

GUIDANCE
ON DEVELOPING
LOCAL WETLANDS PROJECTS

**A Case Study
Of Three Counties
and
Guidelines for Others**

**Submitted to Office of Wetlands Protection
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by:

**C. DEMING COWLES
DYANNE SHELDON
SUZANNE DIETZ
NEW ENGLAND INTERSTATE WATER
POLLUTION CONTROL COMMISSION**

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GENERAL INTRODUCTION

Wetlands exist in towns, cities, and unincorporated areas of counties. They are next door to individuals, or beside streets and highways which individuals drive past on the way to work each day. As they are local resources, their functions and values are appreciated on a local level.

The federal government has espoused the importance of the national functions and values of wetlands by calling for a "no net loss" of wetlands nationally for two years. However, it has become apparent that with the President's recent proposed changes to the Federal Manual for Delineating Wetlands, greater responsibility will be placed on state, regional and local governments to implement their own wetlands protection programs. This pronouncement does lay questions as to what areas are under reevaluation. Hence, local citizens are rapidly discovering that they have a stake in, and a role to play, in protecting the wetlands they encounter or those that affect them on a daily basis.

Presently, local wetland programs are being developed and implemented in increasing numbers. Three such programs have been developed in the locales discussed herein, to include: King County (Seattle), Washington; Dade County (Miami), Florida; and Monroe County (Pocono Mountains), Pennsylvania. This document outlines briefcase studies of these programs. It identifies the types of wetlands protection programs, the methods of implementations, and the successes and failures resulting from the establishment of these programs. From them, recommendations are offered to local governments on establishing local wetlands programs -- a guidance cookbook, if you will, on the types of things local governments can expect to encounter in developing and implementing such programs as they look to the new proposal.

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The Project Team

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Local Wetland Regulation Case Study I King County, Washington State

Geographic Region

King County, Washington, is a 2,134 square mile area which ranges in elevation from sea level to 7,986 feet, approximately 2,434 meters. The rain in the lower elevations, and land mass lies on the west side of the Cascade Mountains. Winter precipitation falls as rain in the lower elevations, and as snow in the mountainous areas forming a snowpack and permanent snowfields. Innumerable streams flow into major river systems which empty into the salt water of Puget Sound, a major coastal estuary of the Pacific Ocean.

The climate in King County is influenced by the presence of the ocean, mountain ranges, and Puget Sound. Seasonal weather patterns are similar to sub-tropical regions: heavy precipitation during the winter season of November through March, and often drought-like conditions from late June through September. This wide fluctuation is significant in relation to the functional value of Pacific Northwest wetlands and the public perception of their importance.

The eastern portion of the County is characterized by high alpine mountainous regions which are predominantly forested below treeline. Major river valleys are either currently agricultural or historically cultivated and now undergoing suburbanization and commercialization. Lowland foot hills are forested and quickly succumbing to urbanization.

The one major estuary within the County has lost 98 percent of its former extent as the result of the construction of the Port of Seattle (Bortleson 1980).

Land Use

Land use within the County varies from the major metropolitan district of the city of Seattle, extensive "second-ring" urban city centers, rapidly increasing large suburban areas, rural and agricultural lands, and significant public and private land masses still in natural forest cover. The forest zones within the eastern portions of the County are within National Forest jurisdiction including wilderness designations, or in private timber company landholdings which are actively being harvested.

Because of the extreme diversity of land forms and human effects, King County is a complex geographic region. While it encompasses sophisticated urban centers and rapidly expanding suburbia, large agricultural zones and remote wilderness regions

also can be found. Diversity of land forms and existing effective land use policies and regulations are difficult to develop.

Current Program

The King County Sensitive Areas Ordinance (SAO) regulates the following classifications of Sensitive Areas: erosion hazards; coal mine hazards; landslide hazards; seismic hazards; wetlands; and anadromous fish bearing streams.

The existing wetland portion of the ordinance states that "... wetlands ... shall not be disturbed or altered ... unless King County determines, upon review of special studies completed by qualified professionals that either, (1) the wetland does not serve any of the valuable functions of wetlands identified in ... Army Corps of Engineers 33 CFR 320.4(b) ..., or (2) the proposed development would preserve or enhance ... valuable wetland functions ... and would be consistent with the purposes of this ordinance ... If the application of this section would deny all reasonable uses of a property, development may be allowed which is consistent with the general purposes of this ordinance and the public interest."

Typical of many policies and ordinances written at that time, this broadly written ordinance is subject to diverse interpretation and continuing legal challenge.

Other Regulatory Jurisdiction. The ordinance is implemented by the County completely independently of the Federal 404 permit process. In cases of proposed wetland fill greater than one acre in size, County staff will require the applicant to contact the U.S. Army Corps of Engineers (Corps) and obtain a permit; however, this is a rather informal process.

Wetlands and shorelands associated with Puget Sound, and lakes larger than 20 acres in size, are regulated under the State of Washington Shorelines Management Act. Any proposed activity within these Shoreline associated wetlands may require both a Shoreline Substantial Development Permit and a wetland review per the SAO.

Inventory. An inventory of the wetland resources contained within the western two-thirds of King County was conducted in 1981. Baseline data was compiled from aerial photographs, the National Wetland Inventory (FWS, 1979), Soil Conservation Service soil maps, U.S.G.S. quad maps, and any available local references. Potential wetland sites were identified and field-verified. The inventory was limited to the western two-thirds of the County as the eastern portion of the County is mountainous, forested wilderness which was not subject to substantial development pressure at the time.

Approximately 900 palustrine wetlands were identified during the initial inventory. These wetlands were then rated based on

information compiled during the inventory. Ratings were based on habitat diversity, documented on potential habitat for rare, endangered, or threatened species, wetland size, and the presence of unusual wetland habitat types such as estuaries or bogs. The wetland ratings established are: 1) unique/outstanding; 2) significant; or 3) low concern.

Program Development

The King County SAO was initiated by a 1973 ordinance (#1838) which outlined broad-based policies suggesting the protection of environmentally sensitive resources such as wetlands. Those policies were never implemented in any significant manner.

In 1979, the SAO, as outlined above, was adopted by the County Council. At that time there was no inventory of the resources, nor any trained staff to implement the ordinance. Although the Guidelines for Conducting Sensitive Areas Studies were adopted administratively in 1980, these Guidelines focused primarily on techniques for conducting studies in hazardous areas such as steep slopes and coal mines, not wetlands.

In 1981, a wetland inventory was conducted by the King County Resource Planning staff to identify the resources to be protected. During the following winter, the first draft of the Wetland Management Guidelines was prepared. The first wetland planner was hired by the County in 1984, and, in 1985, the King County Comprehensive Plan was adopted by the Council. This plan outlined specific wetland protection measures including wetland buffers and limiting wetland use for stormwater retention/detention.

Since 1986, there has been a continuing effort to update and revise the SAO in order to eliminate the existing ambiguities, close loopholes, provide guidance to staff and the public, and provide more thorough protection of the resources.

The revised SAO was derived via the information generated by the wetland inventory. Once the resources were identified, County planning staff began requiring permit applicants to conduct special studies to determine potential impacts of projects on wetlands and other sensitive areas. As it soon became clear that the County did not have adequately trained staff to review the submitted plans or studies, the County hired a wetland planner who attempted to implement the existing ordinance. The Ordinance was severely limited in its effectiveness and applicability to provide protection to the environmentally sensitive resources. The broad nature of the text, the lack of any guidance regarding buffers, setbacks, or the use of wetlands for stormwater storage, all proved to be controversial.

