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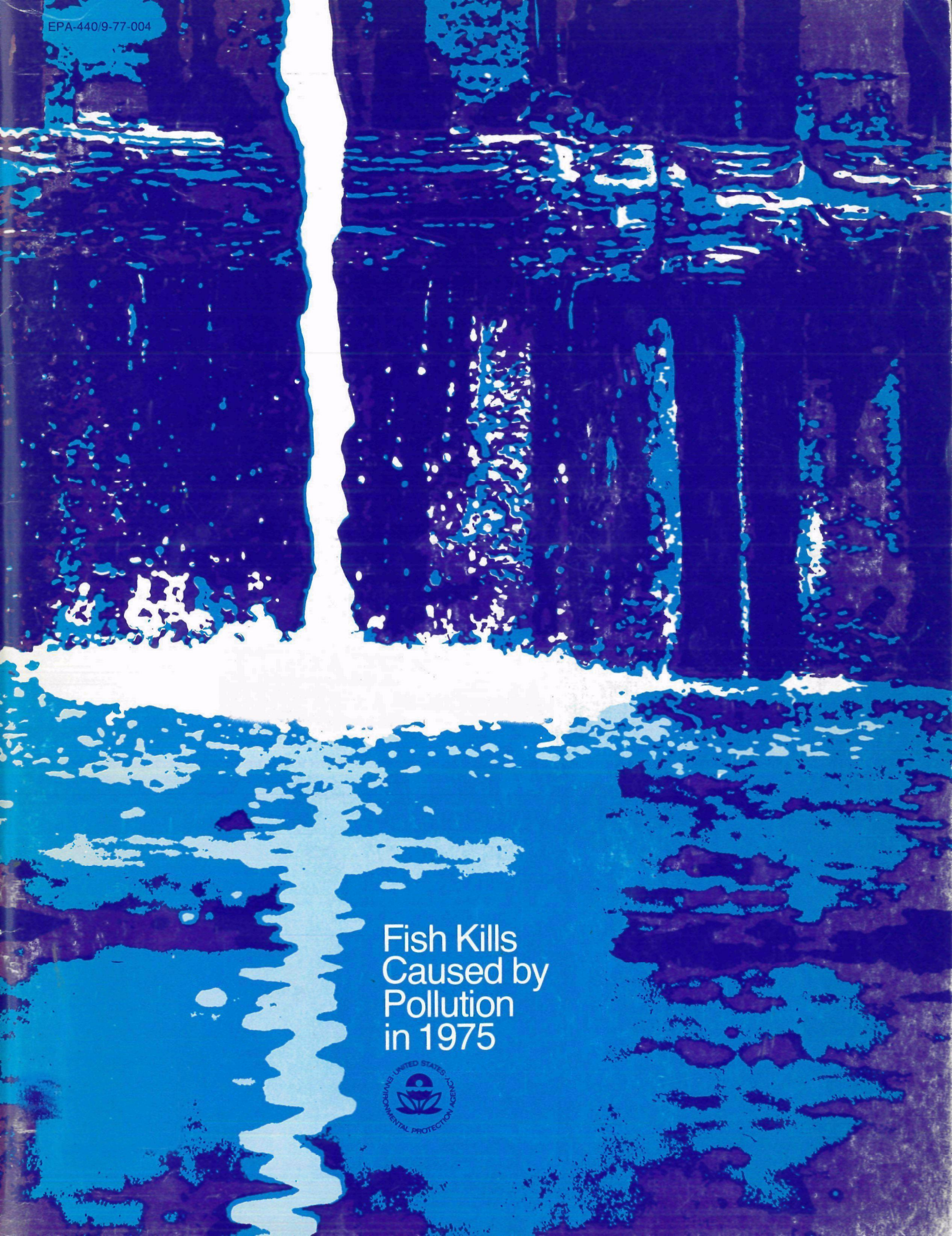
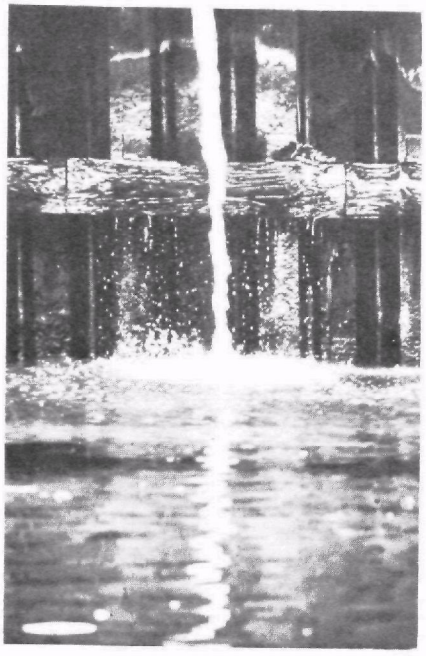


Fish Kills Caused by Pollution in 1975

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Fish Kills Caused by Pollution in 1975

Sixteenth Report



U.S. Environmental Protection Agency

Office of Water Planning and Standards

Monitoring and Data Support Division
Washington D.C. 20460

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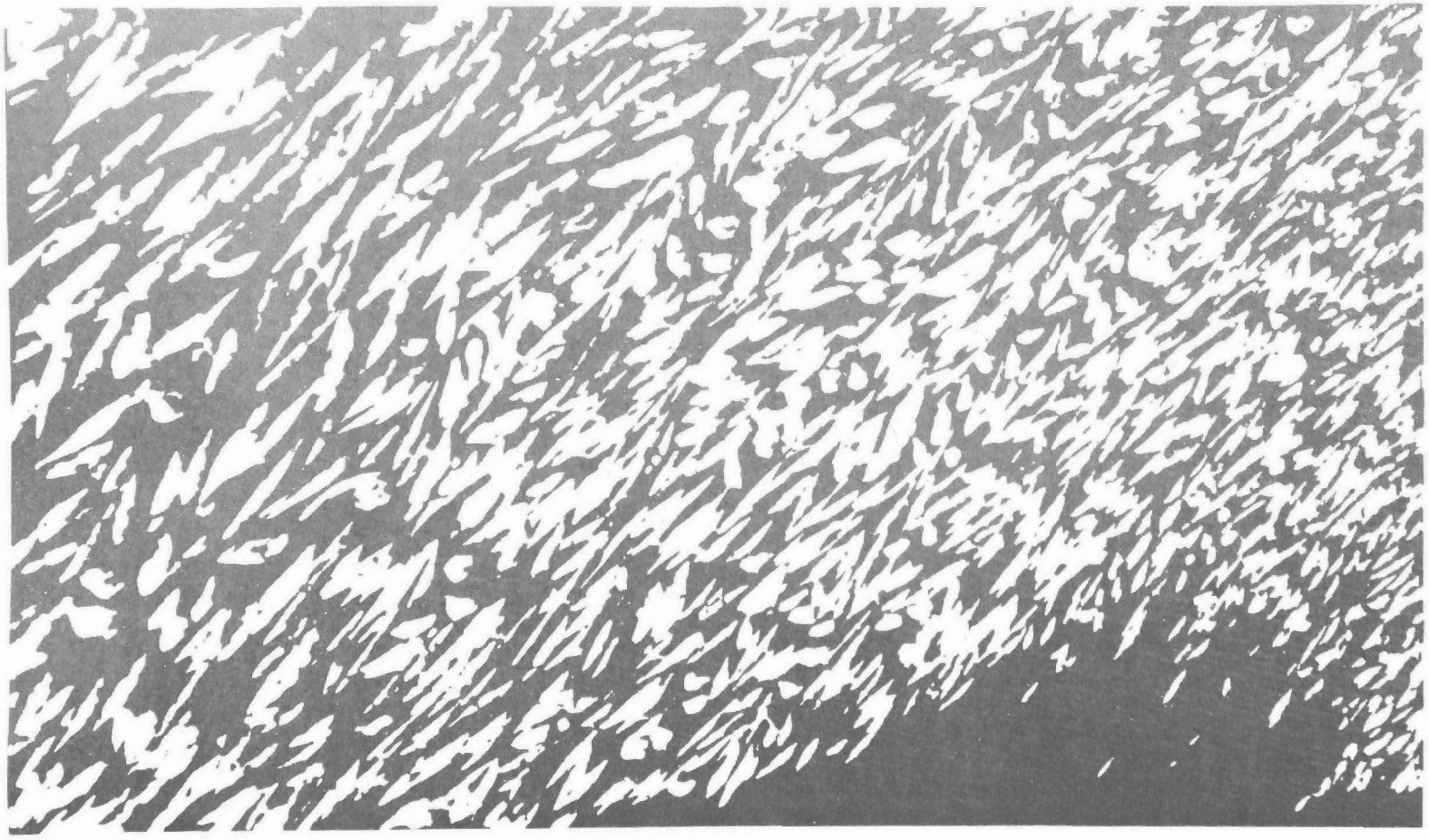


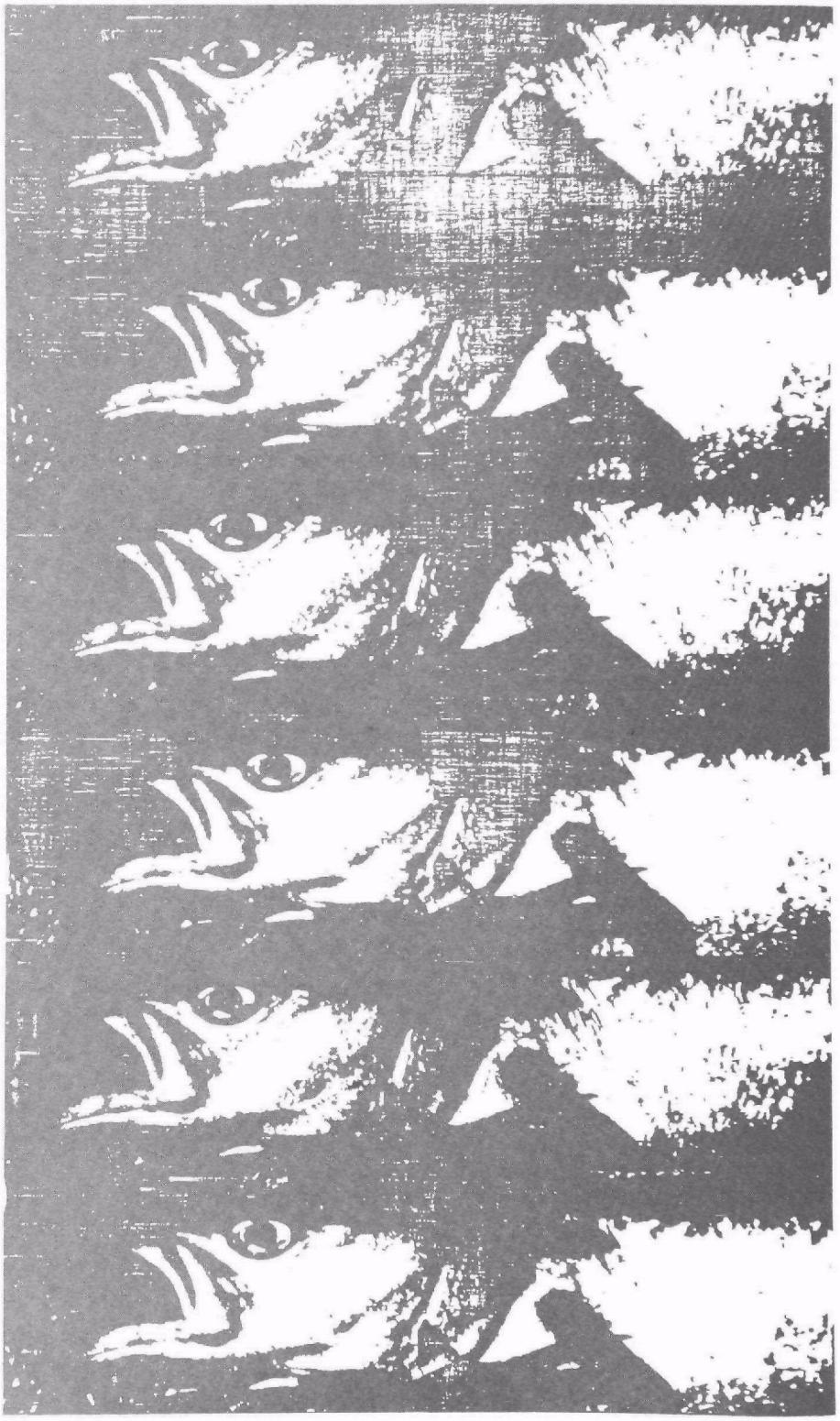
Foreword

The annual fish kill report represents the combined voluntary efforts of private individuals, State fish and game, health, and conservation officers, and water pollution control officials at the State and Federal level. Usually, a fish kill is first noticed by a fisherman, camper, or other private citizen, who informs a warden or other State official. In most cases, the State agency then sends trained investigators to identify the cause and size of the kill. Where water pollution is determined or suspected to be the cause, the State submits a report to the Environmental Protection Agency (EPA).

It is essential that a fish kill be reported and investigated immediately in order to determine the source of pollution and the polluting agent. Dead fish may be washed downstream from the source of pollution. The polluting agent may be diluted by fast flowing water, making on-site investigation difficult or even impossible. Hot weather conditions decompose fish tissue, also making it difficult to identify a polluting agent. Since the investigator can count or estimate only those fish which lie on or near the surface, the number of fish reported killed is almost always a conservative figure. In some cases, as much as 80 percent of the dead fish cannot be counted due to turbid water, or because the fish have either sunk to the bottom of the water body or have been washed away from the site of the kill.

The reporting system depends, to a large extent, upon individuals in the field making State officials aware of fish kills and upon the States' continuing voluntary submission of reports to the EPA. It is, therefore, quite likely that the large increases in reports for 1971, 1972, 1973, and 1974 over earlier years are a result of increased public awareness of pollution and its effects. In an effort to further increase this awareness and to encourage individuals to report kills to State officials we are including in Appendices A, B, and C to this report:

- Appendix A—A list of State agencies who should be notified of kills;
- Appendix B—A reproduction of the report form to show information desired; and,
- Appendix C—A definition of the types of operations identified as pollutant sources.



Summary
Fish Reported Killed in 1975

The following is a short summary of significant statistics of fish kills reported in 1975.

□All States Reported in 1975

For the fourth time since the inception of the annual pollution-caused fish kill reporting system in 1960, every State in the Union has participated. Five participating States reported no fish kills.

□The Number of Fish Kill Reports for 1975 Continued to Decrease From the Peak Year 1971

For the fourth year in a row, the total number of reports showed a downward trend from the previous year. Nevertheless, the number received in 1975 (624) was greater than the number of reports received for any year before 1970 with the exception of 1965.

□Over 471 Million Fish Reported Killed Since 1960

The 16.1 million fish reported killed in 1975 brought the cumulative total of all fish reported killed by water pollution since 1960 to 471 million. The number killed in 1975 showed an 87 percent decrease from reported kills in 1974, when a record was set for the number of fish reported killed in any one year—119.1 million.

□Where Causes Were Identified, Industrial Operations Led All Other Pollution Operations as Causing the Greatest Number of Fish Kills in 1975

In 1975, the 122 fish kill reports associated with industrial operations led all other known pollution sources, but still amounted to 27 percent less then the 168 industrial incidents reported in 1974.

□Unknown (Unidentified) Operations Accounted for More Reports Than Any Other Category

The 169 reports in the unknown operations category represented 25 percent of all reports submitted in 1975.

□Municipal Operations Killed More Fish Than Any Other Pollution Source in 1975

The 10.4 million fish killed by pollution from municipal operations represent 64 percent of the 16.1 million fish reported killed in 1975.

□The Majority of the Reports Indicate That Less Than 10,000 Fish Were Killed Per Incident in 1975

In 84 percent of the incidents reported, the size of the kill was less than 10,000 fish. The total number of reported fish killed in these incidents however, was less than 4 percent of the 16.1 million reported fish killed in all incidents in 1975.

In 1975, 624 fish kill reports were submitted (Table 1). Of these, 543 reports (87 percent of the total) stated the number of fish killed. In the remaining 81 of the 624 reports submitted, fish losses were either not stated, or were not expressed in numerical terms. Counting only the 543 reports, an estimated 16.1 million fish were killed in 1975 (Table 2).

From 1961 through 1975, the estimated number of fish killed annually ranged from a low of 6.9 million in 1963 to a record high of 119 million in 1974. In 1974, the 47 million fish reported killed in Back River, near Essex, Maryland eclipsed the previous record high for one incident of 37.8 million fish reported killed in 1962 near San Diego Harbor, California.

Excluding the unusually high 119.1 million fish killed in 1974 and the 73.6 million killed in 1971, the average number of fish killed for the twelve remaining years was 21.4 million. The 16.1 million fish reported killed shows 1975 as the eighth highest year, but the number is lower than the annual average.

In 1975, as in previous years, most of the incidents were small—that is, they killed fewer than 10,000 fish apiece. Most fish were killed in very few incidents. For instance, 75 percent of the fish killed were reported killed in only three incidents (5 percent) of the 624 reports (Table 1).

In 1975, sources of pollution were identified in 456 of the 624 reports. These kills are listed individually in Table 10. The 168 kills for which the pollution source could not be positively identified are listed in Table 11.

	1960[2]		1961		1962	
Number of States responding	38		45		37	
Number of reports	289		413		421	
Reports which state number of fish killed	151		265		246	
Total reported number of fish killed	6,035,000		14,910,000		44,001,000	
Average size of kill[1]	2,925		6,535		5,710	
Largest kill reported	5,000,000		5,387,000		3,180,000	
Number of reported incidents for each pollution source operation						
Agricultural	79		74		51	
Industrial	103		169		209	
Municipal[3]	24		52		33	
Transportation	0		0		1	
Other	33		58		47	
Unknown	50		60		80	
Total reports	289		413		421	
Number of reports and fish killed by size grouping	No. reports	No. fish (millions)	No. reports	No. fish (millions)	No. reports	No. fish (millions)
1,000,000 or more	1	5.0	4	12.6	2	41.0
100,000 to 1,000,000	3	0.53	5	0.85	9	1.69
10,000 to 100,000	15	0.31	45	1.05	38	1.01
1,000 to 10,000	64	0.18	107	0.34	89	0.30
0 to 1,000	68	0.02	104	0.03	108	0.03
No size reported for incident	138		148		175	
Average duration of kill in days		2.95		2.64		2.59

[1] Derived after excluding reports of 100,000 kills or more as being unrepresentative.
[2] Reporting system in effect for last six months of 1960.
[3] Municipal operations include electric power-generating stations.

Table 1

Contains historical data for the sixteen years that fish kill reports have been received. The table summarizes the following: The number of states reporting; the number of reported pollution-caused fish kill incidents; the number of reports which specify how many fish died; the reported number of fish killed; the largest single fish kill for each year; the number of reports for each pollution source operation; and a breakdown of fish killed by size of kill. The number of incidents and the numbers of fish killed are probably understated because of incomplete reporting and the difficulties of estimating numbers of dead fish. Also, 13 percent of the reports do not specify how many fish were killed.

Table 1—Historical Summary of Pollution-Caused Fish Kills, June 1960-December 1975

1963		1964		1965		1966		1967		1968		1969		1970		1971		1972		1973		1974		1975	
38		40		44		46		40		42		45		45		46		50		50		50		50	
442		590		625		532		454		542		594		635		860		760		749		721		624	
304		470		520		453		364		469		492		563		759		697		703		648		543	
6,937,000		22,914,000		12,140,000		9,614,000		11,291,000		15,815,000		41,166,000		22,290,000		73,670,000		17,717,000		37,814,000		19,052,000		16,111,210	
7,775		5,490		4,310		5,620		6,460		6,015		5,860		6,412		6,154		4,639		5,527		6,532		3,879	
2,000,000		7,887,000		3,000,000		1,000,000		6,549,000		4,029,000		25,527,000		3,240,000		5,500,000		2,922,000		10,000,000		47,112,000		10,000,000	
84		131		114		88		87		77		117		108		132		113		161		145		118	
199		193		244		195		139		177		199		213		231		189		196		168		122	
60		120		125		87		91		122		84		120		162		167		146		169		90	
17		26		27		27		23		39		32		28		52		56		65		40		47	
27		17		23		38		35		23		33		28		64		72		56		74		78	
55		103		92		97		79		104		129		138		219		163		125		125		169	
442		590		625		532		454		542		594		635		860		760		749		721		624	
No. reports	No. fish (millions)	No. reports	No. fish (millions)	No. reports	No. fish (millions)	No. reports	No. fish (millions)	No. reports	No. fish (millions)	No. reports	No. fish (millions)	No. reports	No. fish (millions)	No. reports	No. fish (millions)	No. reports	No. fish (millions)	No. reports	No. fish (millions)	No. reports	No. fish (millions)	No. reports	No. fish (millions)	No. reports	No. fish (millions)
1	2.0	5	16.9	3	5.4	2	2.0	1	6.5	3	6.1	4	35.1	5	11.4	28	63.0	6	8.97	6	29.53	6	107.6	3	12.00
12	2.68	15	3.82	17	4.62	23	5.48	7	2.66	30	7.44	9	3.15	26	7.44	26	6.37	27	5.43	19	4.65	20	7.1	9	1.87
54	1.82	59	1.65	63	1.42	58	1.53	49	1.58	64	1.79	81	2.06	91	2.73	124	3.33	81	2.60	88	2.74	110	3.6	65	1.62
134	0.41	167	0.49	202	0.59	185	0.55	143	0.46	153	0.48	165	0.52	198	0.62	266	0.86	216	0.62	251	0.81	187	0.6	173	0.57
103	0.03	224	0.07	235	0.07	185	0.05	164	0.05	219	0.06	233	0.06	243	0.07	315	0.10	367	0.09	339	0.09	325	0.1	293	0.07
138		120		105		79		90		73		102		72		101		63		46		73		81	
	3.18		2.44		2.57		2.71		3.34		2.99		3.11		3.25		3.35		3.40		2.72		3.58		2.18

Total Fish Reported Killed

The 16.1 million fish reported killed in 1975 brought the total estimated count of fish killed (Figure 1) to 468.6 million in 7,202 separate incidents since the first full year of reporting (1961). These 7,202 separate incidents, plus 1,606 reported incidents which did not state the number of fish killed brought the total incidents for the 1961–1975 period to 8,808.

A total of 45 States reported at least one fish kill incident (Table 3). The remaining five States (Alaska, Arizona, North Dakota, Rhode Island, and Wyoming) stated they had no recorded incidents of pollution-caused fish kills for 1975. Three States (California, Missouri and Ohio) accounted for 31 percent of the total incidents.

Table 2—Fish Kill Summary by Source of Pollution, 1975

Source of pollution	Total reports	Reports specifying number of fish killed	
		No. of reports	No. of fish
Agricultural:			
Insecticides	63	52	221,194
Fertilizers	16	14	186,951
Manure-silage drainage	39	35	362,597
Subtotal	118	101	770,742
Industrial:			
Mining	20	19	263,768
Food products	20	18	56,559
Paper products	11	11	30,382
Chemicals	29	26	95,711
Petroleum	23	20	57,412
Metals	6	6	300,974
Combinations			
Other	13	11	87,903
Subtotal	122	111	892,709
Municipal:			
Sewerage systems	70	66	353,457
Refuse disposal	2	2	1,612
Water systems	6	5	1,944
Swimming pool	3	3	375
Power	9	9	10,021,015
Subtotal	90	85	10,378,403
Transportation:			
Rail	5	4	15,594
Truck	30	30	237,066
Barge or boat			
Pipeline	12	10	213,364
Subtotal	47	44	466,024
Other operations	78	64	435,335
Unknown	169	138	3,167,997
Total	624	543	16,111,210

Table 2

Summarizes fish kills for 1975 by major and individual pollution sources, and provides further information on fish killed in the game and non-game categories by major pollution sources. Average size of fish kill for each major source is also included. Kills from natural causes are not included.

Figure 1

OVER 455 MILLION FISH WERE REPORTED KILLED BY POLLUTION.....over a 15 year period. This graph summarizes the reported number of fish killed for the 1961–1975 period. The first reporting year, 1960 was excluded since reports were not received for a full year. Many more dead fish probably go unreported due to the difficulties of estimating, and because they were not investigated immediately. This total is also low since 13 percent of the reports are not included because they did not state the number of fish killed.

Table 3

Summarizes data from the 45 states which reported one or more pollution-caused fish kill incidents. Of the 624 reports submitted, 543 indicated the number of fish killed. The remaining 81 reports did not specify the number of fish killed. The table also shows the number of reports for incidents that occurred in rivers, lakes, and coastal waters.

Figure 1—Cumulative Reported Fish Killed, 1961 to 1975

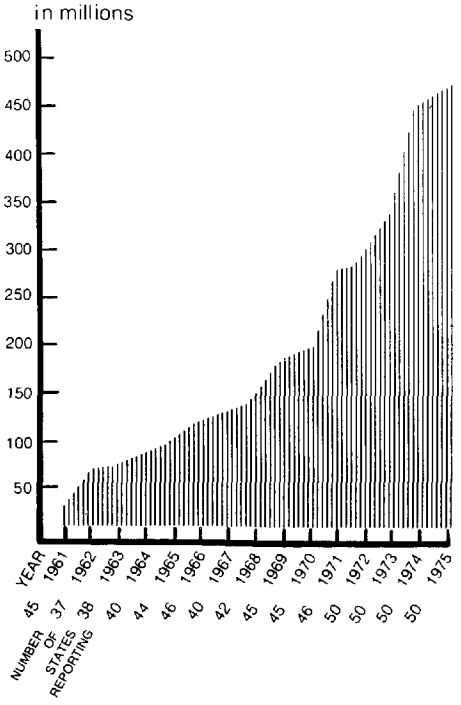


Table 3—Pollution-Caused Fish Kill Summary by State, 1975

State	Total reports	Reports specifying number of fish killed: Number of reports	Reports specifying number of fish killed: Number of fish	Number of reports and water surfaces affected: River: Number of reports	River: Number of miles	Lake: Number of reports	Lake: Number of acres	Coastal Waters*: Number of reports	Coastal Waters*: Number of miles
Alabama	14	13	114,509	11	20	3	375		
Arkansas	25	4	9,800	10	6	15	12		
California	52	51	297,770	31	74	16	55	5	9
Colorado	4	4	1,005,925	4	10				
Connecticut	2	2	12,650	2	2				
Delaware	5	5	8,141	3	4	2	6		
Florida	30	20	99,585	7	35	22	209	1	15
Georgia	9	6	14,600	6	65	3	15		
Hawaii	1	1	1,000	1	1				
Idaho	1	1	275	1	2				
Illinois	24	22	409,785	19	78	5	13		
Indiana	21	21	36,857	21	67				
Iowa	3	3	1,115	3	10				
Kansas	8	8	40,679	7	27	1	82		
Kentucky	7	5	155,928	7	38				
Louisiana	15	9	66,589	15	58				
Maine	3	3	750	2	2	1	1		
Maryland	12	10	34,955	9	23	2	2	1	720
Massachusetts	10	10	59,195	7	13	3	25		
Michigan	13	13	6,791	10	13	3	12		
Minnesota	5	4	7,958	4	11	1			
Mississippi	3	3	39,000	3	22				
Missouri	39	32	311,347	35	90	4	4		
Montana	4	4	7,750	1	1	3	848		
Nebraska	18	16	40,846	9	51	9	2,826		
Nevada	2	2	22,500	1	3	1	250		
New Hampshire	4	4	1,469	2	1	2	340		
New Jersey	1	1	1,200					1	
New Mexico	4	3	2,100	3	40	1	20		
New York	20	17	99,225	19	71	1	1		
North Carolina	19	18	28,108	14	45	5	21		
Ohio	80	80	347,077	76		4			
Oklahoma	21	12	250,683	12	25	9	136		
Oregon	4	4	37,771	4	8				
Pennsylvania	30	30	162,112	30	59				
South Carolina	2	2	4,250			2	200		
South Dakota	1	1	72	1	1				
Tennessee	13	12	430,815	10	81	3	91		
Texas	43	42	11,775,015	32	7	6	7	5	
Utah	2	2	390	2	3				
Vermont	1	1	2,000	1	1				
Virginia	17	17	77,955	13	62	4	8		
Washington	15	8	18,451	9	18	6	94		
West Virginia	12	12	59,667	12	17				
Wisconsin	5	5	6,550	5	9				
Total	624	543	16,111,210	474	1,174	137	5,653	13	744

* Includes embayments such as Chesapeake, San Francisco, and Galveston Bays.

Major Fish Kills

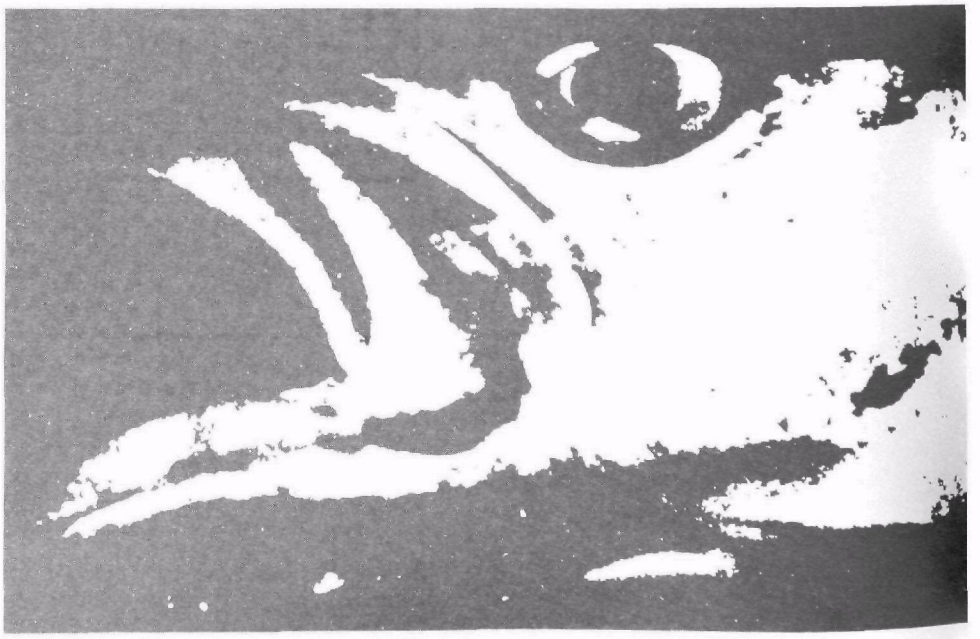
In 1975, 12 kills were reported in which the number of dead fish equaled or exceeded 100,000 each, accounting for 13.9 million fish (Table 4). Three of the kills were massive, reaching or exceeding the million mark, and totaling 12 million fish. Of these, two kills in Texas accounted for 11 million fish, with one kill in a Chambers County drainage canal reaching the 10 million mark, and one kill in Colorado accounted for 1 million fish. These three kills alone amounted to approximately 75 percent (12 million) of the 16.1 million fish killed by pollution in 1975.

Table 4—Major Kills—100,000 or Over—1975

Lake or stream	Near or in	State	Number of fish	Operation
Coyote Cr.	Los Angeles	California	200,000	Pipeline transportation
St. Vrain R.	Longmont	Colorado	1,000,000	Unknown
Mackinaw R.	Anchor	Illinois	173,831	Manure drainage
Tarkio R.	Tarkio	Missouri	105,834	Fertilizers
Kopp Cr.	Auglaize Co.	Ohio	112,966	Unknown
Tiger Cr.	Creek Co.	Oklahoma	205,420	Other operations
Grand Central Cr.	Wind Gap	Pennsylvania	103,078	Truck transportation
Hatchie R.	Bolivar	Tennessee	273,168	Metals
HL&P Old Disc. Ca.	Chambers Co.	Texas	10,000,000	Power
Cedar Bayou	Chambers Co.	Texas	600,000	Unknown
Lake Ray Hubbard	Dallas Co.	Texas	100,000	Unknown
Scott Bay	Harris Co.	Texas	1,000,000	Unknown

Table 4

Lists the major fish kill incidents occurring in 1975 in which 100,000 or more fish were killed in each incident. Many more large kills may have gone unreported, or missed because they were not investigated immediately, and large kills may have been included in reports that did not state a number for fish killed.



Fish Killed, by Type of Water Body

In 1975, 92 percent (14.7 million) of the total fish reported killed died in rivers (Table 5), while 6 percent (1 million) died in coastal waters and only 2 percent (0.3 million) died in lakes.

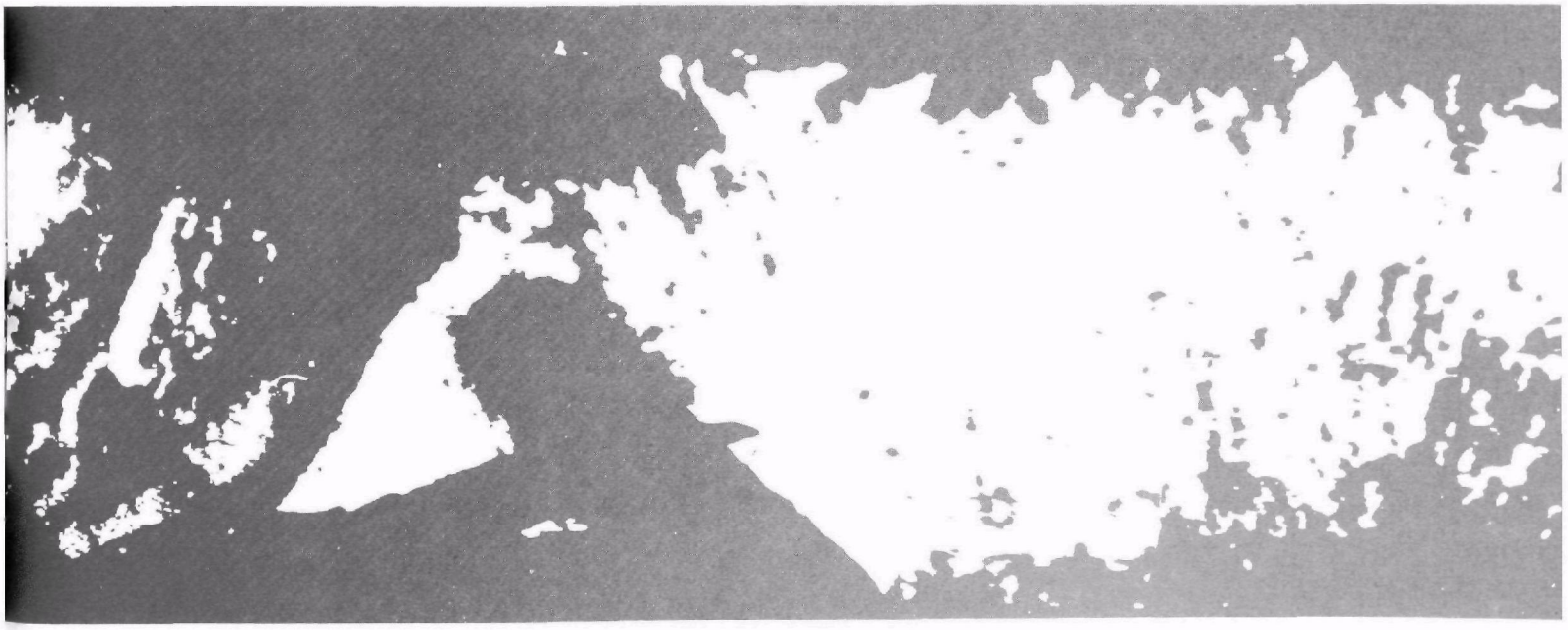
Table 5—Fish Kill Summary by Type of Water Body, 1975

Type of water body	Total reports	Reports specifying number of fish killed		Reports specifying number of fish killed and extent of area affected	
		Number of reports	Number of fish	Miles	Acres
River	474	427	14,731,563	1,174	----------
Lake	137	104	342,378	----------	5,653
Coastal waters*	13	12	1,037,269	744	----------
Total	624	543	16,111,210	1,918	5,653

* Includes embayments such as Chesapeake, San Francisco, and Galveston Bays

Table 5

Summarizes reported fish kills by type of water body (river, lake, and coastal waters), and the extent of the area reportedly affected (by miles or acres). The mileage and acreage figures cannot always be accurately estimated, so care should be exercised in their use.



Fish Killed by Type of Water

In 1975, the number of fish reported killed in fresh water (any inland water upstream of tidal action) accounted for the largest number killed in the three types of water (Table 6), followed by estuary water (water of inlets, bays, or river mouths that are affected by tidal action). Almost 89 percent (14.3 million) of the total reported fish were killed in fresh water. Over 11 percent (1.7 million) were killed in estuary water. A relatively small number (29,000) were reported killed in salt water (water beyond the coastline).

While the number of fish killed in estuary water constitutes a minor percentage of the total, this is of special national concern, since estuaries serve as breeding and nursery grounds for many species of sport and commercial marine fish.

Table 6

Summarizes fish kills by type of water (fresh, salt, and estuary).

