (C31)
URETHAN = URETHANE (= ETHYL CARBAMATE = CARBAMIC ACID, ETHYL EST
VANADIUM = VANADIUM, TOTAL
VINYL ACET = VINYL ACETATE (= ACETIC ACID, ETHENYL ESTER)
VINYL CL = VINYL CHLORIDE (= CHLOROETHENE)
VCM = VINYL CHLORIDE MONOMERS
STYRENE = VINYLBENZENE (= STYRENE = ETHENYLBENZENE = PHENYLETHYL
11-2CLETHE = VINYLIDENE CHLORIDE (= 1,1-DICHLOROETHENE)
MP-XYLENE = XYLENE (m-XYLENE + p-XYLENE)
OM-XYLENE = XYLENE (o-Xylene + m-Xylene)
O-XYLENE = XYLENE (o-Xylene)
P-XYLENE = XYLENE (p-Xylene)
I XYLENE = XYLENE ISOMERS
XYLENE = XYLENE, TOTAL (= DIMETHYLBENZENE)
24-2MPHN = XYLENOL (as-m-Xylenol = 2,4-DIMETHYLPHENOL)
YTTRIUM = YTTRIUM
DZINC = ZINC, DISSOLVED
PZINC = ZINC, PARTICULATE
ZINC = ZINC, TOTAL
4-METHNAP = 4-METHYLNAPHTHALENE

APPENDIX D

Misc. ODES Dictionaries

Location

A = Stream
B = Estuary
C = Lake
D = Ocean
E = Well
F = Other

QA Sample Number Prefix

F = Field blank
L = Lab blank
T = Transport blank
S = Spiked matrix sample
U = Surrogated spiked sample
D = Lab blank duplicate
A = Lab blank split
C = Certified reference sample

C/S (Level of Information)

C = Composite
S = Specimen

Gear Code

01 = NET(PLANKTON,TRUMMEL,BONGO,ETC.)
02 = SEINE(BEACH,PURSE,ETC.)
03 = TRAWL(OTTER,BEAM,EASTERN,ETC.)
04 = HOOK AND LINE
05 = BOTTLE(NISKEN,ROSETTE,VAN DORN,ETC.)
06 = GRAB(VAN VEEN SMITH-MCINTYRE,ETC.)
07 = CORE (POSITION,GRAVITY,BOX,ETC.)
08 = DREDGE(CLAM,PIPE,ANCHOR,ETC.)
09 = PUMP(PLANKTON,MIDWATER,AIRLIFT,ETC.)
10 = AUTOMATIC COMPOSITE SAMPLER
11 = ELECTROSHOCKING
12 = POISONS
99 = MISCELLANEOUS(HAND-GATHERED,TRAPS,SHOVEL,ETC.)

Sex Code

0 = INDETERMINABLE
1 = MALE
2 = FEMALE
3 = HERMAPHRODITE
4 = TRANSITIONAL
5 = GROUPED, BOTH SEXES PRESENT
6 = HERMAPHRODITIC, FUNCTIONAL FEMALE
7 = HERMAPHRODITIC, FUNCTIONAL MALE

Life Stage

0 = INDETERMINABLE
1 = EGG
2 = NAUPLIUS
3 = ZOEA
4 = MEGALOPA
5 = VELIGER
6 = LARVA
7 = JUVENILE
8 = ADULT
9 = COMBINATION OF 6,7,AND 8
A = COMBINATION OF 7 AND 8
B = COMBINATION OF 6 AND 7
C = JUVENILE/ADULT-SEXUAL MATURITY UNKNOWN
D = POLYP
E = CYPRIS
F = COPEPODID
G = PUPA
H = NYMPH
I = POSTLARVA
J = PROTOZOEA
K = MEDUSA
L = EGG CARRYING FEMALE
M = EGG CASE
P = PARTS
Q = IMMATURE
R = SUBADULT
S = TROCHOPHORE LARVAE
T = SUBADULTS AND JUVENILES
U = MATING PAIRS
V = MYSIS
W = COLONY
X = CYPHONAUTES LARVE
Y = GLAUCOTHOE
Z = YOLK SAC LARVAE