To address the problems acknowledged in the SAO, a wetland permit ordinance was initially proposed. It was then proposed to revise the wetland portions of the SAO. Finally, it was agreed that the entire SAO needed updating in order to protect adequately all the environmental resources and hazard areas within King County.

As of this writing, the proposed amendments to the SAO have undergone, at a minimum, twenty re-writes in the past three years, and are yet to be adopted by the County Council. The amendments were originally drafted by the Wetland Planner, with input from other resource planning staff. They were then sent to various County departments and divisions for review and comment. Over one and a half years and multiple revisions later, internal County staff consensus on the amendments was obtained.

Many public hearings were conducted early in the revision process, and specific participation from major elements of the land development community was required. The development community demanded, and was granted, inclusion in the drafting and review process of the proposed amendments.

According to members of the environmental community, the proposed amendments were compromised in favor of the developmental community. An environmentally aware member of the County Council proposed a version of the amendments with a stronger resource protection orientation. Issues focused on requiring clear protection and buffers for all classifications of wetlands, limiting the use of wetlands from stormwater detention, water quality issues, and limiting the alteration of wetlands in the guise of mitigation. Public opposition, fueled by the development community, prevented the approval of the proposed amendments and required County staff to conduct another series of public hearings. The ordinance is still under revision and is not available at the time of this writing.

Program Implementation

Funding and Staffing. The SAO is primarily implemented by the Technical Services staff within the Building And Land Development Division (BALD) of King County. Staff within BALD is supported by permit application fees. King County, like much of the west side of the Puget Sound region in the late 1980's, is going through a rapid surge of growth, hence, funding appears to be stable. However, funding is directly dependent upon permit application fees. Declines in economic growth are followed by declines in permit review staff.

Staffing levels are approved by the County Council budget review process. It is very difficult to convince Council members of the need for competent trained staff within the technical positions. Staffing for the wetlands section has increased from

one to two positions within the last two years. Currently, one of these staff positions is vacant due to the lack of qualified applicants.

The present County wetland staff has had formal training in wetland delineation and identification. Two successive staff persons have had formal training in the biological and environmental sciences. In addition, "on the job training" provides experience in interpreting technical construction plans, evaluating wetland impact assessments and determining the feasibility and appropriateness of wetland mitigation plans. During the County land use hearing process, staff quickly acquired knowledge of case law, wetland regulations and related land use issues.

Methods of Implementation. The existing SAO is implemented either through the State Environmental Protection Act (SEPA) or through the direct conditioning of development permit applications submitted to the County.

A development permit must pass through SEPA as the first step in the environmental review process. (Note that building permits for single family residences are exempt from SEPA review.) An environmental checklist is completed by the applicant and the information described is utilized to determine whether or not the proposed project will have significant adverse impacts on the environment. Unfortunately, inadequate information is often provided on a SEPA checklist, making the declaration process tenuous.

Staff review of the checklist can result in one of three declarations:

- * Declaration of Non-significance (DNS) - determines that the proposed action poses no significant environmental impacts; or,
- * Mitigated DNS (MDNS) - the project has identifiable impacts which can be mitigated by pre-set conditions. This is often used for anticipated wetland impacts. Buffers or placement of the wetland within a Native Growth Protection Easement may be required; or
- * Declaration of Significance (DS) - requires that a full Environmental Impact Statement (EIS) be prepared for the proposed project. Suggested mitigation for identified impacts can be included within the EIS.

In addition to SEPA, development permits may be conditioned through the authority of the SAO. One of the primary motives for

revising the existing SAO is to clarify the legal authority for implementation and conditioning of development permits. The current ordinance is subject to extreme pressure and modification by opponents during the permit hearing and conditioning process.

The existing SAO is written to include most development permit applications submitted to King County. This includes all applications to divide land such as long plats, short plats, and Master Plan Developments, development/construction permits such as building permits, commercial permits, industrial permits, rezones, grading permits and conditional use permits.

A significant exception within the existing SAO are Right of Way permits, which are required for the construction of utility or sewer lines. This is significant because sewer and water lines are commonly placed in low topographic regions such as wetlands and stream courses, development/construction permits due to the cost efficiency of gravity fed systems.

Development permits, on sites with identified sensitive areas, must include technical reports by qualified professionals which identify the location of the wetland and provide an assessment of the potential impacts of the project to the resource. Once the report is received and reviewed, the permit may be conditioned to avoid or minimize anticipated adverse impacts.

Common conditions include requiring an undisturbed buffer surrounding the wetland edge (the buffer width varies from 25 to 50 to 100 feet, depending upon the rating of the wetland). The wetland and its buffer are required to be placed in a separate tract or easement to ensure no subsequent land division in the future, and to avoid single individual ownership.

Additional conditions may include the pretreatment of stormwater by passing it through 200 feet of vegetation-lined swale prior to its discharge into the wetland. Use of number 1 rated wetlands for storm water retention/detention is prohibited, and limited within wetlands rated as number 2.

Where filling is unavoidable, the wetland area must be compensated on a one to one acreage ratio. "Enhancement" of wetlands for aesthetic reasons or for improvement in storm water storage capabilities is discouraged, though not always avoidable.

Program Effectiveness

Successes. Over the last six years, the wetlands regulation program at King County has expanded from "non-existence" to a model program within the region. Despite the broad nature of the existing SAO ordinance, the implementation program has established legal precedent for preserving wetlands and their appropriate buffers.

Permit applications for activities on lands including sensitive areas must include technical reports which analyze the presence and anticipated level of impacts from the proposed project. Project designs are required to avoid adverse impacts to wetlands unless there is no other feasible alternative on a site. Unavoidable adverse impacts are required to be mitigated at least on a one to one ratio.

Wetland buffers are required; the wetland and its buffer must be placed in a separate legal tract during a land division process. The tract must be identified as a Native Growth Protection Easement (NGPE). An additional fifteen-foot Building Setback Line is required between the NGPE and any proposed construction. This stipulation is to assure that construction activities do not adversely impact the wetland or its buffer.

A recent State Supreme Court finding upheld a lower court decision that implementation of the SAO did not preclude a property owner from achieving some "reasonable use" of his property; implementation of the ordinance did not constitute a "taking". This is a very significant precedent in land-use law and provides substantiation for continued protection of these resources.

Six years of implementation have created a program that is well-known within the development community. However, this example does not mean that it is not constantly tested and challenged. Nevertheless, six years of precedent for conditioning permits has provided a strong course of action for wetland permitting staff to follow.

Weaknesses. Although years of implementation have created convincing precedence for continued implementation, the existing SAO is still a legally vulnerable ordinance, subject to the charge that implementation and conditioning of permits is too often "arbitrary and capricious".

The loopholes for protection of wetlands from clearing or agricultural conversion still exist, as well as the impacts from utility line (sewer and water) construction permitted by the Right of Way permit.

A previous loophole, which allowed filling of up to 500 cubic yards of fill placed less than 3 feet in depth, has been closed by amending the County grading permit. The amended grading permit now has a zero threshold for allowable fill within sensitive areas.