Table 6—Fish Kill Summary by Type of Water, 1975

Type of water	Total reports	Reports specifying number of fish killed	
		Number of reports	Number of fish
Fresh*	592	513	14,318,231
Salt**	10	8	29,328
Estuary***	22	22	1,763,651
Total	624	543	16,111,210

* Fresh water includes any inland water upstream of tidal action.
** Salt water means water beyond the coastline.
*** Estuary means the water of inlets, bays, or river mouths that are affected by tidal action.

Fish Kills, By Month

As in the past, the greatest number of reports (73 percent) were submitted for the warm weather months (Table 7), from May through September. Warm weather often coincides with lower water levels during these months and compounds the effects of pollution. Also, since more people are in, or on, the water during the summer, kills are more apt to be observed and reported.

A total of 543 reports specified the number of fish killed by month. August ranked first in the number of reports (100) and fourth in number of fish killed (0.5 million). July ranked second in both number of reports (98) and fish killed (1.2 million). June ranked third in both the number of reports (77) and fish killed (0.6 million). May ranked fourth in the number of reports (67) and fifth in number of fish killed (0.1 million). September ranked fifth in number of reports (57, but it ranked first in number of fish killed (11.5 million).

Table 7

Summarizes fish kills by month.

Table 7—Fish Kill Summary by Month, 1975

Month	Total reports	Reports specifying number of fish killed	
		Number of reports	Number of fish
January	11	10	50,027
February	16	12	114,839
March	19	19	65,084
April	43	37	227,048
May	80	67	122,462
June	88	77	626,748
July	110	98	1,263,257
August	111	100	534,477
September	67	56	11,534,470
October	47	40	1,506,375
November	20	16	41,250
December	12	11	25,173
Total	624	543	16,111,210

Fish Kills, by Duration and Severity

Not all reports indicate duration of kill. In 1975, 55 percent (345 reports) indicated duration of kill with an average of 2.2 days (Table 8), which is a decrease of 1.4 days per average duration over that of 1974. In 1974, 63 percent (452 reports) indicated duration of kill with an average of 3.6 days. In 1975, the longest pollution incident (120 days) occurred in Georgia as a result of crop dusting with Endrin.

The severity of a fish kill is reported as "complete," "heavy," "moderate," or "light" (Table 8). Eighty "complete" fish kills were reported, averaging 4,930 fish killed per report. "Heavy" kills averaging 9,107 fish were reported on 166 occasions. "Moderate" kills were reported on 118 occasions, averaging 1,408 fish per kill. "Light" kills were reported on 131 occasions, averaging 314 fish per kill. The severity "not stated" was reported on 129 occasions averaging 6,083 fish killed. Table 8 also indicates the average duration of fish kills by severity.

Table 9 summarizes the reported number of pollution-caused fish kill incidents and pollution source operations within each Environmental Protection Agency Region. This table permits a comparison of the frequency of reported incidents in different sections of the United States due to different pollution sources.

Agricultural Operations

The total number of reported pollution-caused fish kill incidents from agricultural operations decreased from 145 in 1974 to 118 in 1975, a difference of 27 reported incidents (19 percent).

In 1975, manure-silage drainage in Region V (19 reports) was the most frequently reported individual source of pollution under agricultural operations for any of the ten regions. Pesticides in Region IV (14 reports) was the second most frequently reported individual source followed by pesticides in Region VI (13 reports).

In 1974, pesticides was responsible for 27 reported incidents in Region IV, 33 reported incidents in Region VI, and 7 reported incidents in Region IX, making it the leading agricultural source of reported pollution-caused fish kill incidents for all regions combined in that year.

In 1974, fertilizers were reported as the pollution source in 8 fish kill incidents from Regions II, IV, V, VI, VIII, and X, representing 6 percent of the agricultural operations total. In 1975 fertilizers caused only 3 percent of the incidents.

Table 8—Fish Kill Summary by Duration and Severity of Kill, 1975

Severity of kill	Number of reports	Average kill**	Duration of Kill		Agricultural		Industrial		Municipal		Transportation		Other Operations		Unknown	
			No.	Average (days)*	No.	Percent	No.	Percent	No.	Percent	No.	Percent	No.	Percent	No.	Percent
Complete kill	80	4,930	155	1.40	27	22	13	10	6	6	12	25	11	14	11	6
Heavy kill	166	9,107	119	3.09	41	34	33	27	27	30	15	31	18	23	32	18
Moderate kill	118	1,408	80	2.19	23	19	22	18	24	26	3	6	12	26	26	15
Light kill	131	314	81	1.46	12	10	33	27	14	15	11	23	14	17	47	27
Not stated	129	6,083	10	1.30	15	12	21	17	19	21	6	12	14	17	53	31
Total	624	3,879	345	2.18	118	100	122	100	90	100	47	100	78	100	169	100

* Includes all fish killed as reported plus an allowance computed for reports which did not indicate the number of fish that died.
** Derived after excluding 25 reports of 100,000 kills or more.

Table 8

Summarizes the reported duration and estimated severity of fish kills, their average size, and the number and percent of reports for the different pollution sources. These figures cannot always be accurately estimated, so care should be exercised in their use.

Table 9—Number of Fish Kill Reports by Source of Pollution Within EPA Regions, 1975

Source of pollution	EPA Regions I	II	III	IV	V	VI	VII	VIII	IX	X	Total
Agricultural:											
Pesticides	3	1	4	14	6	13	6	2	12	2	63
Fertilizers			1	1	7	1	6				16
Manure-silage drainage			5	3	19	1	10			1	39
Subtotal	3	1	10	18	32	15	22	2	12	3	118
Industrial:											
Mining			3	5	2	1	3	1	5		20
Food products		6	1		9	2	2				20
Paper products	2			4	2	2	1				11
Chemicals	2	1	6	7	7	3	2	1			29
Petroleum			6	1	7	5	2		1	1	23
Metals				1	3	1				1	6
Combinations											
Other	1		1	4	4	2				1	13
Subtotal	5	7	17	22	34	16	10	2	6	3	122
Municipal:											
Sewerage systems	5	3	8	12	21	8	8	1	4		70
Refuse disposal			2								2
Water systems		1	1		1		1	1	1		6
Swimming pool		1	1						1		3
Power			2		2	1	4				9
Subtotal	5	5	14	12	24	9	13	2	6		90
Transportation:											
Rail			1		1	3					5
Truck		1	10	6	8	1	2	1	1		30
Barge or Boat											
Pipeline		1	2		1	1	5		2		12
Subtotal		2	13	6	10	5	7	1	3		47
Other Operations:	1	5	18	8	19	11	7	1	4	4	78
Unknown:	6	1	4	31	29	52	9	3	24	10	169
Total:	20	21	76	97	148	108	68	11	55	20	624

REGION I
Connecticut
Maine
Massachusetts
New Hampshire
Rhode Island
Vermont

REGION II
New Jersey
New York

REGION III
Delaware
District of Columbia
Maryland
Pennsylvania
Virginia
West Virginia

REGION IV
Alabama
Florida
Georgia
Kentucky
Mississippi
North Carolina
South Carolina
Tennessee

REGION V
Illinois
Indiana
Michigan
Minnesota
Ohio
Wisconsin

REGION VI
Arkansas
Louisiana
New Mexico
Oklahoma
Texas

REGION VII
Iowa
Kansas
Missouri
Nebraska

REGION VIII
Colorado
Montana
North Dakota
South Dakota
Utah
Wyoming

REGION IX
Arizona
California
Hawaii
Nevada

REGION X
Alaska
Idaho
Oregon
Washington

Table 9

Summarizes the number of reported pollution-caused fish kill incidents by individual source of pollution for each EPA region. Region VIII again reported the smallest number of fish kill incidents (11 reports) while Region V (148 reports) led in the number of reported incidents.

Municipal Operations

In 1974, sewerage systems in all regions were the most frequently reported individual source of pollution under municipal operations, totaling 142 reported fish kill incidents. Regions II, IV, and V accounted for 92 reported incidents, or 54 percent of all pollution-caused fish kill incidents resulting from municipal operations.

In 1975, sewerage systems were again the most frequently reported pollution source under municipal operations, totaling 70 reported pollution-caused fish kill incidents. Regions III, IV, V, VI, and VII accounted for 57 reported incidents, or 81 percent of all reported incidents.

The 70 incidents in 1975, compared to the 1974 total of 142 incidents, reflect a more than 50 percent decrease. Significant changes occurred in Regions II and V, where the number of reported incidents decreased from 60 incidents in 1974 to 24 incidents in 1975. The largest part of this change (19 reports) occurred in Region V.

Industrial Operations

In 1975, industrial operations accounted for more pollution-caused fish kill incidents (122) than any other pollution source operation, but this shows a decrease of 46 reported incidents from the 168 incidents reported in 1974, a more than 27 percent change.

Food products in Region V (9 reports) was the most frequently reported individual source of pollution under industrial operations for any given region, and chemicals (29 reports) was the most frequently reported individual source of pollution for all regions combined.

In 1974, food products in Region V and petroleum in Region IV (11 reports each) were the most frequently reported individual sources of pollution under industrial operations for any given region.

Transportation Operations

In 1975, transportation operations (47 reports for all regions) had the smallest number of reported fish kill incidents of any major pollution source operation. The 10 reported incidents involving trucks from Region III represented the largest number of reports in any one region for any single source of pollution within the transportation operations category, or 21 percent of the total reports. Barge or boat operations, an individual source of pollution, accounted for 64 percent of the total incidents for all regions under transportation operations.

In 1974, transportation operations (40 reports for all regions) also had the smallest number of reported fish kill incidents of any major pollution source operation. Truck operations, under this category, accounted for 26 reported incidents, or 65 percent of the total.

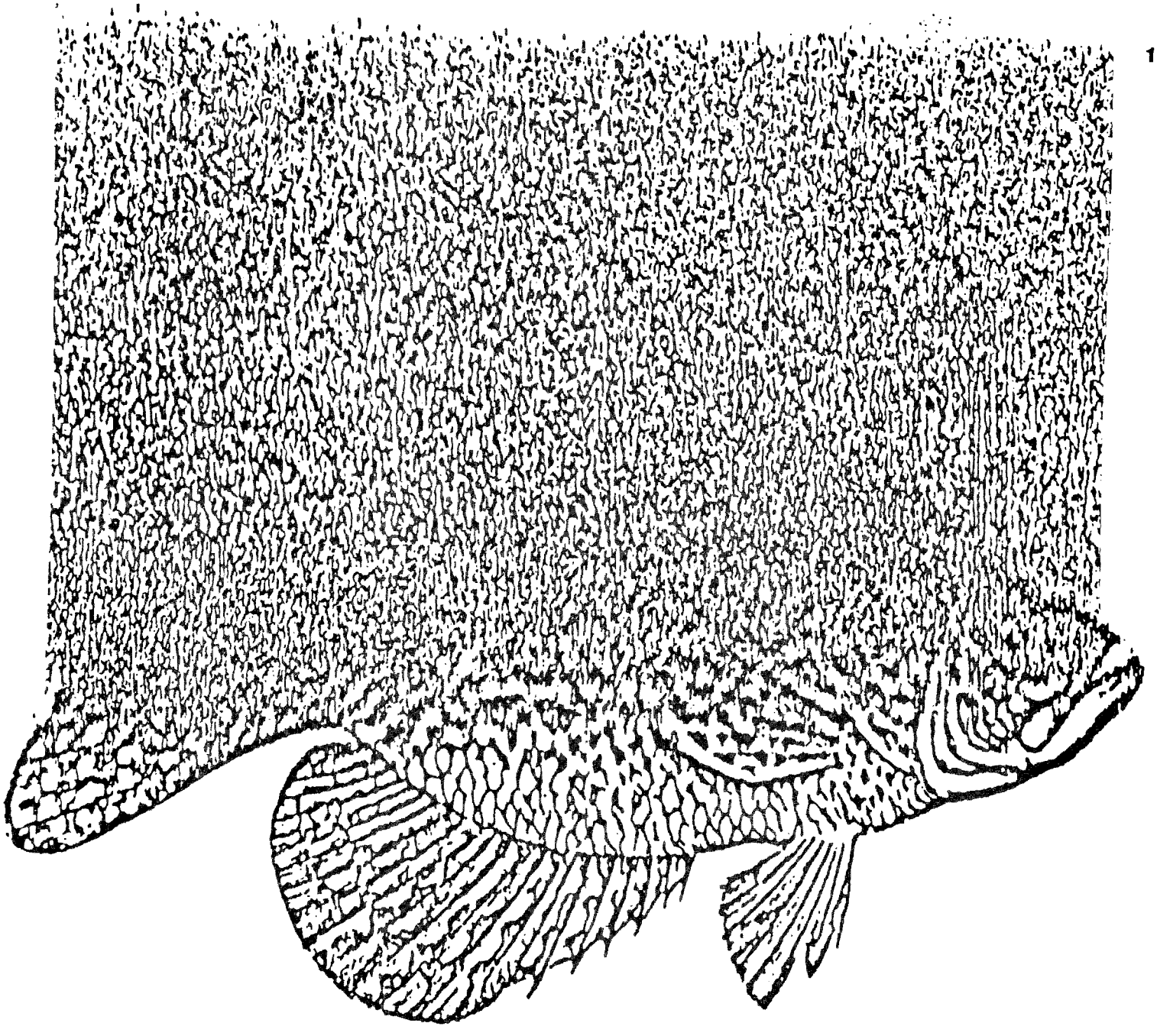
Construction or Other Operations

Other operations are a general category for those identifiable sources of pollution which do not fall under the other four categories.

In 1975, of the 78 reported fish kill incidents under the "Other Operations" category, three regions accounted for most of the incidents. They were Region V with 19 reports or 24 percent, Region III with 18 reports or 23 percent and Region VI with 11 reports or 14 percent. In 1974, of the 74 incidents reported, four regions accounted for most of the reported incidents. They were Region V with 18 reports or 24 percent, Region IX with 14 reports or 18 percent, Region III with 12 reports or 16 percent and Region II with 10 reports or 13 percent.

In 1975, a total of 78 fish kill incidents were reported.

There was an increase in the total number of reported incidents (4 reports) for other operations from 1974 to 1975. However, the number of individual reported incidents ranged from a decrease of 10 reports in Region IX to an increase of 10 reports in Region VI.



Summary of Reported Fish Kills, Nationally and by State

This section of the report summarizes fish kills reported in 1975 on a national and State-by-State basis, using a computerized map plotting program from the EPA STOrage and RETrieval (STORET) system. STORET is the agency's Water Quality Information System. The program plots each State separately and pinpoints each reported fish kill within the county in which it occurred. Each map includes a set of symbols denoting the size of an individual kill. Where more than one fish kill has been reported in a county, note that a multiple of symbols appear within the county as overlays.

Figure 2 is a national chart which indicates by percentages the total reported fish killed by the type of operation which may have been responsible for the fish kill. This chart can also be used to compare nation-wide causes versus causes within any reporting State. States which did not submit fish kill reports in 1975 are not included.

In 1975, the largest number of reported fish kills were classified as cause unknown (25 percent). The fact that these causes are unknown may be due to factors such as the time of day, the season of the year, the physical isolation of an area, the lack of laboratory testing facilities, or possible manpower shortages.

Industrial operations ranked second (20 percent) in the number of reported fish kills. This category includes chemicals (5 percent), petroleum (4 percent), mining (3 percent), food products (3 percent), paper products (2 percent), other (2 percent), and metals (1 percent).

Agricultural operations ranked third (19 percent). This category includes pesticides (10 percent), manure-silage drainage (6 percent), and fertilizers (3 percent).

Municipal operations ranked fourth (15 percent). This category includes sewerage systems (12 percent), power (2 percent), refuse disposal (0.5 percent), water systems (0.5 percent), and swimming pool (0.5 percent).

Other operations ranked fifth (12 percent).

Transportation operations ranked sixth, and last, (8.5) percent. This category includes truck (6 percent), barge and boat/pipeline (2 percent), and rail (0.5 percent).

Figures 3 through 47 show the reported fish kills, by size and percentages of causes, for each of the States that reported kills in 1975. The State outlines for these figures are provided by the U.S. Department of Transportation's State County Data Bank.

Figure 2
Percentage of Fish Kills Reported in United States, by Cause—1975

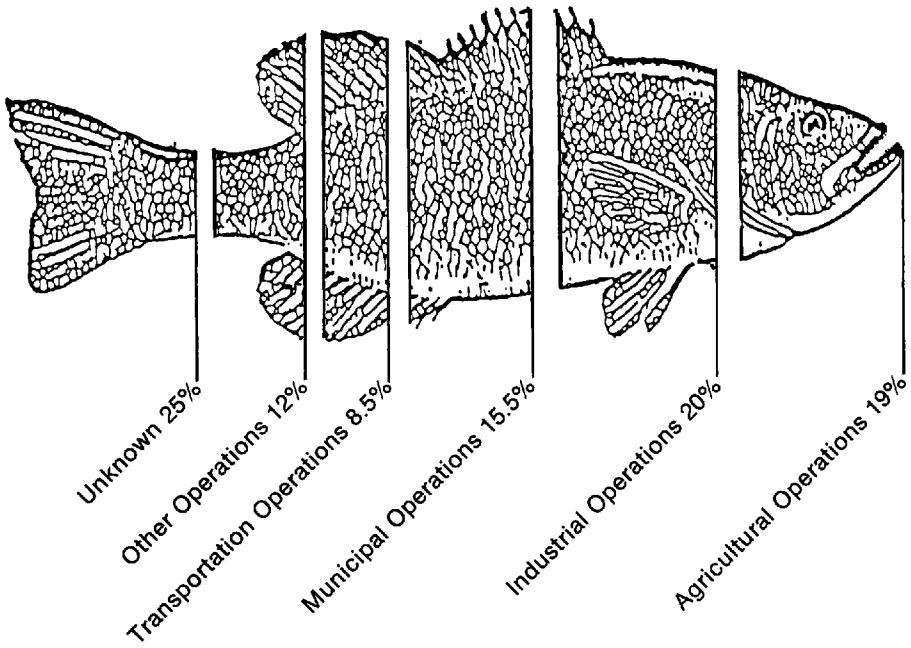
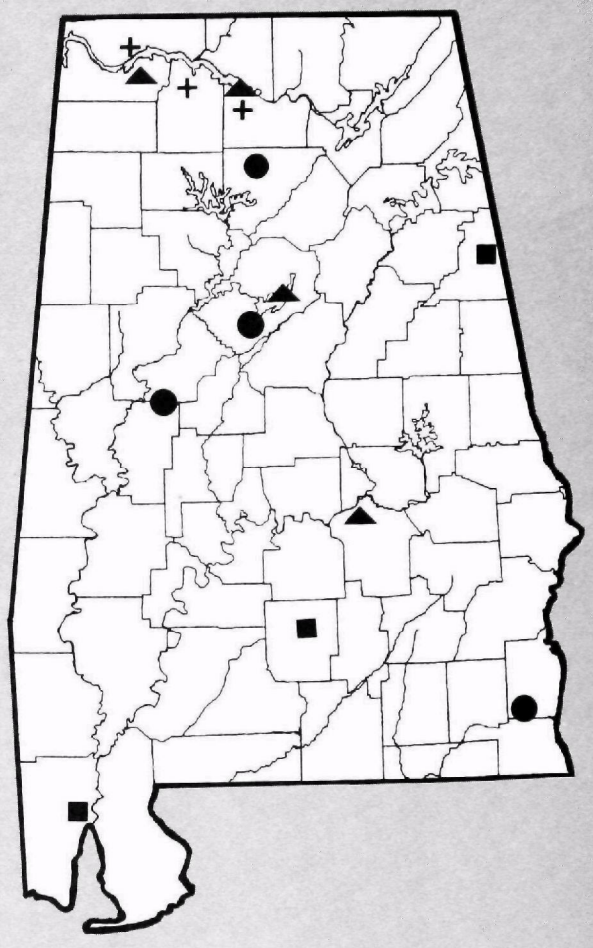


Figure 3

State of Alabama—Reported Fish Kills, by Size and Percentages of Causes—1975

Fish Kills by Size

- ■ 1–100
- ● 100–1000
- ▲ 1000–10 000
- + 10 000–100 000
- × 100 000–1000 000
- ◆ over 1000 000



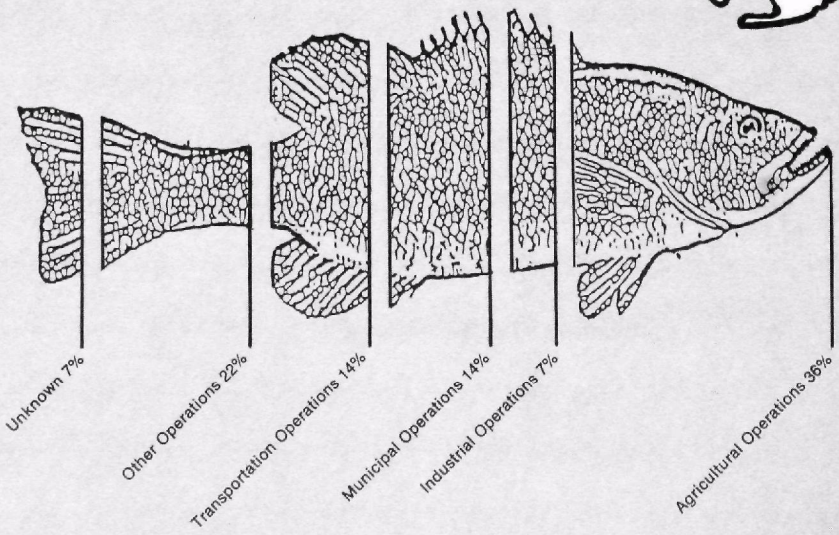
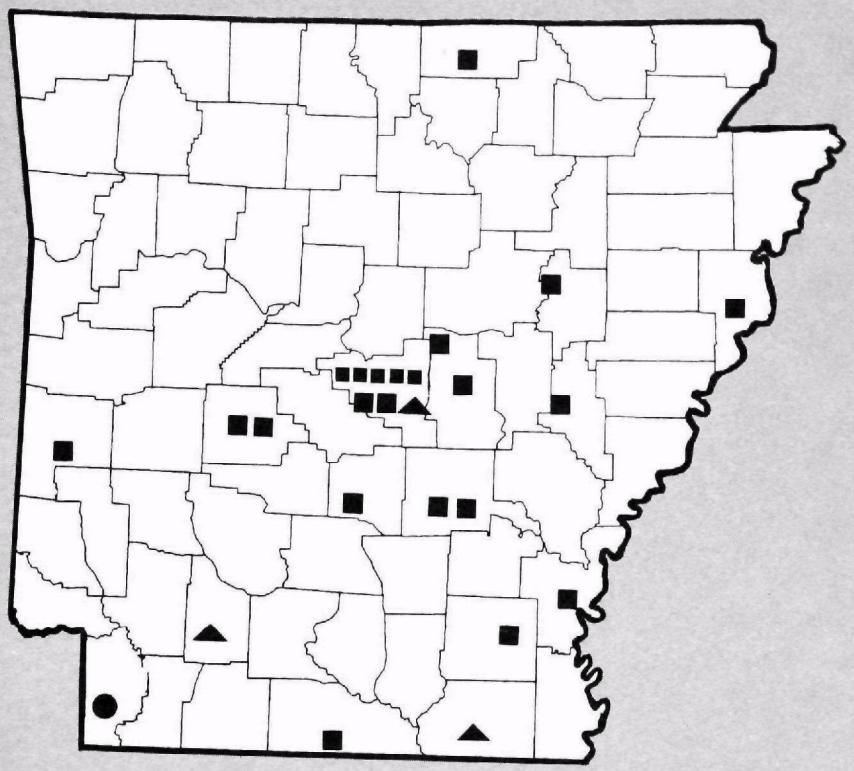


Figure 4

State of Arkansas—Reported Fish Kills, by Size and Percentages of Causes—1975

Fish Kills by Size

- ■ 1–100
- ● 100–1000
- ▲ 1000–10 000
- + 10 000–100 000
- × 100 000–1000 000
- ◆ over 1000 000



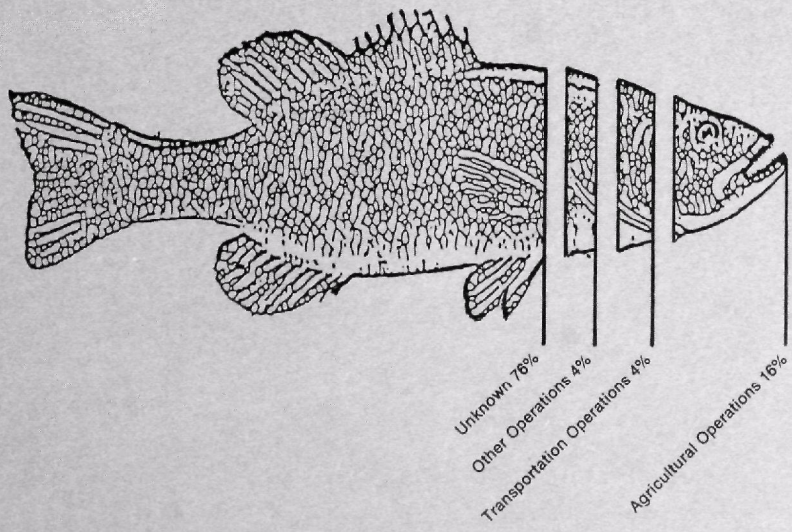
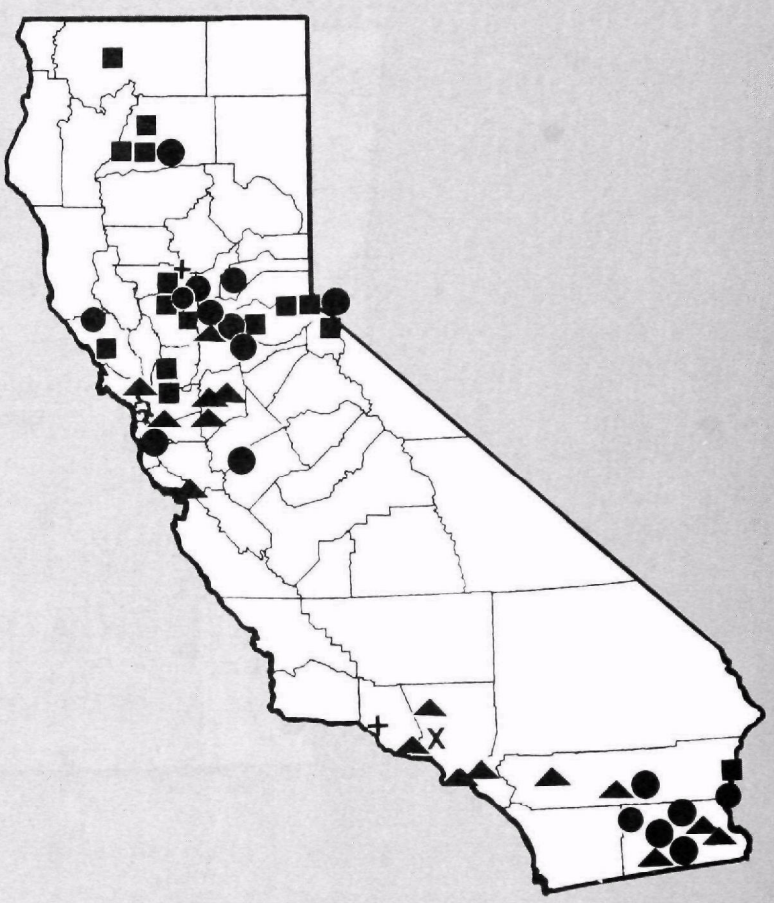


Figure 5

State of California—Reported Fish Kills, by Size and Percentages of Causes—1975

Fish Kills by Size

- ■ 1–100
- ● 100–1000
- ▲ 1000–10 000
- + 10 000–100 000
- × 100 000–1000 000
- ◆ over 1000 000



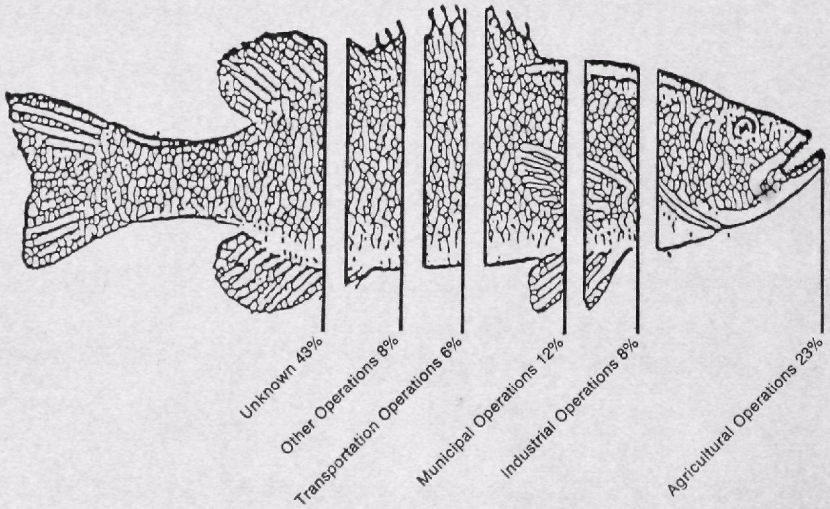
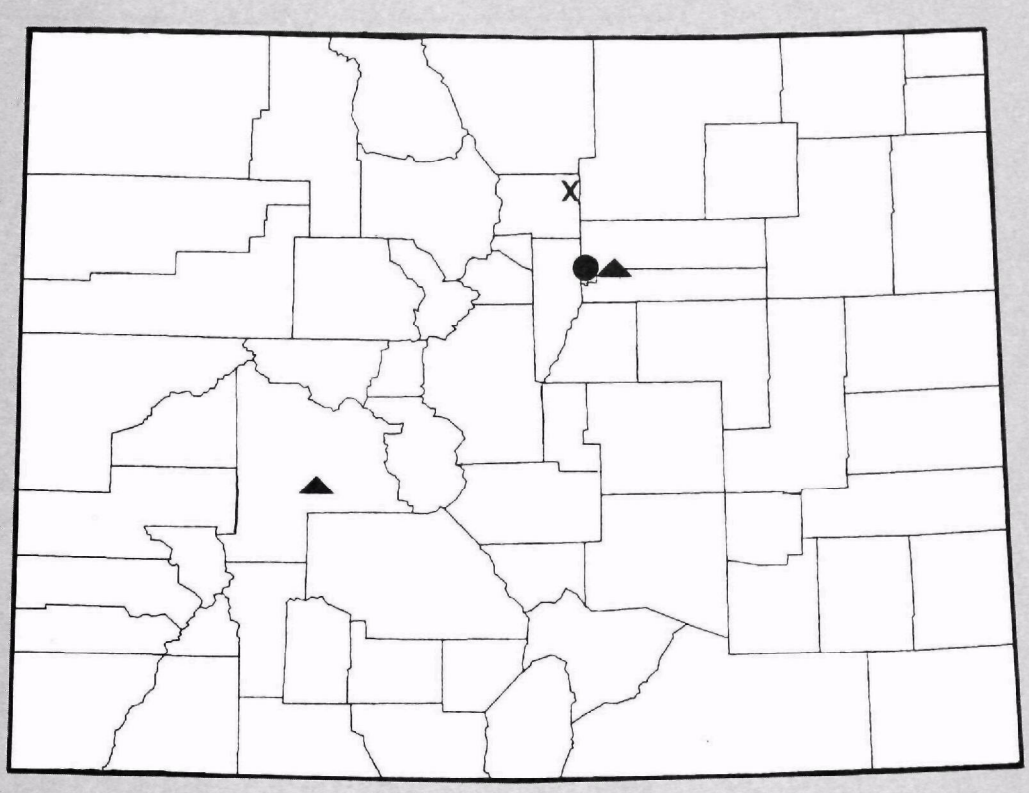


Figure 6

State of Colorado—Reported Fish Kills, by Size and Percentages of Causes—1975

Fish Kills by Size

- ■ 1–100
- ● 100–1000
- ▲ 1000–10 000
- + 10 000–100 000
- × 100 000–1000 000
- ◆ over 1000 000



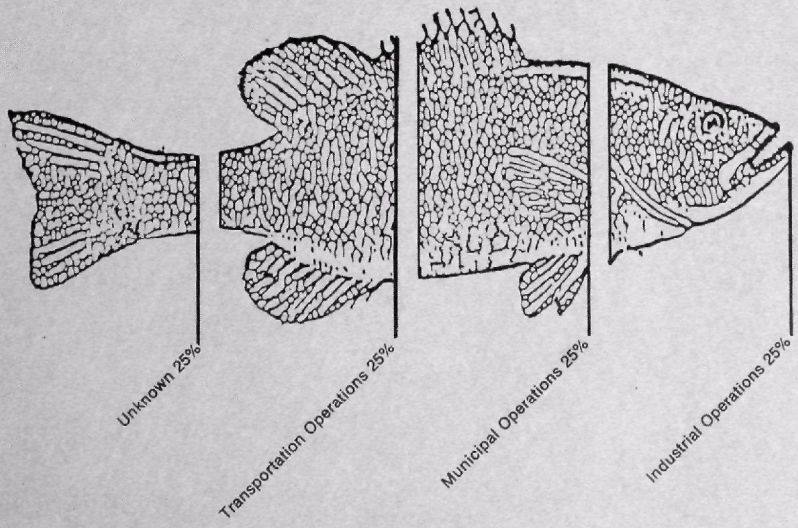


Figure 7

State of Connecticut—Reported Fish Kills, by Size and Percentages of Causes—1975

Fish Kills by Size

- ■ 1–100
- ● 100–1000
- ▲ 1000–10 000
- + 10 000–100 000
- × 100 000–1000 000
- ◆ over 1000 000

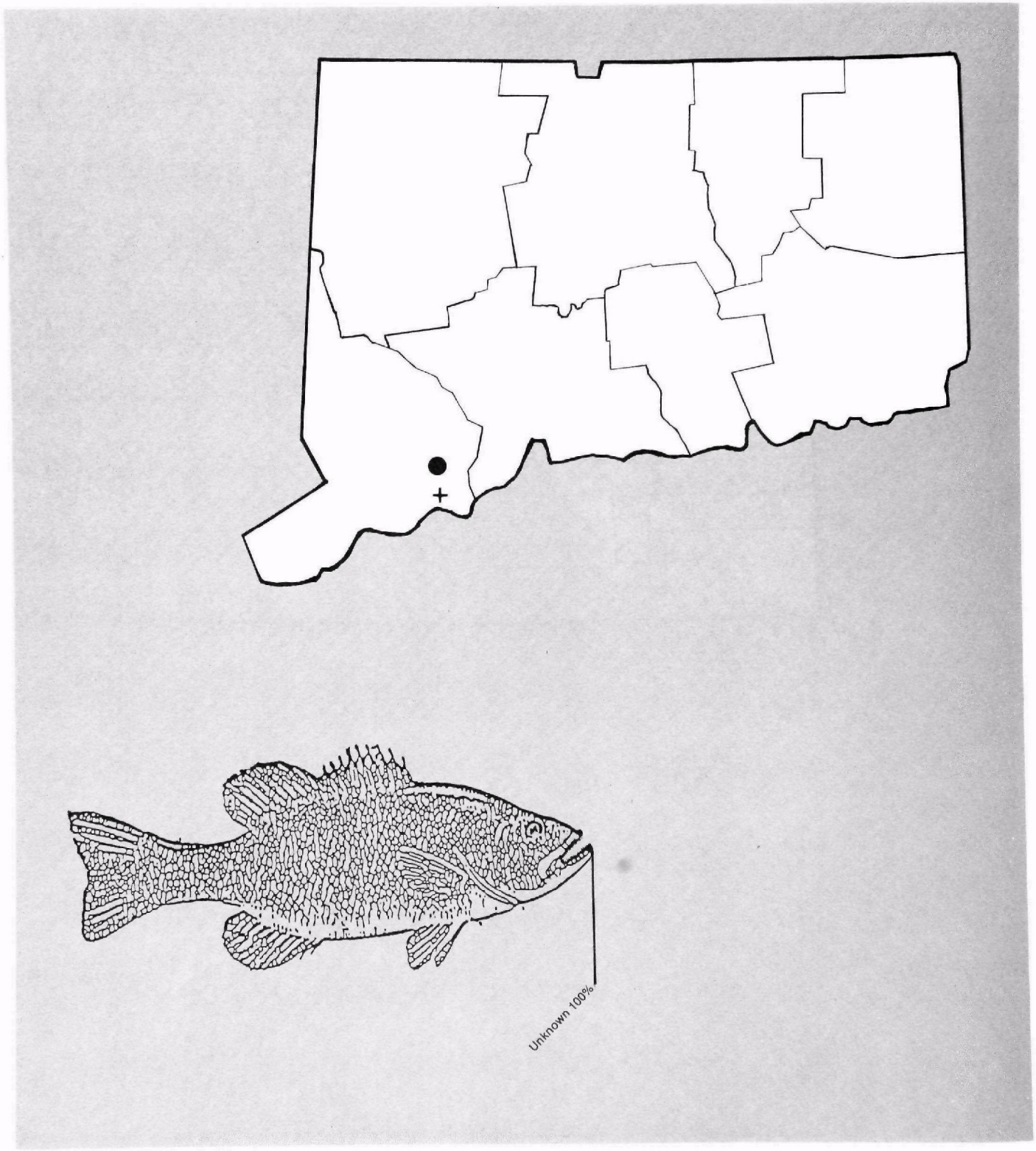


Figure 8

State of Delaware—Reported Fish Kills, by Size and Percentages of Causes—1975

Fish Kills by Size

■	1–100
●	100–1000
▲	1000–10 000
+	10 000–100 000
×	100 000–1000 000
◆	over 1000 000