Measurement Basis

W = Wet Weight
D = Dry Weight

Organ or Tissue Code

01	=	MUSCLE
02	=	LIVER
03	=	DIGESTIVE GLAND
04	=	GONAD
05	=	GILLS
06	=	KIDNEY
07	=	SPLEEN
08	=	HEART
09	=	BRAIN
10	=	BLOOD
11	=	STOMACH CONTENTS
12	=	TOP 1 1/2" OF SEDIMENT CORE
13	=	MIDDLE 1 1/2" OF SEDIMENT CORE
14	=	REMAINDER OF SEDIMENT CORE
15	=	WHOLE ORGANISM
16	=	WATER
17	=	PARTICULATE MATTER
18	=	INTERNAL ORGANS
19	=	SOFT PARTS
20	=	ARM
21	=	BODY
22	=	BODY WALL
23	=	EGGS
24	=	FOOT
25	=	BLADE
26	=	SPOROPHYLL
27	=	STALK MUSCLE
28	=	ABDOMEN
29	=	TAIL MUSCLE
30	=	WHOLE ORGANISM(LESS SHELL)
31	=	SURFICIAL SEDIMENT
32	=	UNDIFFERENTIATED SEDIMENT
33	=	ZOOPLANKTON
34	=	UNDIFFERENTIATED PLANKTON
35	=	PHYTOPLANKTON
36	=	SEDIMENT EXTRACTS
37	=	ORCHARD LEAVES(N.B.S. STANDARD)
38	=	BOVINE LIVER(N.B.S. STANDARD)
40	=	SEDIMENT CORE
51	=	ALIPHATIC FRACTION (F1)
52	=	AROMATIC FRACTION (F2)
53	=	ASPHALTINE FRACTION (F3)
54	=	ALIPHATIC PLUS AROMATIC FRACTIONS (F1+F2)
55	=	ALIPHATIC PLUS ASPHALTINE FRACTIONS (F1+F3)
56	=	AROMATIC PLUS ASPHALTINE FRACTIONS (F2+F3)
57	=	ALIPHATIC PLUS AROMATIC PLUS ASPHALTINE FRACTIONS (F1+F2+F3)
58	=	HEPATOPANCREAS

Length Code

1 = TIP OF SNOUT TO FORK OF TAIL
2 = MIDEYE TO FORK OF TAIL
3 = TIP OF SNOUT TO HYPURAL PLATE
4 = MIDEYE TO HYPURAL PLATE
5 = TOTAL LENGTH (EXTREMITY TO EXTREMITY)
6 = SNOUT TO SECOND DORSAL (RATFISH...)
7 = ESTIMATED TOTAL LENGTH, PART OF CAUDAL MISSING
8 = APERTURE LENGTH
9 = RADIUS
A = REGULAR DIAMETER
B = LENGTH OF CARAPACE (BACK OF RIGHT EYE SOCKET TO TIP OF CARAPACE)
C = WIDTH OF CARAPACE (WIDEST POINT EXCLUDING SPINES)
D = METASOME LENGTH (BOARD STANDARD LENGTH)
E = WIDTH OF CARAPACE (WIDEST POINT INCLUDING SPINES)

Unit Code

A = Weight/Volume, ppm (e.g., ug/ml)
B = Weight/Weight, ppm (e.g., ug/g)
C = Volume/Weight, ppt (e.g., ul/g)
D = Volume/Volume, ppm (e.g., ul/l)
E = Activity/Volume (i.e., uCi/l)
F = Activity/Weight (i.e., uCi/g)
G = mg/sq. m
H = mV
I = Percent Dry Weight
J = Weight/Weight, ppb (e.g., ng/g)
K = Weight/Volume, ppb (e.g., ug/l)
N = Positive ratio or pure number
O = mEQ/100g
P = Standard pH units
Q = Length(e.g., millimeters)
R = Million fibers/gram(mfg)
S = Million fibers/liter(mfl)
T = Volume/Volume (e.g. milliliters/liter)
U = Weight/weight, pptr (e.g., picograms/gram)
V = Weight/weight, ppt, (e.g., milligrams/gram)
W = Deg. Celsius
X = Activity/volume (i.e., picocuries/liter)
Y = Micromoles

Qualifier Code

A = BACTERIAL COLONY COUNTS ABOVE THE ACCEPTABLE RANGE
B = CORRECTED FOR "BLANK" CONTRIBUTIONS DOWN TO DETECTION LIMIT
C = VALUE INCLUDED IN TOTAL FOR DEFINED COMB OF URESOLVED SUBS
D = VALUE REPORTED ATTRIBUTABLE TO LAB CONTAMINATION
E = ESTIMATED VALUE
G = ESTIMATED VALUE GREATER THAN MINIMUM SHOWN
I = INTERFERENCE OBSERVED IN GS/MS ANALYSIS
K = DETECTED NOT QUANTIFIED. VALUE IS DETECTION LIMIT.
L = VALUE IS LESS THAN THE MAXIMUM SHOWN
M = VALUE IS MEAN
N = REPORTED VALUE IS NOT CORRECTED FOR ANALYTICAL BLANK
P = DETECTED NOT QUANTIFIED
Q = QUESTIONABLE DATA
S = SPIKED COMPOUND
T = DETECTED AT LESS THAN QUANTIFICATION LIMIT. VALUE IS QUANT LIMIT
U = SUBSTANCE UNDETECTED AT METHOD DETECTION LIMIT SHOWN
V = BACTERIAL COLONY COUNTS BELOW THE ACCEPTABLE RANGE
W = BACTERIAL COLONY COUNTS WITHIN THE ACCEPTABLE RANGE
X = VALUE REPORTED IS MASS RECOVERED (WEIGHT)
Z = VALUE CORRECTED FOR "BLANK" CONTRIBUTIONS