No clear direction or guidance for staff exists regarding a way to determine the appropriateness of mitigation or enhancement concepts. Staff is too often subjected to a "hard sell" by consultants as to the relative virtue of a proposed enhancement or mitigation for a proposed alteration or loss.

There remains a very large backlog of incoming permits to review. This pressure results in an inability of staff to field check sites prior to conditioning, lack of time to adequately review submitted reports and materials, and virtually no time for follow-up on permit conditions or mitigation requirements. Lack of available staff means that permit conditions may never be verified and mitigation requirements may never be built or may be built improperly. This is one of the most significant faults in the existing process -- not enough time, resources, or staff to implement and follow through with permit conditions.

Local Wetland Regulation Case Study II Dade County, Florida

Geographic Region

Dade County, Florida, is a 1,955 square mile area which is at or near sea level throughout its entire jurisdiction. It is located in the Southeastern tip of the peninsula of Florida, and has the Atlantic Ocean as its eastern boundary. The area, historically known as the Everglades, comprises the western portion of the County.

Little needs to be said about the climate of the area. It is subtropical, humid, relatively stable in temperature, with few episodes of extremely cold or extremely hot weather. Historically, the area is subjected to increased rain in the summer and early fall months, with periodic hurricane or hurricane-aftermath episodes, often resulting in substantial excess water runoff or flooding.

Perhaps one quarter of the land mass of Dade County is made up of two national parks, Everglades National Park and Biscayne National Park. As much as eighty percent of the county constitutes wetlands areas. Development and agriculture are primarily restricted to the remaining land area, which is primarily rock ridge, pinelands and wetlands which have been degraded by drainage and the invasion of exotic plant species.

In South Florida, wetlands are a critical resource. The freshwater wetlands serve to filter and purify the surface and ground waters, preserve wildlife habitat, provide temporary storage of water during storms, and recharge the sole aquifer serving as the sole source of drinking water for the county, the Biscayne Aquifer.

Land Use

Land use within Dade County varies dramatically from the major metropolitan area of Miami, to connected urban areas of Miami Beach, Hialeah and Coral Gables, to the agricultural areas and wilderness areas of the Everglades to the West.

Including the City of Miami, Miami Beach, Hialeah, Coral Gables, and twenty-two other municipalities, metropolitan Dade County currently has a population of some 1.8 million people. It is one of the fastest growing metropolitan areas in Florida and in the nation. In the last decade, over 125,000 people moved into the area, and population projections call for another 190,000 by the turn of the century. Population density is significant -- some 2250 people per mile, in the developed areas of the county.

Substantial development has already occurred in the Dade County area, due to Miami's position as the bridge to Latin America, its status as a regional financial and business center, and its climate, making it a major recreational and retirement area. While a large number of the County's residents depend on commerce for their livelihoods, the western and southern parts of the County are heavily agricultural. The developmental pressures from commerce, housing, and agriculture, in an area with such a substantial percentage of wetlands have led the County to establish a comprehensive wetlands planning, regulatory and acquisition effort.

Current Program

Dade County's approach to wetlands protection is multifaceted and comprehensive. The State of Florida has extensive provisions for master planning by each of its counties, including State approval of county plans and consistency of locally adopted development regulations and orders with the local plan. Dade's plan, Adopted Components, Year 2000 and 2010, Comprehensive Development Master Plan for Metro-Dade County, Florida, is the third update of the county-wide planning effort. The plan and the land use element of the plan, including the Land Use Plan map, form the framework for action by the Board of County Commissioners concerning development proposals throughout the Metro Dade area.

Under the Comprehensive Plan, the County has begun to develop a series of more localized wetlands plans for use in developing environmental protection zones. In addition, zoning overlay regulations have been established for the East Everglades. Finally, the county has established a wellfield protection ordinance to preserve the public water supply. Cones of influence of wellfields are defined by computer generated hydrologic models to assist in the review of proposed development projects, providing substantial land use limitations.

Activities in both freshwater and coastal wetlands are regulated by the Dade County Environmental Protection Ordinance, Coastal and Freshwater Wetlands Regulations, Sections 24-58 and 24-59. Essentially, permits from the County's Department of Environmental Resources Management are required for work in all wetland areas. Exceptions to the permit requirements are specifically spelled out by ordinance, and tend to apply strictly to maintenance and repair of existing structures, facilities and roadways. Projects requiring permits must comply with zoning and master planning provisions, and must avoid unnecessary impacts, and mitigate for unavoidable impacts.

The jurisdictional area for coastal (Class 1) permits is all tidal waters of Dade County, as well as non-tidal areas characterized by coastal wetlands vegetation (primarily mangroves).

The jurisdictional area of freshwater wetlands is the area of the County historically known as the Everglades. Wetlands are defined in the ordinance by vegetation and hydrology, and coincide with, but does not duplicate, the Corps of Engineers definition.

The County has developed its own acquisition program and has participated in, and benefitted from, acquisition efforts initiated by the federal government and by the State of Florida. The County has recently approved a two year, county-wide property tax of some .75 mils (to generate some \$90 million) for the purchase of wetlands, pinelands and tropical hammocks. The philosophy of the County is that, even with the appropriate strict regulation and mitigation, the best way to protect the most sensitive areas is to own them.

Other Regulatory Jurisdiction

The County program was developed independently of the State of Florida's and the Corps of Engineers' wetlands efforts, and, with certain exceptions, is implemented separately. However, the County has been delegated by the Corps of Engineers the authority to handle small dredge and fill and coastal construction projects. Certain small dredge and fill authorities have been delegated by the State Department of Environmental Regulation, and certain water management permits have been delegated by the South Florida Water Management District. There is a Corps of Engineers general permit in effect for a restricted portion of the Everglades (eastern limits of the Bird Drive Everglades Basin). Further delegation will occur in the near future with regard to the mine reclamation rules of the State Department of Natural Resources.

In addition to the limited delegations from the water district (the State and the Corps), there appears to be cooperation among the three regulatory entities. The County makes it clear in its excellent permitting guidelines and applications materials that permits may be necessary from the water district, from the State and/or from the Corps. There is good interaction and information exchange among these governmental entities.

Inventory

A wetlands inventory for Dade County wetlands is available.

The Wetlands Permit Basins Map delineates the boundaries of the various freshwater wetlands basins in Dade County, as well as the coastal wetlands areas. The Basins Map sets out the areas for which permits are required, what uses are permissible in these areas, and what conditions or restrictions may generally apply. The County advises that the Basins Map should not be construed as the definitive location of all wetlands, but as general guidance,

since wetlands are defined hydrologically and vegetatively. In some basins, such as East Everglades and Bird Drive, detailed vegetation maps have been developed and habitat evaluation analysis has been applied. The goal is to complete all basins and develop separate management plans for each basin.

Program Development

The comprehensive approach to wetlands management in Dade County has evolved over the past two decades in response to substantial local concern for protection of natural resources and the environment essential and instrumental to life in Southeastern Florida.

There has been substantial concern in Southeast Florida for some time over the rapid growth, resulting in expansion of development pressures along the shorelines and into the areas of the State historically known as the Everglades. Filling of coastal areas to accommodate growth was recognized as impacting habitat for natural wildlife, affecting natural storm protection, impacting recreational opportunities and generally eliminating a natural, "wild" aspect of the "Old Florida." Filling of the Everglades area became recognized for its critical impacts on the sole source of drinking water for the area, reduction of the flood and storm control aspects of the Everglades (hurricanes and their aftermath made a lot of wetland protection believers of local residents), and elimination of essential habitat. These sentiments were publicly voiced, creating in County Commissioners a growing awareness of citizens' concerns that they assure protection of public water, deal with growth patterns and the like.