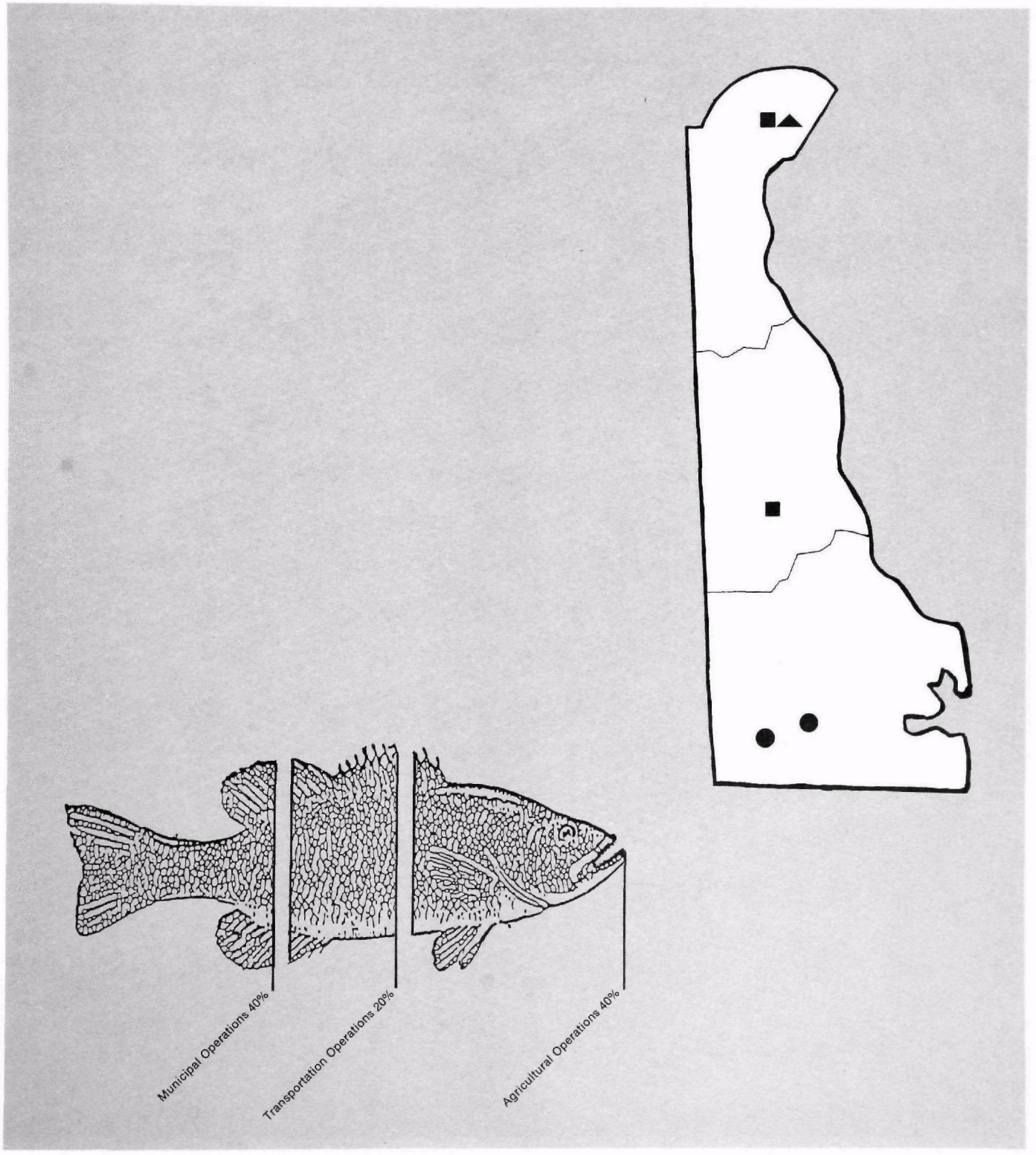


Figure 9

State of Florida—Reported Fish Kills, by Size and Percentages of Causes—1975

Fish Kills by Size

- ■ 1–100
- ● 100–1000
- ▲ 1000–10 000
- + 10 000–100 000
- × 100 000–1000 000
- ◆ over 1000 000

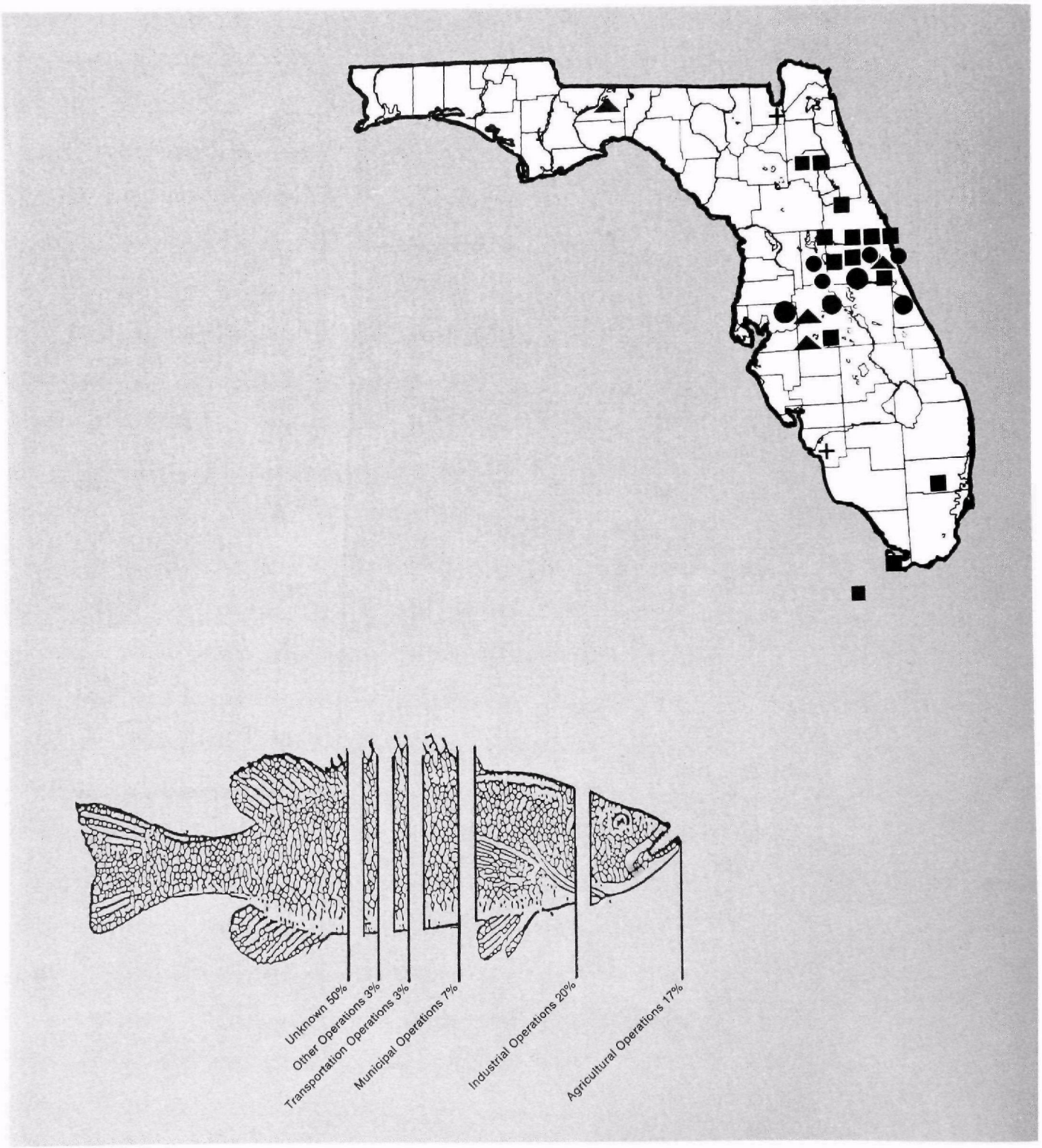


Figure 10

State of Georgia—Reported Fish Kills, by Size and Percentages of Causes—1975

Fish Kills by Size

- ■ 1–100
- ● 100–1000
- ▲ 1000–10 000
- + 10 000–100 000
- × 100 000–1000 000
- ◆ over 1000 000

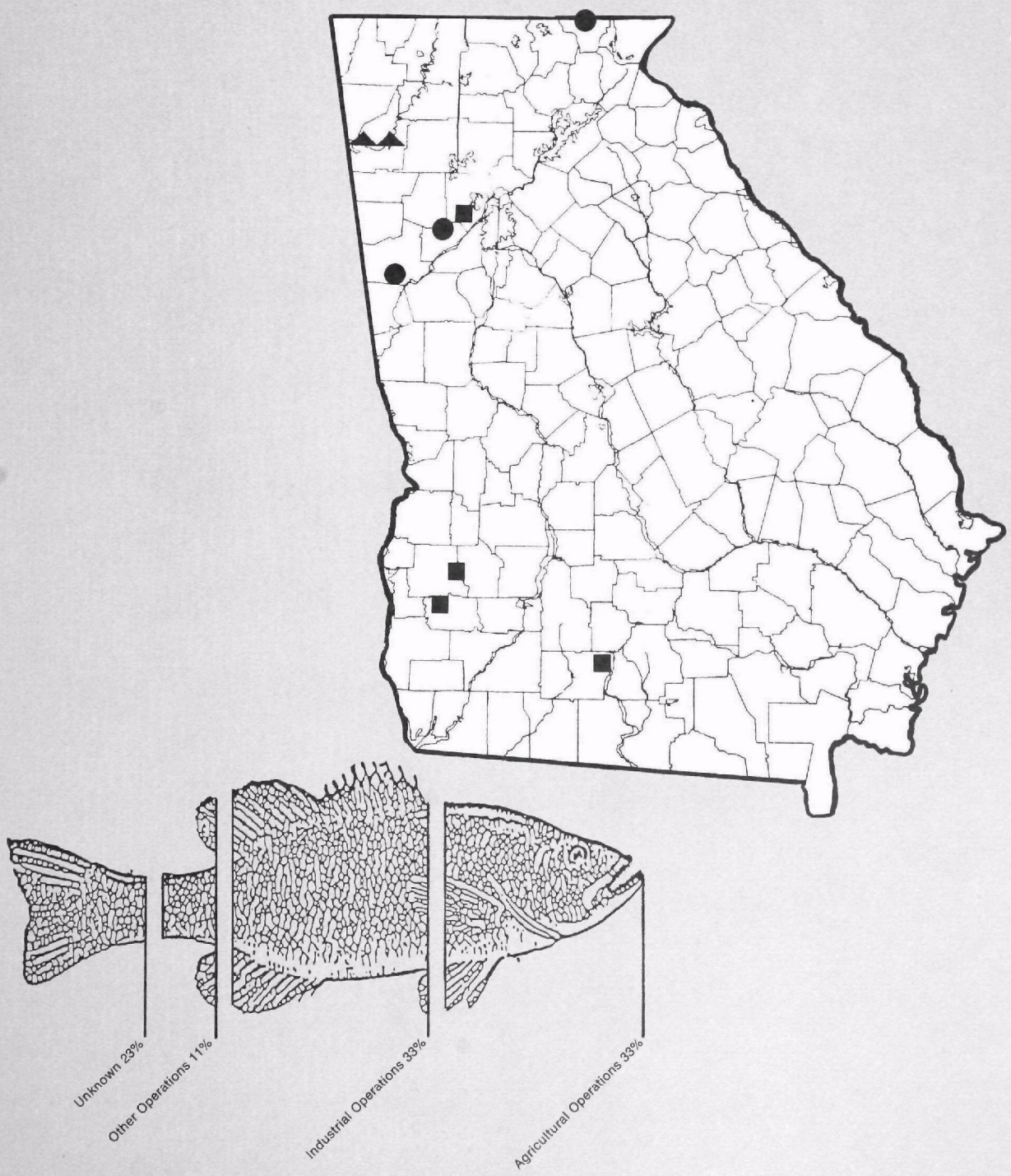


Figure 11

State of Hawaii—Since the Department of Transportation State County Data Bank does not include a state outline for Hawaii, a map showing reported fish kills by size has not been included in this report.

The EPA's STORET computer system is investigating the expansion of the Department of Transportation's data bank to eventually include Hawaii.

The chart shows that industrial operations accounted for 100 percent of the fish kills reported for Hawaii in 1975.

Drainage Canal—Honolulu, 1,000 Fish Reported Killed

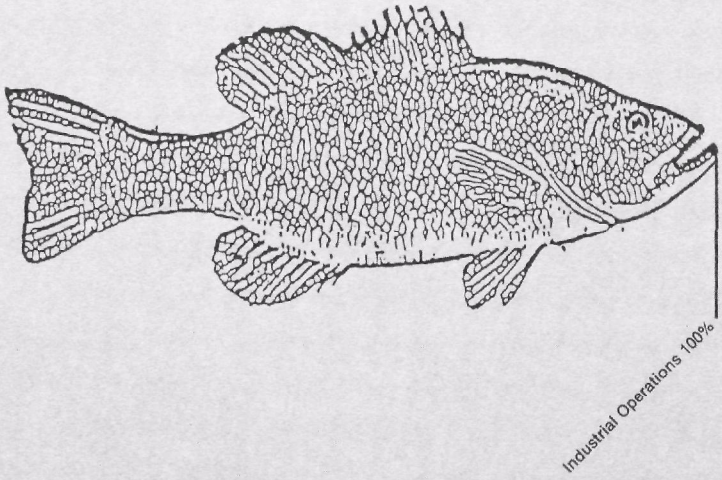


Figure 12

State of Idaho—Reported Fish Kills, by Size and Percentages of Causes—1975

Fish Kills by Size

- ■ 1–100
- ● 100–1000
- ▲ 1000–10 000
- + 10 000–100 000
- × 100 000–1000 000
- ◆ over 1000 000

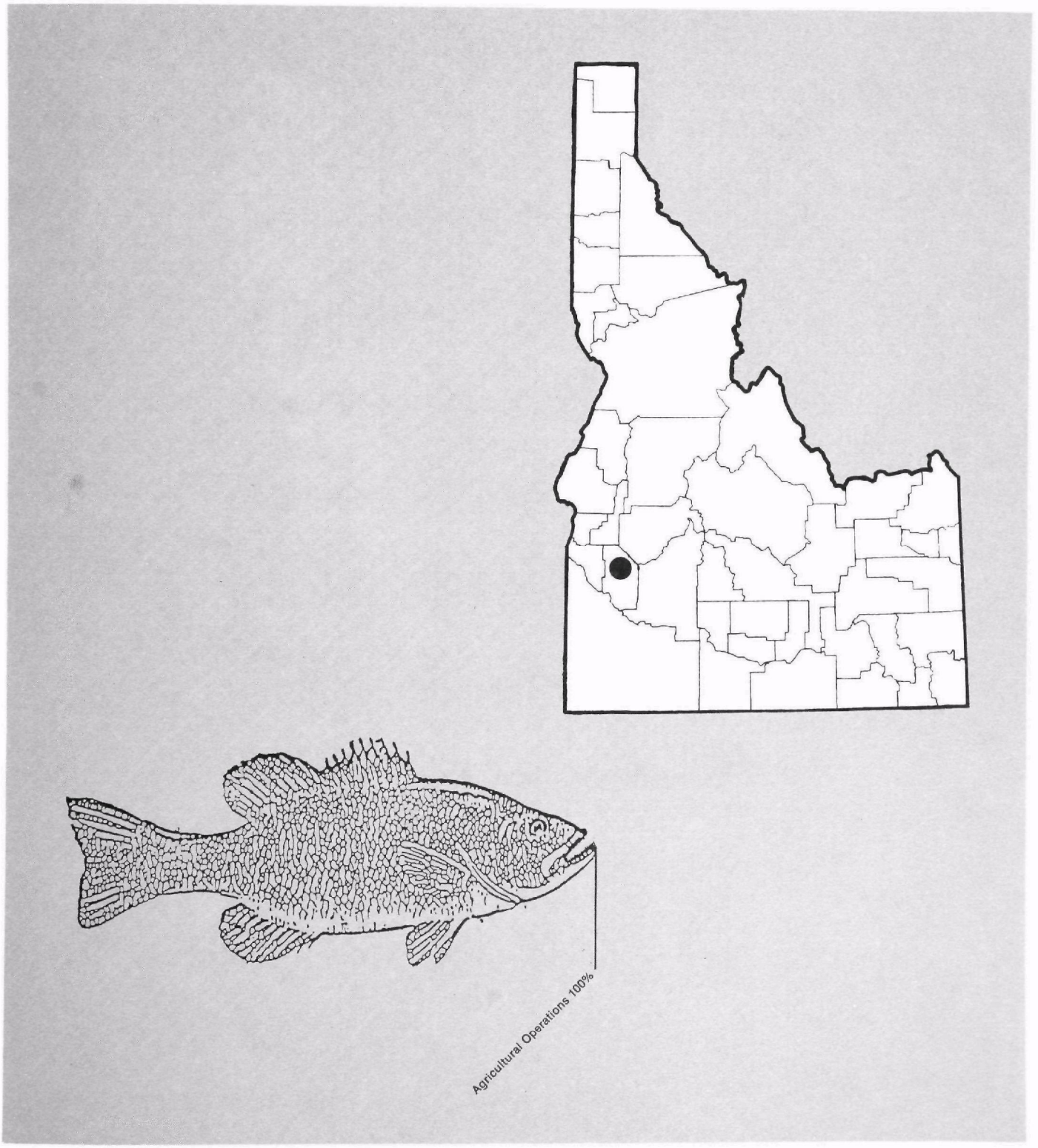
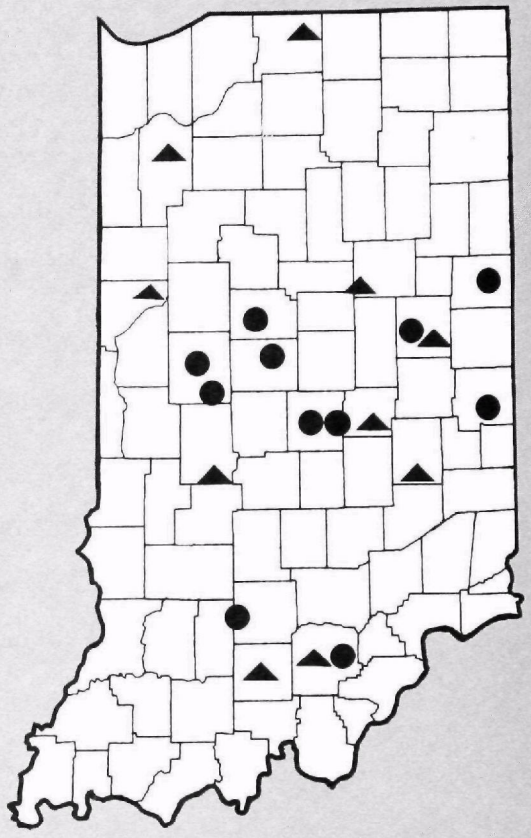


Figure 13

State of Indiana—Reported Fish Kills, by Size and Percentages of Causes—1975

Fish Kills by Size

- ■ 1–100
- ● 100–1000
- ▲ 1000–10 000
- + 10 000–100 000
- × 100 000–1000 000
- ◆ over 1000 000



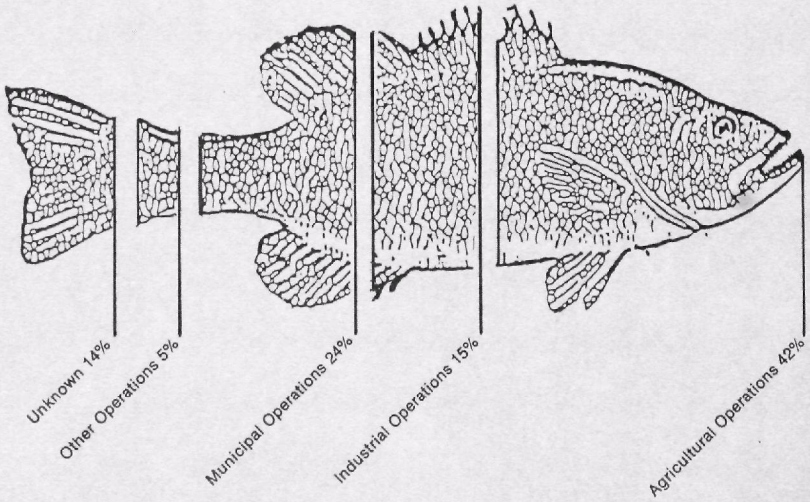
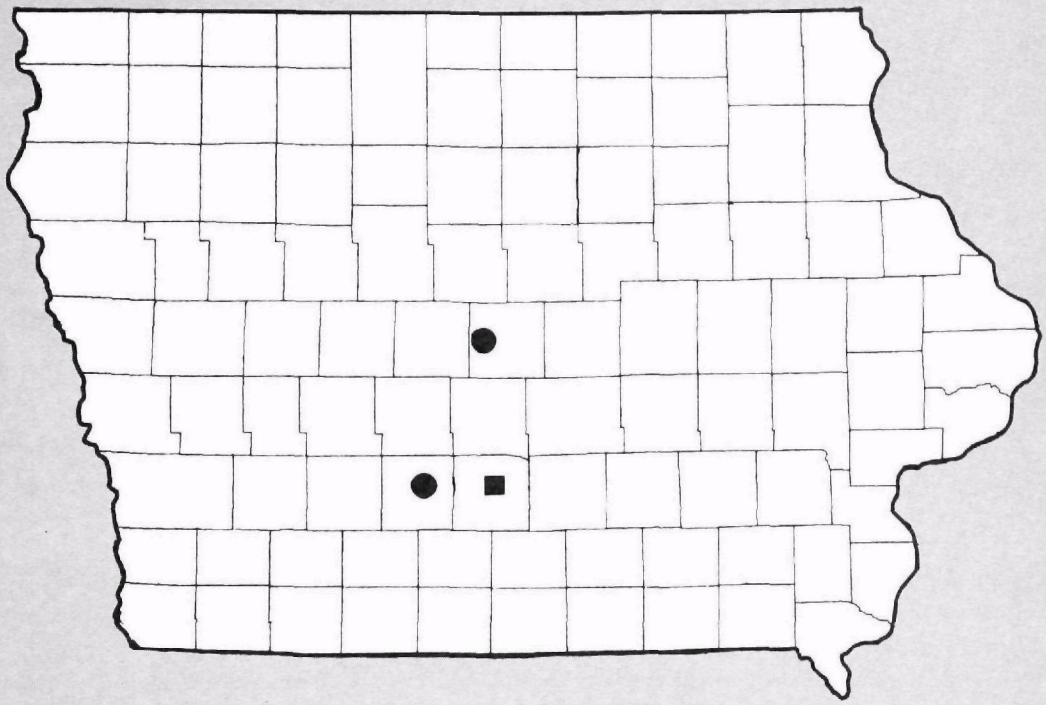


Figure 14

State of Iowa—Reported Fish Kills, by Size and Percentages of Causes—1975

Fish Kills by Size

- ■ 1–100
- ● 100–1000
- ▲ 1000–10 000
- + 10 000–100 000
- × 100 000–1000 000
- ◆ over 1000 000



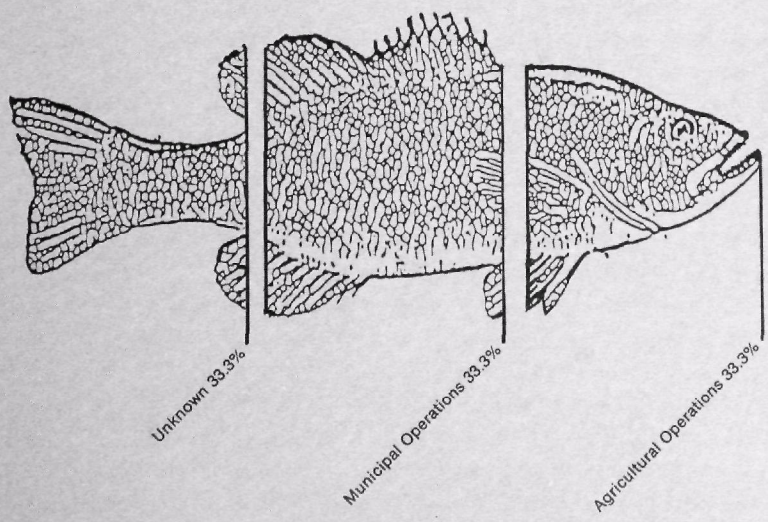
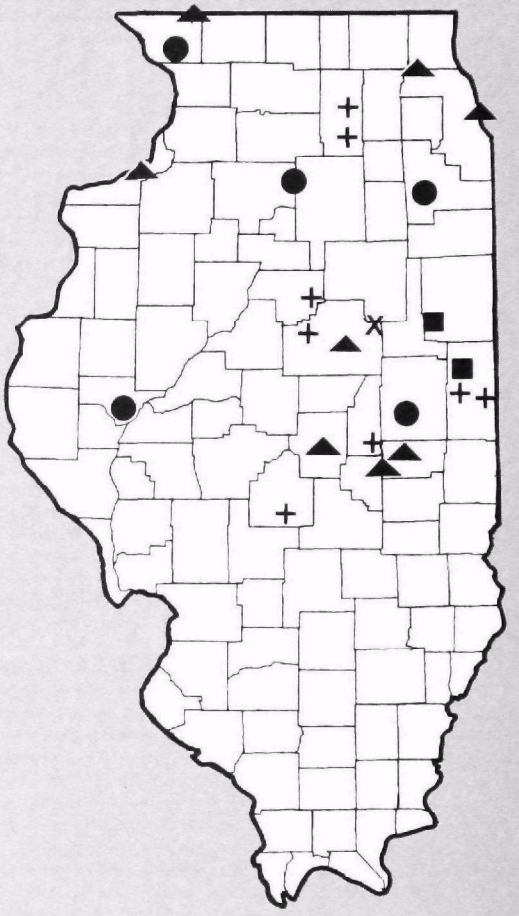


Figure 15

State of Illinois—Reported Fish Kills, by Size and Percentages of Causes—1975

Fish Kills by Size

- ■ 1–100
- ● 100–1000
- ▲ 1000–10 000
- + 10 000–100 000
- × 100 000–1000 000
- ◆ over 1000 000



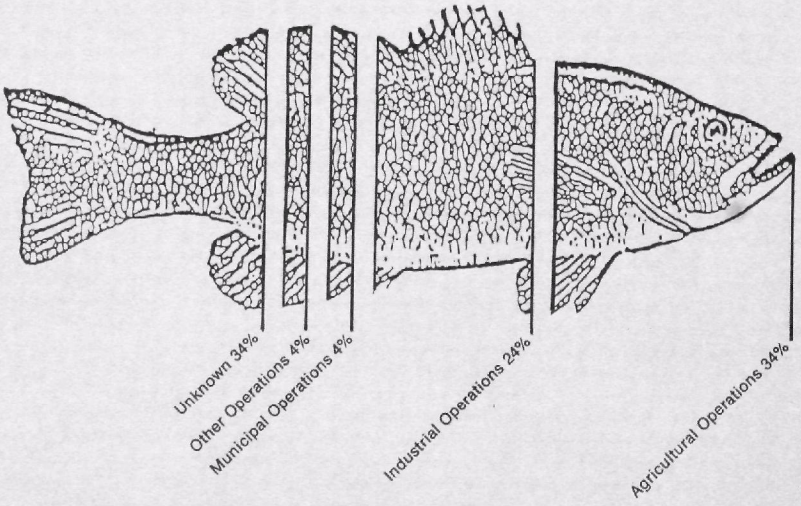
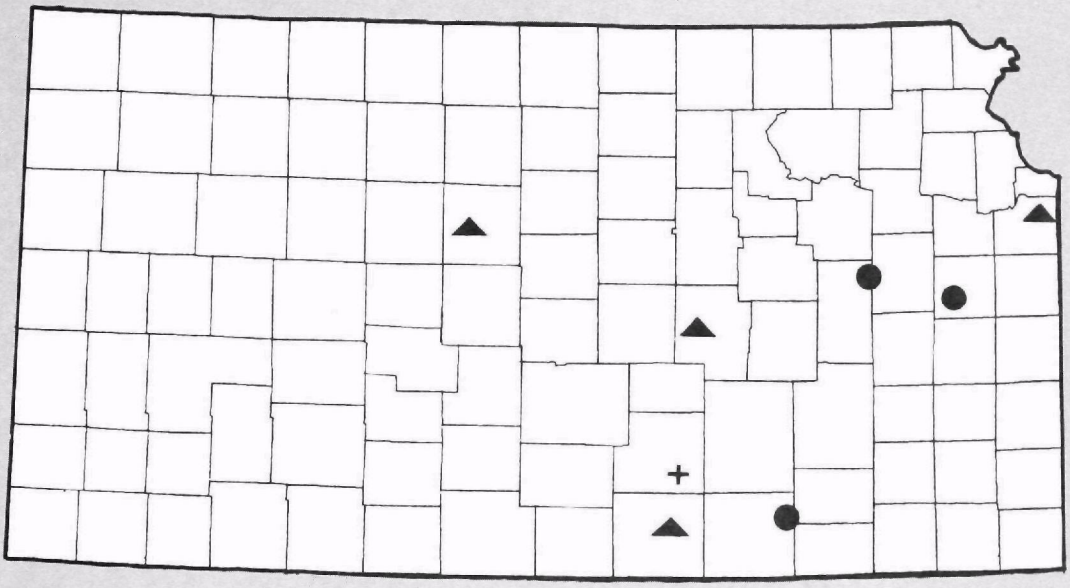


Figure 16

State of Kansas—Reported Fish Kills, by Size and Percentages of Causes—1975

Fish Kills by Size

- ■ 1–100
- ● 100–1000
- ▲ 1000–10 000
- + 10 000–100 000
- × 100 000–1000 000
- ◆ over 1000 000



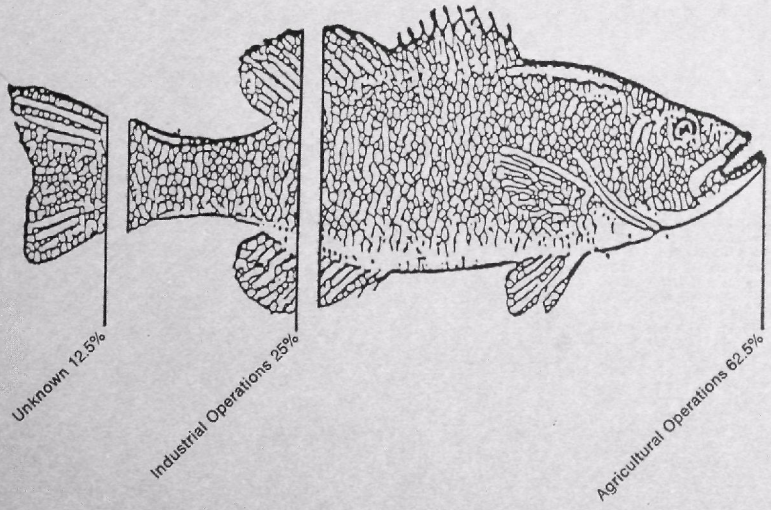
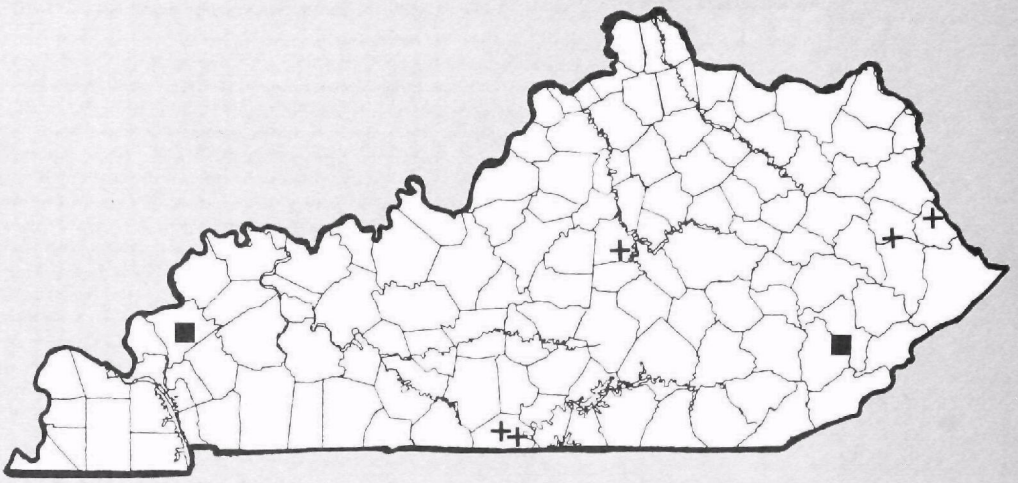


Figure 17

State of Kentucky—Reported Fish Kills, by Size and Percentages of Causes—1975

Fish Kills by Size

- ■ 1–100
- ● 100–1000
- ▲ 1000–10 000
- + 10 000–100 000
- × 100 000–1000 000
- ◆ over 1000 000



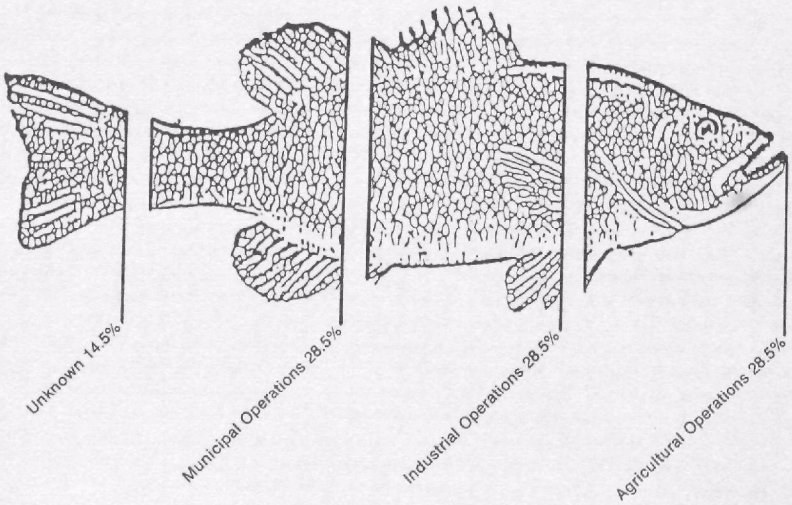
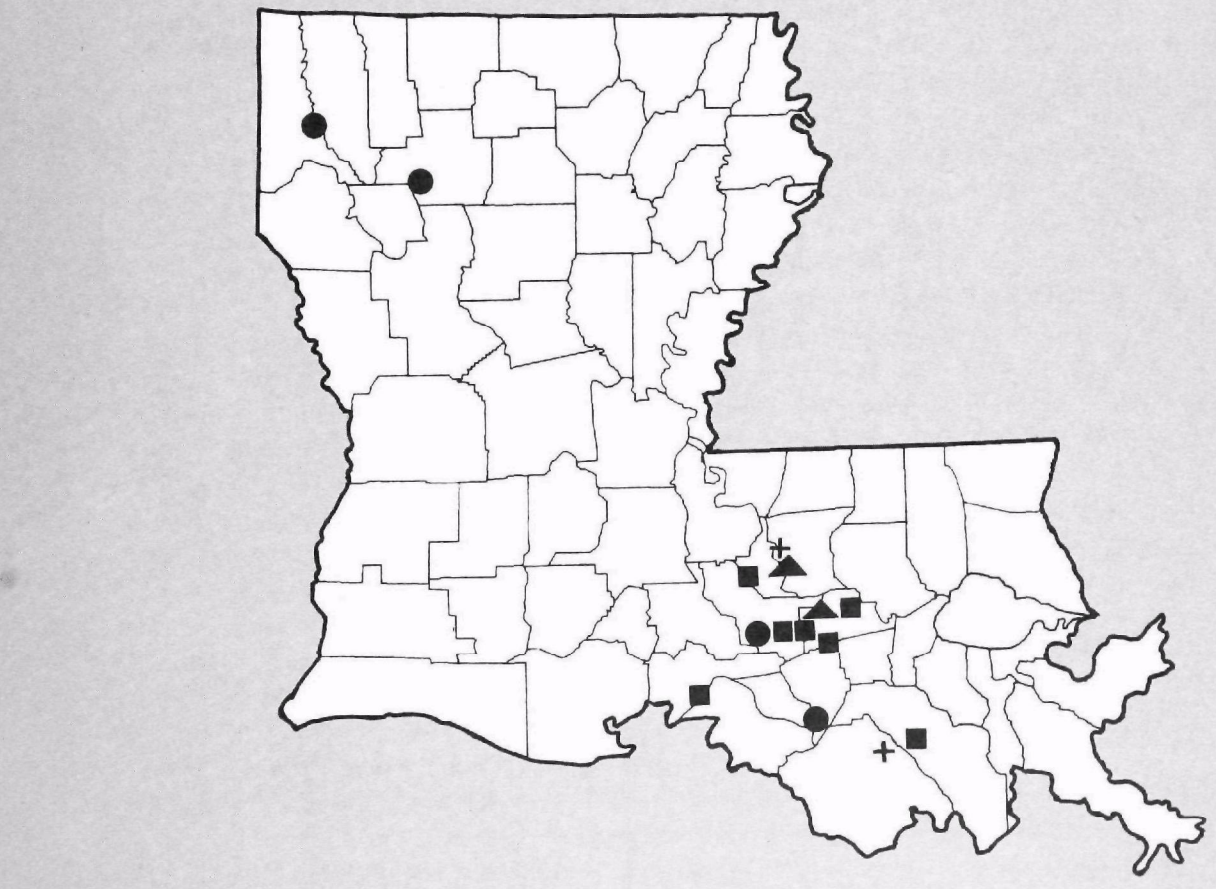