Method/Clean-up/Instrument Codes

01 = ALPHA SPECTROMETRY
02 = POLAROGRAPHY
03 = CANDLE/GRAVIMETRY
04 = CANDLE/TITRATION
05 = ATOMIC ABSORPTION SPECTROMETRY
06 = TRASMISSION ELECTRON MICROSCOPY (TEM)
07 = AUTOANALYZER
08 = PLATE/GRAVIMETRY
09 = PLATE/REFLECTANCE
10 = GEL CHROMATOGRAPHY
11 = BIOASSAY
12 = DISTILLATION
13 = HEATED PURGE AND TRAP
14 = CHEMICAL OXIDATION
15 = CHEMILUMINESCENCE
16 = VISUAL
17 = COLUMN CHROMATOGRAPHY
18 = CALCULATED
19 = GAS CHROMATOGRAPHY
20 = ACID DIGESTION/DISTILLATION
21 = ACID DIGESTION/GRAVIMETRY
22 = LIQUID SCINTILLATION CHROMATOGRAPHY
23 = THIN LAYER CHROMATOGRAPHY
24 = CRYSTAL SCINTILLATION COUNTER
25 = COLORIMETRY
26 = CONDUCTIVITY
27 = COULOMETRY
28 = GLASS CAPILLARY/GAS CHROMATOGRAPHY
29 = DRY COMBUSTION/GAS DISPLACEMENT
30 = DRY COMBUSTION/GRAVIMETRY
31 = DRY COMBUSTION/INFRARED SPECTROMETRY
32 = DRY COMBUSTION/THERMAL CONDUCTIVITY SENSOR
33 = EDTA TITRATION

Method/Clean-up/Instrument Codes (cont.)

34 = ALCOHOL TITRATION
35 = SEPARATION
36 = SETTLING/WEIGHING
37 = ELECTROPHORESIS
38 = NEUTRON ACTIVATION ANALYSIS
39 = ESTIMATE
40 = EXTRACTION/WEIGHT
41 = FLAME SPECTROMETRY
42 = FLAME PHOTOMETRY
43 = FLUOROMETRY
44 = DISPLACEMENT
45 = GAMMA RAY SPECTROMETRY
46 = EMISSION SPECTROMETRY
47 = GAS CHROMATOGRAPHY/ELETRON CAPTURE
48 = ANODIC STRIPPING VOLTOMETRY
49 = GAS CHROMATOGRAPHY/FLAME SPECTROMETRY
50 = GAS CHROMATOGRAPHY/MASS SPECTROMETRY
51 = GAS CHROMATOGRAPHY/IONIZATION
52 = ACID DIGESTION/TITRATION
53 = X-RAY SPECTROMETRY
54 = FILTRATION
55 = GAS DISPLACEMENT
56 = MANOMETRY
57 = GRAVIMETRY
58 = MEMBRANE FILTRATION
59 = INFRARED SPECTROMETRY
60 = LIQUID SCINTILLATION UNILUXI
61 = SCINTILLATION COUNTER
62 = LIQUID SCINTILLATION COUNTER
63 = MASS SPECTROMETRY
64 = MICROSCOPE
65 = NEPHELOMETRY
66 = PROPORTIONAL COUNTER
67 = PETROGRAPHIC MICROSCOPE
68 = DOBSON TECHNIQUE
69 = EH METER
70 = PH PAPER
71 = SPECIFIC ION ELECTRODE
72 = PH METER
73 = SPECTROPHOTOMETRY
74 = PLATE/SPECTROPHOTOMETRY
75 = TITRATION
78 = SOAP TEST
79 = WET COMBUSTION/GAS DISPLACEMENT
81 = WET COMBUSTION/INFRARED SPECTROMETRY
82 = WET COMBUSTION/SPECTROPHOTOMETRY
83 = WET COMBUSTION/TITRATION
84 = WET OXIDATION/COLORIMETRY
85 = X-RAY FLUORESCENCE
86 = X-RAY DIFFRACTION
87 = MULTISPECTRAL SCANNER
88 = DIGESTION
89 = DIFFERENCE BETWEEN DRY AND ASH WEIGHT
90 = ASH WEIGHT
92 = DRY WEIGHT
93 = MACROBOMB CALORIMETRY

Method/Clean-up/Instrument Codes (cont.)