Citizen awareness helped create the support for establishment of the Biscayne Bay National Park (the nation's first underwater national park), and the Everglades National Park. The former was established to protect the recreational and wildlife values and the latter was set aside to protect water supply and habitat. Development impacts in other coastal areas and in the East Everglades led to public support for County action. This support for local action came at a time when there was growing awareness that the Corps of Engineers' and the State Department of Environmental Regulation's permitting efforts were overworked and understaffed. Additionally, population increases in the area continued.

Two general attitudes began to manifest themselves in the Dade County area -- 1.) something needed to be done at the local level to develop a comprehensive regulatory scheme to protect the many values and uses of valuable and sensitive areas such as wetlands; and, 2.) ownership by the County of as much of these lands as possible would be the most effective means of achieving protection of the resources. To that end, efforts began to draft ordinances,

including wetlands and wellfield protection ordinances, develop overall master plan and zoning programs and develop a local acquisition program, while working with the State's acquisition programs and the federal appropriations process. All of this did not happen at once, but given the solid community support for the overall concept of developing local programs, the process of putting programs in place was made somewhat easier. The public had expressed its concerns and the County Commissioners wanted to respond positively.

Substantial time was taken by County staff to listen to representatives of the affected groups -- farmers, developers, environmentalists, rock mining companies, and the like. Farmers were concerned that freshwater regulations would prohibit their further expansion into the Everglades, environmentalists were concerned that the County would not be stringent enough on activities in wetland areas given the county revenue benefits, rock miners (limestone) were concerned about the effect of the ordinance on their ability to expand existing mining acquisitions, and individuals were concerned about being able to build on lots bought in the Everglades for retirement.

Constant discussions with affected groups was essential for County staff as they developed draft ordinances. Large workshop formats open to all affected groups were not found as helpful to problem resolution as separate meetings to hear individual groups' concerns.

There was no uniform approach taken by the agricultural and development communities. Some "industry" groups were willing to work with the County staff for the simple reason that they felt there would be better understanding of local concerns by local government than by the more distant State or federal governments. Therefore, there seemed little doubt that some level of government would adopt action plans. It was not unexpected that a few members of the affected development community did not restrict their expression of concern to the review of and comment on drafts.

While there was general citizen support for local government action on wetlands and water supply protection, an important element in the development of the plan was the active support of conservation activists. Not surprisingly, conservation activists pushed for substantially more restrictive provisions. With the pressure from the affected "industry" groups towards less-controlling provisions, the conservation community provided an appropriate counterbalance.

In essence, it took some two years to obtain final approval of the wetlands ordinance. At least six drafts were necessary before the County Commission was prepared to take final action. Initial drafts were sent to interested citizens for comment, with subsequent redrafting. A series of public meetings was then held

by County staff, with additional redrafting. At each step of the way, the County Commission was kept informed and individual members of the Commission took an active interest in the public discussions leading to the final draft submitted to the Commission. The process ended with the majority of the most difficult issues resolved prior to the final approval of the Commission, leaving the vast majority of the wrangling out of the Commission meetings. For example, an issue arose over whether melaluca could be called a wetland indicator, thus increasing areas of jurisdiction dramatically. Melaluca has little to no wildlife value at all, and ultimately the County decided not to use melaluca as a plant species (although hydrology still applies). It was resolved that agricultural lands that were revegetated with native plants would require permits, and all others would not need permits.

Program Implementation

Funding and Staffing

The coastal and freshwater wetlands ordinances are implemented by the Metro-Dade County Department of Environmental Resources Management (DERM). Funding for staff implementation does not come from tax revenues, but rather from grants and fees, including wetlands permit fees, utility service fees and County-wide water fees. Program managers point out the good news/bad news aspect of this funding mechanism. The program can remain self-sufficient, but the funding does rely, at least with regard to wetlands permitting, on alteration of natural resources. It is interesting to note that the funding source for implementation of the County's new acquisition program is the proceeds from the Endangered Land Tax itself.

To date, the Department has not found funding to be a problem. For example, staffing for biological resources includes some six staff positions for Biscayne Bay, four for wetlands protection, three for basin planning, and four for upland resource protection. In numbers, the County's staff far surpasses that of the Corps of Engineers, EPA or the State Department of Environmental Regulation. As far as ability, the staff tends to be dedicated, well educated (masters or candidates for masters in biological sciences), and generally knowledgeable about resource protection, many with specific knowledge of South Florida.

The County appears interested in continuing education for staff, encouraging additional training, either through attending conferences and short courses or pursuing more formal training. For example, the County will pay up to half the cost of advanced degrees related to resource protection. There is good interface with the local colleges and universities, expanding the opportunity for attending relevant lectures and the like.

County staff have developed formal and informal cooperative arrangements with the staff of the various federal, state and regional agencies and local universities concerned about wetland protection. In addition to the cooperation on permitting mentioned earlier, there is a large-scale mitigation and wetlands enhancement project in the Everglades for which the federal government provides staffing and the County funding. Basin-wide studies are currently underway in conjunction with the Corps of Engineers and the South Florida Water Management District. With the University of Miami and Florida International University, there is a cooperative monitoring effort of Biscayne Bay.

Methods of Implementation

The County has developed a very comprehensive, yet comprehensible, permitting system for activities in wetlands. There are easy-to-follow permitting guidelines for both Class I (coastal) and Class IV (freshwater) wetlands permits. As mentioned earlier, most activities in wetlands will require submission of an application to DERM. The process is similar for each permitting program, and in each instance, applicants are encouraged to contact relevant federal and State agencies to determine if additional permits are required.

Through the "Freshwater Wetlands Permit Application Package" and the companion "Freshwater Wetlands Permit Guidelines Manual," applicants are provided guidance on which projects can be permitted through either a short form application or a standard form, or whether the project is so minor or involves no wetlands alteration that it is exempt altogether. The "Manual" is used in conjunction with wetlands maps to indicate specific requirements delineated by industry for each freshwater basin. Similarly, an applicant is guided by the County's "Class I Coastal Construction Permit Application Project" for activities in the tidal waters of the County. These manuals detail the steps and informational requirements for activities in wetlands within the County. They also advise the applicants to the possibility of zoning overlays, such as the minimum-sized parcel for agricultural or residential development of five acres or forty acres, depending on location.

For both Class I and Class IV permits, whether short form or standard, applications and application fees must be filed with DERM along with construction plans. In most instances, DERM will perform a biological assessment (usually on-site), and will make initial recommendations for approval or denial. If a short form is appropriate, DERM can approve, with performance conditions, and may require a performance and/or mitigation bond. If the standard form is appropriate, public notice and a public hearing by the County Commission will be required, and if approved, bonds and a permit fee will be required. For short form permits, the process can take two to three weeks; for the standard form, ten weeks to over a year.

The County is not satisfied merely with permitting or denying permitting of activities in wetlands; they maintain a substantial in-field oversight and enforcement posture. DERM carries a large and active case load of violations, primarily consisting of illegal cutting of mangroves and illegal or unacceptable (causing groundwater pollution) filling in the Everglades.