Figure 18

State of Louisiana—Reported Fish Kills, by Size and Percentages of Causes—1975

Fish Kills by Size

- ■ 1–100
- ● 100–1000
- ▲ 1000–10 000
- + 10 000–100 000
- × 100 000–1000 000
- ◆ over 1000 000



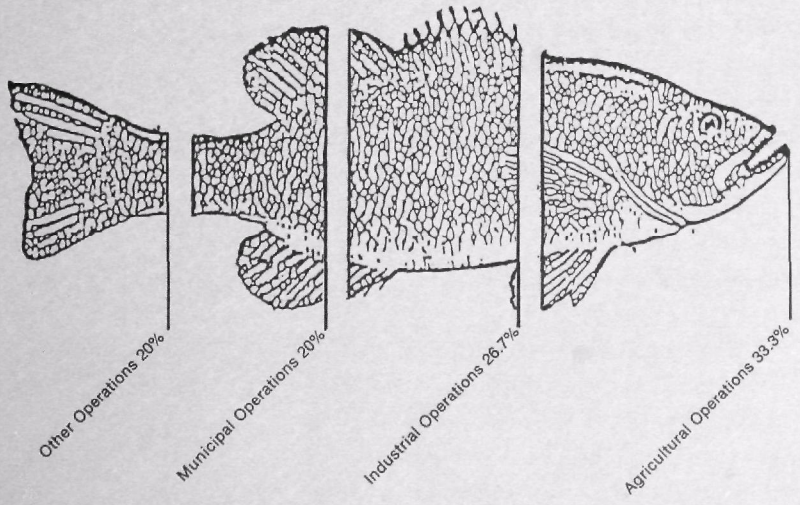


Figure 19

State of Maine—Reported Fish Kills, by Size and Percentages of Causes—1975

Fish Kills by Size

- ■ 1–100
- ● 100–1000
- ▲ 1000–10 000
- + 10 000–100 000
- × 100 000–1000 000
- ◆ over 1000 000

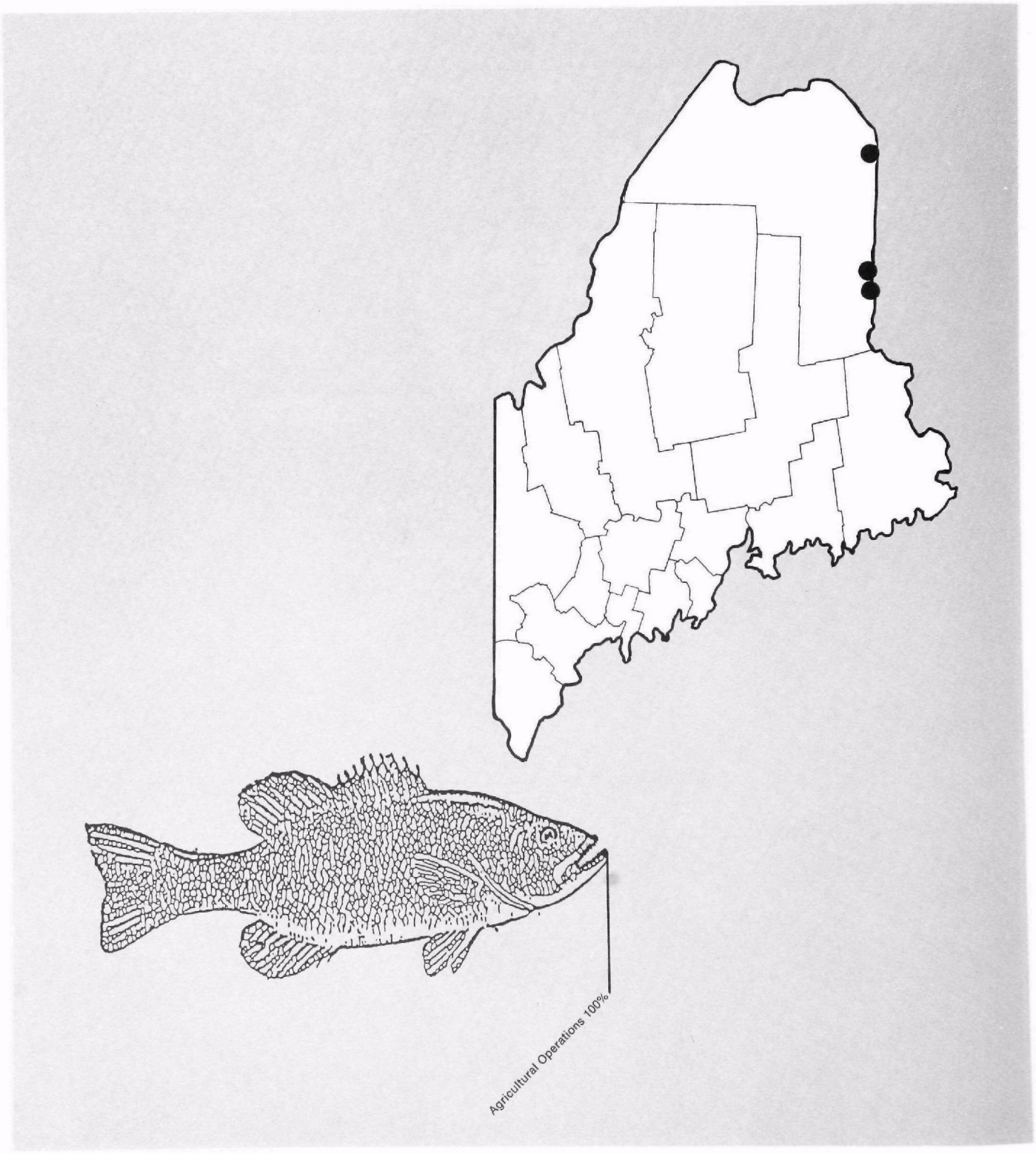
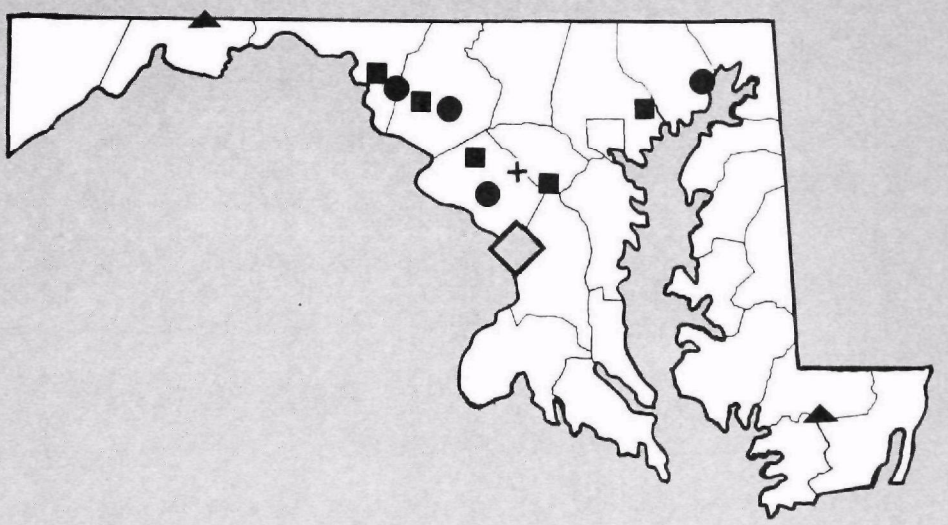


Figure 20

State of Maryland—Reported Fish Kills, by Size and Percentages of Causes—1975

Fish Kills by Size

- ■ 1–100
- ● 100–1000
- ▲ 1000–10 000
- + 10 000–100 000
- × 100 000–1000 000
- ◆ over 1000 000



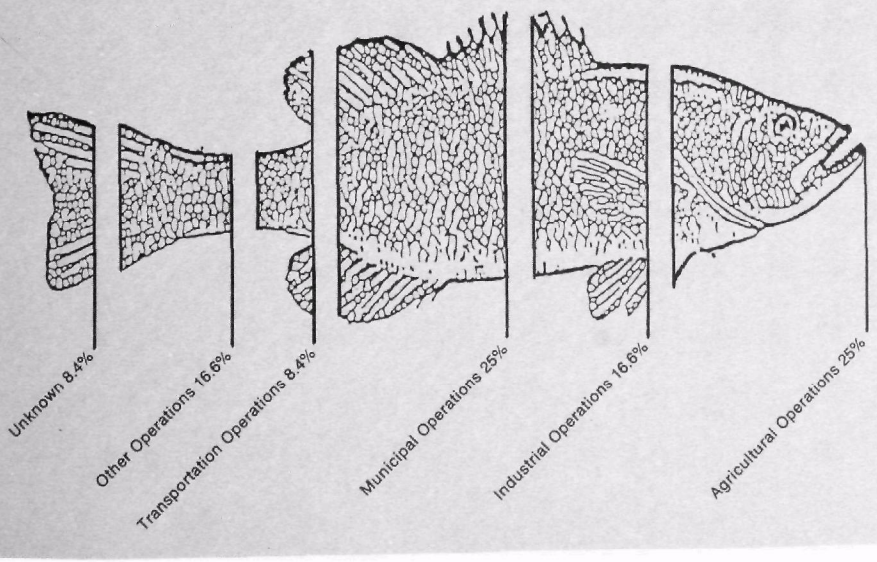
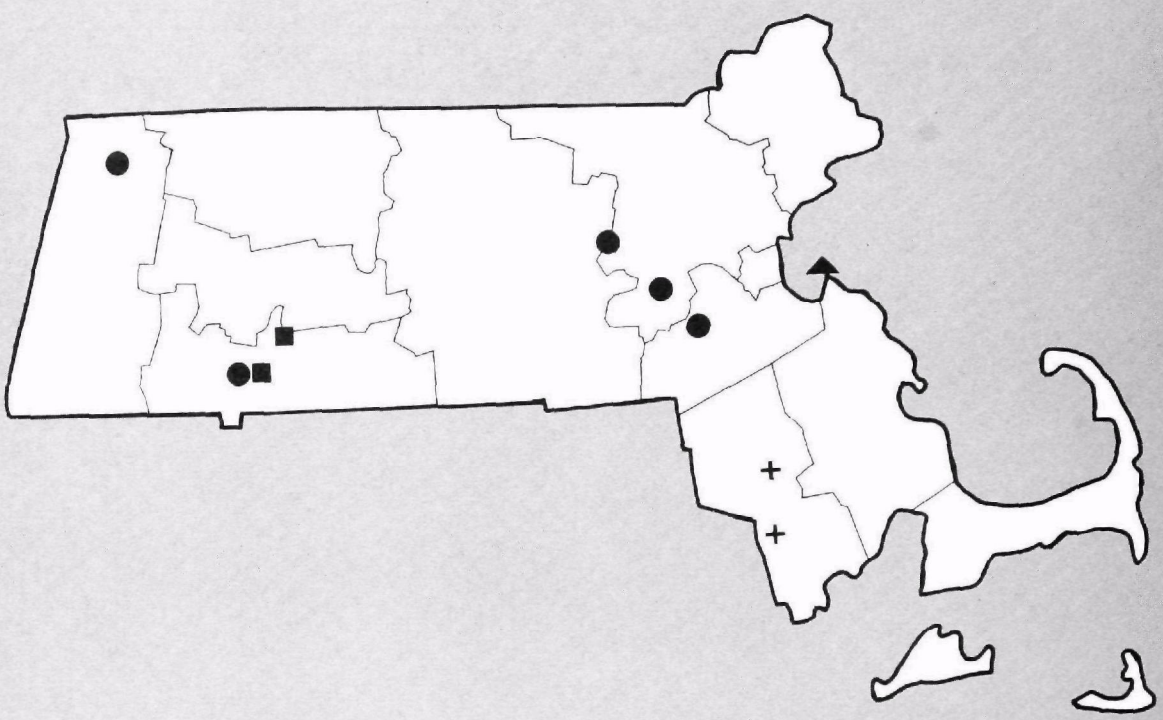


Figure 21

State of Massachussetts—Reported Fish Kills, by Size and Percentages of Causes—1975

Fish Kills by Size

■	1–100
●	100–1000
▲	1000–10 000
+	10 000–100 000
×	100 000–1000 000
◆	over 1000 000



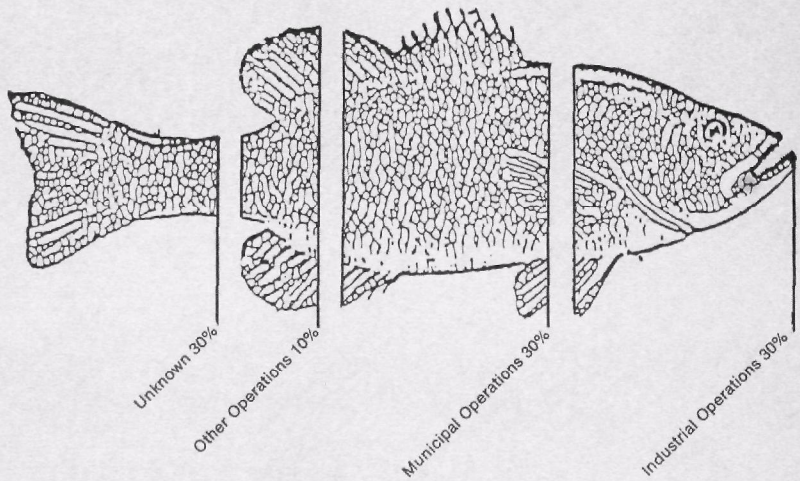


Figure 22

State of Michigan—Reported Fish Kills, by Size and Percentages of Causes—1975

Fish Kills by Size

- ■ 1–100
- ● 100–1000
- ▲ 1000–10 000
- + 10 000–100 000
- × 100 000–1000 000
- ◆ over 1000 000

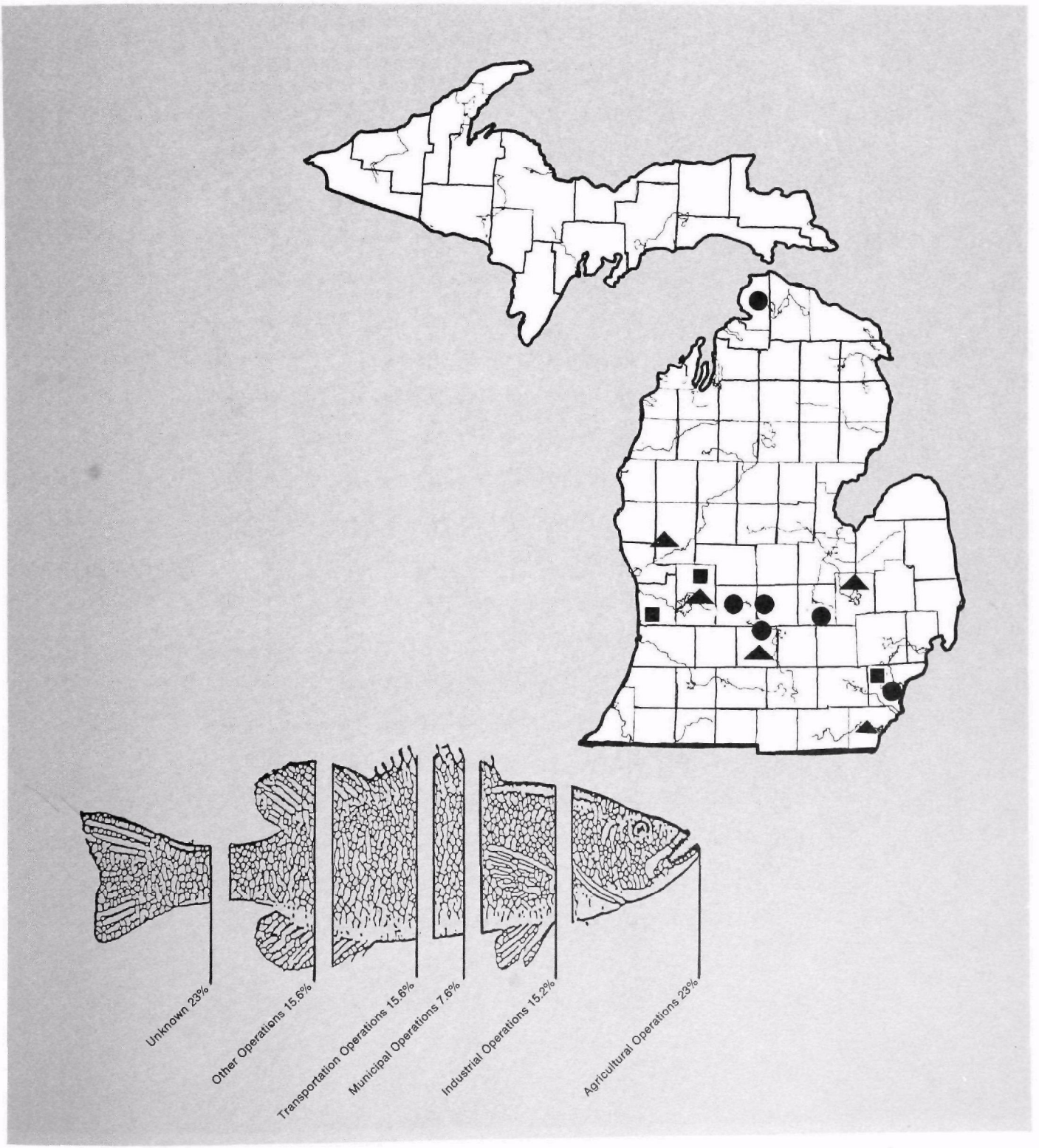
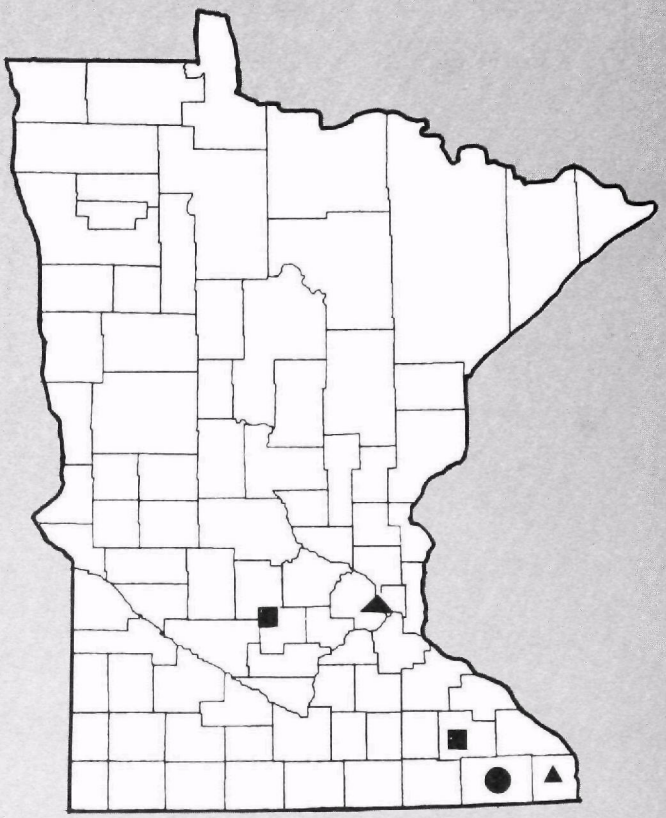


Figure 23

State of Minnesota—Reported Fish Kills, by Size and Percentages of Causes—1975

Fish Kills by Size

- ■ 1–100
- ● 100–1000
- ▲ 1000–10 000
- + 10 000–100 000
- × 100 000–1000 000
- ◆ over 1000 000



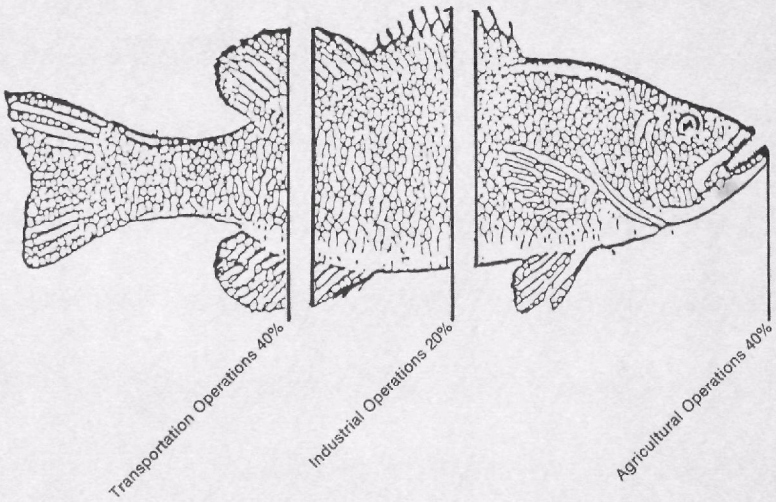


Figure 24

State of Mississippi—Reported Fish Kills, by Size and Percentages of Causes—1975

Fish Kills by Size

- ■ 1–100
- ● 100–1000
- ▲ 1000–10 000
- + 10 000–100 000
- × 100 000–1000 000
- ◆ over 1000 000

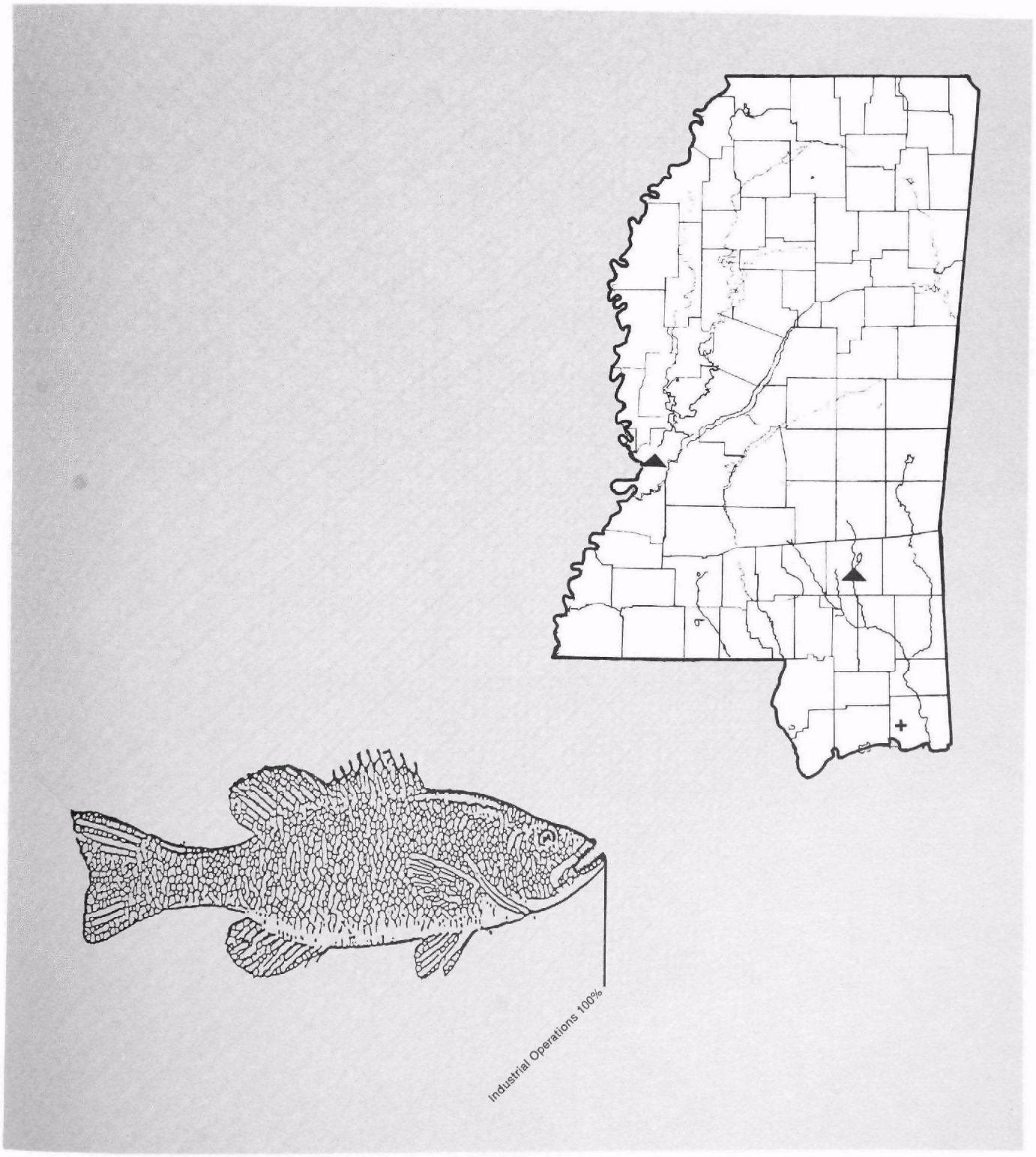
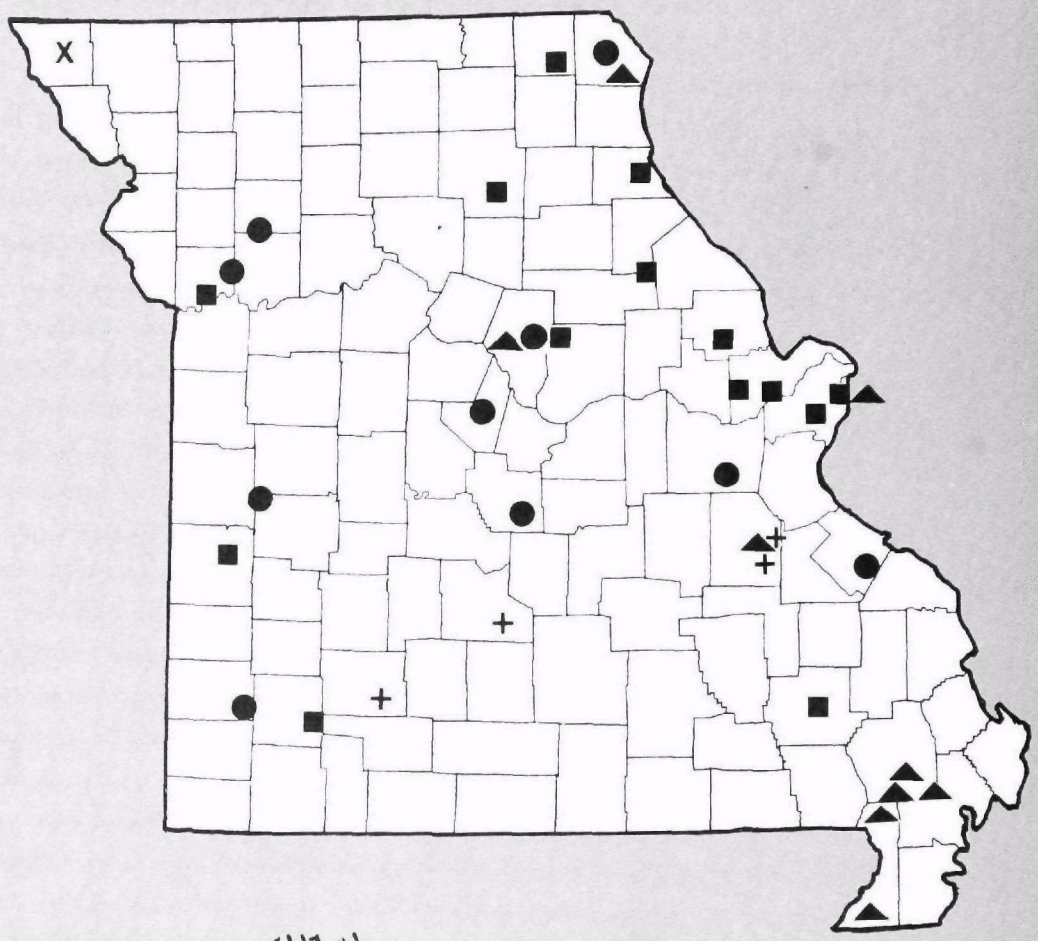


Figure 25

State of Missouri—Reported Fish Kills, by Size and Percentages of Causes—1975

Fish Kills by Size

- ■ 1–100
- ● 100–1000
- ▲ 1000–10 000
- + 10 000–100 000
- × 100 000–1000 000
- ◆ over 1000 000



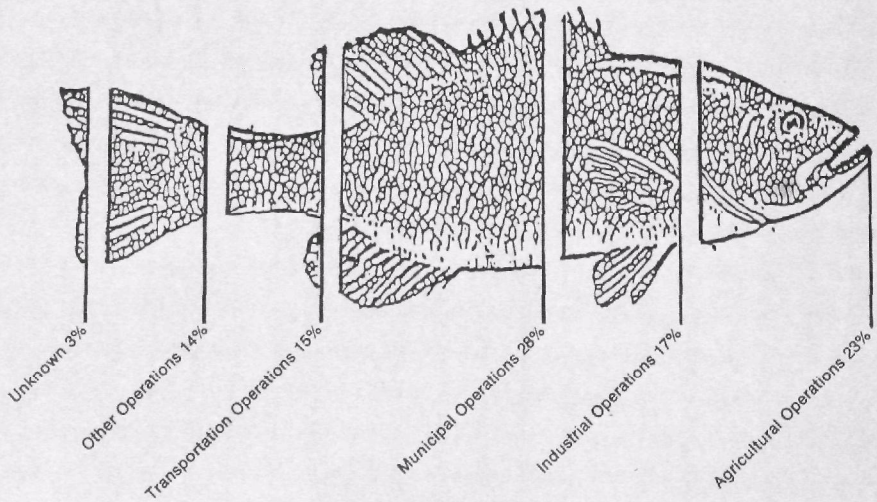
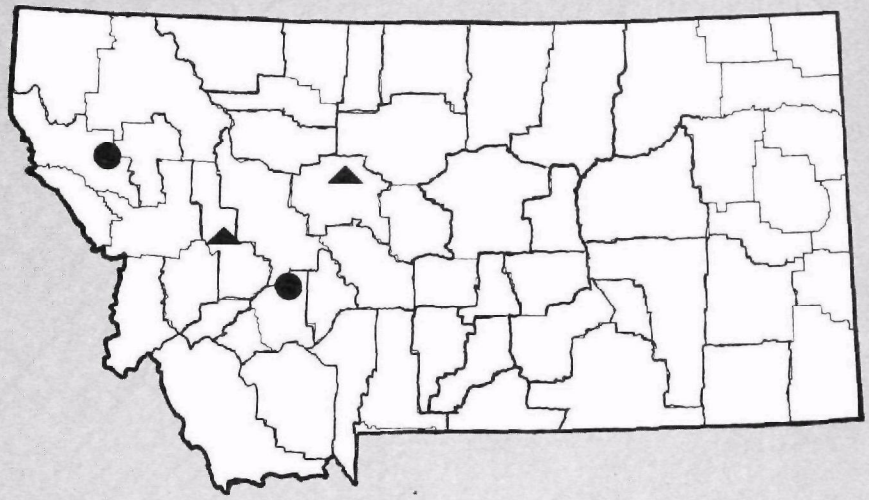


Figure 26

State of Montana—Reported Fish Kills, by Size and Percentages of Causes—1975

Fish Kills by Size

- ■ 1–100
- ● 100–1000
- ▲ 1000–10 000
- + 10 000–100 000
- × 100 000–1000 000
- ◆ over 1000 000



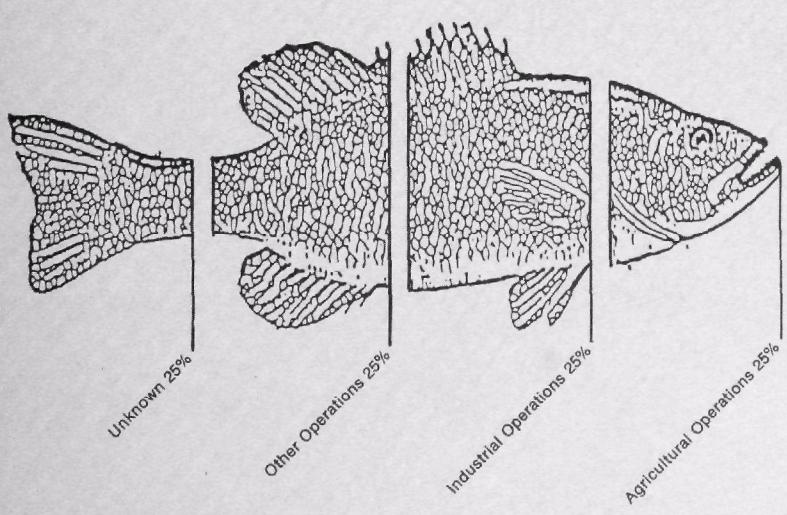
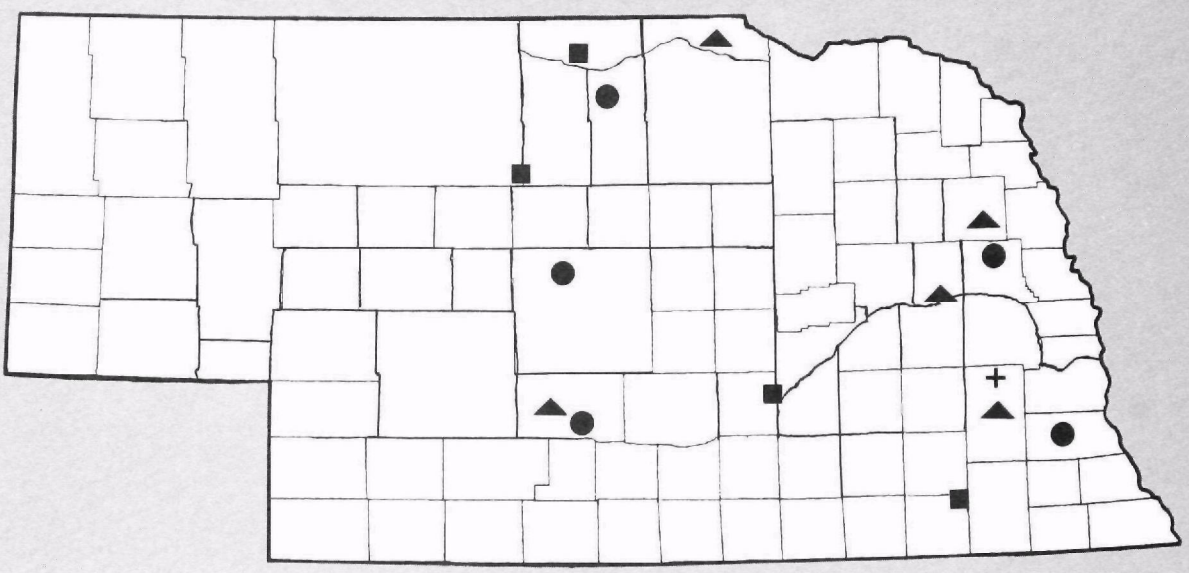


Figure 27

State of Nebraska—Reported Fish Kills, by Size and Percentages of Causes—1975

Fish Kills by Size

- ■ 1–100
- ● 100–1000
- ▲ 1000–10 000
- + 10 000–100 000
- × 100 000–1000 000
- ◆ over 1000 000