94 = PLANCHET GAS FLOW COUNTER
95 = MICROBOMB CALORIMETRY
96 = OZONESONDE
97 = UV SPECTROMETRY
98 = ELECTRODEPOSITION
99 = ELECTROLIC ENRICHMENT/PROPORTIONAL COUNTER
A1 = GAS CHROMATOGRAPHY/FLAME SPECTROMETRY
A2 = GAS CHROMATOGRAPHY/NITROGEN-PHOSPHORUS DETECTION
A3 = GAS CHROMATOGRAPHY/THERMAL CONDUCTIVITY
A4 = HIGH PRESSURE LIQUID CHROMATOGRAPHY
A5 = LIQUID CHROMATOGRAPHY/MASS SPECTROMETRY
A6 = ACID DIGESTION/COLORIMETRY
A7 = MERCURIC NITRATE TITRATION
A8 = TURBIDITY/SPECTROPHOTOMETRY
A9 = FLAMELESS ATOMIC ABSORPTION SPECTROMETRY
B1 = COLD VAPOR ATOMIC ABSORPTION SPECTROMETRY
B2 = SOLVENT EXTRACTION
B3 = ACID BACK-EXTRACTION FROM SOLVENT MATRIX
B4 = ACID DIGESTION
B5 = DRY ASHING
B6 = CO-PRECIPITATION
B7 = ALCOHOL REFLUX
B8 = ATOMIC ABSORPTION-GASEOUS HYDRIDE GENERATION
B9 = LOW BACKGROUND BETA COUNTER
C1 = ATOMIC ABSORPTION-HEATED GRAPHITE FURNACE
C2 = ICP-INDUCTIVELY COUPLED PLASMA EMISSION SPECTROPHOTOMETRY
C3 = AMPERIMETRIC TITRATION(CHLORINE RESIDUAL ANALYSIS)
C4 = PURGE AND TRAP
C5 = GAS CHROMATOGRAPHY WITH HA ELECTROLYTE CONDUCTIVITY DETECTION
C6 = DILUTE ACID EXTRACTION
C7 = PURGE AND TRAP WITH CRYOGENIC FOCUS
C8 = SONIC EXTRACTION
C9 = FLUORISIL COLUMN CHROMATOGRAPHY
D1 = ALUMINA COLUMN CHROMATOGRAPHY
D2 = INDUCTIVELY COUPLED PLASMA/MASS SPECTROMETRY (ICP/MS)
D3 = STALLING'S METHOD (EXTRACTION/CLEAN-UP FOR DIOXIN)
D4 = HIGH RESOLUTION GC/LOW RESOLUTION MS (HRGC/LRMS)
D5 = CHELATION/SOLVENT EXTRATIONS
D6 = DISSOLVED OXYGEN PROBE
D7 = NITRIFICIATION INHIBITION
D8 = SILICA COLUMN CHROMATOGRAPHY
D9 = SULFUR CLEANUP (EPA 3660)

Appendix E

Log-on Instructions

Introduction

Users have many options for logging onto ODES. The procedure for using a telephone modem connection and communication software package is described in this log-on guide. If you are accessing ODES with a different type of set-up such as a gateway connection or through Internet, please consult your system administrator or the ODES technical staff for assistance.

Five sections are included in this appendix to assist you with the log-on procedure. *User Requirements* (page E-2) lists the requirements for accessing ODES; *Basic Procedures* (page E-2) summarizes each step in the log-on process; and *Step-by-Step Instructions* (page E-6) provides a detailed example of the log-on procedure. For frequent ODES users, *Shortcut Log-on Procedure* (page E-14) explains a shortcut procedure for accessing ODES. If you encounter any problems while logging on, please consult the *troubleshooting guide* (page E-15). You will also find a list of telephone access numbers at the end of this Appendix.

If you have any questions or need additional assistance, please contact either the ODES technical support at (703) 841-6279 or the NCC Hotline at 1 (800) 334-2405.

User Requirements

ODES User ID and password

To obtain an ODES User ID and password, simply contact the ODES technical staff. Within a week to ten days days, you should receive notification confirming the establishment of your account from the National Computing Center. If you already have a valid account for the EPA NCC-IBM mainframe (e.g., an account that allows you to use STORET), call the ODES technical staff to request ODES access privileges. Once this request is processed, you can access ODES with your current User ID and password.

External telephone data line

You must be able to dial either the NCC at (800) 445-2795 or one of the regional data centers listed at the end of this Appendix. For best results, use a telephone data line rather than a standard telephone line.