There is a substantial compliance section at DERM, perhaps upwards of 35 people, who operate as the field eyes of the County for all pollution related incidents, including wetlands, hazardous waste, wellfield protection and the like. Additionally, twenty biologists and inspectors in the Biological Resources Section make their best effort to oversee the projects approved for wetlands to assure compliance with permit terms and conditions, although the County is large and the responsibilities of these individuals are broad.

Upon discovering alleged violations, the County generally issues a Notice of Violation, providing cease and desist instructions and a timetable for compliance. Fines may or may not be included. Generally, the County seeks restitution for wetlands loss, penalties or additional mitigation on a two for one basis. If compliance does not occur under a consent agreement negotiated with the violator, then actions are filed with the County prosecutor's office. Most of these violations do not go to court, but are settled along the way. The County has a perfect record in civil court to date.

In addition to the Notice of Violation, for certain minor freshwater wetlands violations the County uses an administrative penalty approach. Not unlike a parking ticket, the administrative penalty provides a mechanism for dealing with continuing violations on a daily basis until a maximum fine of \$5,000 is reached. The County then files a lien on the property.

The enforcement efforts generally seem effective. The Corps of Engineers and the State Department of Environmental Regulation use the County as the lead agency on enforcement because of their staffing and their reliable record.

Program Effectiveness

Successes

Overall, the comprehensive approach of planning, zoning, permitting, enforcement and acquisition leads quickly to the conclusion that Dade County has a model program, with a number of demonstratable successes.

The coastal wetlands program can be considered fairly to very effective. The primary strength of the program is the comprehensive code, or statutory authorities. Basically, the

program has authority over all work in the tidally connected tidal zone. Further, these authorities are clear, concise, and widely understood by the development community.

Additionally, a major strength of the coastal program is the very strong, dedicated staff. While more staff could be useful, (see below), the coastal staff is well trained, experienced and hard working.

An additional aspect of the staffing issue is the increasingly better communication and cooperation with the State Department of Environmental Regulation. This cooperation has led to more joint inspection of projects, and resulted in more consistent responses from the County and the State. Overall, the program benefits because the public is provided with greater efficiency.

The County has not delegated any wetlands permitting authorities, although the municipalities do review development proposals for zoning and structural concerns. Apparently, this suits the municipalities fine, and may contribute to a stronger program overall by removing the closest level of government from the pressures of the local development community.

Finally, there is generally recognized strong enforcement. Penalties are real, the law is enforced, the County can and does go to court, they have their own attorneys and there is an enforcement attitude. There is general awareness on the part of the public that enforcement can and does occur.

The freshwater wetlands program has been effective. As in the coastal program, the freshwater program has extensive permitting requirements. Any work in defined wetlands areas requires a permit, and the freshwater wetlands regulations and permitting manuals make it extremely clear to the development community what is expected of them.

Also similar to the coastal program is the key program element of manpower. The freshwater program also has dedicated, knowledgeable staff (see below). In addition to the permitting responsibilities of the program, staff are focusing on the mitigation aspect of permitting and are working on a method of measuring restoration and wetlands loss in the East Everglades.

Cooperation with state and federal entities has been good. Staff makes a point of keeping other governmental entities apprised of general information on wetlands activities to improve the channels of communication. Joint inspections are conducted with the federal government. In addition, even though the processing times of the County's, the State's and the Corps of Engineers' permits are not the same, conscientious efforts are made to try to coordinate the timing of permit processing, to the extent possible.

As most of the freshwater wetlands occur in the unincorporated areas of the County, only a few municipalities interact with the County. There is no delegation to these few municipalities. This may actually benefit overall wetlands protection, since local developers cannot pressure municipal officials concerned about erosion of the tax base in wetlands areas of no or limited development potential.

Weaknesses

It is difficult to say that there are staffing limitations in either the freshwater or coastal program. However, it is not unusual, especially when dealing with programs of quality, to try to figure out how much better a program could be if certain additions were to be made. That is the case with staffing in each of the County's wetlands programs. Both programs could use additional staff, in order to deal with "special projects" separate from the day to day activities of the permitting aspects of the program. That additional efficiency would mean that one aspect of the program would not be disadvantaged by another.

For example, in the coastal program, staff are required to conduct permit review and biological assessments and other related portions of the permitting program. At the same time, staff are in the process of developing marina siting criteria, intended to provide consistency of application throughout the Dade County coastline. Further, a new mangrove trimming policy is being developed. With current staffing levels, there is a question of priority, and at times, some permitting delays have occurred. It goes without saying that permitting delays can exacerbate any opposition from development interests, and Dade County is no exception.

One problem with the freshwater (and not the coastal) program is jurisdictional. Certain areas with "wetlands" soils are not actually jurisdictional because of the vegetative definition. These same areas can be jurisdictional under the Corps' program.

A similar situation exists with regard to plats previously approved in sensitive areas. In some situations, no activity has been proposed on some of these areas platted twenty years ago until recently. The County is concerned that changes in zoning in those areas will trigger takings arguments.

Until recently, an additional situation existed with regard to the transfer of permits. Permits were once transferrable with the sale of land. Developers with a poor track record of compliance with permit stipulations or violations of the code rarely were penalized. Nevertheless, the county has recently established a code revision to enable them to deny transfers of permits with the sale of land in the event that the purchaser has a record of

violation of permit conditions or the code, or has entered into a consent agreement with the County. Ordinance No. 90-130, Section 24-58.9 deals with this problem by limiting the length of time approval will last, and allows additional restrictions based on environmental circumstances. In other words, permits can be extended, yet new restrictions can be implemented as well.

In sum, the County has effectively put together a comprehensive wetlands approach which has been quite successful. The Department of Environmental Resource Management has become the largest local environmental organization in Southeast Florida, based initially on the concern for and efforts made to protect the aquifer. The success of the DERM itself has helped to generate county-wide support for environmental concerns. DERM has become the governmental organization for permitting and enforcement, enabling one-stop shopping for the development interests and strong environmental review, monitoring and enforcement to protect the public interests.

Local Wetland Regulation Case Study III Monroe County, Commonwealth of Pennsylvania

Geographic Region

Monroe County, Commonwealth of Pennsylvania, is a 611 square mile area comprised of the glaciated Pocono plateau to the North and East of the county and lowlands to the Southwest. The elevation of the Pocono Mountains is not sufficiently high to maintain year-round snow fields, thus there is an annual runoff as the snow melts.

The mountainous region covers two-thirds of the County, and soils in this area generally are unsuitable for cultivation. There are numerous small and medium sized lakes scattered through this region, but no major rivers. A recent Planning Commission survey indicates that the Pocono region contains as much as 25% of the total wetlands in Pennsylvania. Monroe County also contains a declining peat moss excavating industry.

The lowlands in southwestern Monroe County are used extensively for agricultural purposes. While there is very little dairy farming, the major crops include hay, soybeans, and corn. In addition, there is also a growing emphasis on Christmas tree farming for the nearby New York and Philadelphia markets.

In 1970, the population of Monroe County was listed at 45,000 residents. Today, the estimated population has grown to approximately 100,000 people, representing an average influx of 5,000 new residents a year. There are no indications that the number of people moving into Monroe County will decline in the coming years. Many of the newer residents have moved from the New York metropolitan area, and now commute to the city.