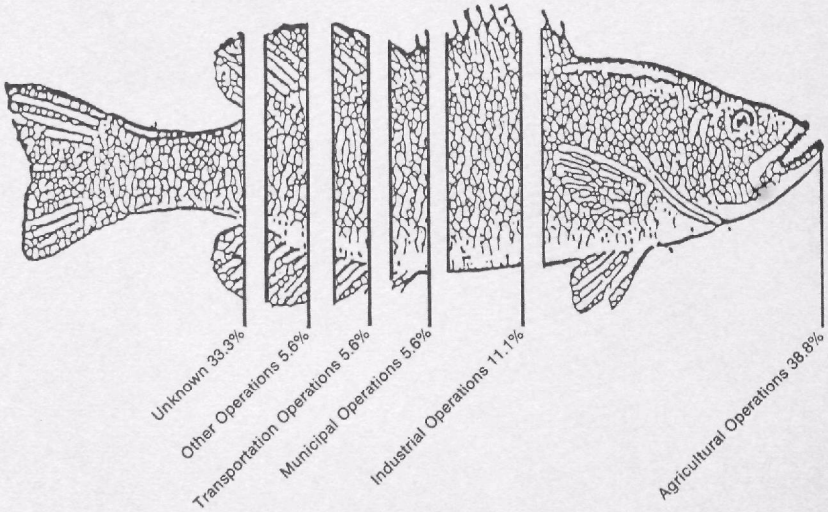
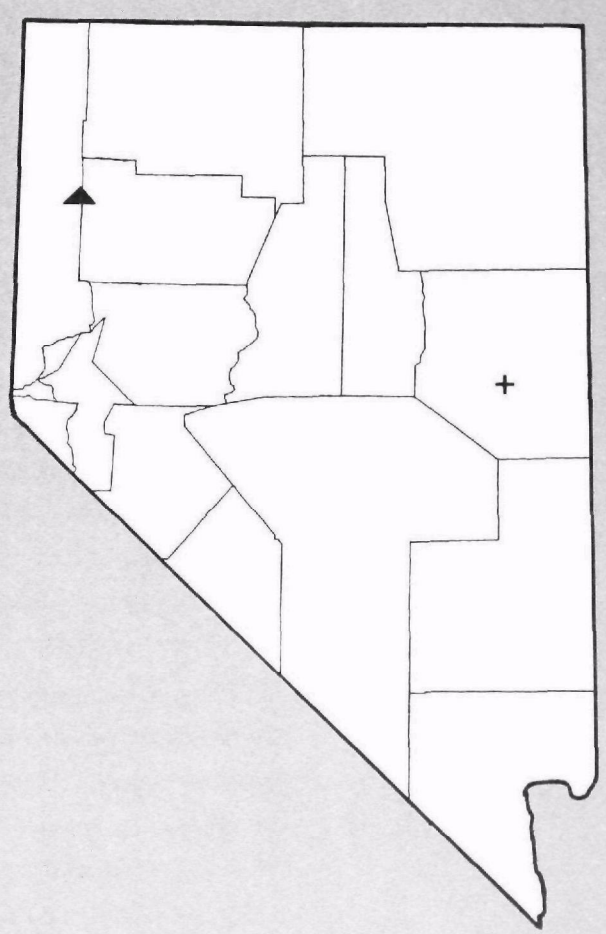


Figure 28

State of Nevada—Reported Fish Kills, by Size and Percentages of Causes—1975

Fish Kills by Size

- ■ 1–100
- ● 100–1000
- ▲ 1000–10 000
- + 10 000–100 000
- × 100 000–1000 000
- ◆ over 1000 000



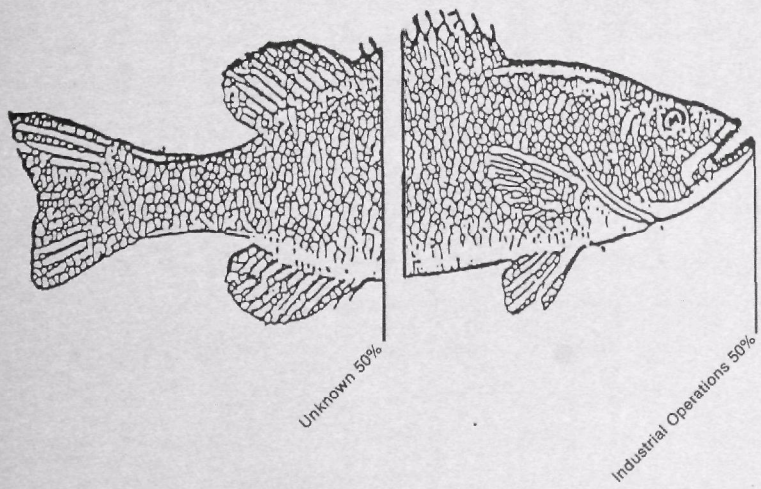


Figure 29

State of New Hampshire—Reported Fish Kills, by Size and Percentages of Causes—1975

Fish Kills by Size

- ■ 1–100
- ● 100–1000
- ▲ 1000–10 000
- + 10 000–100 000
- × 100 000–1000 000
- ◆ over 1000 000

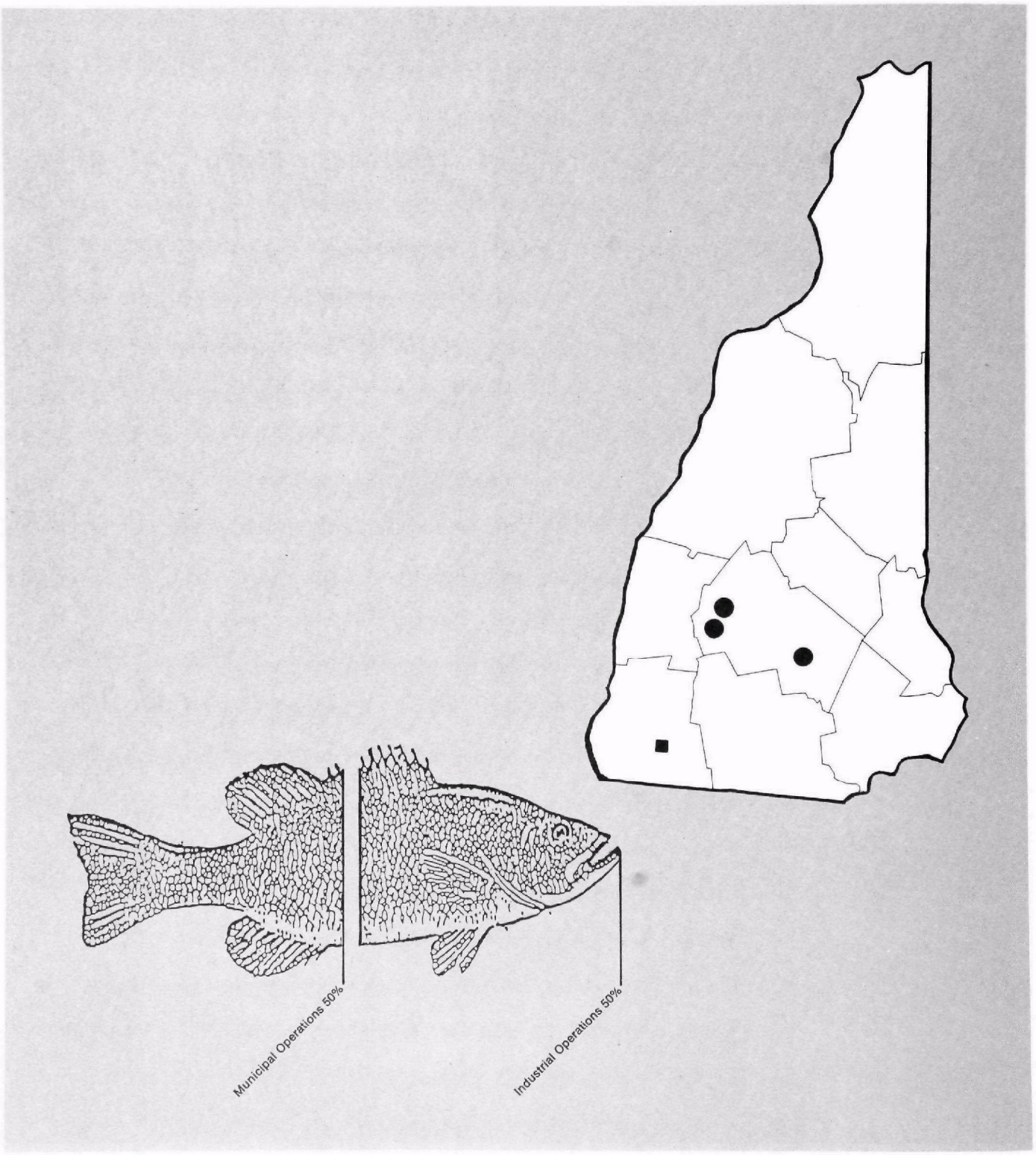
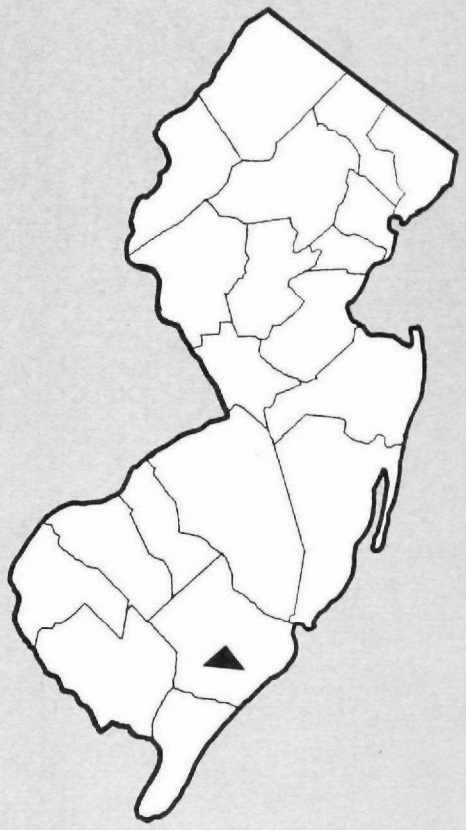


Figure 30

State of New Jersey—Reported Fish Kills, by Size and Percentages of Causes—1975

Fish Kills by Size

■	1–100
●	100–1000
▲	1000–10 000
+	10 000–100 000
×	100 000–1000 000
◆	over 1000 000



Fifteen additional Fish Kills occurred in the State of New Jersey in 1975. However, reports on these kills were received too late and are not shown here.

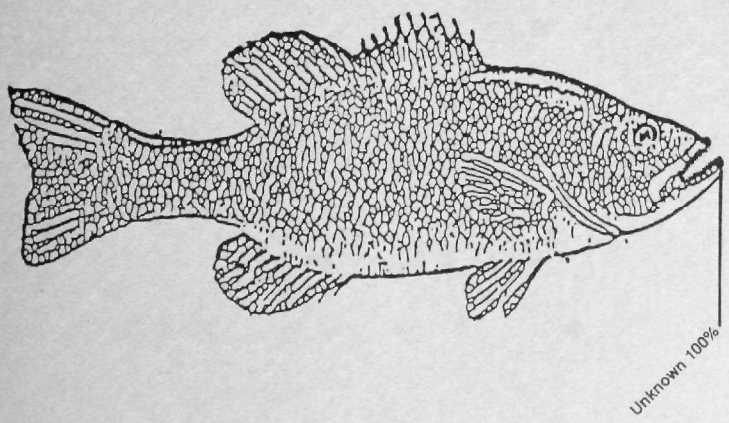
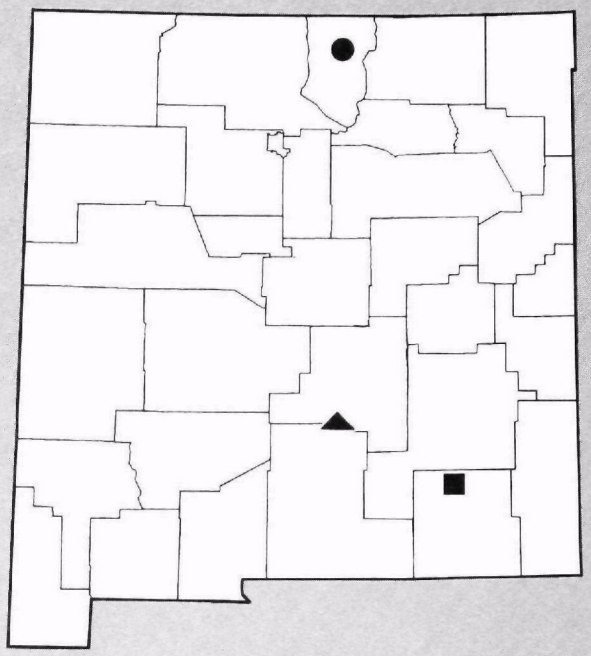


Figure 31

State of New Mexico—Reported Fish Kills, by Size and Percentages of Causes—1975

Fish Kills by Size

- ■ 1–100
- ● 100–1000
- ▲ 1000–10 000
- + 10 000–100 000
- × 100 000–1000 000
- ◆ over 1000 000



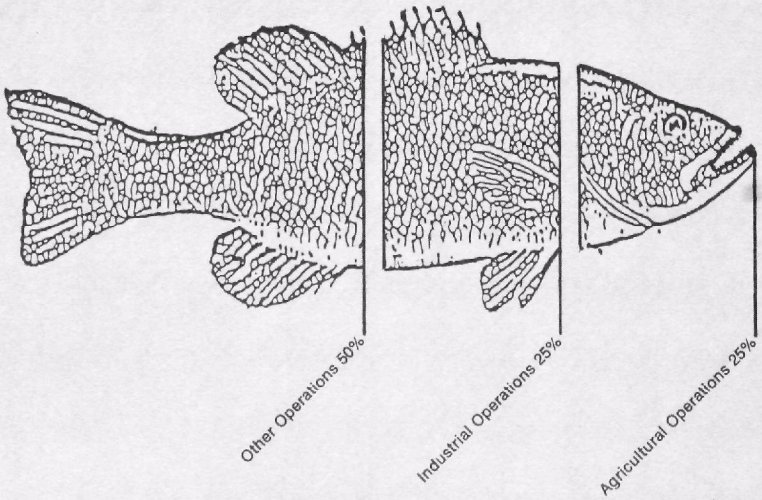
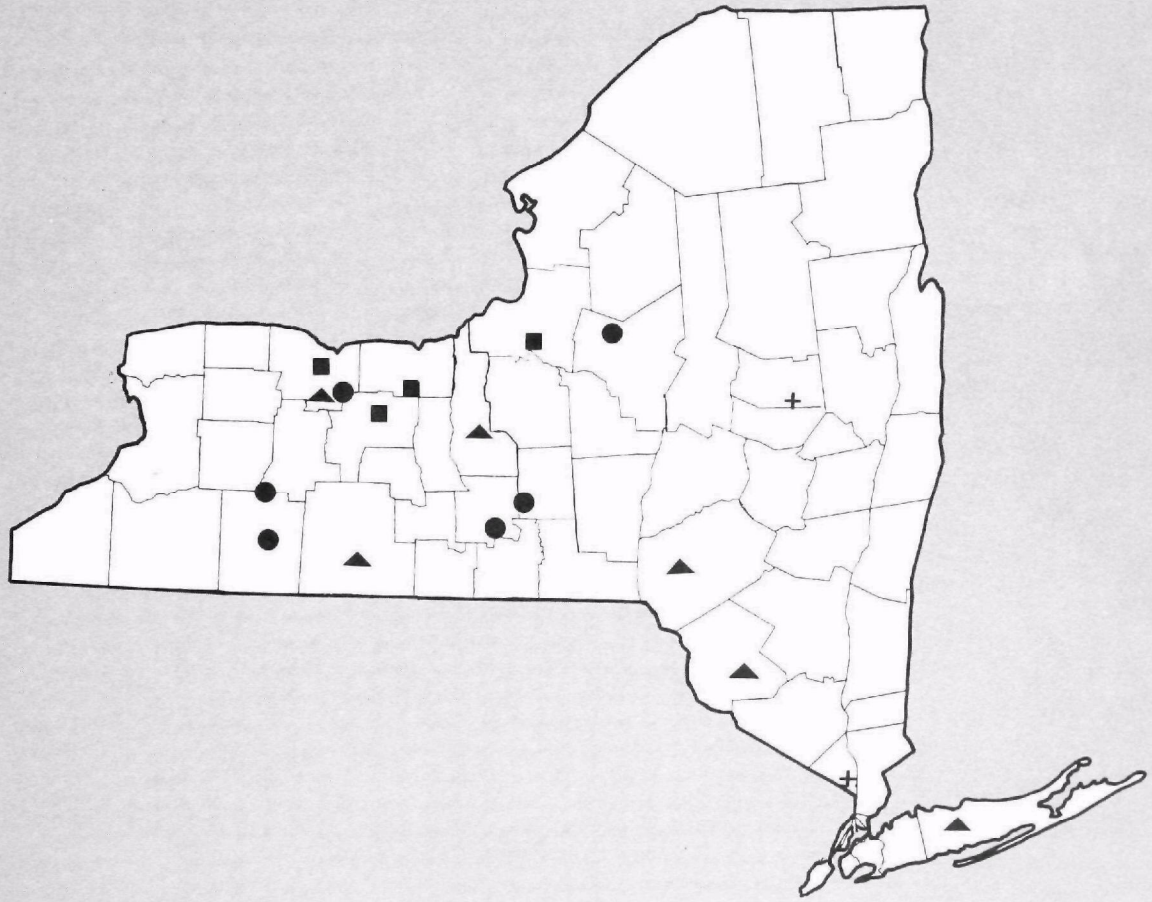


Figure 32

State of New York—Reported Fish Kills, by Size and Percentages of Causes—1975

Fish Kills by Size

- ■ 1–100
- ● 100–1000
- ▲ 1000–10 000
- + 10 000–100 000
- × 100 000–1000 000
- ◆ over 1000 000



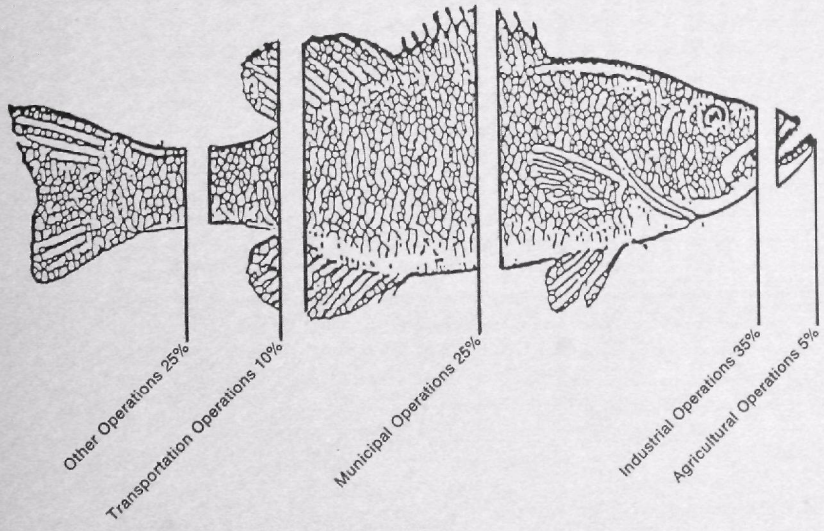
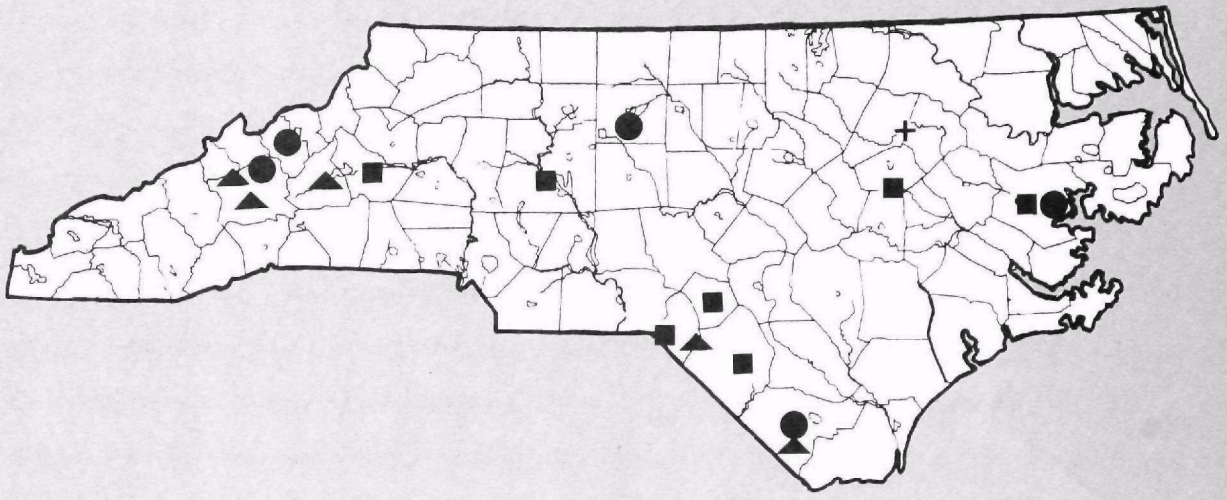


Figure 33

State of North Carolina—Reported Fish Kills, by Size and Percentages of Causes—1975

Fish Kills by Size

- ■ 1–100
- ● 100–1000
- ▲ 1000–10 000
- + 10 000–100 000
- × 100 000–1000 000
- ◆ over 1000 000



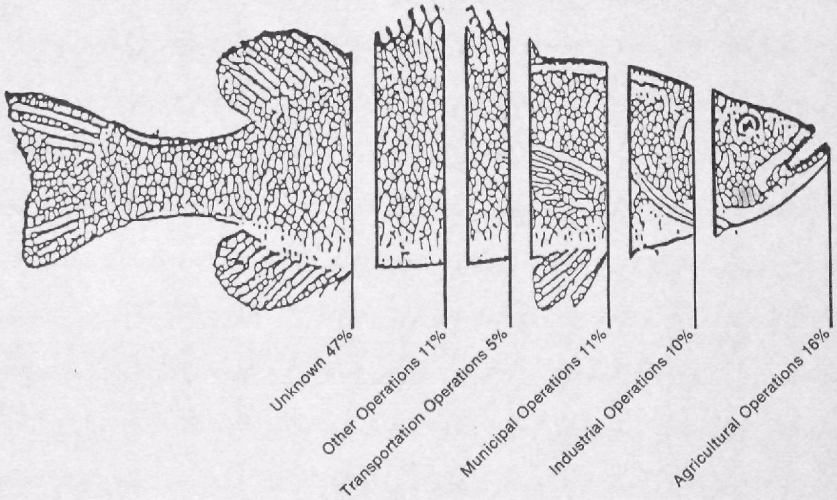
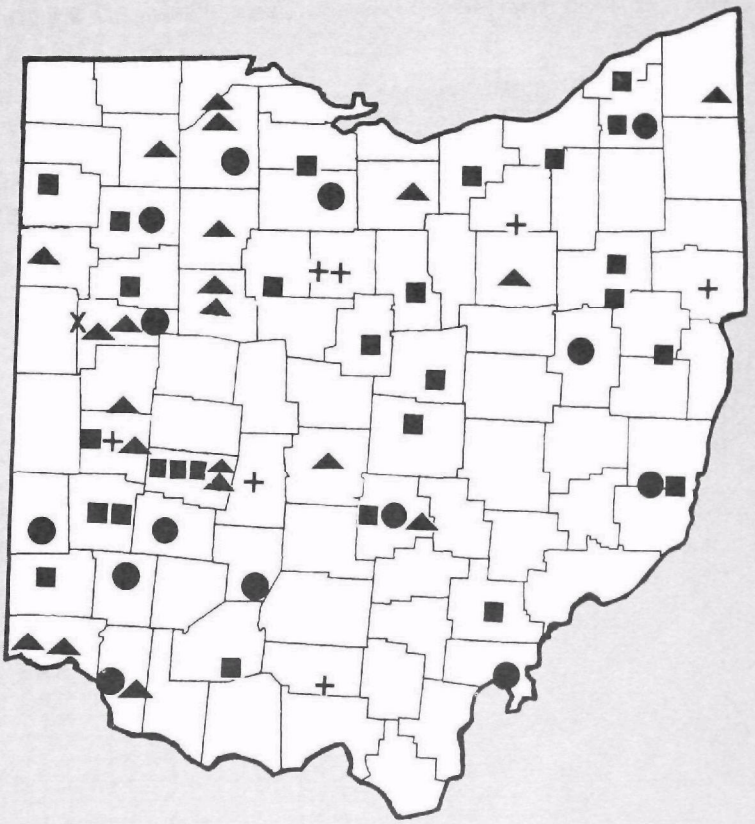


Figure 34

State of Ohio—Reported Fish Kills, by Size and Percentages of Causes—1975

Fish Kills by Size

- ■ 1–100
- ● 100–1000
- ▲ 1000–10 000
- + 10 000–100 000
- × 100 000–1000 000
- ◆ over 1000 000



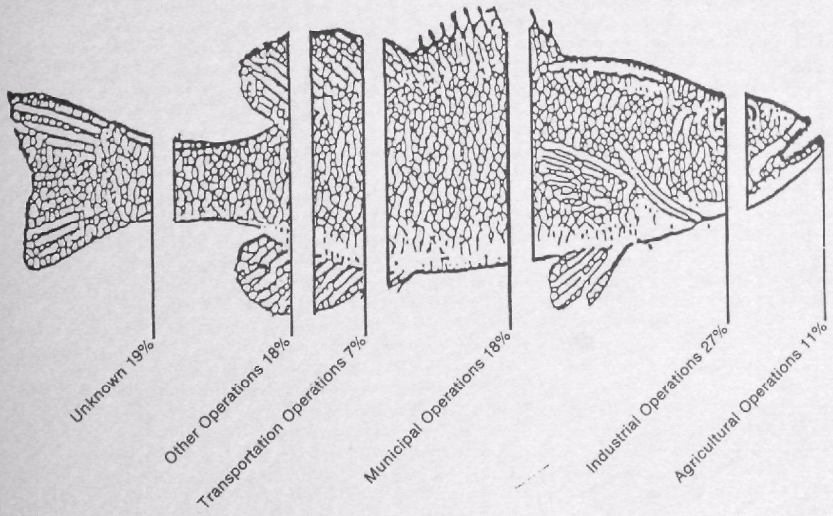
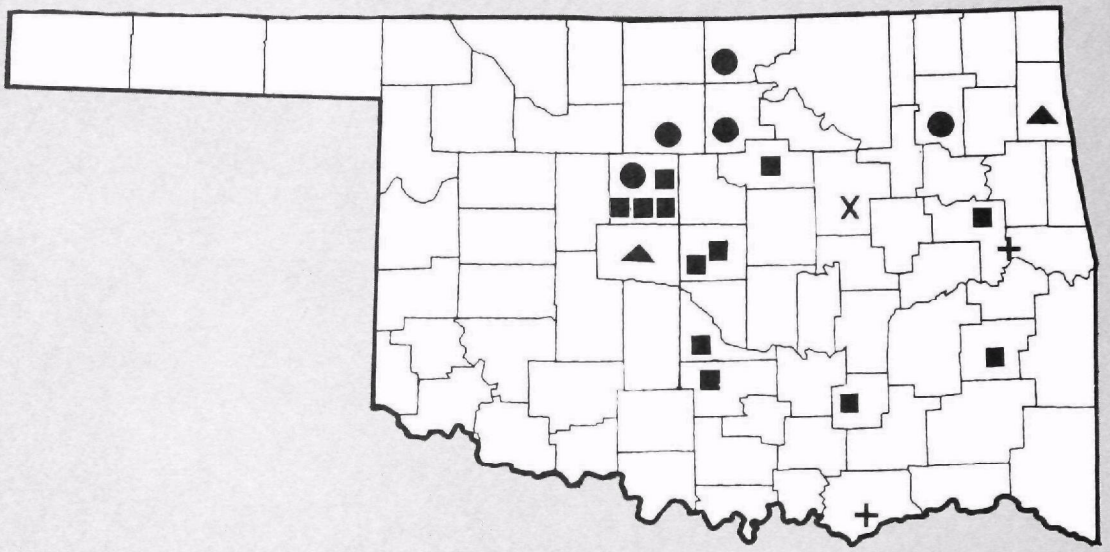


Figure 35

State of Oklahoma—Reported Fish Kills, by Size and Percentages of Causes—1975

Fish Kills by Size

- ■ 1–100
- ● 100–1000
- ▲ 1000–10 000
- + 10 000–100 000
- × 100 000–1000 000
- ◆ over 1000 000



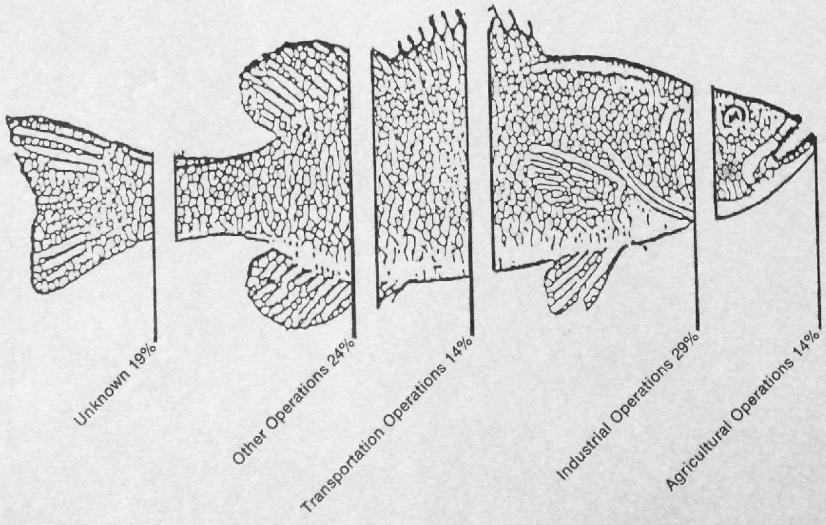
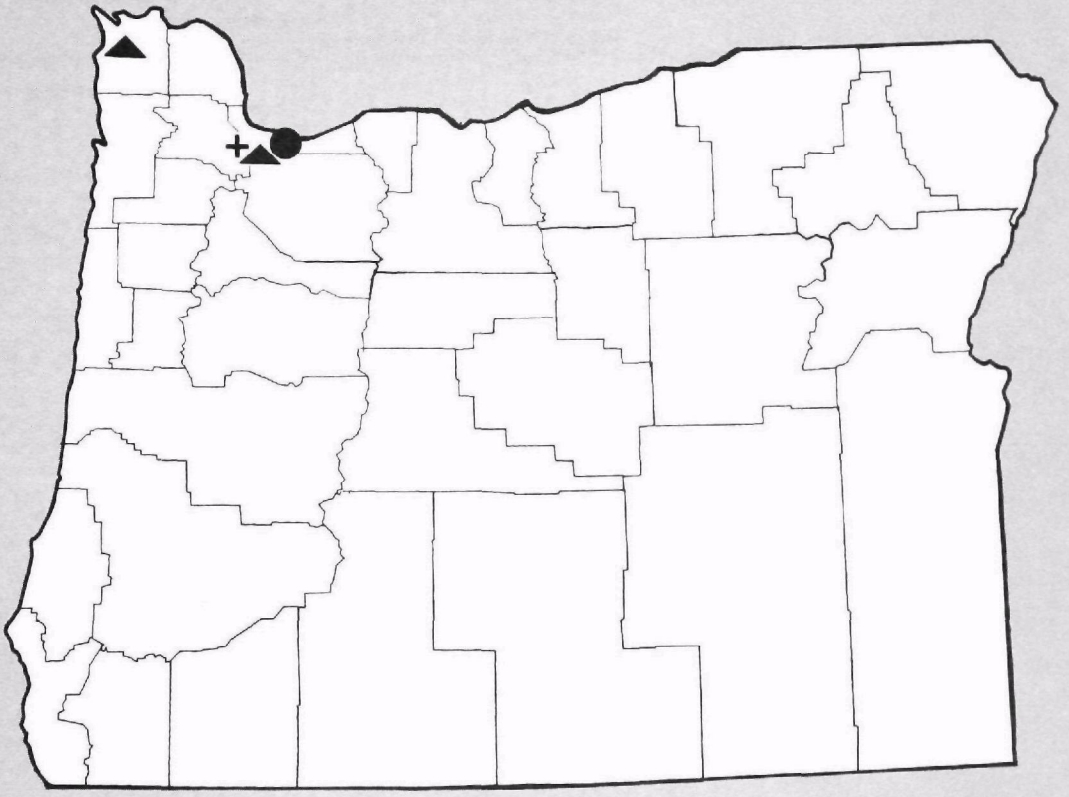


Figure 36

State of Oregon—Reported Fish Kills, by Size and Percentages of Causes—1975

Fish Kills by Size

- ■ 1–100
- ● 100–1000
- ▲ 1000–10 000
- + 10 000–100 000
- × 100 000–1000 000
- ◆ over 1000 000



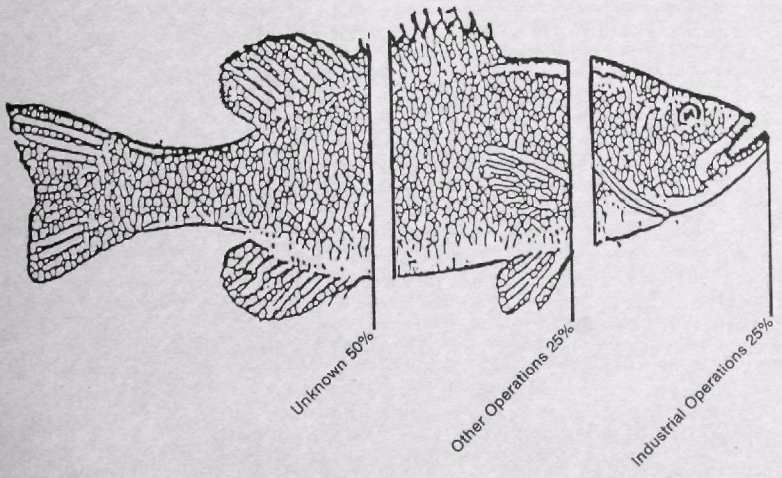
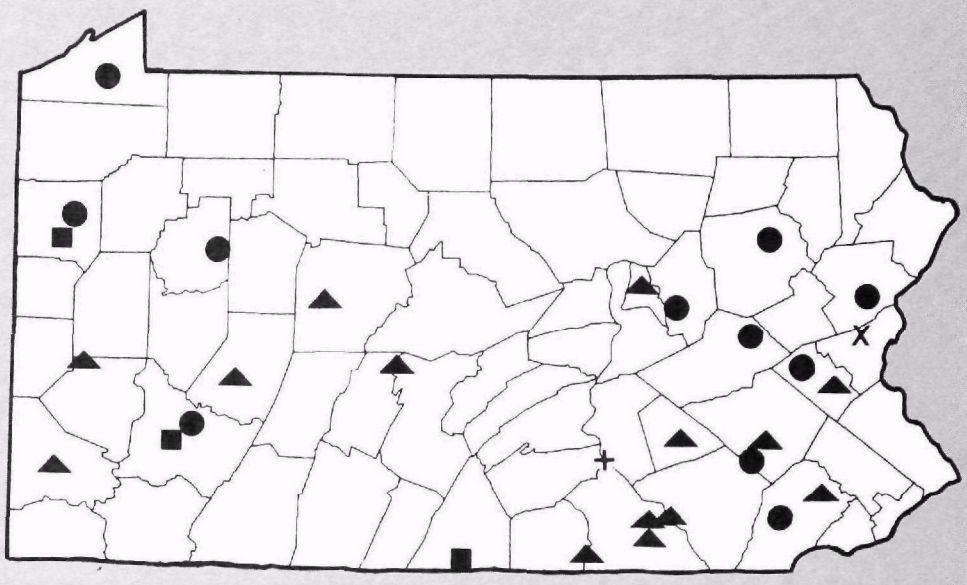


Figure 37

State of Pennsylvania—Reported Fish Kills, by Size and Percentages of Causes—1975

Fish Kills by Size

■	1–100
●	100–1000
▲	1000–10 000
+	10 000–100 000
×	100 000–1000 000
◆	over 1000 000



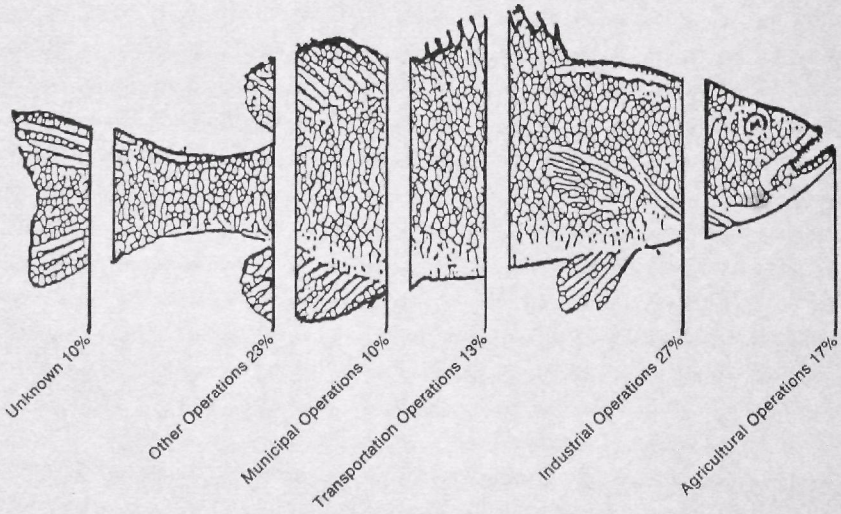


Figure 38

State of South Carolina—Reported Fish Kills, by Size and Percentages of Causes—1975