Modem/communications software

Before logging on to ODES make sure that your software is properly configured using the settings listed on page 5. If you will be viewing or downloading graphics while in ODES, you need to use communications software with graphics capabilities, such as VersaTerm-PRO for a Macintosh or PC-PLOT for a PC.

Printer Bin Number

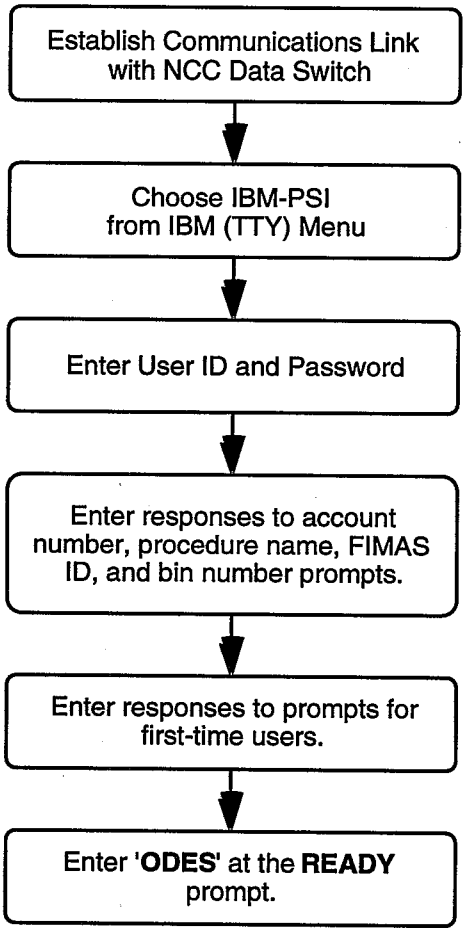
If you do not have an organizational bin or are unsure what your organization's bin number is, you have two options. You can have your output printed at a regional data center by contacting the data center to reserve a printing bin. Alternatively, you may have your output forwarded to you from the NCC. If you prefer to have your output forwarded, use **mxxx** as your bin number, where xxx is your User ID. For example, if your User ID is **ABC**, you can use **mabc** as your bin number.

Basic Procedure

The log-on procedure consists of a series of menus and prompts. To start the process, you will need to dial the National Computing Center (NCC) Data Switch using one of the telephone numbers at the end of this Appendix. After dialing the number, your computer screen should display a message similar to "CONNECT 2400" where 2400 is the baud rate of your modem. Once the connection is established, you will encounter a series of prompts requesting log-on information. After these prompts, you will reach the READY prompt. At this prompt, enter "ODES" to start an ODES session. These steps are outlined in the flow diagram on the opposite page.

To access ODES using the IBM(TTY) protocol, use the recommended settings and follow the steps outlined in the flow diagram and described on the following pages.

The steps shown in the diagram and described on the next two pages provide a general overview of the ODES log-on procedure. Please note that you may notice minor variations in this procedure as the EPA mainframe system is upgraded. If you have difficulty logging on to the EPA mainframe system or ODES, please consult the troubleshooting section of this Appendix. If you continue to have problems, support centers and their phone numbers are listed on page E-15.



Establish Communications Link with NCC Data Switch

To establish a connection with the NCC Data Switch, use a modem and a communications software package compatible with your hardware configuration. (Some appropriate communications packages include PC-Plot and Crosstalk for a PC and VersaTerm-PRO for a Macintosh.) All of these packages provide graphics capabilities which are necessary when using some of ODES analytical tools. For most ODES sessions, however, you do not need graphics capabilities.

Recommended Settings

Local Echo/Duplex:	On/Half Duplex
Parity:	Even
Parity Bits:	1
Data Bits:	7
Baud Rate:	300,1200,2400, or 9600
XON/XOFF Handshake:	ON
Return Key:	CR/LF

Once your modem is connected to your computer and your communications package has the proper settings, dial the NCC Data Switch at (800) 445-2795. When possible, EPA requests that users access the mainframe through one of the regional data centers. Telephone access numbers for these centers are located on page E-15.

Choose IBM-PSI from IBM(TTY) Menu

On the Headquarters Data Switch Menu, select the IBM (TTY) protocol by entering the code 'ibmpsi' at the prompt.

Select TSO-NCC

At the U.S. EPA (TTY-X25-IBM) menu, enter 'a' to access TSO-NCC. (TSO-NCC stands for time share option at the National Computing Center.)

Enter User ID and Password

When prompted, enter your User ID and password. Your User ID is the 3-character ID that you received in the mail from the NCC. The password you received should be changed the first time you log-on. Valid passwords are 6 to 8 alphanumeric codes that contain at least one letter and one number.