Land use

Decades ago, the principal attraction to the Pocono region of Monroe County was its natural beauty, which inspired the development of resort areas centralized around the mountains in winter and the lakes in summer. Tourism has become the primary industry within the county and resorts have evolved into a four season vacation destination for the Middle Atlantic region.

In recent years, many of the resorts have sought to develop their holdings further, by constructing housing developments to accommodate the year around second home market, as well as primary residences. Ironically, it appears that the desire of so many to live in an area endowed with an abundance of natural beauty presents the biggest threat to the region's attraction.

Current Program

Under the laws of the Commonwealth of Pennsylvania, authority for local government is vested in the numerous townships, boroughs and cities, rather than in the counties. Thus, the various County Conservation Districts work with the local governments to provide regulatory mechanisms, through ordinances, for protecting wetlands within each jurisdiction through Erosion/Sediment Pollution Control reviews.

The Monroe County Conservation District Office works with the twenty municipalities in the county to ensure that adequate review of building and construction permit applications takes place. To date, most of the local governments have ordinances in place, though none is more restrictive than those of the Corps or the State Department of Environmental Resources.

The local ordinances require building permit applicants to submit a site plan with all wetlands clearly delineated, as surveyed and certified by a qualified biologist using the Federal guidelines. The District Office reviews plans in conjunction with its responsibilities to oversee the Erosion/Sediment Pollution Control Plan. Upon review, the District Office may recommend changes in the building permit application, or based on the potential impact on wetlands, recommend denying the permit.

Other Regulatory Jurisdiction. The local ordinance requirements are executed independently of the Corps' 404 program, which are reviewed by a Corps biologist. In those cases, when a joint permit is required, the applicant submits a permit for joint review by the Corps and the Department of Environmental Resources prior to seeking local review.

Inventory. The current inventory within Monroe County was derived from remote sensing data, aerial photographic surveys, and the National Wetland Inventory and Soil Conservation Service maps. The baseline data for the inventory was compiled in the late 1980's, and no further mapping activities are anticipated.

Under Department of Environmental Resources guidelines, the wetlands are placed into two categories. The first category includes wetlands of limited value, e.g., man-made areas such as sewage lagoons. All other wetland sites, i.e., all natural wetland sites, are considered to have exceptional value, and are afforded much stricter protection than the manmade sites.

Program Development

Implementation of a viable wetlands protection program in Monroe County began in the mid 1980's. At that time, a development proposal for the "Estates at Emerald Lakes" came to the attention

of the District Office. Citing numerous instances of damage to wetland sites in the proposal, the District office sought to have the permit denied based on federal regulations. To date, there are no "Estates at Emerald Lakes", though other development proposals continue to be presented for review.

Since 1986, the majority of municipalities in Monroe County have, as noted, adopted wetlands protection ordinances. Some of the local governments have placed restrictive regulations to preclude the following activities:

- Cutting vegetation in certain areas if the loss of vegetation would impact a wetlands site;
- constructing storm water basins in a wetland site; and
- allowing only 20% of a buffer zone, or impacted area, to be impacted.

The emphasis of the wetlands program lies in providing early warnings through the permit application process, backed by enforcement actions for violators. While the District Office has primary responsibility for permit reviews at the local level, other government agencies, both state and federal, are active participants in implementing wetlands policy.

The U.S. Fish and Wildlife Service has a presence in the County and has been charged by the Environmental Protection Agency to represent its interests in Monroe and other counties for purposes of enforcement. The active pursuit of enforcement actions against filling operations has proved valuable, not only as a deterrent, but as an educational tool, as well through publicity regarding the actions through local media outlets.

In addition to representing the interests of the Environmental Protection Agency, the Fish and Wildlife Service provides follow-up visits to most permitted sites to ascertain compliance. The Corps has stationed a biologist at the Tobyhanna Army Depot, located in Monroe County, to supplement the wetlands protection program.

Program Implementation

Funding and Staffing. In addition to the Corps of Engineers' biologist stationed at Tobyhanna and the Fish and Wildlife Service staff, the Monroe County Conservation District Office Manager has three technicians, all of whom were trained by the Corps. The Monroe Conservation District and the Pike County Conservation District contribute to the support of another Fish and Wildlife biologist stationed at the Monroe District Office. The Department of Environmental Resources reviews plans at Harrisburg (the State capital).

Funding levels restrict the number of staff available at the District office to work on wetlands. The Office receives funds from permit fees, its recycling program, arrangements with local schools and its Environmental Education Center, as well as support from a contract with the Nature Conservancy. In addition, the Office has annual tree and wild bird seed sales to produce additional funds.

The Nature Conservancy has taken an activist role in protecting the wetlands of Monroe County. Over the past three years the Conservancy's Pocono Acquisition Office has acquired approximately 3,000 acres of wetlands, and has contracts to purchase an additional 4,000 acres.

Methods of Implementation. The Monroe County Wetlands Program emphasizes public education concerning wetlands, followed by strong enforcement actions. All of the offices involved make continuous efforts to inform the public through seminars, visiting schools, public meetings and using the media to publicize violations.

Building permit applications are presented to the local governing body which forwards the material to the District Office for an erosion and sediment pollution control review. The District Office staff makes a determination and returns the application to the municipality for further action.

The Fish and Wildlife Office staff makes site inspections to ensure compliance, and initiates further action, if necessary. The formal regime is supplemented by volunteers from the Nature Conservancy, zoning officials, local environmentalists as well as waterway conservation officers, and others who report violations.

Program Effectiveness

Successes. During the past several years, aggressive public education efforts have culminated in a very high awareness of the presence of wetlands within Monroe County, the dedication to protect them, and an understanding of consequences for violators. Permit applications are not given preliminary approval by the local governing body unless the applicant can prove involvement by the appropriate State and Federal agencies.

Because of the nature of development in Monroe County, particularly as a growing market for primary home sites, tracts which have been left undeveloped for years will change hands for development purposes. It has become increasingly common for real estate contracts to contain information regarding the existence of wetlands on the property, which is regarded as part of the "early warning" system the wetlands managers promote.

Overall, the number of violations has decreased within Monroe County, and today fills of areas as large as an acre are

nonexistent. Tying the permit review process into the municipal building permit review systems ensures a higher degree of compliance.

While there will never be any "Estates at Emerald Lakes", program managers expect to see the same property in other packaged applications. However, with a strong program in place, and the consistent efforts to inform the public, it is very likely that the developers will come in with a plan that works around the sensitive wetland areas, recognizing that the cumulative impact of development is a factor in the permit process.

Weaknesses. While the Monroe County program is one of the more effective wetland programs in the East, those who manage the program are impeded by low funding levels and the resulting low staffing levels. Site inspections by District Office personnel are infrequent due to the large number of permit applications submitted for review.

In 1990, Senate Bill 1326, which posed considerable potential problems for the Monroe County and other Pennsylvania wetlands programs, was introduced in the State Legislature. The rationale for introducing this bill centered round two concerns: that some municipalities had ordinances in place not so much to protect wetlands, but to prevent further development in their jurisdiction; and that these ordinances were perceived as preventing some residents from fully recognizing their economic assets through full use of their property. Senate Bill 1326 would have amended existing law and contained provisions that would have:

- put mitigation above alternatives;
- provided compensation for economic losses due to restrictions on the use of wetlands;
- provided an assortment of waivers to State regulations; and
- preempted local wetlands ordinances.

Senate Bill 1326 never received full consideration in the Senate, but died in the committee to which it had been referred.