Fish Kills by Size

- ■ 1–100
- ● 100–1000
- ▲ 1000–10 000
- + 10 000–100 000
- × 100 000–1000 000
- ◆ over 1000 000

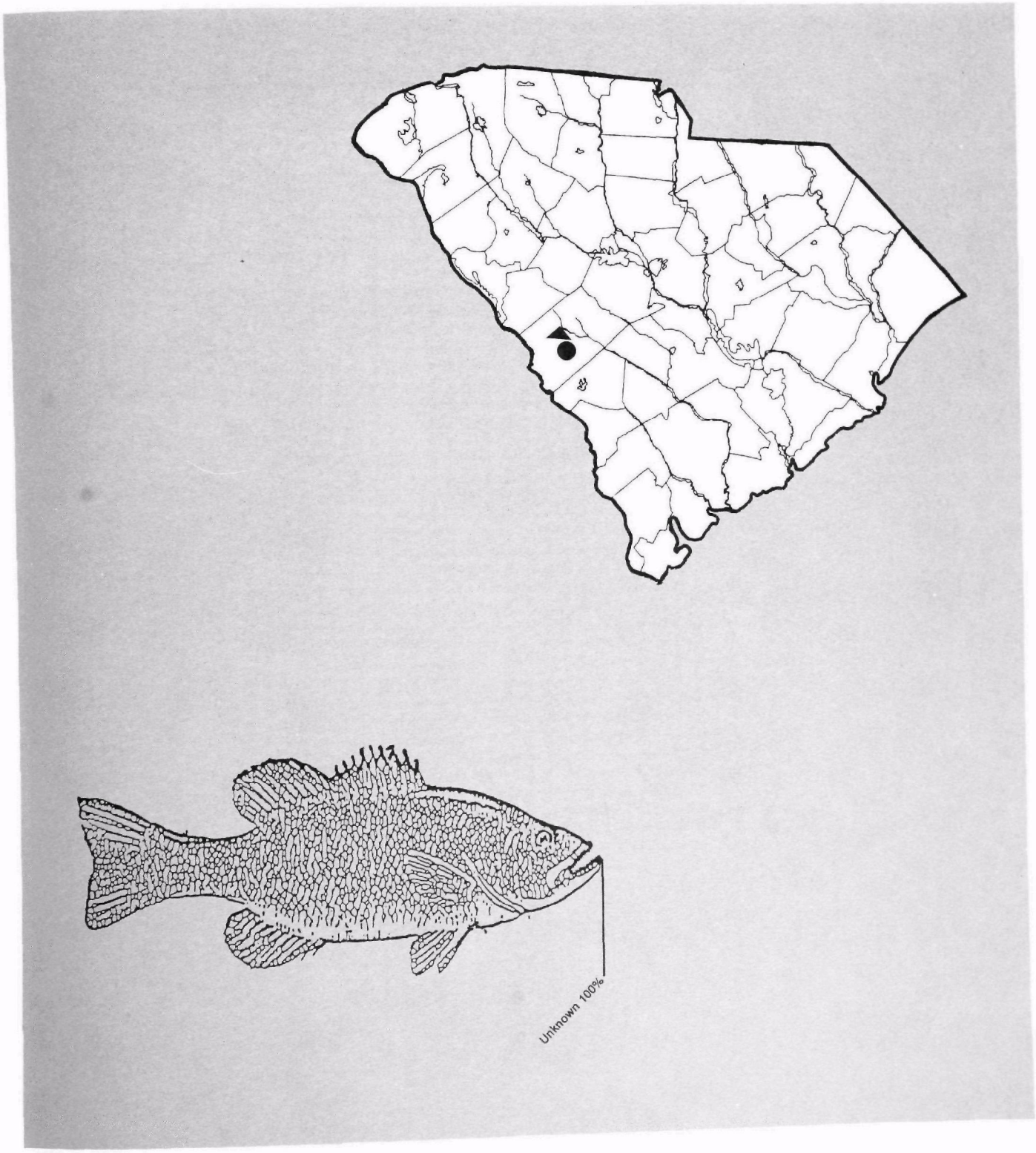
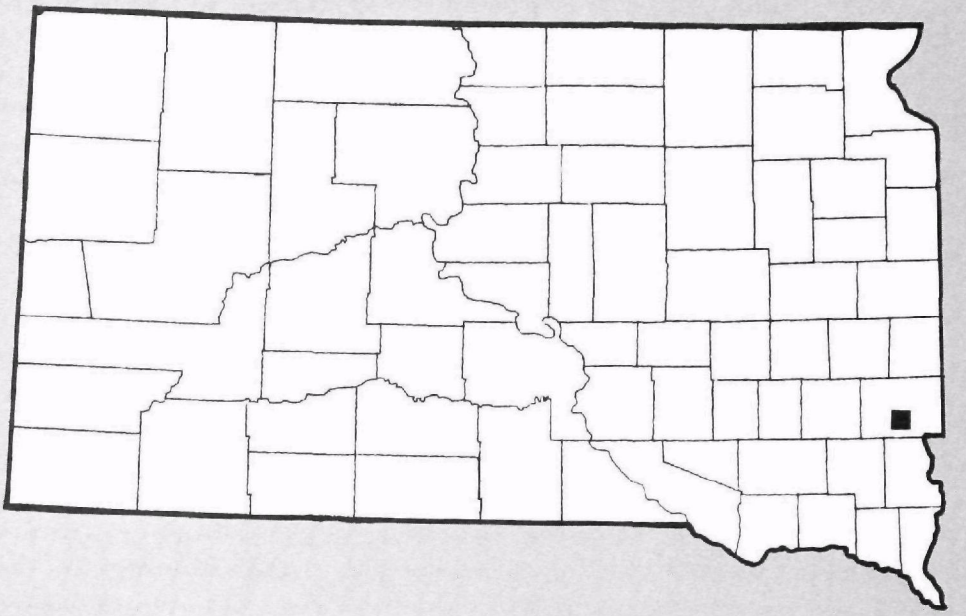


Figure 39

State of South Dakota—Reported Fish Kills, by Size and Percentage of Causes—1975

Fish Kills by Size

- ■ 1–100
- ● 100–1000
- ▲ 1000–10 000
- + 10 000–100 000
- × 100 000–1000 000
- ◆ over 1000 000



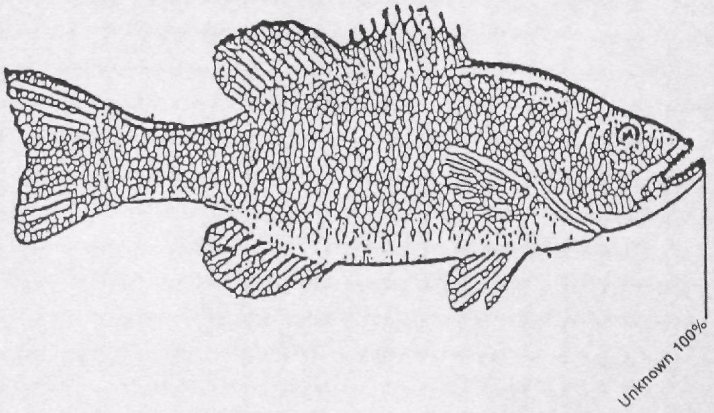
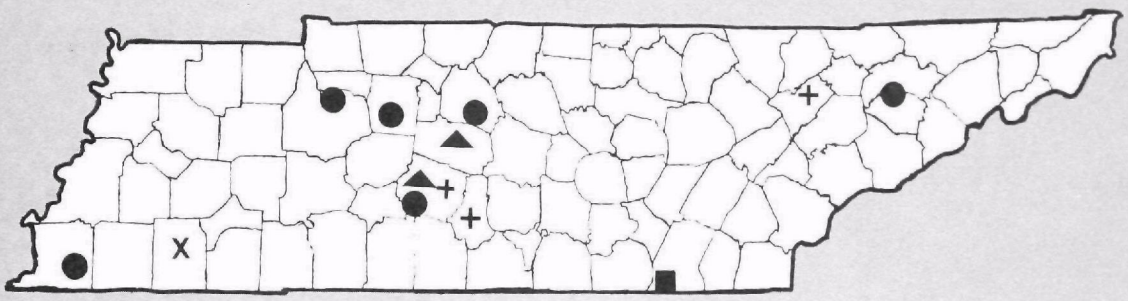


Figure 40

State of Tennessee—Reported Fish Kills, by Size and Percentages of Causes—1975

Fish Kills by Size

- ■ 1–100
- ● 100–1000
- ▲ 1000–10 000
- + 10 000–100 000
- × 100 000–1000 000
- ◆ over 1000 000



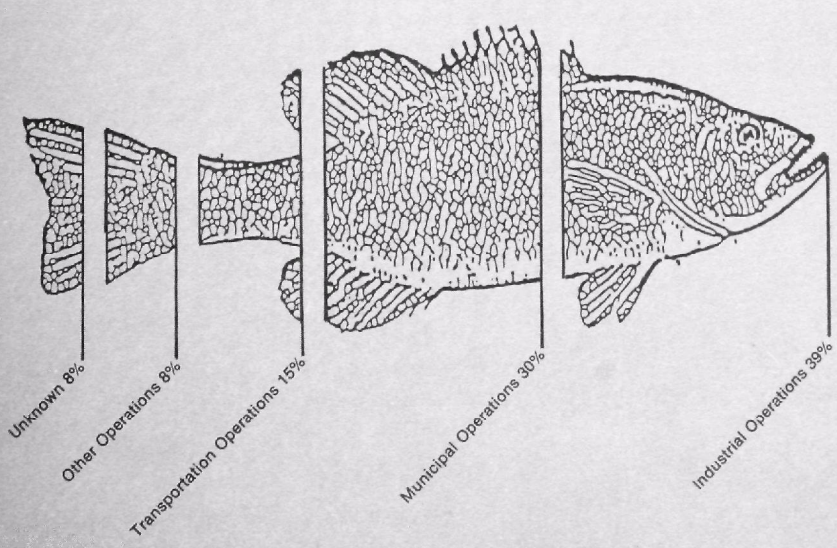


Figure 41

State of Texas—Reported Fish Kills, by Size and Percentages of Causes—1975

Fish Kills by Size

- ■ 1–100
- ● 100–1000
- ▲ 1000–10 000
- + 10 000–100 000
- × 100 000–1000 000
- ◆ over 1000 000

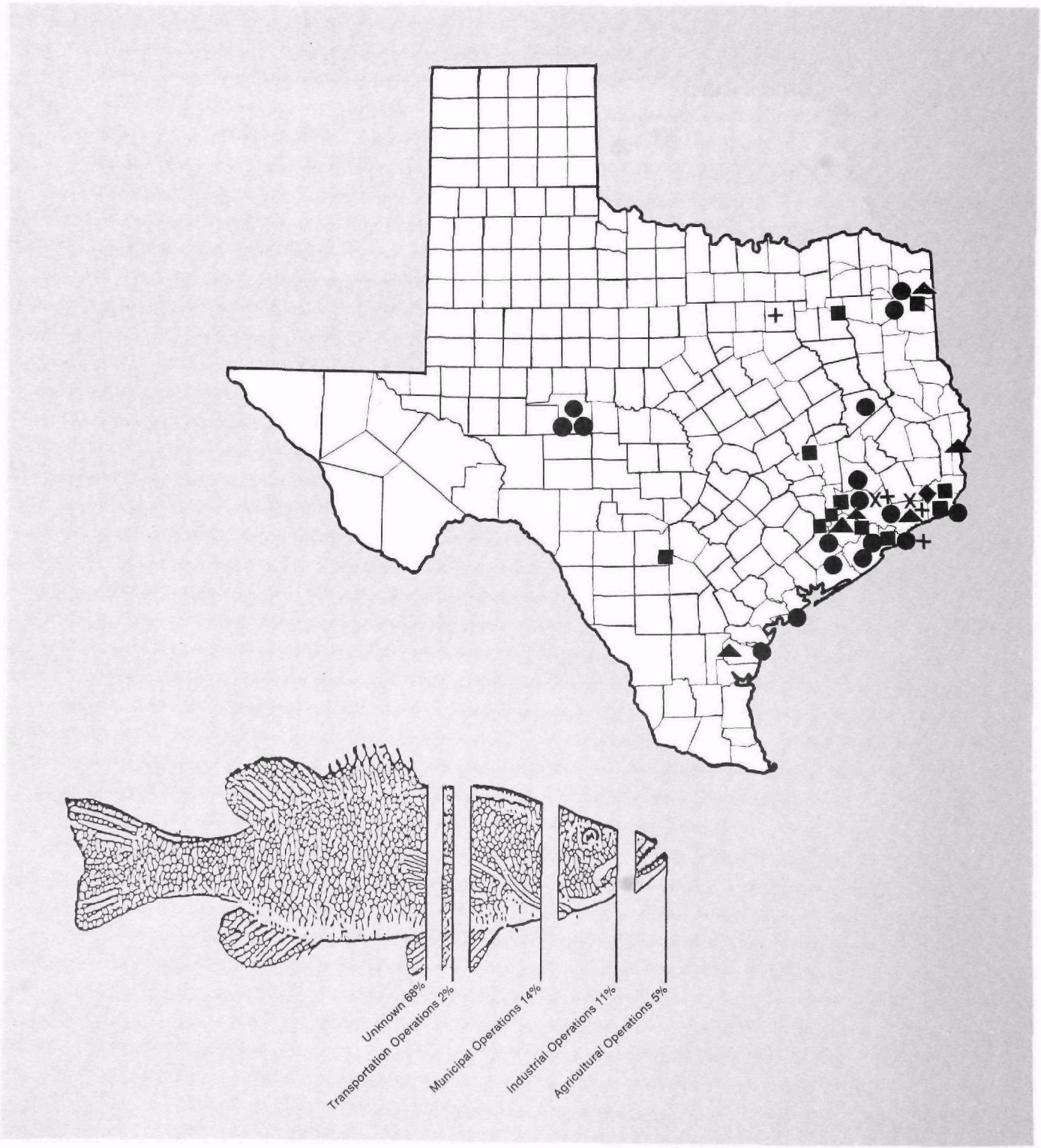
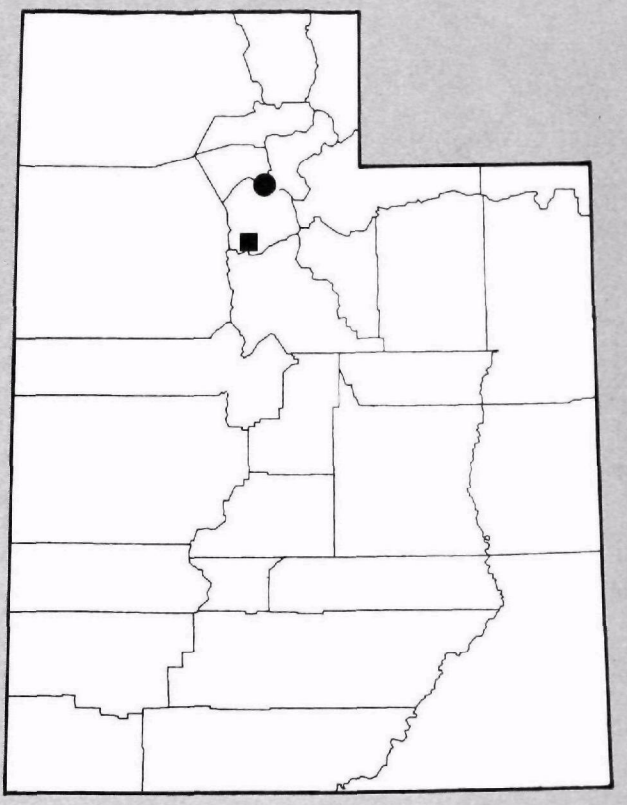


Figure 42

State of Utah—Reported Fish Kills, by Size and Percentages of Causes—1975

Fish Kills by Size

■	1–100
●	100–1000
▲	1000–10 000
+	10 000–100 000
×	100 000–1000 000
◆	over 1000 000



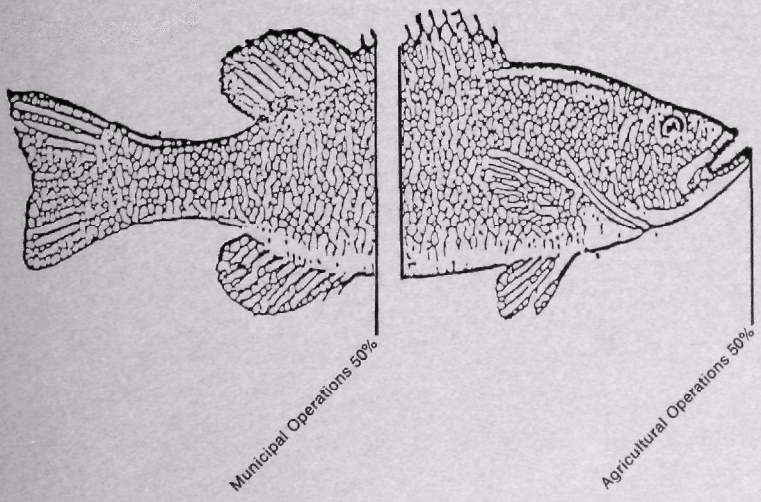


Figure 43

State of Vermont—Reported Fish Kills, by Size and Percentages of Causes—1975

Fish Kills by Size

- ■ 1–100
- ● 100–1000
- ▲ 1000–10 000
- + 10 000–100 000
- × 100 000–1000 000
- ◆ over 1000 000

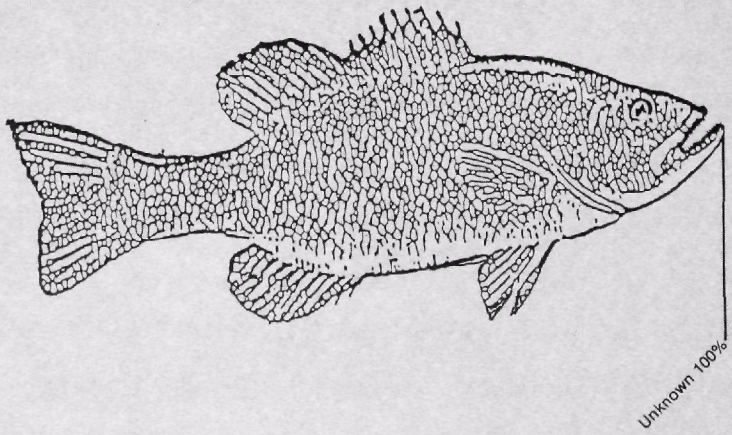
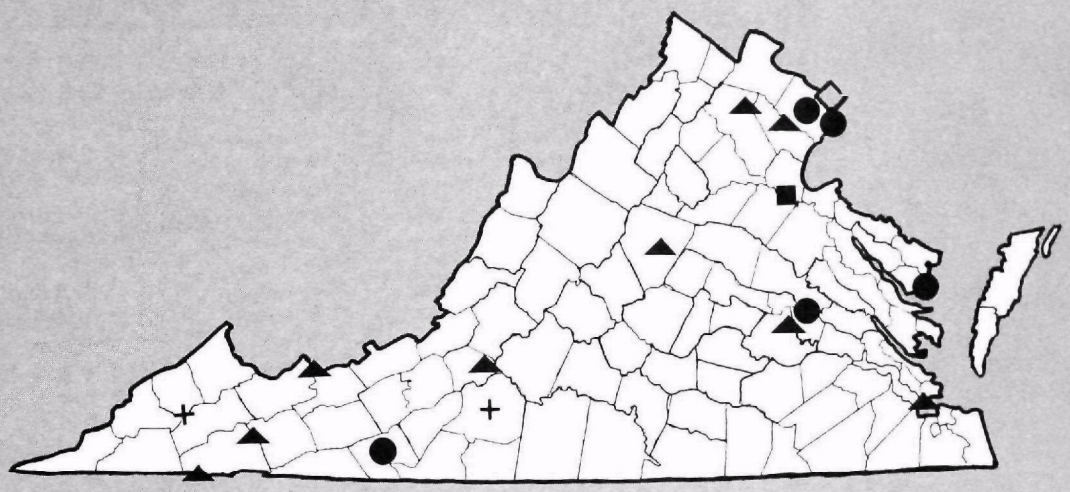


Figure 44

State of Virginia—Reported Fish Kills, by Size and Percentages of Causes—1975

Fish Kills by Size

- ■ 1–100
- ● 100–1000
- ▲ 1000–10 000
- + 10 000–100 000
- × 100 000–1000 000
- ◆ over 1000 000



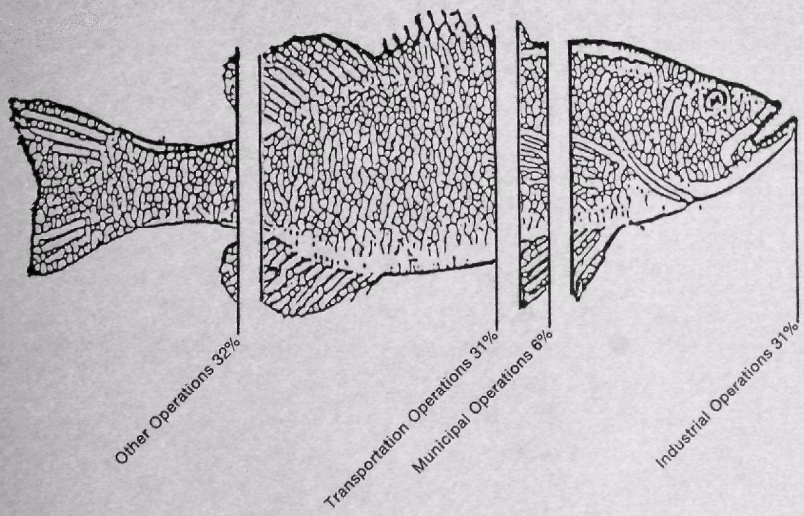
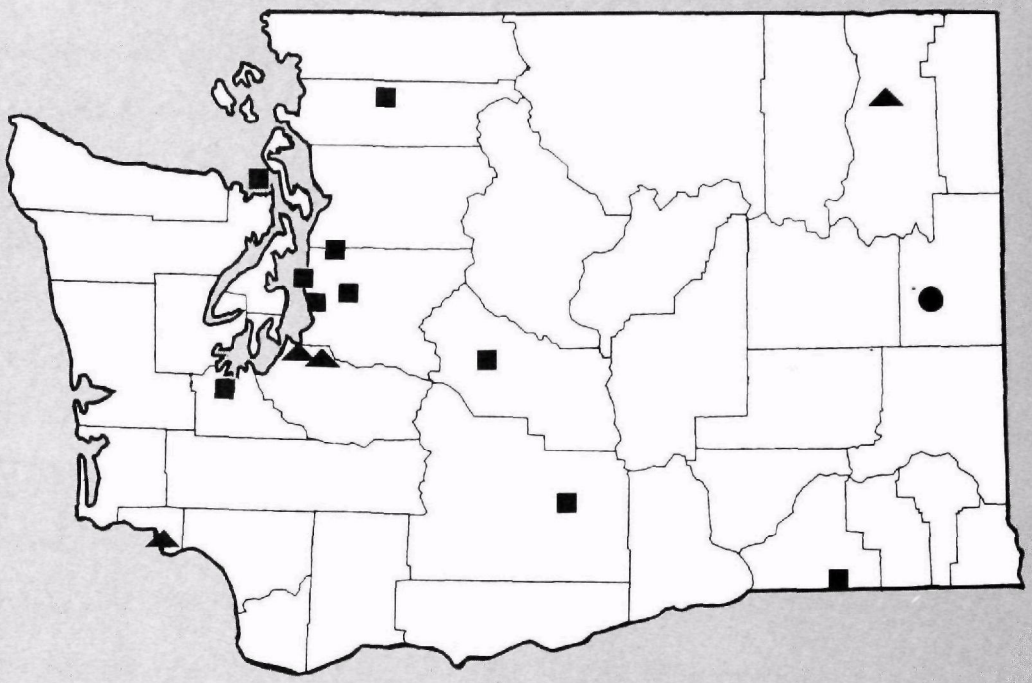


Figure 45

State of Washington—Reported Fish Kills, by Size and Percentages of Causes—1975

Fish Kills by Size

- ■ 1–100
- ● 100–1000
- ▲ 1000–10 000
- + 10 000–100 000
- × 100 000–1000 000
- ◆ over 1000 000



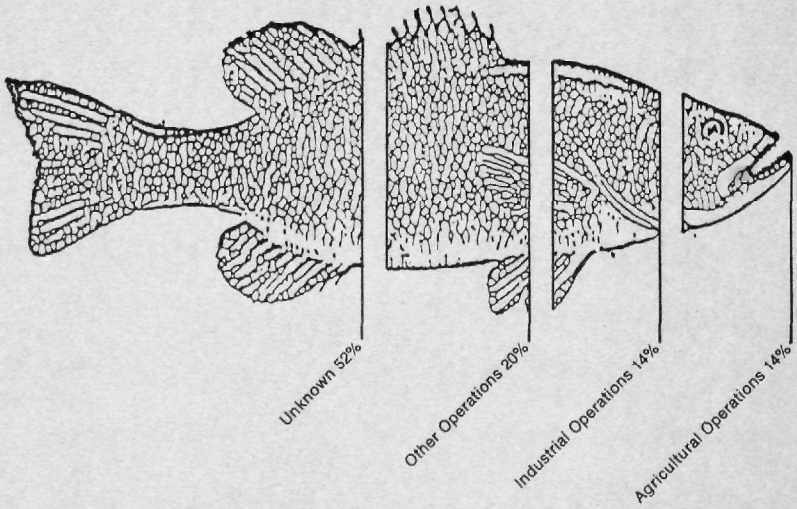
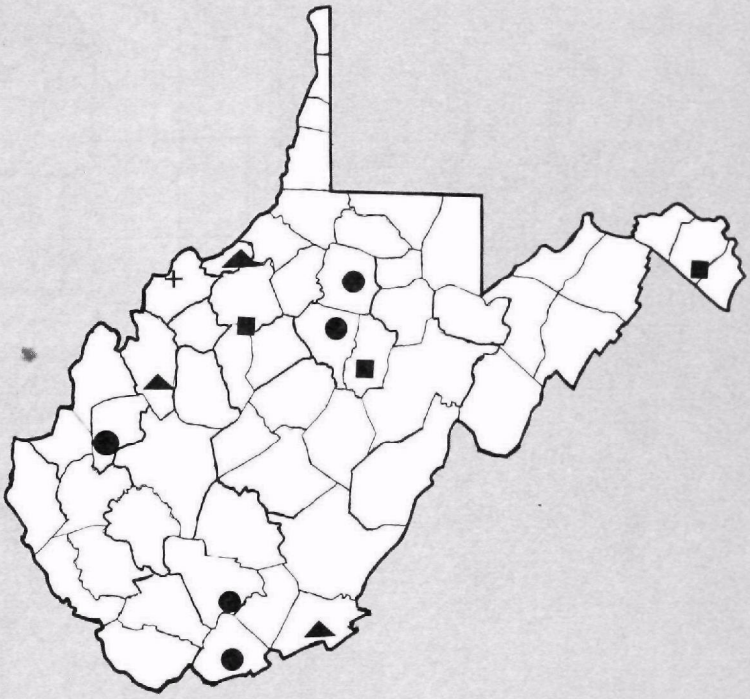


Figure 46

State of West Virginia—Reported Fish Kills, by Size and Percentages of Causes—1975

Fish Kills by Size

- ■ 1–100
- ● 100–1000
- ▲ 1000–10 000
- + 10 000–100 000
- × 100 000–1000 000
- ◆ over 1000 000



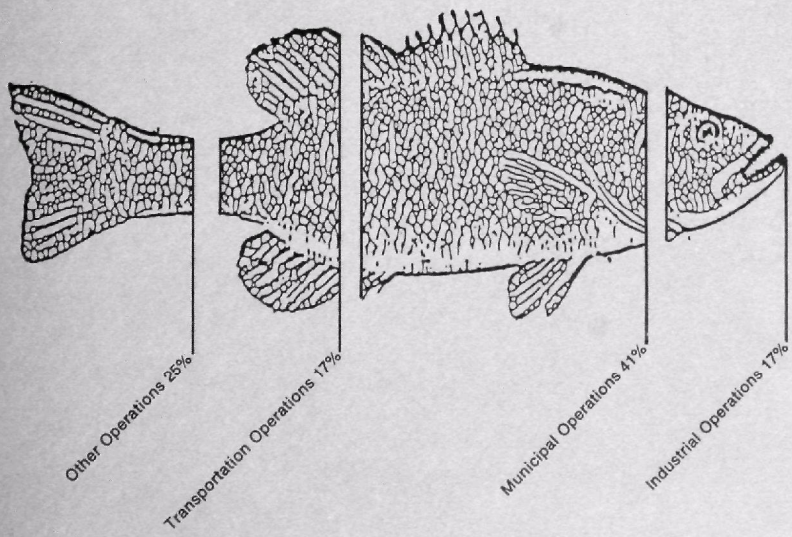
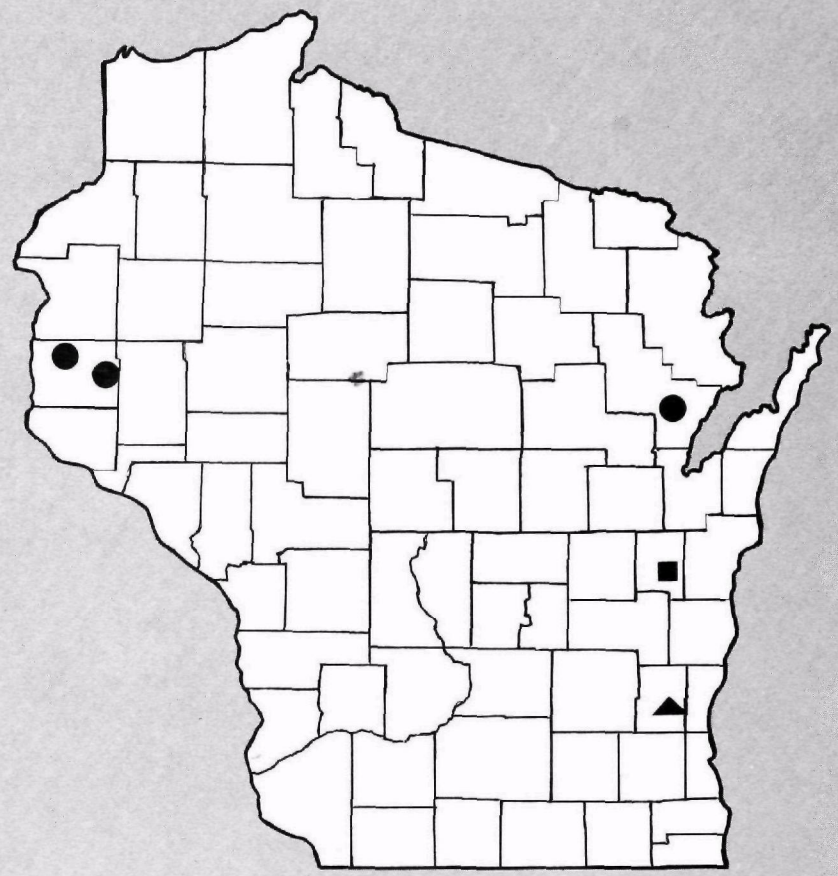


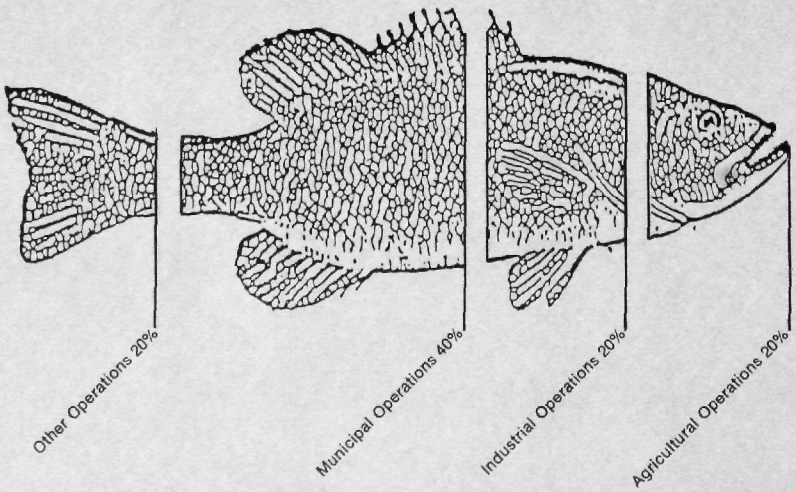
Figure 47

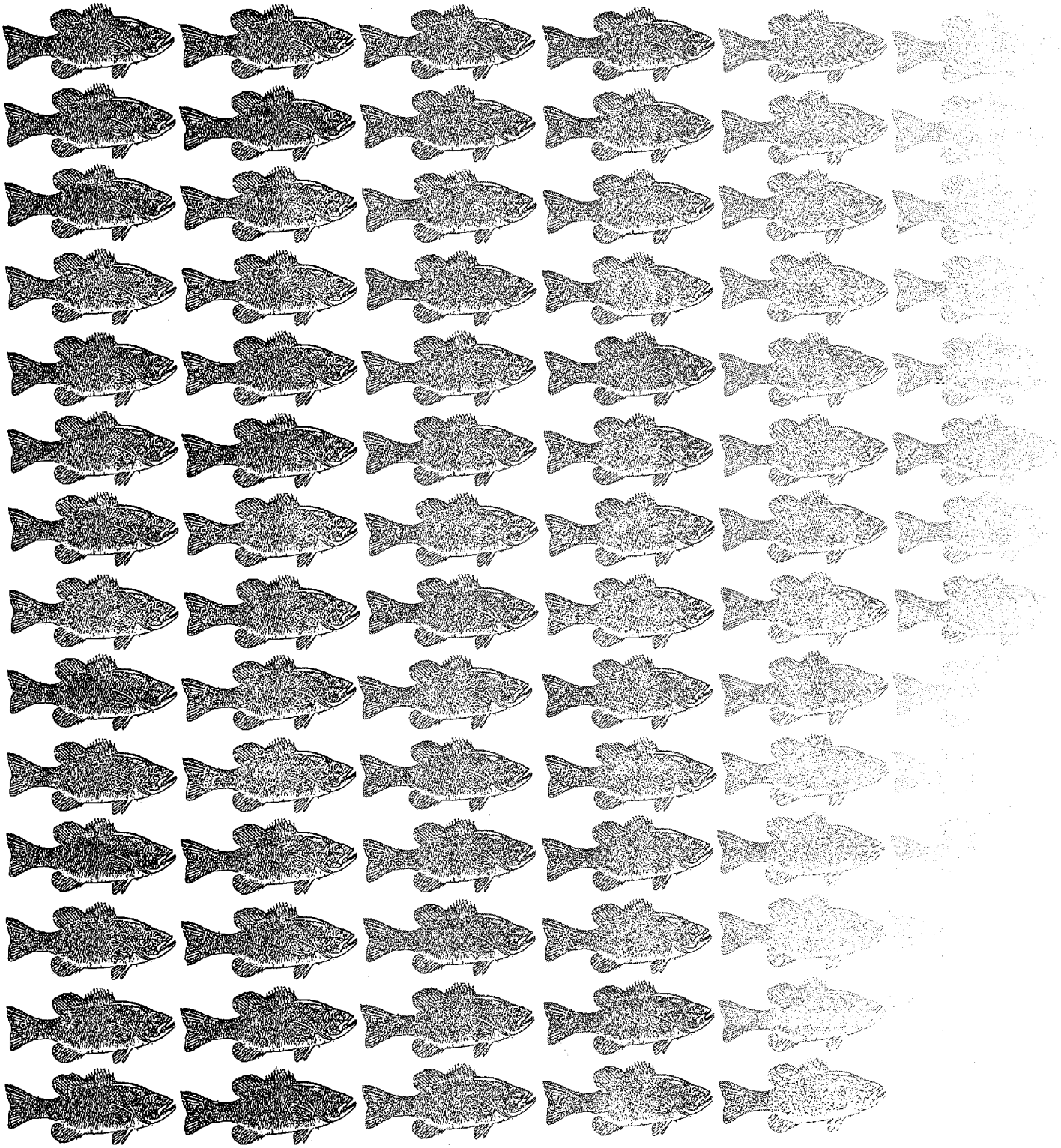
State of Wisconsin—Reported Fish Kills, by Size and Percentages of Causes—1975

Fish Kills by Size

- ■ 1–100
- ● 100–1000
- ▲ 1000–10 000
- + 10 000–100 000
- × 100 000–1000 000
- ◆ over 1000 000







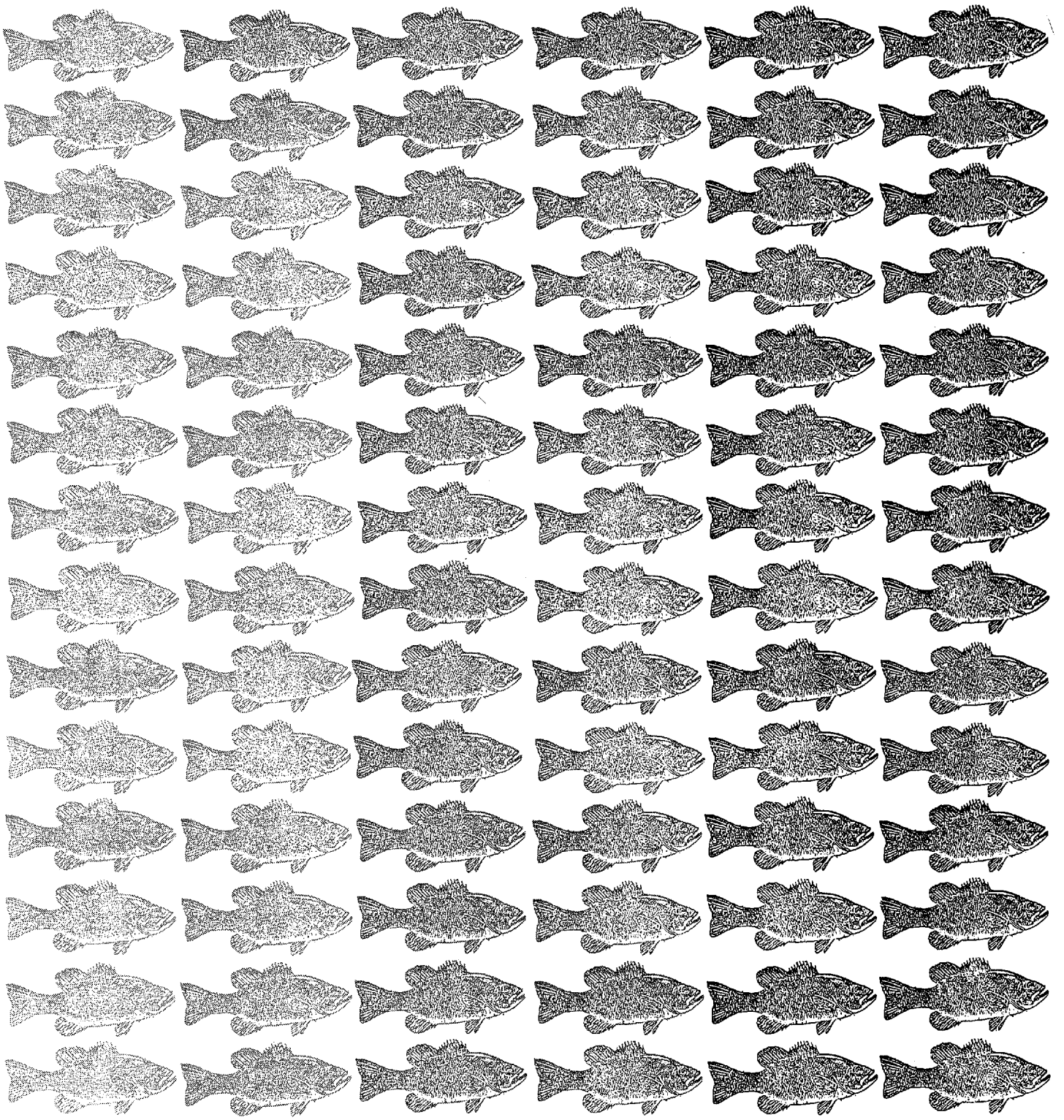


Table 10

Report of Fish Kills, 1975 Cause Identified

Table 10 lists the 543 reported fish kills for which the pollution-source was specified. Tabular heading information for each fish kill includes state, body of water, city or town, date of kill, cause, type of fish killed (game or non-game), percent of fish killed, severity, extent of damage, and duration.