Enter responses to account number, procedure name, FIMAS ID, bin number prompts

At the appropriate prompts, enter your account number, procedure name, FIMAS ID, and printing bin number. (If you are selecting the default responses to these prompts, you only need to enter '*' to access ODES.) If your organization does not have a printing bin, you can use *'mxxx'* as your bin number where xxx is your 3-character ID.

Your account number, procedure name, and FIMAS ID are shown below.

Enter responses to prompts for first-time users.

If you are logging on to ODES for the first time, you will need to enter additional information by responding to questions that appear on your screen.

Enter **'ODES'** at the **READY** prompt.

After successfully logging on to the EPA mainframe, enter '**ODES**' at the READY prompt.

Step-by-Step Instructions

In this section, the process of logging on to ODES is reviewed in detail. A step-by-step example demonstrates the process for successfully logging on to ODES using the IBM (TTY) protocol. This example provides sample screens that you will encounter during the log-on procedure, describes the responses to the menus and prompts, and also discusses potential difficulties that you may encounter.

1. *Using a modem and an appropriate communications software package, establish a link with the National Computing Center.*

   Before attempting to log on to ODES, please make sure that your modem and communications software are ready to transmit and receive data. The recommended communications settings for accessing ODES are:

Local Echo/Duplex:	*ON/Half Duplex*
Parity:	*Even*
Parity Bits:	*1*
Data Bits:	*7*
Transmit Speed:	*300,1200,2400 or 9600*
XON/XOFF Handshake:	*ON*
Return Key:	*CR/LF*

   You may also want to consult your software documentation to determine the appropriate communications settings for your particular hardware and software configuration. To begin the log-on procedure type: atdt followed by the appropriate telephone access number and press ENTER. For example, to access ODES through the National Computing Center's modem access number, type: **atdt 1 800 445 2795** and press **ENTER**. If your communications software supports a dialing directory, simply select the access number using the directory.

2. *Access IBM (TTY) by entering 'ibmpsi' at the prompt on the Headquarters Data Switch Menu.*

After the telephone link has been established (this may take several seconds), the following menu should appear* .

```
atdt 1 800 445 2795
CONNECT 2400

 Welcome To The Environmental Protection Agency

         HEADQUARTERS DATA SWITCH - (NODE 1)

        TO ACCESS:                          TYPE:
        IBM (TTY)                           IBMPSI
        IBM 3270 EMULATION                  TCP
        PRIME                               system name
        VAX                                 system name
        MODEM POOL                          MODEM
        HEADQUARTER'S LOCATOR               LOC
        ALL-IN-1                            DMAIL
        OTHER SERVICES                      HELP


YOUR SELECTION?> ibmpsi
```

To use the IBM (TTY) protocol, type: ***ibmpsi*** *at the prompt marked 'YOUR SELECTION?' and press* ***ENTER.*** This option will connect you with the EPA NCC-IBM mainframe computer.

NOTE: While logging on to ODES, please use only lowercase letters. Additionally, if your keyboard has a key marked ENTER and a different key marked RETURN or ↵, always use the key marked ENTER.

* If you are accessing ODES through one of the regional data centers, this screen may be slightly different.

3. *Select (a) TSO-NCC from the U.S. EPA (TTY-X25-IBM) menu.*

After selecting the IBM (TTY) protocol from the Headquarters Data Switch menu, you should see the EPA NCC-IBM Mainframe menu pictured here.

```
 Connecting to IBMPSI via X.25 network.....

WIC1-3671/04 CONNECTED TO NET3/13

Called address: 90900001
COM

 U.S. EPA (TTY-X25-IBM)

        A  TSO - NCC
        B  WIC
        C  ARBITER NCC
        D  EPA OLS
        E  NLM

 SELECTION ? a
```

To gain access to ODES, you should select option **(A) TSO-NCC.** ODES operates within the TSO (time-sharing option) environment. *To select this option, type: a at the prompt marked 'SELECTION?' and press* ***ENTER.***

4. *Enter your User ID and password at the USERID and password prompts.*

You will be prompted to enter your 3-character User ID. This prompt is shown below. Your 3-character User ID can be found on the Account Authorization Notice. Please type your ID and press ENTER. Next, you will be prompted to enter the password that is shown on your Account Authorization Notice. Please type your password and press ENTER.

```
EPA200  ENTER USERID -
new
EPA 202 ENTER CURRENT PASSWORD FOR NEW -
:ncc1new
:EPA132 Password has expired
EPA203  ENTER NEW PASSWORD -
:mypass1
```