In 1991, two new bills concerning state and local wetlands programs were introduced in the Pennsylvania Legislature. Senate Bill 982 calls for a comprehensive identification of wetlands throughout the state, outlines new permitting procedures, and calls for the purchase of wetlands deemed significant. Senate Bill 983 would provide for tax credits as incentives to property owners to preserve and protect their wetlands.

Hearings on both bills were held in May and passage in the Senate is expected this autumn. House action is expected to follow in early 1992.

RECOMMENDATIONS FOR LOCAL JURISDICTIONS

The following are issues that should be considered by any local jurisdiction considering establishing a formal wetland regulatory or protection program. The outline provided is listed in a prioritized format; it is important to establish the "whys" of protection before determining the "hows". It is also important to have a realistic idea of how many wetlands may be within your jurisdiction. This may provide direction as to which preservation option is most effective for your jurisdiction.

1. Define Goals and Objectives

Define why the jurisdiction is protecting wetlands. Knowing why you want to protect the resource will help in developing the best method of doing so and will help to educate the public to assure continued community support for the protection measures. In that process, the following should be considered:

- * Are wetlands being protected because of their value for wildlife habitat, stormwater storage and flood attenuation, water quality impacts, and/or their education/aesthetic/passive recreation values?
- * Are wetlands being protected because they create a hazard to development and pose subsequent legal liability to the jurisdiction?
- * Do wetlands provide some significant economic value or impact within the community such as blueberry farms or critical recharge areas for streams producing commercial or recreational fisheries?

Included in establishing the goals and objectives should be an honest assessment of what the community wants to and can accomplish, and should also include realistic time lines to coincide with objectives.

2. Conduct an Inventory of the Resource

It is important to know the approximate quantity and quality of the wetlands present within the jurisdiction. It may also be important to identify significant wetland resources located outside the legal limits of the jurisdiction which may effect or influence the resources within the jurisdiction's boundaries.

An inventory may be conducted based on a review of available literature and interviews with appropriate local resource agency

staff. For more effective results, the "paper inventory" should be field-verified wherever possible.

The following resources may be used to identify potential wetland sites:

- * **Aerial photographs:** may be available through a local, state, or federal agency such as a Department of Natural Resources or Wildlife, the regional headquarters of the Corps of Engineers (COE) (usually only coastal areas or areas adjacent to rivers used for navigation), or, if necessary, a flight may be flown specifically for the wetland inventory;
- * **National Wetland Inventory Maps (NWI):** available from the U.S. Fish and Wildlife Service. These maps may not be complete for every region of the country. The regional office of the Environmental Protection Agency (EPA) or the COE may also have copies available. These are maps based on aerial photography interpretation of vegetation communities which are field-verified. These provide an excellent starting point for identifying wetland resources; however, dependent upon the region and its vegetation community types, the accuracy may be variable;
- * **Soil Conservation Service (SCS) Maps:** the local SCS should have a listing of the hydric (wetland) soils within their region, and hopefully will have conducted soils mapping of the region as well. The soils maps may be used to identify those areas which have hydric soils;
- * **U.S. Quad Maps:** these provide topography for the area as well as the location of streams, and often times, wetlands; and,
- * **Regional Experts:** local resource experts from resource or regulatory agencies, local tribes, and environmental groups such as Audubon often have individuals who may have knowledge of existing wetland areas. Contacting these people can provide a wealth of otherwise unavailable information.

These sources of information can be compiled into a map which indicates the locations of potential wetland sites. It may be possible to use such a map as a resource to require further study of a specific site at the time of a development permit application. However, if it is financially feasible, it is most effective to have a field confirmation of the identified potential sites. A field-verified inventory provides more information about each identified site, which will aid in any subsequent conditioning process.

An inventory can be used to determine the approximate number and condition of wetlands present within the jurisdiction. This is critical information to create a regulatory program which will address the needs of a particular jurisdiction.

An inventory for a suburban city may disclose only 20 wetlands remaining within the city limits and each of those wetlands may be impacted in some manner. An inventory conducted for a complete state may identify thousands of wetlands, from severely impacted systems to pristine areas. The regulatory program for each of those jurisdictions may be very different, though their goals and objectives could be very similar.

Through an inventory process, special areas of significance may be identified: remnant vegetation communities, habitat for rare wildlife species, unusual plant associations or the presence of endemic species may be found. These areas may require special management techniques to assure their viability and continued protection.

3. Identify Method of Protection

The method chosen for protecting wetlands is dependent upon numerous factors. These include, but are not limited to:

- * Size and structure of the jurisdiction;
- * Funding and staffing available;
- * Political climate;
- * Quantity and quality of the wetlands to be protected; and
- * Existing or potential threats to the wetlands.

For discussion, the two basic methods for protection will be separated into acquisition and regulation.

Acquisition

This method of protection is based on an economic incentive for preservation through outright purchase, tax incentives, or transfer of development rights. Acquisition is not limited to fee-simple purchase, but may include purchase or transfer of development rights/density credits, tax incentives through creation of Conservation Easements or donations to land-trusts, or various other creative purchase or donation methods.

Benefits

- * Economic incentive is provided which can preclude the issue of "taking" an owners property rights;

- * The process proceeds with the wilful cooperation of the landowner; and
- * May provide creative land use options, such as transfer of development rights, which allow higher density use on less environmentally sensitive lands.

Drawbacks

- * Purchase options require substantial capital. Limited capital means that choices must be made as to which sites will be protected;
- * Transfer of development rights means that appropriate high density areas must be identified to "receive" the transferred density credits;
- * Transfer of density credits is often of little value to an individual who may only own one small parcel of land, this option is of more value to owners of large land holdings;
- * Land trusts must be established and funded for acceptance of donated sites; and
- * Tax incentives are not incentives for many single property owners.

Regulation

This method of protection is based on controlling the land use (and subsequent impacts) within or adjacent to a wetland in order to insure its continued stability and integrity. Protection by regulation means limiting or precluding the development of the wetlands based on adopted policies or laws within a jurisdiction.

Land use can be regulated through adoption by the local jurisdiction of land-use policies or land-use ordinances. The differences between the two processes may be very significant, dependent upon the jurisdiction.

Policies. The distinction of a policy is that it is an adopted guideline within the jurisdictional framework. It is not a legally adopted ordinance with the full effect of the law. Policies are often found as language adopted within a Plan developed by the jurisdiction. Plans may include a long-term comprehensive plan, a community plan for a smaller sub-set area of the entire jurisdiction, or various other planning documents typical within a jurisdiction.

Benefits

- * Usually a plan approval process does not receive the degree of scrutiny associated with the passage of ordinances. Thus, the approval of policies is often an easier process; and,
- * Broadly written policies may be implemented through a variety of means depending upon the format of the jurisdiction.

Drawbacks

- * Policies do not have the legal authority of law, therefore, they can be very difficult to enforce; and
- * Broadly written policies are subject to a variety of interpretations by both agency staff and the community.

Ordinances. Within the context of this report, an ordinance is a law adopted by a jurisdiction to control development through the legal process. Land-use is most often included within a jurisdiction's Zoning Code or its equivalent.

Benefits

- * Ordinances are laws and therefore can provide a solid defensible legal basis for establishing protective conditions; and
- * Usually, the approval process for ordinances, which often includes a public hearing process, must be approved by the governing body of the jurisdiction. This approval process often includes a public hearing process. Therefore, an adopted ordinance has the political support of the governing body.