Body of water	City or town	Date	Cause[1] see code page 71	Type of fish killed: Percent game	Type of fish killed: Percent non-game	Percent kill with commercial value	Estimated fish killed	Severity[2] see code page 71	Estimated miles or acres affected[3] page 71	Duration: Days	Duration: Hrs.
ALABAMA											
Valley Cr	Bessemer	7 08 75	31	3	97		953	4	1M	1	5
York Branch	Cullman	10 22 75	42	32	68		546	1	1M	1	
Limestone Cr	Decatur	10 03 75	11	12	88	14	13,985	2	3M		
Wheeler Res	Decatur	12 11 75	24	13	87		4,890	2	43A		
Wilson Lake	Florence	7 26 75	11	11	89	26	48,302	2	166A	3	
Norman Cr & Trib	Fruithurst	6 29 75	50					1	4M	2	
Tr-Persimmon Cr	Greenville	5 28 75	50	60	40	40	25	3	1M		
Tr-Blackwood Cr	Headland	8 02 75	11	100			354	2	2M	2	
Catoma Cr	Montgomery	5 28 75	31		100		3,000	3	2M	1	
Wilson Lake	Muscle Shoals	8 07 75	11	14	86	8	1,795	2	166A	5	
Bartons Branch	Tarrant City	7 02 75	50		100		3,019	3	1M	2	
Big Nance Cr	Town Creek	8 07 75	11	17	83	10	37,392	2	1M	3	
Turkey Cr	Tuscaloosa	2 04 75	42	3	97	97	186	4	3M	2	
ARKANSAS											
Lake Enterprise	Ashley Co	8 22 75	11				2,500	3	5A		
Private Pond	Desha Co	9 08 75	11								
Gulpha Cr Lake	Garland Co	8 27 75	50								
Private Pond	Lonoke Co	8 26 75	11								
Broughton Cr	Nevada Co	5 09 75	41				4,000	2	4M		
Private Pond	Pulaski	10 07 75	11								
CALIFORNIA											
Lake Lindero	Agoura	10 15 75	11	100			3,000	2	14A	1	
G Lateral Canal	Calipatria	9 14 75	11		100		10,000	2	2M		
G Lateral Canal	Calipatria	9 14 75	11	5	95		2,000	2			
Big Sulphur Cr	Cloverdale	5 06 75	50	70	30		500	2	7M		
Bolsa Chica Chnl	Cypress	12 24 75	11		100		2,500	1	1M		
Putah South Ca	Fairfield	5 28 75	33	10	90			1	8M		20
Scott R	Ft Jones	10 02 75	50	50	50		100	4		1	
Lt Greenhorn Cr	Grass Valley	5 09 75	50	100			790	1	2M		
Holtville Drn #8	Holtville	11 04 75	11		100		500	2	1M	3	
Salton Sea	Imperial	9 27 75	50	10	90		3,000	4	2M		
Coyote Cr	Los Angeles	9 25 75	44	100			200,000	1			
Indian Cr Reserv	Markleeville	6 14 75	31	100			47	3		1	
Drainage Ditch	Marysville	5 12 75	11	96	4		234	3	1M		
Salton Sea	North Shore	10 04 75	31	20	80		10,000	2	15M		12
San Joaquin R	Newman	5 10 75	31	100			500	3	1M	1	
Canals	Niland	6 26 75	11	100			1,000	2	3M		
Pinole Cr	Pinole	4 22 75	42	10	90		10,000	2	1M	2	
Webber Cr	Placerville	7 10 75	44	75	25		100	1	1M		12
Lt Squaw Cr Cove	Redding	6 10 75		100			150	4	4A	1	
Shasta Lake	Redding	6 10 75	21	100			100	4	1A	1	
Lt Backbne Cr Cv	Redding	6 27 75	21	100			50	4	1A	1	
Lt Squaw Cr Cove	Redding	6 11 75	21	100			50	4	4A	1	
Irrigation Canal	Ripley	9 29 75	11	10	90		600	3	1M		
Chicken Ranch Cr	Sacramento	5 07 75	34		100		100	1	1M		8
Upper Truckee R	S Lake Tahoe	8 06 75	31	70	30		250	4	1M	1	
Long Lake	Sutter Co	8 02 75	11	3	97		10,575	2	10A	2	
San Joaquin R	Tracy	9 05 75	11		100		1,500	1	1A	1	12
Pajaro Cr	Watsonville	7 19 75	11	50	50		2,000	2	1M	2	
Y Ditch	Wister	6 25 75	11	100			200	1			
COLORADO											
S Platte R	Denver	10 02 75	24	2	98		3,000	3	2M	1	
Cherry Cr	Denver	6 06 75	31		100		560	4	1M		1
La Fk-Gunnison R	Gunnison	10 27 75	42	95	5		2,365	1	4M		24
DELAWARE											
Island Cr	Dagsboro	5 22 75	35	100			750	3	1M		24
Grays Branch	Laurel	7 10 75	11	25	75		150	3	2M		
Pond-Shellpot Cr	Wilmington	12 10 75	41	10	90		7,166	1	5A	2	
Trib-Shellpot Cr	Wilmington	5 26 75	34		100		25	2	1M	1	
Farm Pond	Woodside	7 19 75	13	75	25		50	3	1A		
FLORIDA											
Williams Point L	Cocoa Beach	4 01 75	31	75	25		600	2	2A	3	
Peace R	Ft Meade	3 02 75	21	60	40		6,000	3	5M	4	
Tree O Ripe Lake	Haines City	7 28 75	11	44	66	23	562	3	8A	1	
Garrison Bight	Key West	6 19 75	50		100			2	15A		
Pit	Lakeland	10 20 75	28	90	10		4,000	3	10A		
Canal & Orange R	Lehigh Acres	3 10 75	28	90	10		40,000	2	2M		
Lt St Marys R	Macclenny	10 29 75	31	28	72		42,653	2	4M	2	
Woodland Lake	Orange Co	9 30 75	28						1A	1	
Lake Davis	Orlando	6 01 75	12	5	95		2,000	3	18A	2	
Lake Gear	Orlando	4 23 75	11					4	5A	1	
Lake Susannah	Orlando	7 28 75	42	100			26	4	1A	1	
Pit	Plant City	6 05 75	28	90	10		500	2	34A		
Canal	Sunrise	10 01 75	11		100		14	4	1M	1	
Aneon Cr	Tallahassee	2 26 75	25	90	10		1,750	2	2M	5	
No Name (Pond)	Winter Garden	10 05 75	11				600	3		2	
GEORGIA											
Sweetwater Cr	Austel	7 01 75	23	75	25		100	4	15M	2	
Warrior Cr	Cool Spring	8 25 75	13					2	27M		
Cabin Cr	Coosa	8 29 75	23	30	70		7,500	2	1M	4	
Stubbis Pond	Douglasville	2 06 75	50	100			500	4	10A	6	
Pond	Edison	7 13 75	11	100				1	2A	1	

Table 10

Report of Fish Kills 1975 Cause Identified

Continued

Body of water	City or town	Date	Cause[1] see code page 71	Type of fish killed: Percent game	Type of fish killed: Percent non-game	Percent kill with commercial value	Estimated fish killed	Severity[2] see code page 71	Estimated miles or acres affected[3] page 71	Duration: Days	Duration: Hrs.
Cabin Cr	Rome	9 01 75	23	60	40		5,000	3	15A	2	
Pond	Shellman	9 01 75	11	50				2	3A	99	
HAWAII											
Drainage Channel	Honolulu	12 09 75	25		100		1,000	2	1M	1	
IDAHO											
Thurman Ditch	Garden City	8 01 75	11	10	90		275	1	2M	1	
ILLINOIS											
Mackinaw R	Anchor	9 06 75	13	3	97	8	173,831	2	14M		
Trib-Kaskaskia R	Douglas Co	5 23 75	50	1	99	1	5,427	3	2M	1	
Kings Mill Cr	Bloomington	5 06 75	28	5	95	43	3,329	4	12M	3	
Spring Cr	Buckley	5 14 75	13					3	4M	1	
Goose Cr	Deland	6 05 75	12	4	96	11	45,395	2	9M	1	
Sugar Cr	East Moline	1 21 75	28		100		8,804	3	1M	1	
E Br Panther Cr	El Paso	11 26 75	12	1	99	2	20,539	1	4M	4	
Trib Cedar Cr	Elwood	9 29 75	25	1	99	81	415	1	1M		12
William Orril Pd	Frederick	9 02 75	13	100			359	3	2A	1	
Swank Cr	Indianola	7 19 75	13	4	96	1	31,665	2	2M	1	
Mendota Cr	Mendota	10 01 75	26	12	88		170	4	1M		
Mid Fk Vermilion	Potomac	5 12 75	12					4	2M	1	
U I Rifle Rge Pd	Savoy	5 29 75	31	58	42	5	177	3	1A	1	
Scattering Fork	Tuscola	9 03 75	24		100		3,849	4	3M	1	
Clear Cr-Apple R	Warren	5 23 75	22	1	99	17	4,207	3	4M	8	
Kings Mill Cr	Yuton	8 28 75	13	10	90	7	16,850	2	3M		
INDIANA											
Center Run	Centerville	5 08 75	12		100		500	1	2M		
Six Mile Cr	Charlottesville	6 27 75	13				5,812	2	3M		
Mud & Mill Cr	Cloverdale	7 16 75	13	50	50		1,670	2	14M	2	
Black Cr & Trib	Crawfordsville	5 14 75	11	23	77		568	1	5M		
Lick Run	Frankfort	4 05 75	12	25	75		181	4	3M		
Dry Run Cr	Indianapolis	6 15 75	50		100		500	2	1M	1	
Fall Cr	Indianapolis	8 23 75	31	3	97		959	2	1M	5	
Tr Big Raccoon C	Ladoga	6 20 75	13	50	50		800	3	3M	2	
Lt Flatrock R	Milroy	9 13 75	22	52	48		1,073	2	2M	1	
White R	Muncie	8 05 75	33	12	88		905	3	1M	1	
Grassy Fork Cr	Point Isabel	8 22 75	22	2	98		5,000	2	3M	1	
Salamonie R	Portland	11 06 75	31	99	1		675	3	3M	2	
Bice Ditch	Remington	5 13 75	11		100		10,000	1	3M		
W Fork of Blue R	Salem	8 14 75	31	45	55		1,458	2	2M	2	
Rush Cr	Salem	8 18 75	13	78	22		608	3	2M	1	
French Lick Cr	West Baden	7 07 75	31	8	92		1,233	2	1M	3	
Sulphur Cr	Williams	8 18 75	28	25	75		370	3	2M		
Stoney Cr	Windsor	7 06 75	13	42	58		1,825	2	3M		
IOWA											
South R	Indianola	5 24 75	31	1	99		15	4	6M	5	
Clanton Cr	Martensdale	8 28 75	13	80	20		900	2	3M	3	
KANSAS											
Grouse Cr	Grand Summit	6 05 75	11	20	80	20	1,000	3	8M	2	12
Cowskin Cr	Haysville	8 14 75	24	10	90	25	29,933	1	8M	5	
Shady Brook	Hillsboro	8 30 75	13	20	80	30	1,500	2	2M	3	
Payne Cr	Homewood	5 16 75	13	95	5	40	750	1	1M	1	12
Elm Cr	Miller	5 23 75	13	40	60	25	250	1	3M	2	
Russell City La	Russell	2 27 75	13	30	70	30	2,100	2	82A		
Spring & Slate Cr	Wellington	11 08 75	25	8	92	10	3,646	2	2M		12
KENTUCKY											
Masons Cr	Farler	6 10 75	21					1	6M		
Salt R	Harrodsburg	7 07 75	31				15,819	1	4M	4	
Wolf Cr	Inez	1 26 75	21				38,425	1	14M	2	
Rush & Crooked C	Marion	9 19 75	31						6M		24
Toms Cr	Stambaugh	6 19 75	13				12,662	1	2M	2	
Skaggs Cr	Tompkinsville	7 07 75	13				57,508	2	6M	5	
LOUISIANA											
Bayou Manchac	Baton Rouge	10 10 75	31	5	95	10	30,000	2	10M	9	
Bayou Braud	Carville	6 28 75	50	80	20			3	4M	3	
Dry Creek	Castor	8 23 75	25	64	36	40	800	1	1M	1	
Brush Bayou	Shreveport	8 22 75	31	100		50	500	3	1M	1	
St James Canal	Donaldsonville	2 16 75	31		100	25		3	5M		
Bayou Smith	Geismar	9 27 75	24					1	2M		
New R	Geismar	9 17 75	24	50	50	2	2,000	1	3M		
Bayou Blue	Grosse Tete	6 10 75	50	80	20	10		2	11M		
By Petit Caillou	Houma	8 15 75	11	70	30	15	28,319	2	5M		36
Company Canal	Lockport	8 21 75	11						4M	1	
Patout Canal	Patoutville	12 01 75	22	1	99	90	100	3	2M	5	
Grand Bayou	Pierre Part	7 31 75	50	15	85		370	4	2M	5	
Intracoastal Wwy	Port Allen	7 01 75	11		100	97	4,000	3	2M		
Grand Bayou	White Castle	8 26 75	11	5	95	20			3M		36
Muddy Bayou	White Castle	9 02 75	11	2	98		500	1	3M		
MAINE											
Maduskeag Stream	Hodgdon	7 10 75	11	100			300	1	1M		

Body of water	City or town	Date	Cause[1] see code page 71	Type of fish killed: Percent game	Type of fish killed: Percent non-game	Percent kill with commercial value	Estimated fish killed	Severity[2] see code page 71	Estimated miles or acres affected[3] page 71	Duration: Days	Duration: Hrs.
Smith Brook	Houlton	7 16 75	11	100			150	2	1M		24
Trafton Lake	Limestone	7 15 75	11	50	50		300	1	1A		24
MARYLAND											
Spesutie Narrows	Aberdeen	1 28 75	25	1	99		466	4	720A		
Tr Lt Antietam C	Boonsboro	8 02 75	31	1	99		173	4	1M		
Hawlings R	Brookeville	4 03 75	31	1	99		15,456	2	4M		7
Trib-Beaver Cr	Cavetown	7 09 75	50		100		6	4	1A	1	
Flintstone Cr	Flintstone	7 23 75	50	1	99		7,625	1	1M	1	
Tr-Ballinger Cr	Frederick	4 09 75	12		100		200	2	3M		7
St. Martins R	Holiday Harbor	6 18 75	31	1	99	100	10,000	3	5M	3	
Wellers Pond	Lisbon	7 14 75	13	25	75		40	3	1A		
Tr-Lt Catoctin C	Middletown	6 27 75	13		100			4	7M	1	
Honeygo Run	Perry Hall	5 05 75	25		100			4			7
Tr-Rock Cr	Rockville	6 11 75	42	1	99		959	2	1M	2	
MASSACHUSETTS											
Hoosic R	Adams	5 22 75	24		100		150	2	1M		7
Taunton R	Dighton	7 26 75	31			100	15,000	3	3M	19	
Unnamed Pond	Holyoke	8 25 75	50	100			45	3	1A	2	
Assabet R	Hudson	7 10 75	31		100		500	3	1M		4
Charles R	Medfield	6 27 75	31		100		1,000	3	1M		6
Little River	Westfield	7 09 75	23		100		200	3	3M	1	
Little River	Westfield	7 09 75	23		100		100	3	2M		
MICHIGAN											
Tr Shiawassee R	Bancroft	9 30 75	42	10	90		500	1	3M	1	
Fremont Lake	Fremont	7 02 75	50		100		1,000	2	1A		6
Landenburg Drain	Grand Ledge	9 01 75	13	20	80		100	3	1M		
Plaster Cr	Grand Rapids	10 14 75	28	25	75		1,226	1	2M		
Deur Cr	Holland	9 24 75	24	70	30		75	3	1M		
Brent Run	Mt Morris	8 18 75	42	20	80		1,000	1	1M	1	
Crooked Lake	Oden	5 19 75	50	100			600	3	1M		6
Lost Cr	Pewamo	8 03 75	13	5	95		400	1	1M	1	
Trib Rouge R	Rockford	12 09 75	31	100			20	4	1M	1	
Lake Cr	Saranac	5 15 75	13	40	60		320	1	1M		10
MINNESOTA											
Badger Cr	Houston Co	11 15 75	42	100			2,108	1	3M	1	
South Crow R	Hutchinson	11 16 75	24	60	40		100	3	1M		
Duschee Creek	Lanesboro	5 23 75	11	5	95		750	3		2	
Lost Lake	*Minneapolis*	8 08 75	11		100		5,000	2			
Cascade Cr	Rochester	6 21 75	44	1	99			2	7M		3
MISSISSIPPI											
Bayou Benard	Biloxi	10 23 75	24	60	40		30,000	2	4M	6	
Tallahala Cr	Laurel	8 01 75	23	40	60		5,000	3	6M		12
Hennessys Bayou	Vicksburg	4 03 75	24	5	95		4,000	3	12A	4	
MISSOURI											
Monnegaw Cr	Appleton City	8 09 75	21		100		200	4	1M	1	
White Oak Cr	Avilla	8 11 75	50		100		1,000	3	1M		
Drainage Ditch	Bernie	5 12 75	11	20	80		8,000	1	3M	1	
Smith Pond	Bernie	5 12 75	11	100			2,000	1	1A	1	
N Fk Moreau R	California	9 06 75	31	1	99		614	3	1M	2	
Ditch No 10	Campbell	4 29 75	35	48	52		1,380	2	6M		
Fox R	Chambersburg	8 07 75	50	20	80		1,040	2	1M	1	
Bear Cr	Columbia	8 01 75	35	6	94		4,600	2	1M	2	
Clear Cr	Columbia	6 10 75	33		100		50	3	1M	1	
Flat Branch	Columbia	8 22 75	50	8	92		900	1	1M	1	
Caulks Cr	Ellisville	4 22 75	31		100		25	4	3M	1	
Drainage Ditch	Essex	5 24 75	11	30	70		1,400	2	1M	2	
E Fk Fishing R	Excelcior Sprgs	8 29 75	31	20	80		200	2	3M	2	
No Name Cr	Greenville	3 07 75	50		100		25	4	1M		
Truitt Cr	Heatonville	7 31 75	44	100			10	4	1M	1	
Lt R Drnge Ditch	Hornersville	10 16 75	23		100		1,000	3	1M	1	
Johnson Cr	Kahoka	4 17 75	44		100		1,000	3	2M		
Pond	Krakow	3 28 75	44	100			200	4			
Osage River	Lake Ozark	9 08 75	35	60	40		146	4	1M	1	
Dry Auglaize Cr	Lebanon	5 27 75	31	40	60		28,200	2	3M	2	
Shoal Cr	Liberty	8 11 75	31					4	1M		
Chariton R	Macon	6 08 75	11					4	5M		
Bechtold Pond	New Melle	2 13 75	50					3	1A	1	
S Fabius R	Palmyra	10 03 75	42		100		100	4	1M		
Long Cr	Polo	5 17 75	12		100		362	1	2M		
Big R	Potosi	8 16 75	21	10	90		85,378	2	10M	3	
Lt Courtoip Cr	Potosi	9 18 75	21	10	90		15,000	2	3M		
Breton Cr	Potosi	3 02 75	25	2	98		2,230	2	1M	1	
Middle Fabius R	Rutledge	7 18 75	50					3	1M		
River Des Peres	St Louis	6 09 75	24		100		5,000	2	1M	3	
Fishpot Cr	St Louis	9 11 75	31					2	4M	1	
James R	Springfield	8 31 75	31	40	60		42,000	2	10M	2	
Tarkio R	Tarkio	7 29 75	12	13	87		105,834	1	8M	2	
Meister Branch	Troy	4 28 75	44		100		30	4	1M	1	
Spencer Cr	Vandalia	4 28 75	13		100		25	4	1M		
Phelps Pond	Walker	5 12 75	12					1	2A		
Unnamed Cr	Weldon Spring	4 18 75	44		100			1	4M	6	
Ball Cr	Zell	3 09 75	13	20	80		300	4	2M		

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MONTANA											
Browns Lake	Helmville	7 30 75	50	2	98		3,500	3	500A	7	
Lower Dry Fk Res	Hot Springs	7 — 75	11				1,000	2	346A		
Park Lake	Jefferson City	7 01 75	21	100			250	4	2A	2	
NEBRASKA											
Cozad Drain	Cozad	10 28 75	12	3	97		8,500	2	15M		
Goose Cr	Elsmere	5 29 75	42	99	1		30	4	1M		2
Platte R	Grand Island	9 17 75	50	20	80			1	7M		
Wood R	Grand Island	9 15 75	22					1	2M		
Gudgel Pond	Lincoln	6 24 75	13	100			4,020	2	1A		
Cub Cr Trib	Plymouth	6 28 75	12	89	11		27	1	1M		
Kock Pond	Plymouth	6 15 75	12	100			50	2	1M		
Lost Cr	Schuyler	1 18 75	22	26	74		1,050	2	2M		
Glowdoski Pond	Scribner	3 26 75	13	100			125	2	5A		
Niobrara R	Spencer	7 28 75	35	13	87		3,800	2	3M		
Nemaha R	Syracuse	5 24 75	11	34	66		150	3	2M		
Ikes Pond	West Point	4 10 75	13	14	86		7,000	2	10A		
NEVADA											
Tailings Cr	Ely	7 05 75	21	100			12,500		3M	1	
NEW HAMPSHIRE											
Connecticut R	Cheshire Co	7 02 75	24	6	94		69	4			
Bow Brook	Concord	4 23 75	28		100		200	2	1M	1	
Kezar Lake	North Sutton	7 29 75	31		100		1,000	3	160A	2	
Kezar Lake	North Sutton	6 04 75	31		100		200	4	180A	2	
NEW MEXICO											
Pecos R	Artesia	9 08 75	13	15	85			3	15M	2	
Red R	Questa	4 09 75	21	95	5		400	2	5M	2	
Alto Lake	Ruidoso	9 13 75	50	100			1,000	2	20A	2	
Alto Lake	Ruidoso	7 04 75	50	100			700	3	20A	2	
NEW YORK											
Griffin Cr	Cuba	8 11 75	22		100		400	3	1M		1
Griffin & Oil Cr	Cuba	6 27 75	22		100		300	3	8M	1	
Debruce Hatchery	Debruce	4 04 75	50	100			2,000	3	1A	1	
Florence Cr	Glenmore	8 03 75	33	50	50		500	2	1M		8
Paddy Hill Cr	Greece	8 20 75	11		100		500	2	1M	2	
Owasco Inlet	Groton	7 20 75	34	70	30		250	1	1M		4
High School Pond	Hauppauge	6 20 75	50		100		2,000	2	1A	1	
Canandaigua La O	Hopewell	8 17 75	31		100		100	2	7M	2	
Smoke Cr	Lackawanna	9 08 75	31		100		500	3	1M	1	
Trib 1-Meco Cr	Meco	8 27 75	50	100		100	30,000	2	1M	1	
Canisteo R	North Hornell	7 03 75	22	2	98		10,000	2	2M	1	
Canisteo R	North Hornell	7 09 75	22	2	98		10,000	2	8M	2	
Sparkill Cr	Orangeburg	7 29 75	42	1	99		30,000	1	7M	2	
N Br Lt Salmon R	Parish	11 07 75	50	1	99			3	15M		
Lt Black Cr	Rochester	10 16 75	24	5	95				2M	3	
Virgil Cr	Virgil	7 07 75	50	85	15		175	3	1M		12
W Br Delaware R	Walton	7 17 75	22		100		5,000	4	4M	2	
Shipbuilders Cr	Webster	7 29 75	31		100		5,000	3	2M	1	
Cold Spring Brk	Weedsport	10 23 75	44	1	99		2,500	2	4M	2	
Salmon Cr & Tr 3	Williamson	7 20 75	22		100			2	4M	4	
NORTH CAROLINA											
Sweeten Cr	Asheville	4 22 75	21		100		400	1	3M		1
Gregory Trout Pd	Asheville	5 21 75	50	100			4,500	2	3A		8
N Buffalo Cr	Greensboro	11 10 75	24		100		175	4	2M	2	
Beaverdam Cr	Laurel Hill	6 02 75	42	50	50		100	2	2M	3	
Dunns Pond	Maxton	9 29 75	11	100			1,500	3	3A	3	
Clear Cr	Morganton	6 05 75	11		100		63	1			3
Bertie Hardin Pd	Raeford	7 20 75	11					3	3A	1	
Tar R	Rocky Mount	6 07 75	31	85	15		12,000	2	9M	3	
Trib Grants Cr	Spencer	9 09 75	50		100		65	1	1M		3
Contentnee Cr	Wilson	9 08 75	31				100	4	3M	1	
OHIO											
Trib L Riley Cr	Allen Co	2 04 75	42				3	4			
Ashtabula R	Ashtabula Co	5 19 75	11				4,778				
Hocking R	Athens Co	8 07 75	21				21	4			
Auglaize R	Auglaize Co	8 11 75	31				3,753				
Captina Cr	Belmont Co	7 20 75	21				339				
Trib Wheeling Cr	Belmont Co	5 19 75	42				33	4			
Trib Mill Cr	Butler Co	4 17 75	42				76				
Willow Run	Carroll Co	8 09 75	25				19	4			
Mad R	Clark Co	7 29 75	31				8,217				
Lt Miami R	Clark Co	9 02 75	25				1				
Lt Miami R	Clark Co	7 12 75	25				51				
Lt Miami R	Clark Co	12 04 75	12				3,345				
Trib Buck Cr	Clermont Co	9 30 75	50				137				
E Fk Lt Miami R	Clermont Co	3 26 75	41				2,023				
Sandy Cr	Columbiana Co	6 30 75	22				12,666				
Sandusky R	Crawford Co	7 09 75	31				25,716				
Olentangy R	Crawford Co	4 07 75	31				16,136				
Trib Chippewa Cr	Cuyahoga Co	12 26 75	50				2	4			
Trib L Walnut Cr	Fairfield Co	5 06 75	42				276				

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Lt Walnut Cr	Fairfield Co	6 15 75	13				1,122				
Sycamore Cr	Fairfield Co	5 21 75	31				45				
Paint Cr	Fayette Co	8 04 75	31				200				
Olentangy Scioto	Franklin Co	8 05 75	31				6,938				
Alum Cr	Franklin Co	5 28 75	31				722				
R Miller Ditch	Franklin Co	6 27 75	50				110				
Trib Cuyahoga R	Geauga Co	8 12 75	25				75				
Punderson Pk Pd	Geauga Co	5 02 75	50				185				
Muddy Cr	Hamilton Co	8 22 75	31				3,000				
Whiskey Run	Hamilton Co	8 23 75	50				1,126				
Trib Ottawa R	Hancock Co	9 23 75	42				1,894				
E Trib Eagle Cr	Hancock Co	8 19 75	31				200				
Taylor Cr	Hardin Co	8 09 75	24				1,009				
Taylor Cr	Hardin Co	8 30 75	24				1,175				
Vanhyning Cr	Henry Co	8 20 75	22				1,847				
Hillsboro Res	Highland Co	4 12 75	12				6	4			
Norwalk Cr	Huron Co	9 01 75	35				2,245				
Kokosing R	Knox Co	8 18 75	26				24	4			
Trib-Lake Erie	Lake Co	7 07 75	50				12	4			
N Fk Licking R	Licking Co	7 27 75	24				78				
Trib Black R	Lorain Co	11 06 75	22				25				
Blodgett Ditch	Lucas Co	4 30 75	24				3,034				
Ottawa R	Lucas Co	5 22 75	31				6,236				
Spring Fork	Madison Co	8 06 75	13				22,490				
Champion Cr	Medina Co	8 22 75	50				38,950				
Lickskillet Run	Meigs Co	8 24 75	25				996				
Hog Run	Miami Co	8 17 75	50				21,010				
Brush Cr	Miami Co	8 21 75	13				6,690				
Gr Miami	Miami Co	2 21 75	31				25	4			
Mad River	Montgomery Co	1 07 75	50				89				
Indigo Cr	Morrow Co	2 22 75	11				18	4			
Trib Blue Cr	Paulding Co	3 06 75	22				5	4			
Trib Scioto R	Pike Co	7 17 75	50				11,603				
Riley Cr	Putnam Co	4 11 75	50				4	4			
Plum Cr	Putnam Co	11 09 75	50				157				
Rock Cr	Seneca Co	8 29 75	13				160				
Leatherwood Cr	Shelby Co	9 09 75	13				2,973				
Crooked Cr	Tuscarawas	8 05 75	50				185				
L Auglaize R	Van Wert Co	5 19 75	26				8,462				
Clear Cr	Warren Co	6 24 75	23				382				
Lt Chippewa Cr	Wayne Co	8 23 75	35				9	4			
Trib Lt Sugar Cr	Wayne Co	10 15 75	31				61				
Shreve Cr	Wayne Co	11 09 75	50				150				
Lt Sugar Cr	Wayne Co	7 26 75	25				2,096				
Wolf Cr	Wood Co	7 29 75	22				217				
Taylor Run	Wyandot Co	7 26 75	22				45	4			
OKLAHOMA											
Grand La	Bernice	5 21 75	50				3,000	2	100A		
Pond	Breckenridge	6 04 75	11	65	35		400	1	3A	1	
Washita R	Bryan Co	9 26 75	25	4	96		37,260	1	1M		36
Tiger Cr	Creek Co	10 05 75	50	1	99		205,420	2	8M	4	
Turkey Cr	Dover	10 20 75	25	10	90		900	1	5A	2	
Four Mile Cr	El Reno	10 03 75	41	8	92		2,405	2	3M	3	
Unnamed Pond	Kingfisher Co	5 26 75	50					1	3A	1	
Pond	Kingfisher Co	5 24 75	50	100					15A	1	
Cooper Cr	Kingfisher Co	5 20 75	12		100		12	4	1M	1	
Unnamed Pond	Kingfisher Co	5 24 75	50	100				1	3A	1	
Flood Control Pd	McClain Co	2 02 75	25					4	8A	3	
Beef Cr	Maysville	11 13 75	28	20	80			4	1M	1	
Grand R	Muskogee	2 28 75	41					4	1M	1	
Unnamed Pond	Perry	6 07 75	42	25	75		300	1	1A	1	
Verdigris R	Rogers Co	9 05 75	28	10	90		750	3	2M	3	
Stillwater Cr	Stillwater	1 21 75	25	10	90			4	1M		
Farm Pond	Tonkawa	5 29 75	11	80	20		200		2A		
OREGON											
Johnson Cr	Portland	6 04 75	26	1	99		18,550	2	2M		10
Beerman Cr	Seaside	7 16 75	50	99	1		9,021	2	1M		1
PENNSYLVANIA											
Lehigh Canal	Catasauqua	5 31 75	25	100			192	4	1M	1	
Sucker Run	Coatesville	12 05 75	24		100		550	2	1M		
Cabin Branch Cr	East Prospect	7 30 75	50	5	95		1,028	2	1M	2	
Gray Brook Kennl	Fairview	8 25 75	11	100			380	2	1M		9
Kratzner Run	Grampian	7 18 75	42		100		1,200	2	2M		
Oil Cr	Hanover	8 22 75	31	20	80		1,645	2	3M	2	
Coplay Cr	Hokendauqua	4 25 75	50	9	91		1,119	3	1M	1	
Loyalhanna Cr	Kingston	5 27 75	24	100			773	3	1M	1	
Mill Cr	Lebanon Co	10 03 75	50	100			3,317	1	1M		
Trib Welsh Run	Montgomery Twp	6 14 75	11		100		78	4	2M	1	
Unnamed Run	New Alexandria	6 17 75	25		100		300	3	1M	1	
Swiftwater Cr	Pocono Twp	6 03 75	24	100			125	4	1M	1	
Markle Run	Reading Twp	9 04 75	13	85	15		1,182	2	4M	7	
Tr-Barshinger Cr	Red Lion	8 06 75	13	12	88		1,010	3	2M		6
Leatherwood Cr	Rockville	10 12 75	21	10	90		19,000	2	4M		
Trib-Clarks	Rush Twp	8 28 75	42	50	50		220	2	1M		