If you are using this account for the first time, you will receive a message saying that your password has expired. For security control, you must change the initial password assigned by the NCC. The new password must be at least 6 characters in length and must contain at least 1 alpha and 1 numeric character. The password should not exceed 8 characters in length. *At the prompt, type your new password and press ENTER.*

5. *Enter the appropriate responses for the account number, procedure name, FIMAS ID, and bin number prompts.*

You will now be prompted to enter your account number, procedure name, FIMAS ID, and bin number. The prompts received by first-time users are pictured in the figure below. Users who have already logged on successfully in a previous session will have similar prompts. Default values for each prompt are listed at the end of each prompt. Entering "*" at any of these prompts enters the default value for that prompt.

```
:EPA207  ENTER ACCOUNT NUMBER - OR "*" FOR ODES
*
EPA209  ENTER PROCEDURE NAME - OR "*" FOR AASTORET
*
EPA211  ENTER FIMAS ID -
odesd
EPA213  ENTER BIN NUMBER -
c815
```

If the first prompt reads: 'ENTER ACCOUNT NUMBER - OR "*" FOR ODES', ODES is the prompt's default value. Therefore, you can either type:

* or: **odes**

and press ENTER. To type '*', use the Shift-8 key combination rather than the '*' on the numeric keypad. If the prompt contains a different default value (e.g., 'ENTER ACCOUNT NUMBER - OR "*" FOR STORET') please type:

odes

and press ENTER rather than using the "*". The next prompt should read: 'ENTER PROCEDURE NAME - OR "*" FOR AASTORET'. At this prompt, type either:

* **or: aastoret**

and press ENTER. Again, if the prompt has a different default procedure name or no default value, type:

aastoret

If you are using this account for the first time, the next prompt will read: 'ENTER FIMAS ID-'. At this prompt type:

odesd

and press ENTER. If this prompt also contains: 'OR "*" FOR ODESD', ODESD is the default FIMAS ID and you can type either:

* or: **odesd**

and press ENTER. Finally, at the prompt which reads 'ENTER BIN NUMBER -', type the bin number for your organization and press ENTER. Remember, you can also use **mxxx**, where **xxx** is your User ID. When using this option, your printed output will be forwarded to you from the National Computing Center. This prompt may also allow you to simply type '*' and press ENTER for the default value, but make sure the correct bin number is listed as the default value before using '*'.

At this point, you will see various messages indicating that you have successfully logged on to the EPA NCC-IBM Mainframe. A sample log-on screen is shown here. If you see the '***' prompt at the bottom of the screen at any time during your session, press ENTER to continue.

```
ICH70001I NEW   LAST ACCESS AT **:**:** ON THURSDAY, *** **, 199**
NEW LOGON IN PROGRESS AT **:**:** ON *** **, 199*
93/06/17: VITALINK PATCH INSTALLED ON ROUTER     -SEE NEWS ALERT8
93/06/16: BRING DOWN RTP DEVELCON                -SEE NEWS ALERT7
93/06/15: RECENTLY RELEASED EPA MEMOS            -SEE NEWS ALERT11
93/06/15: RACF 1.9.2 INSTALLED FOR PRODUCTION    -SEE NEWS ALERT12
93/06/14: NATURAL V224 IMPLEMENTATION            -SEE NEWS ALERT16
93/06/09: SAS 6.08 AVAILABLE - CUSTOMER TEST     -SEE NEWS ALERT5
*** ISPF PROFILE DATASET SYS2.NEW.ISPPROF ALLOCATED
*** TABLES DATASET SUCCESSFULLY ALLOCATED
```

6. *Enter any additional information for which you are prompted.*

If you are logging on to ODES for the first time, the system will display the following prompt:

Is this the first time you have logged on to ODES?

>PLEASE ENTER (Y)ES OR (N)O >

At the prompt, type **y** and press ENTER.

```
* Is this the first time you have logged on to ODES?

> PLEASE ENTER (Y)ES OR (N)O > y

* ODES will now initialize your ODES directory with the
  files you will need to execute ODES.

* You may ignore the message above concerning your STORET CLIST

* Please wait.

* Initialization procedure successful.
```

After you confirm you are entering ODES for the first time, ODES establishes your ID as a new user and creates files that you will need during your future ODES sessions.

