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A SUMMARY OF WETLANDS PROTECTION IN NORTH AMERICA

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WHY PROTECT WETLANDS?

INTRODUCTION

Early settlers to Canada found a vast array of wetlands throughout the nation. These areas were viewed as waste lands, sources of mosquitoes and impediments to development and travel. Their importance to fish and game, clear water and the beauty of the land was unappreciated. Draining and filling were applied without concern or knowledge of their impact on broader water resource systems. By the 1950s, drainage, fill, and construction had destroyed almost one half of our wetlands.

In the last two decades, coastal and inland wetland values and the hazards that accompany their destruction, have been well documented. Some of these values and hazards and the activities which threaten them, are outlined below.

WETLAND VALUES

Important natural wetland functions include:

Flood conveyance. Riverine wetlands and adjacent floodplain lands often form natural floodways that convey flood waters from upstream to downstream points. Flood plains have been created by flood flows and provide a natural flood conveyance configuration. Fills or structures located within floodway areas block flood flows, causing increased flood heights on adjacent and upstream lands and increased downstream velocities.

Barriers to waves and erosion. Coastal wetlands and those inland wetlands adjoining larger lakes and rivers reduce the impact of storm tides and waves before they reach upland areas. Waves break on beach and wetland areas, dissipating much of their energy. Mats of wetland vegetation, with their complicated root systems, bind and protect soil against erosion.

Flood storage. Inland wetlands may store water during times of flood and slowly release it to downstream areas, lowering flood peaks. The importance of wetlands in flood storage can be grasped when it is recognized that a one-acre wetland will hold 330,000 gallons of water if flooded to a depth of one foot.

A flood study of the Connecticut River indicated that wetlands

reduced peak flows. It was found that a loss of 10 per cent of the wetlands along the river would result in floodstage increases of one-and-one-half feet and that a loss of 50 per cent would increase flood stage by 3 feet.

Sediment control. Wetlands reduce flood flows and the velocity of flood waters, reducing erosion and causing flood waters to release their sediment. Wetland vegetation filters and holds sediment which would otherwise enter lakes and streams. Unretarded, sediment may result in rapid filling of lakes and reservoirs, and the destruction of fish habitats.

Pollution control. Wetlands protect water bodies from sediments, nutrients, and other natural and manmade pollutants. Wetland vegetation filters sediment, organic matter, and chemicals while micro-organisms utilize, dissolve and break down organic matter. It has also been well established that the potential exists for using man made or natural wetlands as treatment facilities for domestic, industrial, and stormwater wastes.

When wetland plants die, decay, bacteria and fungi transform the tissues into minute fragments of food and vitamin-rich detritus, which is carried into creeks, bays and offshore waters. Many species of sport and commercial fish are dependent on this detritus. In addition, most species of commercial importance either pass their entire lives in estuarine environments or require

estuaries as nursery grounds.

Inland wetlands are also important freshwater fisheries as spawning grounds for species such as northern pike, and to a lesser extent, walleyes and muskies.

Habitat for waterfowl and other wildlife. Wetlands provide essential breeding, nesting, feeding and predator-escape habitats for many forms of waterfowl, mammals and reptiles. The landwater interface, including upland buffer areas, is among the richest of wildlife habitats in the world. This concentration of wildlife is due to the presence of: abundant water needed by all life forms; rich and diverse vegetation which serves as the basis for food chains; and adequate cover provided by both wetland and shore vegetation.

Many well-known wildlife species, including ducks, geese, swans, herons, hawks, egrets, muskrats, minks, beavers and otters depend upon wetlands for survival. Other species such as marsh birds, song birds, pheasants, grouse, bobcats, raccoons and minks, use wetlands for nesting, resting, or feeding areas.

The habitat value of a wetland depends upon the following factors: the diversity and arrangement of vegetation; the amount of open water; the arrangement of vegetation relative to the water; the relationship of the wetland to topographic features, lakes, streams

and other wetlands; the size of the wetland and surrounding habitat; water chemistry and permanence.