Drawbacks

- * The political process of approval often involves a severe compromise of the originally proposed regulations. Such compromise may render an ordinance meaningless or unenforceable; and
- * The public review and input process may be so divisive that there is no possibility of political approval and the entire wetland protection program may be eliminated.

Recommendations. It is suggested that if a regulatory ordinance program is being considered, the following issues should be addressed:

- * Require the applicant to submit a detailed wetland analysis of the subject property including a professional survey of the wetland edge. The wetland analysis must be conducted by a trained wetland ecologist. The jurisdiction should establish a list of required criteria for a wetland study to assure that a thorough analysis is provided. (This assumes that the jurisdiction has trained staff to review a technical analysis);
- * Require trained staff to field verify the findings in the wetland study prior to conditioning any permits;
- * During a proposed division of land, require the wetland to be protected by an adequate undisturbed buffer. Also, require the wetland and its buffer to be placed within a permanent open space or protective easement tract. This is done to preclude future subdivision of the wetland;
- * Development should not be allowed to use wetlands as surrogate stormwater detention/retention structures. Any stormwater directed into a wetland should be pre-treated by flowing through a two-celled sedimentation pond and two-hundred feet of vegetation lined swale;
- * Jurisdictions, in cooperation with local resource agencies, should conduct a technical analysis as to what constitutes appropriate mitigation. The guide would have to include methods to accurately assess existing functional values of various wetland types and what type and amount of alteration/enhancement may or may not be appropriate for maintenance or improvement of the functional value of a wetland. Proposed wetland mitigations would have to follow the guidance provided by that analysis;
- * Trained wetland staff must conduct site reconnaissance pre- and post-permit issuance. When wetland fill is permitted, it must be clearly marked in the field prior to construction so that post-construction reconnaissance can confirm compliance with permit conditions; and
- * Construction near wetland areas must utilize Best Management Practices (BMP), including proper placement and installation of sedimentation control and clearly marked limits of construction (on site) to avoid inadvertent wetland impacts. Non-wetland field staff such as Building Inspectors, Grading Inspectors, or any other appropriate staff must be trained to recognize (not technically identify) wetlands and to assure the BMP are used and enforced during the construction process.

4. Provide Sufficient Program Funding

The most critical step beyond approving an effective wetland ordinance is to assure adequate funding for staff and enforcement. A common downfall of wetland protection programs is inadequate funding to draw and keep well trained dedicated staff to assure staff for follow through and enforcement.

The most effective and most widely used method of funding is user fees. Permit applications which entail potential wetland impacts and require special studies, review, mitigation and follow-up should be assessed a fee. The fee is based on the complexity of the project and anticipated staffing impacts. In this manner, a wetland protection program can be self-supporting: staffing levels can reflect the numbers and significance of permit applications and anticipated wetland impacts. Complex projects which require lengthy review, mitigation design, follow-up, and monitoring will have adequate staff to assure compliance and if need be, implementation of contingency plans.

Another common downfall of regulatory programs is lack of enough trained staff. Permits which are approved with conditions are often not field checked to confirm compliance. Required mitigation is too often not constructed because staff is overwhelmed reviewing new permits and therefore they do not have the time or resources to check on previously required conditions.

In order to assure protection of the resource, a jurisdiction must assure adequate staffing for their program. Inadequate staffing often leads to similar wetland loss and impacts as if there were no regulatory program in place. This happens when wetland fill is permitted on the assumption that compensation will be provided. When staff is overwhelmed with a permitting backlog, they too often do not have the opportunity to confirm that compensation has been adequately provided.

An additional pitfall of local programs is continuing staff education. When funds are short, funding for training courses, symposia, and advanced degrees are often cut short. This is most unfortunate, because the staff needs to keep up with the latest changes in technology and in procedural developments nationwide in order to serve their individual communities. It is a sad fact that in many communities where funding is not made available for continuing education and advanced work that the development community may be more up to speed than government staff. Since protection of the public resources is the purpose of the regulatory exercise, (then) the staff should be armed with the best and the latest tools.

5. Provide Appropriate Public Involvement

It is critical to know where the support and the opposition are for local wetlands protection efforts. This entails an effort to identify, as early as possible in the process of proposing a local program, each of the interest groups likely to favor or oppose the development of such a program. In addition, it is essential to understand the basis for support and opposition from the identified groups.

This information will be important to:

- * the staff of the local governmental organization charged with developing the initial proposals for local programs. First, staff cannot develop a program in a vacuum and expect the political process to adopt it in entirety. Secondly, understanding the rationale for positions taken by the interest groups will make it easier for staff to develop initial proposals. Finally, staff can assume that at some point members of the public will begin to appear at their doors, at the local council chambers, at the mayor's office or front porch and in the press with thoughts on what should and should not occur. Staff should "scope out" the potential support and opposition groups in order to develop an orderly method of dealing with them.

- * the local administrative and legislative bodies that participate in the approval process. In the first place, people in the political process need an early and full understanding of the implications of the actions they are asked to take. Secondly, from previous work with identified interest groups, individuals with the local administration or local council may be able to assist in mediating points of conflict, forging compromises, narrowing points of contention or merely sending the "right" signals at the right time. Finally, nobody likes surprises, least of all individuals whose careers depend on current information.

- * the groups in favor and opposed to the development of a local program. Support groups can be useful in three ways: (1) making it clear how important adoption of an effective program is; (2) urging the approval process to accept more than it is likely to accept; and (3) acting as a countervailing force to opposition groups. For support groups to be most effective, they need to know that they are an identified part of the process.

Opposition groups can become part of the eventual solution if they know they are also recognized as part of the process. Some of them will actually work constructively while pursuing their interests, whereas others may never serve a constructive purpose. Staff need to be in the position of being able to differentiate the two.

Staff will want to be careful as they approach this aspect of developing a local program; they will not want to be perceived as manipulating the political process. However, staff understanding of how various groups perceive themselves affected by a proposal for a local program can expedite the development of that program and can lead to the creation of a more effective program with a greater chance of ultimate success.

Each local jurisdiction will have some form of formal public process through which the developing program will receive public review and comment. It is important to comply with each of the steps in the process for legal, public education, and information reasons. Most likely there will be public review drafts available for discussion between staff and the public prior to preparation of a public comment draft for which formal public hearings will be established.

Experience shows that the most effective way to obtain the most useful public comment from individual support and opposition groups is to meet early with individual groups in a workshop setting. In that manner, staff can present ideas on why and how the program may develop in an informational tone. In that setting, staff is less likely to see posturing by the various groups, since they are not appearing with other groups in a public comment framework. Rather, members of the groups may actually feel more open to positive discussion, recognizing that staff is acting in a consultative role. This does not obviate the need for general public meetings of an informational nature, and in no way is a substitute for the formal, legal public process.

By understanding who the support and opposition groups are, staff is able to develop an effective public education effort as the program is developing. In addition, once a program is in place, continuing a public awareness effort on the program's progress will help maintain public interest, confidence and support.

In addition to fostering public support through release of information, public meetings and workshops, efforts should be made by staff to develop a network among the related federal, state, regional and local governments. If maintained as a general information exchange, this network can informally, or through cooperative agreement, result in better coordination of permitting programs, enforcement actions and more efficient and effective programs overall.

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