7. *After successfully logging on to the EPA mainframe, you will receive several mesages followed by a prompt saying READY.*

```
  * TO USE THE OCEAN DATA EVALUATION SYSTEM,
    TYPE "ODES" AT THE READY PROMPT.

READY
odes
```

At this point, type '**odes**' and press ENTER to access ODES. After you have successfully logged on to ODES you will see the ODES Basic Options Menu, which is pictured below. At this point, you are ready to start using ODES. Please refer to the *ODES User Manual* for instructions on using ODES.

```
                    --------
                    * ODES *
                    --------


              ** BASIC OPTIONS MENU **

     C = Scan CONTENTS of the ODES Data Base
     D = Use the On-line DICTIONARIES
     E = EXIT ODES
     F = Show job status or FETCH reports and graphics
     M = List the MENU of TOOLS
     N = Review on-line NEWS (Updated 2/93)
     R = ODES Interactive Data RETRIEVAL
     S = STORET Data Retrieval
     T = Use a TOOL

          *** ODES Hotline Numbers ***
   (703)841-6279 or (510)283-3771 or (206)883-1912

> Please enter an OPTION and press RETURN >
```

Shortcut Log-on Procedure

If you have successfully logged on to ODES before, you can use a shortcut method to move directly to the 'READY' prompt. At the prompt which reads: 'ENTER USERID -' (Step 4), simply type:

xxx/zzzzzzzz default

and press ENTER, where **xxx** is your User ID and **zzzzzzzz** is your password. For example, if your User ID is ABC and your password is secret1, you would type:

abc/secret1 default

and press ENTER. Once you see the 'READY' prompt, type:

odes

and press ENTER. At this point, you will see the ODES Basic Options Menu.

Troubleshooting

If you are having difficulty with the log-on procedure, consult the troubleshooting table below.

Problem	*Solution*
Text typed in by user does not appear on screen	Set Local Echo to ON or Duplex to HALF in communications software setup.
Text typed in by user appears twice on screen (e.g., iibbmmppssii)	Set Local Echo to OFF or Duplex to FULL in communications software setup.
Screen output is incomprehensible	Check communications software settings. (Recommended settings are listed under Step 1 in the *Step-by-Step Instructions.*)
System does not respond to user entries	Make sure that you are using the ENTER key. Do not use RETURN or ↵ if your keyboard has an ENTER key.

If you continue to have difficulty, please contact the NCC Technical Support Hotline at (800) 334-2405 or the ODES technical staff at (703) 841-6279.

Telephone Numbers

Regional Data Center	Baud Rate	Commercial Users Dial:	FTS Users Dial:
ATLANTA	300	(404) 347-2919	257-2919
	1200	(404) 347-2926	257-2926
	2400	(404) 347-2933	257-2933
	9600	(404) 347-2934	257-2934
BOSTON	300	(617) 565-9084	835-9084
	1200	(617) 565-9085	835-9085
	2400	(617) 565-9086	835-9086
	9600	(617) 565-9087	835-9087
CHICAGO	300	(312) 886-5143	886-5143
	1200	(312) 886-5144	886-5144
	2400	(312) 886-5145	886-5145
	9600	(312) 886-5151	886-5151
DALLAS	300	(214) 655-7350	255-7350
	1200	(214) 655-7351	255-7351
	2400	(214) 655-7352	255-7352
	9600	(214) 655-7353	255-7353
DENVER	300	(303) 293-1400	330-1400
	1200	(303) 293-1401	330-1401
	2400	(303) 293-1402	330-1402
	9600	(303) 293-1403	330-1403
KANSAS CITY	300	(913) 236-2830	757-2830
	1200	(913) 236-2831	757-2831
	2400	(913) 236-2832	757-2832
	9600	(913) 236-2833	757-2833

Regional Data Center	Baud Rate	Commercial Users Dial:	FTS Users Dial:
LAS VEGAS	300	(702) 798-3294	545-3294
	1200	(702) 798-3295	545-3295
	2400	(702) 798-3296	545-3296
	9600	(702) 798-3297	545-3297
NEIC	300	(303) 236-4975	776-4975
	1200	(303) 236-4976	776-4976
	2400	(303) 236-4977	236-4977
	9600	(303) 236-4978	236-4978
NEW YORK	300	(212) 264-1554	264-1554
	1200	(212) 264-1555	264-1555
	2400	(212) 264-5203	264-5203
	9600	(212) 264-5204	264-5204
PHILADELPHIA	300	(215) 597-0103	597-0103
	1200	(215) 597-0577	597-0577
	2400	(215) 597-2353	597-2353
	9600	(215) 597-4374	597-4374
SAN FRANCISCO	300	(415) 744-1010	484-1010
	1200	(415) 744-1011	484-1011
	2400	(415) 744-1012	484-1012
	9600	(415) 744-1013	484-1013
SEATTLE	300	(206) 553-0383	399-0383
	1200	(206) 553-0464	399-0464
	2400	(206) 553-0784	399-0784
	9600	(206) 553-0985	399-0985
WASHINGTON	ALL	(202) 488-3671	260-3671

★U.S. GOVERNMENT PRINTING OFFICE:1993-515-003/87117