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Irib-Sandy Cr	Sandy Lake	5 28 75	50	100			14	4	1M	1	
Carney Run	Strongstown	7 21 75	50	100			2,400	1	1M	1	
Montour Cr	Tyrone Twp	8 19 75	11	2	98		3,012	2	2M	2	
Unnamed Run	Waltz Mill	6 14 75	50		100		100	4	2M		
Brush Cr	Warrendale	7 31 75	31		100		2,285	2		1	
Georges Run	Washington	7 04 75	21		100		6,600	2	2M	4	
Chillisquaque Cr	Washingtonville	4 15 75	35	10	90		8,085	2	7M	3	
S Br French Cr	Waterford	7 28 75	50		100		400	3			
Pickering Cr	West Pikeland	8 21 75	42	25	75		1,325	2	1M		
Grand Central Cr	Wind Gap	2 01 75	42	7	93		103,078	2	12M	3	
Fishing Cr	Windsor	4 02 75	24	29	71		1,615	2	1M	1	
TENNESSEE											
Cherokee Res Emb	Bean Station	6 02 75	42	80	20	1	130	3	1A	1	
Hatchie R	Bolivar	6 24 75	26	1	99	4	273,168	2	64M	4	
Chicamauga Res	Chattanooga	4 02 75	24	3	97	40		2	50A	2	
Rutherford Cr	Columbia	7 08 75	21	1	99	7	68,239	2	2M	2	
Rutherford Cr	Columbia	6 25 75	50	4	96	10	3,444	2	2M	2	
Jones Cr	Dickson	7 13 75	31	4	96		692	3	1M	3	
Harpeth R	Franklin	7 09 75	31	2	98		1,783	3	2M	2	
Coal Cr	Lake City	10 01 75	42	2	98		66,447	2	4M	2	
Big Rock Cr	Lewisburg	8 14 75	31	3	97		15,361	2	3M	2	
Big Bigby Cr	Mt Pleasant	6 10 75	24		100		585	3	1M	1	
Trace Cr	Waverly	9 11 75	31	1	99	10	186	3	1M	1	
Loosahatchie R	Woodstock	9 11 75	24	5	95	10	200	4	1M	2	
TEXAS											
San Jacinto Bay	Baytown	5 27 75	11	20	80		6,000				
Brazos R Auth Ca	Brazoria Co	3 10 75	11		100		700				
Brazos R Auth Ca											
Thompson Cr	Bryan	6 24 75	44	70	30		100				
Municipal La	Bryan	6 27 75	31	100			500				
U Carbide Ditch	Calhoun Co	10 30 75	24		100		300				
HL&P Old Disc Ca	Chambers Co	9 29 75	35		100		10,000,000				
Baker Slough	Domino	7 23 75	23	80	20		10,000	2	3M		
Long Slough	Domino	10 20 75	23	22	78		500	3	4M		
Trinity R	Houston Co	7 30 75	31		100		1,000				
Taylor Bayou	Jefferson Co	1 31 75	22		100		24				
Big Cypress Cr	Lone Star	12 14 75	26	100			600		1M		
Trout Cr	Newton Co	7 10 75	31	60	40		1,737				
Red Arroyo Draw	San Angelo	3 26 75	31	40	60		1,000		1M	2	
Red Arroyo Draw	San Angelo	3 27 75	31	40	60		1,000	1	1M	2	
UTAH											
Mill Cr	Bountiful	8 14 75	33	100			300	1	2M		4
Beckstead Irrig	South Jordan	7 15 75	11	6	94		90	1	1M	2	
VIRGINIA											
Carsbrook Sub La	Albemarle Co	2 12 75	50	100			1,017	3	3A	1	
Trib-Dogue Cr	Alexandria	5 29 75	50		100		200	3	1M	1	
Lake Barcroft	Annandale	6 12 75	42	25	75		135	4	1M	1	
Whitney Branch	Blufield	4 22 75	22		100		4,600	2	1M	1	
Trib-Beaver Cr	Bristol	11 20 75	42		100		2,000	2	1M	1	
Lick Cr	Dante	11 04 75	21	1	100		10,666	2	3M		
Deep Run	Fredericksburg	8 02 75	24	50	50		90	4	1M	1	
L Reed Island Cr	Hillsville	6 18 75	42	10	90		719	3	6M	2	
Private Pond	Kilmarnock	6 27 75	50	50	50		300	3	1A	2	
Holkums Branch	Manassas	8 04 75	42	100			3,892	1	1A		
James R	Newport News	6 05 75	31			100	8,000	2	20M	14	
James R	Richmond	5 08 75	24	60	40		2,936	4	1M	1	
Roanoke R	Roanoke	7 29 75	42	40	60		7,418	2	1M		
Pigg R	Rocky Mount	6 29 75	28	10	90		28,704	2	24M	2	
Robertson Br	Saltville	7 18 75	50		100		2,810		1M	1	
Trib-Broad Run	The Plains	3 07 75	50	100			4,236	1	1A	1	
WASHINGTON											
McDowell La	Colville	3 01 75	50	100			5,000	3	33A		
Shelabarger Cr	Edmonds	6 06 75	28	100			20	4	1M		
Anderson La	Port Townsend	10 26 75	50					4	59A		
Unnamed Cr	Puyallup	12 06 75	25	20	80		5,000	1	1M		
Walla Walla R	Reese	8 11 75	11					1	8M		
Lake Washington	Seattle	4 11 75	50		100			4	1M	1	
Fennel Cr	Sumner	8 27 75	13	100			5,000	3	2M		
WEST VIRGINIA											
Mill Run	Berkeley Co	6 16 75	50	40	60		100	4	1M		12
Elk Cr	Clarksburg	9 19 75	32	3	97		709	3	3M		
Hurrican Cr	Hurricane	9 02 75	31	20	80		131	2	1M		8
Sugar Cr	Jackson Co	8 29 75	44	5	95		1,252		1M		
Hans Cr	Monroe Co	9 19 75	50	12	88		6,000	2	1M		12
Berry Run	Parkersburg	4 15 75	50	1	99		41,945	2	1M		
Willow Island Cr	Pleasants Co	8 05 75	44	2	98		8,172	2	1M		12
Brush Cr	Princeton	6 30 75	32	2	98		903	3	3M	5	
Whitestick Cr	Raleigh Co	10 07 75	25		100		150	4	1M		6
Marsh Run	Ritchie Co	7 07 75	25		100		65	4	1M		
Buckhannon R	Upshur Co	9 03 75	31	50	50		51	4	1M		
West Fork R	Weston	7 11 75	33	1	99		189	3	2M		

Body of water	City or town	Date	Cause[1] see code page 71	Type of fish killed		Percent kill with commercial value	Estimated fish killed	Severity[2] see code page 71	Estimated miles or acres affected[3] page 71	Duration	
				Percent game	Percent non-game					Days	Hrs.
WISCONSIN											
Manitowoc R	Chilton	7 19 75	50	51	49		100	2	1M		
Section 11	Glenwood City	5 -- 75	13	80	20		500	2	5M		
Cedar Cr	Jackson	7 22 75	31	10	90		5,000	2			
Willow R	New Richmond	9 05 75	31	50	50		350	2	2M		24
Oconto R	Oconto Falls	6 26 75	23		100		600	4	1M		

CODES

[1] CAUSE:

10 Agricultural Operations
- 11 Pesticides (Herbicides, Insecticides, etc.)
- 12 Fertilizers
- 13 Manure, Silo, Feedlot Drainage, etc.

20 Industrial Operations
- 21 Mining
- 22 Food & Kindred Products
- 23 Paper & Allied Products
- 24 Chemicals
- 25 Petroleum
- 26 Metals
- 27 Combinations
- 28 Other

30 Municipal Operations
- 31 Sewerage System
- 32 Refuse Disposal
- 33 Water System
- 34 Swimming Pool
- 35 Power

40 Transportation Operations
- 41 Rail
- 42 Truck
- 43 Barge or Boat
- 44 Pipe Line

50 Other Operations

[2] SEVERITY:
- 1 Complete
- 2 Heavy
- 3 Moderate
- 4 Light

[3] ESTIMATED MILES OR ACRES AFFECTED
A = Acres
M = Miles

Table 11

Report of Fish Kills 1975 Cause Not Specifically Identified

Table 11 lists the 168 individual fish kills with pollution source not specified. Kills from natural causes are not included.

Body of water	City or town	Date	Type of fish killed: Percent game	Type of fish killed: Percent non-game	Percent kill with commercial value	Estimated fish killed	Severity[1] see code page 74	Estimated miles or acres affected[2] page 74	Duration: Days	Duration: Hrs.
ARKANSAS										
Taylor Bay	Augusta	6 23 75	10	90			4	5A		
Private Pond	Cabot	6 23 75					3			
Rock Roe Bayou	Clarendon	7 27 75	20	80			1	2M		
Horseshoe Lake	Crittenden Co	8 04 75								
S Fk Saline R	Garland Co	6 26 75								
Saline R	Grant Co	8 25 75					2			
Smith Park Lake	Miller Co	8 21 75				800	3	2A		
Lake Langhofer	Pine Bluff	4 19 75								
Slackwater Harbr	Pine Bluff	7 15 75								
Rolling Fork Cr	Polk Co	7 24 75								
Twin Lakes #2	Pulaski	11 14 75								
Private Pond	Pulaski	10 21 75								
Old River Lake	Pulaski Co	8 29 75				2,500				
Cypress Brnch Cr	Pulaski Co	8 18 75								
Cypress Branch	Pulaski Co	4 19 75					4			
Fouche Cr	Pulaski Co	7 29 75								
Bayou Meto	Pulaski Co	7 29 75								
Deep Slough	Union Co	8 21 75					2			
Private Pond	Union	11 19 75								
CALIFORNIA										
2047 Canal	Arbuckle	6 02 75		100		75	3	10M	11	
Lost Lake	Blythe	11 25 75	100			25	4			
Castaic Lake	Castaic Junction	10 08 75	40	60		1,100	4	1A		
Willow Cr	Colusa Co	7 20 75	100			75	2	10M		6
Crow Canyon Cr	Hayward	7 08 75	10	90		1,500	2	1M	1	
Lake Hemet	Hemet	7 04 75	100			4,000	3			
San Gabriel R	Long Beach	2 05 75		100		2,000	2	1M	1	
Carquinez Strait	Martinez	5 29 75	100			25	4	1M		
Upper Truckee R	Meyers	9 10 75	100			2	4	1M		
Russian R	Monte Rio	6 04 75		100		100	4	1M		
Sump Pond	Pleasant Grove	5 30 75	8	92		782	2	1A	5	
San Francisco By	Redwood City	6 02 75	100			200	2	5M	10	
Peckham Ranch Pd	Rio Oso	5 31 75	4	96		54	3	1A		
Slough-Del Paso	Sacramento	7 06 75	100			25	4	1M		
Chicken Ranch Sl	Sacramento	9 27 75		100		150	3	1M		24
Natomas Drain	Sacramento	6 06 75	28	72		350	4	5M		
Calaveras R Esty	Stockton	10 01 75	75	25		3,000	1			
Stockton Ca	Stockton	4 05 75	92	8		301	4	1M		12
Meridian Farms C	Sutter Co	5 24 75	84	16		510	3	2M		
Old R	Tracy	10 25 75	75	25		5,000	1	5M	2	
Ventura R	Ventura	6 04 75	100			15,000	1		1	
Drain	Westmorland	6 09 75		100		150	4	1M	1	
Tow Drain	W Sacramento	6 02 75		100		3,500	2	5M	7	
COLORADO										
St Vrain R	Longmont	9 02 75	10	90		1,000,000	1	3M	1	
CONNECTICUT										
Johnsons Cr	Bridgeport	9 22 75			100	12,500	1	1M	4	
Rooster R	Trumbull	6 03 75		100		150	2	1M		3
FLORIDA										
Blue Sink	Barberville	5 28 75	100				4	6A	1	
Lake Catherine	Castleberry	5 01 75					4		8	
Clermont Canal	Clermont	4 20 75		100		100	3	1A	1	
Spring Lake	Eatonville	5 21 75	25	75		150	4	5A	2	
Peace R	Ft Meade	12 02 75					4	20M	3	
Lake Maitland	Maitland	5 21 75				109	4	1A	1	
Sky Lake	Orlando	7 16 75					3	1A	1	
Lake Catherine	Orlando	5 19 75					4		1	
Fairview Lake	Orlando	5 26 75	100			15	4	1A	1	
Lt Lake Barton	Orlando	9 30 75	60	40		250	4	30A	2	
La Jennie Jewel	Orlando	4 04 75			100	150	4	74A	7	
Lake Tyner	Orlando	5 05 75				25	4	3A	1	
Mead Manor Lake	Oviedo	5 01 75					4	7A	1	
Rodman Reservoir	Palatka	9 12 75	10	90		90	4	1A	1	
Rodman Dam	Palatka	10 01 75	100				4	1A	2	
GEORGIA										
Buffalo Cr	Carrollton	4 30 75	98	2		1,000	3	5M		
Corbin Cr	Hiawassee	7 27 75	90	10		500	1	2M		1
ILLINOIS										
Bode Lake	Barrington	8 26 75	66	34	34	3,454	2	6A	4	
Wolf Lake	Chicago	4 09 75	98	2		1,958	3	1M	3	
Homewood Pond	Decatur	7 20 75	86	14	13	2,009	2	3A	2	
S Br Kishwaukee	Dekalb	9 26 75	4	96	1	26,799	2	4M	4	
S Br Kishwaukee	Dekalb	8 22 75	11	89	17	27,588	2	5M	2	
Trib Menominee R	Menominee Sta	5 11 75	20	80	79	351	3	1M		
Stony Cr	Muncie	7 07 75	15	85	2	22,404	2	3M	1	
TR S FK Sangamon	Sharpsburg	9 08 75	18	82	4	10,205	2	3M	3	
INDIANA										
Sugar Cr	Greenhill	3 26 75				1,200	3	8M		

Body of water	City or town	Date	Type of fish killed: Percent game	Type of fish killed: Percent non-game	Percent kill with commercial value	Estimated fish killed	Severity[1] see code page 74	Estimated miles or acres affected[2] page 74	Duration: Days	Duration: Hrs.
Mounts Run	Gadsden	3 22 75				200	3	2M		
St Joseph R	Mishawaka	8 13 75	98	2		1,320	3	3M	1	
IOWA										
Squaw Cr	Ames	10 15 75				200		1M	2	
KANSAS										
Little Mill Cr	Lenexa	4 21 75	75	25	25	1,500	1	3M		
KENTUCKY										
Mill Cr	Monroe Co	6 19 75				31,514	2		2	
MARYLAND										
Comsat Pond	Clarksburg	8 22 75	100			30	3	1A	18	
MASSACHUSETTS										
Mt Hope Bay	Brayton Point	7 14 75				32,200				
Beaverdam Brook	Framingham	7 17 75		100		1,000	2	2M		4
Straits Pond	Hull	7 22 75				9,000		24A		
MICHIGAN										
Lake Erie	Erie	4 21 75	25	75		1,200	2	10A		
Ecopse Cr	Lincoln Park	5 23 75	10	90		300	3	1M		12
Patter Drain	Livonia	1 20 75		100		50	2	1M	1	
MISSOURI										
Ditch #79	Hornersville	9 08 75	3	97		3,098	2	3M		
MONTANA										
Missouri R	Great Falls	7 15 75	1	99		3,000	2	1M		12
NEBRASKA										
Victoria Spgs La	Anselmo	9 04 75	100			150	4	4A		
Kreitman Pond	Bassett	8 02 75	100			144	3	1A		
Johnson La	Lexington	8 24 75	100			300	4	2800A		
Maahs Pond	Lincoln	8 03 75	100			4,200	2	3A		
Salt Cr	Lancaster	10 02 75	21	79		11,200	1	18M		
Lazy Ab Pond	Springview	7 29 75	100			100	3	1A		
NEVADA										
Solar Meadws Byu	Gerlach	7 10 75		100		10,000	2	250A	14	
NEW JERSEY										
Atlantic Ocean	Atlantic City	8 08 75	100			1,200				
NORTH CAROLINA										
Livingston Cr	Acme	9 03 75	36	64		2,994	2	3M	1	
Hominy Cr	Asheville	8 26 75		100		400	2			
Mixons Cr	Bath	6 22 75	100					15040A	0	1
Pamlico R	Bath	6 13 75	100					5030A	0	5
Price Cr	Burnsville	8 07 75	10	90		185	1	5M		5
Enka Lake	Enka	5 28 75	10	90		1,750		10A	1	
Juniper Swamp	Guide	8 24 75	93	7		576	3	2M		
Saddletree Canal	Lumberton	6 11 75	50	50		100	3	2M	3	
N Fk Catawba R	Marion	6 21 75	10	90		3,000	1	9M		
OHIO										
Miami Erie Canal	Auglaize Co	6 24 75				172				
Kopp Cr	Auglaize Co	6 23 75				112,966				
Miami Erie Canal	Auglaize Co	8 31 75				5,944				
Mud Run	Clark Co	8 04 75				42	4			
Blacklick Cr	Franklin Co	8 04 75				5	4			
Old Town Run	Greene Co	8 11 75				860				
Blanchard River	Hancock Co	9 05 75				37	4			
Gr Miami R	Montgomery Co	1 28 75				19	4			
Seven Mile Cr	Preble Co	4 21 75				210				
Paramour Cr	Richland Co	5 13 75				9	4			
South Cr	Sandusky Co	9 09 75				40				
Leatherwood Cr	Shelby Co	5 22 75				94				
Tuscarawas R	Stark Co	7 22 75				62				
W Br Nimishellen	Stark Co	7 12 75				75				
Apple Cr	Wayne Co	7 25 75				865				
OKLAHOMA										
Crutcho Cr	Del City	9 11 75		100		24	4	1M	1	
Fouche Maline Cr	Latimer Co	7 30 75				12	4	1A	1	
Spring Lake	Oklahoma Co	4 21 75		100			4	1M	1	
Leader Cr	Tupelo	10 16 75								
OREGON										
Johnson Cr	Portland	7 09 75		100		200	2	1M		2
Johnson Cr	Portland	10 08 75	1	99		10,000	2	4M		10
PENNSYLVANIA										
Powdermill Run	Carlton	11 18 75		100		134		1M		
Conncaut Outlt C	Greenwood Twp	5 27 75	100			610	4	1M	1	
Wyommissing Cr	Mohnton	9 08 75		100		335	4	1M		6

Table 11

Report of Fish Kills 1975 Cause Not Specifically Identified

Continued

Body of water	City or town	Date	Type of fish killed		Percent kill with commercial value	Estimated fish killed	Severity[1] see code page 74	Estimated miles or acres affected[2] page 74	Duration	
			Percent game	Percent non-game					Days	Hrs.
SOUTH CAROLINA										
Langley Pond	Aiken	10 19 75	5	95		750	4	100A		24
Langley Pond	Aiken	8 30 75	5	95		3,500	2	100A		24
SOUTH DAKOTA										
Big Sioux R	Sioux Falls	8 19 75	96	4		72	3	1M		12
TENNESSEE										
Radnor Lake	Nashville	6 24 75	99	1		580		40A		
TEXAS										
Bayport Ditch 8	Bayport	6 25 75		100		100				
Drainage Ditch A	Bayport	8 07 75		100		200				
Bayport Ditch A	Bayport	4 14 75		100		1,100				
San Jacinto Bay	Baytown	10 07 75		100		20,000				
Amico Ca	Brazoria Co	3 14 75		100		300				
Sulphur R	Cass Co	10 11 75	22	78		505				
Cedar Bayou	Chambers Co	7 31 75		100		600,000				
Corpus Chris Bay	Corpus Christi	6 16 75	100			200				
Lake Bay Hubbard	Dallas Co	4 30 75	100			100,000				
C Lee Pond	Deer Park	5 09 75	100			114				
Big Cr	Fort Bend Co	2 03 75	52	48		4,060				
Oyster Cr	Fort Bend Co	6 06 65		100		3	4			
Bolivar Pass	Galveston Co	7 02 75					4			
Offatts Bayou	Galveston Co	7 02 75		100		20,000				
Pond	Galveston Co	5 29 75		100		400				
Grand Saline Cr	Grand Saline	11 05 75	100			50				
Clear Cr	Harris Co	2 28 75	45	55		102				
Buffalo Bayou	Harris Co	8 21 75	1	99		100				
Cypress Cr	Harris Co	11 20 75	70	30		300				
S Mayde Cr	Harris Co	8 01 75	50	50		2				
Scott Bay	Harris Co	10 10 75		100		1,000,000				
Lt Cypress Cr	Jefferson	8 06 75				100	3	1M		
Rodair Gully	Jefferson Co	3 22 75	75	25		40				
Jeff Co Dr D #7	Jefferson Co	5 11 75		100		1,000				
Chicon Cr	Natalia	7 14 75		100		100	3			
Seabourne Cr	Rosenberg	1 06 75	70	30		100				
S Concho R	San Angelo	3 24 75		100		500	2	3M	3	
C Christi Harbor	Viola	8 22 75	4	96		1,178				
Porters Cr	Wharton Co	1 31 75	75	25		1,000				
VERMONT										
Third Br White R	Randolph	7 26 75	1	99		2,000	2	1M		
WASHINGTON										
Skamokawa Cr	Cathlamet	10 07 75	100			2,361	2	1M	1	
Chapman La	Cheney	8 03 75	100			1,000	4			
Yakima R	Cleelum	10 04 75					4	1M	1	
Baker La	Concrete	5 31 75					4			
E Fk Issaquah Cr	Issaquah	9 15 75					4	1M	1	
Black La	Olympia	7 18 75				50	4	1M	1	
Yakima R	Sawyer	9 05 75	1	99			2	2M	1	
Thornton Cr	Seattle	6 10 75	100			20	4	1M	1	

CODES

1 SEVERITY:
- 1 Complete
- 2 Heavy
- 3 Moderate
- 4 Light

2 ESTIMATED MILES OR ACRES AFFECTED
- A=Acres
- M=Miles

Introduction

Appendix A lists the State agencies actively participating in the fish kill reporting program. Observers are encouraged to report any sightings of dead fish to their appropriate State agency. Since, if the cause is not readily apparent, time is important to an investigation, reports should be submitted as soon as possible, preferably by telephone to the local offices of the agency (game wardens, for example). If no local office is present, reports can be mailed to the agency at the addresses shown.

Appendix B is a reproduction of the report form showing information desired. It is recognized that the casual observer cannot normally provide much of the information; however, location, estimates of the number of dead fish and tissue and date of the observation are extremely important. Also important is the probable source of pollution where it can be identified.

Appendix C defines pollution sources in terms of the type of operation involved. Since the number of dead fish may not be indicative of the severity of the pollution, proper State officials should be notified even when only a small number of dead fish are seen floating on a water body. In cases where the fish kill was due to causes other than man-created pollution, State officials are still interested in determining the cause, and should be notified.

State Agencies

Alabama Department of Conservation
Game and Fish Division
Fisheries Section
64 North Union Street
Montgomery, Alabama 36104

Water Improvement Commission
Surveillance and Monitoring Section
749 State Office Building
Montgomery, Alabama 36104

Department of Fish and Game
Habitat Protection Section
Subport Building
Juneau, Alaska 99801

Arizona Game and Fish Department
2222 West Greenway Road
Phoenix, Arizona 85023

Arkansas Game and Fish Commission
Fisheries Division
Little Rock, Arkansas 72201

California Department of Fish and Game
Environmental Services Branch
1416 Ninth Street
Sacramento, California 94814

Department of Natural Resources
Division of Wildlife
6060 Broadway
Denver, Colorado 80216

Connecticut Board of Fisheries and Game
Fish and Water Life Unit
Department of Environmental Protection
State Office Building
Hartford, Connecticut 06115

Department of Natural Resources and Environmental Control
Division of Fish and Wildlife
Fisheries Section
Dover, Delaware 19901

Florida Department of Environmental Regulation
2562 Executive Center Circle, East
Montgomery Building
Tallahassee, Florida 32301

Georgia Game and Fish Commission
Trinity-Washington Street Building
270 Washington Street, S.W.
Atlanta, Georgia 30334

Division of Fish and Game
1179 Punchbowl Street
Honolulu, Hawaii 96813

Idaho Fish and Game Department
Bureau of Fisheries
P.O. Box 25
Boise, Idaho 83707

Illinois Department of Conservation
Division of Fisheries
605 State Office Building
400 South Spring Street
Springfield, Illinois 62706

Indiana State Board of Health
Division of Water Pollution Control
Water Quality and Standards Branch
1330 West Michigan Street
Indianapolis, Indiana 46206

Iowa State Conservation Commission
300 4th Street
Des Moines, Iowa 50319

Kansas Forestry, Fish and Game Commission
P.O. Box 1028
Pratt, Kansas 67124

Department of Fish and Wildlife Resources
Capital Plaza Tower
Frankfort, Kentucky 40601

Louisiana Stream Control Commission
Drawer F.C., University Station
Baton Rouge, Louisiana 70803

Fish and Game Department
State Office Building
Augusta, Maine 04330

Maryland Department of Water Resources
State Office Building
Annapolis, Maryland 21401

Massachusetts Department of Natural Resources
Division of Marine Fisheries
State Office Building
Government Center
100 Cambridge Street
Boston, Massachusetts 02202

Massachusetts Division of Fisheries and Game
Field Headquarters
Westboro, Massachusetts 01581

Water Resources Commission
Department of Natural Resources
Stevens T. Mason Building
Lansing, Michigan 48926

Minnesota Department of Natural Resources
Division of Fish and Wildlife
390 Centennial Building
St. Paul, Minnesota 55155

Mississippi Air and Water Pollution Control Commission
P.O. Box 827
Jackson, Mississippi 39205

Missouri Department of Conservation
1110 College Avenue
Columbia, Missouri 65201

Missouri Department of Conservation
Division of Fisheries
P.O. Box 180
Jefferson City, Missouri 65101

Department of Fish and Game
Room 134, Cogswell Building
Helena, Montana 59601

Nebraska Game and Parks Commission
2200 North 33rd Street
Lincoln, Nebraska 68503

Nevada Department of Fish and Game
P.O. Box 10678
Reno, Nevada 89510

New Hampshire Water Supply and Pollution Control Commission
P.O. Box 95
Concord, New Hampshire 03301

Division of Fish, Game and Shellfisheries
Bureau of Fisheries Laboratory
Lebanon, New Jersey 08833

New Mexico Department of Game and Fish
State Capitol
Santa Fe, New Mexico 87501

Department of Environmental Conservation
Albany, New York 12201

North Carolina Department of Water and Air Resources
Box 27048
Raleigh, North Carolina 27611

North Dakota Game and Fish Department
Fisheries Division
103½ South Third Street
Bismarck, North Dakota 58501

Ohio Department of Natural Resources
Division of Wildlife
Fountain Square
Columbus, Ohio 43224

Oklahoma Department of Wildlife Conservation
Fisheries Division
1801 North Lincoln Boulevard
Oklahoma City, Oklahoma 73105

Fish and Wildlife Commission
307 State Office Building
Portland, Oregon 97201

Pennsylvania Fish Commission
P.O. Box 1673
Harrisburg, Pennsylvania 17120

Rhode Island Department of Natural Resources
Division of Fish and Wildlife
83 Park Street
Providence, Rhode Island 02903

South Carolina Wildlife and Marine Resources Department
Division of Game
P.O. Box 167
Columbia, South Carolina 29202

South Dakota Department of Game, Fish and Parks
Division of Game and Fish
State Office Building #1
Pierre, South Dakota 57501

Tennessee Game and Fish Commission
Doctors Building, Room 600
Nashville, Tennessee 37203

Texas Parks and Wildlife Department
Fish and Wildlife Division
John H. Reagan Building
Austin, Texas 78701

Utah Department of Natural Resources
Division of Fish and Game
1596 West North Temple
Salt Lake City, Utah 84116

Vermont Fish and Game Department
Research and Management Center
Roxbury, Vermont 05659

Virginia State Water Control Board
Bureau of Enforcement
P.O. Box 11143
Richmond, Virginia 23230

Washington State Department of Ecology
P.O. Box 829
Olympia, Washington 98501

West Virginia Department of Natural Resources
Division of Wildlife Resources
Charleston, West Virginia 25305

Wisconsin Department of Natural Resources
Bureau of Standards and Surveys
Box 450
Madison, Wisconsin 53701

Department of Natural Resources
Bureau of Water Quality
Box 450
Madison, Wisconsin 53701

Wyoming Game and Fish Department
Box 712
Lander, Wyoming 82520

Report of Pollution Caused Fish Kill

Sample Form

U.S. ENVIRONMENTAL PROTECTION AGENCY
OFFICE OF WATER PLANNING AND STANDARDS
WASHINGTON, D.C. 20460

REPORT OF POLLUTION-CAUSED FISH KILL

Form Approved OMB No. 158-R0036

FOR OWP USE ONLY

1A. LOCATION *(Stream, Lake, Ocean, etc; Latitude-Longitude)*

2. DATE OF KILL

B. NEAREST TOWN AND COUNTY

C. STATE

3. TYPE OF WATER
☐ FRESH ☐ SALT ☐ ESTUARY

4. POLLUTION SOURCE - TYPE OF OPERATION

A. AGRICULTURAL OPERATIONS
- ☐ POISONS *(Pesticides, etc)*
- ☐ FERTILIZERS
- ☐ MANURE DRAINAGE, ENSILAGE LIQUORS, OR FEED LOT OPERATIONS
- ☐ HANDLING OF EQUIPMENT AND CONTAINERS

B. INDUSTRIAL OPERATIONS
- ☐ MINING
- ☐ CHEMICALS
- ☐ FOOD AND KINDRED PRODUCTS
- ☐ TEXTILES
- ☐ OTHER:
- ☐ METALS
- ☐ PETROLEUM
- ☐ PAPER AND ALLIED PRODUCTS
- ☐ RUBBER AND PLASTICS

C. MUNICIPAL OPERATIONS
- ☐ SEWERAGE SYSTEM
- ☐ REFUSE DISPOSAL
- ☐ WATER SYSTEM
- ☐ SWIMMING POOL
- ☐ POWER *(Public Service,*
- ☐ PEST CONTROL

D. TRANSPORTATION OPERATIONS
- ☐ RAIL
- ☐ PIPE-LINE
- ☐ TRUCK
- ☐ AIR
- ☐ BARGE OR BOAT

E. CONSTRUCTION OR OTHER
- ☐ CONSTRUCTION
- ☐ OTHER:

F.
- ☐ UNKNOWN

G. SPECIFIC POLLUTANT OR FACTOR CHANGING WATER CHARACTERISTICS
(Name of chemical, thermal discharge, etc.)

5. TYPE OF FISH KILL		6. EST. NO. KILLED	7. SEVERITY			
GAME	%		☐ TOTAL	☐ HEAVY	☐ MOD.	☐ LIGHT
NON-GAME	%	8. EXTENT OF AREA AFFECTED			9. DURATION OF CRITICAL EFFECT	
TOTAL	100 %	A. MILES OF STREAM	B. ACRES OF LAKE		A. DAYS	B. HOURS
COMMERCIAL	%					

10. ADDITIONAL REMARKS *(Include effects on other than marine life, e.g., shellfish, waterfowl, etc)*

11. REPORTING OFFICIAL	12. AGENCY MAILING ADDRESS	13. DATE OF REPORT

EPA Form 7500-8 (Rev. 7-75) PREVIOUS EDITION MAY BE USED UNTIL SUPPLY IS EXHAUSTED.

INSTRUCTIONS: Upon completion fold card to show proper address and staple or tape long edge together.

Glossary

Sources of Pollution by Type of Operation

Fish kills may be caused by pollution from a large number and variety of sources. To facilitate reporting of kills, these pollution sources have been categorized according to the types of operations (municipal, industrial, etc.) producing the pollution. Following are definitions of each operation to include breakdowns into subcategories.

Agricultural Operations

Pollution from agricultural operations results primarily from wastewater runoff from fields where various chemical compounds are used for pest control and fertilizers. Runoff from feedlot operations are also included under this category. In addition, a probable cause of pollution lies in the handling of various pesticides or fertilizers, the cleaning of equipment used to disperse these chemicals, and the handling and disposal of the containers.

□Poisons (Pesticides, Etc.)

Poisons include any of the "cides" used at the site of agricultural operations, which may be introduced into a water body through a runoff after a rain or through settling from the air.

□Fertilizers

This subcategory applies to commercial fertilizers after they have been delivered for use.

□Manure Drainage, Ensilage Liquors, or Feed Lot Operations

In addition to the operations named in this heading, this subcategory *includes other agricultural* operations which may be a source of pollution through poor housekeeping practices.

□Handling of Equipment and Containers

This subcategory includes washing of equipment, handling and storage of pesticide or fertilizer compounds before use, and container disposal.

Construction, or Other

□Construction operations such as the building of highways, dams, industrial complexes and other structures in or near waterways, are a frequent source of pollution.

The following are examples of the "other" category.

□Large residential or custodial facilities not connected to municipal sewers but having their own system, for example, Federal, State, and church institutions, custodial institutions such as old folks homes, universities, etc.

□Domestic service operations in suburban or rural areas resulting in direct discharges such as spent-drycleaning solutions and wash and rinse water from coin laundries and dry cleaners, and spent floor and paint cleaners.

□Highway restaurants, motels, resort areas, and auto service areas which may or may not have their own treatment plant.

Industrial Operations

Industrial operations involve manufacturing or processing industrial and commercial products.

□Mining

Pollution from mining operations is most often caused by acid mine drainage from coal mines. In addition, coal washings and taconite tailing disposal are included here as well as side products from all other mining operations, including mining for ore, limestone, phosphate, etc.

□Chemicals

This subcategory includes manufacture of the following:

Basic chemicals such as acids, alkalies, salts, and organic chemicals;

Chemical products to be used in further manufacture such as synthetic fibers, plastic materials, dry colors, and pigments; and,

Finished chemical products for ultimate consumption (cosmetics, drugs and soaps); or to be used as materials or supplies in other industries (paints, fertilizers, and explosives).

□Food and Kindred Products

These operations include those involved in preparing and processing fresh and raw food items and other related products for the market. Examples include:

Sugar refining;

Canning, dehydrating, freezing, or curing of fruits, vegetables, or fish and other seafood;

Grain processing into flour, cereal products, etc.;

Slaughtering or meat packing;

Dressing poultry;

Any milk-handling operation including dairy farm, cheese factory, condensery, creamery, or ice cream plant;

Breweries, wineries, or distilleries operations;

Rendering plants or vegetable oil manufacture; and,

Animal feed manufacture.

□Textiles

Textile production covers all mill-type operations, including bleaching and dyeing processes.

□Metals

This subcategory includes all operations involving metals and plating (except mining), such as blast furnaces, smelting, rolling mills, pickling, heat treatment, etc. Common sources of wastes are metal cleaning solutions and plating vats which contain large amounts of acid, cyanide, copper, iron, chrome, and arsenic, all of which are specific causes of fish kills.

In addition, coke ovens and inefficient clarifier tanks in steel mills add toxic chemicals and turbidity to waste water.

□Petroleum

Petroleum covers oil or gas well drilling, oil refining, and the manufacture of any petroleum products.

□Paper and Allied Products

Paper and allied products covers paper-making in any of its stages, including resultant sludge deposits in streams or lakes.

□Rubber and Plastics

This subcategory includes manufacture from natural, synthetic, or reclaimed rubber. It also includes manufacturing involved in molding primary plastics for trade, and miscellaneous finished plastic products.

□Other Industrial

"Other" applies to those industries not specifically designated. The following are examples of potential entries under this item.

Lumber and wood products production including logging, chemical treatment, and sawmill operations through the finished product;

Leather and leather products processing and production;

Sand and gravel washing; and,

Automobile manufacturing.

Municipal Operations

Municipal operations are those activities that are the responsibility of the municipality in providing public utilities and other services.

□Sewerage System

Includes municipal sanitary and storm sewers and combined sewers. The wastes may be treated or untreated before they enter or leave the municipal system.

□Refuse Disposal

Refuse disposal concerns dumps, land fill projects, etc., used for disposal of solid wastes. The prime cause of fish kills from these sources is drainage from these areas, and deposits of ash from incinerators into surface water bodies.

□Water System

Fish kills charged to water system include kills caused by excessive use of chemicals for pipe cleaning and for algae, weed, and insect control in reservoirs. A common source of kills from this source is high chlorine solutions drained from new pipe lines, storage tanks, reservoirs, and pump stations, which are used to sterilize new water supply facilities.

□Swimming Pools

Fish kills charged to swimming pool operations generally result from cleaning operations or use of excessive chlorine. This subcategory applies if pool drainage is not connected to the city sewer system, regardless of who owns or operates the pool.

□Power (Public Service)

Power generation considered here is the production of power intended for consumption by the general public, versus power generation necessary to operate a manufacturing plant. Thermal pollution is of prime concern, although wastewaters such as that from boiler blowdown sometimes cause fish kills, most often during low flows.

□Pest Control

This subcategory of operations includes spraying of ponds, creeks, marshes, or use of other various methods of insect control when the poisons used are deposited directly into a waterway, as opposed to being conveyed to the waterway via a municipal sewer system.

Transportation Operations

The major source of pollution from these operations is accidental spillage into waterways of products in transit regardless of source, destination, or ultimate use.

□Rail

Fish kills charged to this subcategory are caused by accidental product spills, whether due to a wreck or by handling in yards. Waste discharge from rail-yard operations also applies here.

□Pipeline

Pipeline means those lines used to transport liquids or gases for long distances.

□Truck

A fish kill charged to this subcategory most often results from a wreck, leakage or careless handling in transit and at terminals.

□Air

This subcategory includes operation of airports, which are frequent producers of oily wastes and highly alkaline aircraft washrack drainage, as well as aircraft operations. It also includes aircraft crashes which should be considered in the same light as accidents involving trains, trucks, boats, etc.

□Barge or Boat

Barge or boat operations may result in pollution through spillage of products resulting from bilge discharges, fire, collision, sinking, or mishandling the products while in transit. Transit, in this case, includes transfer to or from the vessel while docked.

Unknown

The unknown category is applied to a fish kill when the pollution source operation cannot be determined or surmised, and the investigator is reasonably sure that the kill was due to pollution.

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