Habitat for rare and endangered species. It is common knowledge that some 400 animals had become extinct or were endangered or were in danger of becoming extinct. Approximately one-third of all rare and endangered animal species are either located in wetland areas, or are dependent upon them, although wetlands constitute only a tiny percentage of the country's wet lands. In addition, many of the endangered plant species also require wetland habitat.

Recreation. Several Canadians enjoy recreational fishing. Many sport and commercial fishes are dependent upon wetlands as sources for food or spawning. More than a million Canadians hunt waterfowl which depend on wetlands for feeding, breeding and resting. Many more use binoculars and cameras for observing wetland birds and wildlife. In all, it is a fair estimate that 10 per cent of our population has some form of direct involvement with wetlands.

Water supply. Wetlands are increasingly important as a source of ground and surface water with the growth of urban centres and dwindling ground and surface water supplies. Wetlands also store and purify waters that may be extracted at downstream points.

Food production. Because of their high natural productivity, wetlands have unrealized food production potential for harvesting

of marsh vegetation and aquaculture. With an impending world food crisis, this capability may be of international significance.

Timber production. Forested wetlands are an important source of timber despite the physical problems of timber removal.

Historic, archaeological values. Some wetlands are of archaeological interest. Indian settlements are located in many wetlands that served as sources of food.

Education and research. Wetlands provide unique educational opportunities for nature observation and scientific study. Aside from the use of wetlands as research projects for conservation groups and conservation authorities, school curricula are coming more and more to observe the importance of nature as a source of study.

Open space and aesthetic values. Wetlands are areas of great diversity and beauty and provide open space for recreational and visual enjoyment. Lands adjacent to scenic wetlands add substantial financial value to adjacent properties, especially those in urban areas. Visual values depend upon wetland type, size, landform, contrast, and diversity, as well as associated waterbody size and type, surrounding land use and other factors.

WETLAND PROTECTION TECHNIQUES

There is a spectrum in protection programs extending from the preservation of land through designation and acquisition to explicit government policy and legislation prohibiting the destruction of habitat on Crown or private land. In between are options of compensation, asssigning mitigation responsibilities to industry and strengthening the level of wildlife agencies' participation in the referral process of rewiewing industrial activities. A summary of existing approaches is presented.

A. EDUCATION OF LANDOWNERS

Films, manuals, workshops, conferences, etc.

Objective

1. Encourage private protection of wetlands.
2. Encourage private balancing of benefits and costs.

Incidence of costs

1. Private landowners, private organizations bear costs of protection. Community may pay for education efforts.

Advantages

1. Appeals to private land ethic.

2. Politically attractive.
3. Maximizes landowner options.

Limitations

1. Some landowners are not responsive.
2. Time consuming.

B. HABITAT ACQUISITION

Acquisition of title to a parcel of property gives the owner all the rights over the property that are permissible at law. Government agencies have used acquisition to protect high-value wildlife habitats which are likely to be converted to other uses.

The U.S. Fish and Wildlife Service has purchased over 450,000 hectares of waterfowl production areas (wetlands and adjacent uplands) in the prairie states (1988) in addition to the National Wildlife Refuge System (1987). The Canadian Wildlife Service (CWS) has not purchased any property over and above National Wildlife Areas.

Advantages

1. Wetland and upland habitat are secure.
2. Over the long-term, acquisition is the most cost-effective.
3. Habitat can be directly managed and administered for the

benefit of migratory birds.

Disadvantages

1. Acquisition requires a large initial investment of capital funds.
2. Ongoing management costs escalate.
3. Government ownership of land is often opposed by the public.
4. Taxes must be paid (in the form of grants).

C. EASEMENT

Wetlands and/or uplands surrounding them are protected by a one-time payment or annual payments. Easements can be tailored to meet the desires of both the government and the landowner by specifying those activities which are prohibited on the protected land. Easements may be in perpetuity, in which case only the landowner who originally subscribed to the easement receives the one-time payment. Easements which are registered "run with the land" and therefore are binding upon subsequent owners. Easements are considered to be the best less-than-fee interest for conservation purposes. The average cost of the U.S. Fish and Wildlife Service conservation easement program in 1981 was $475.00 per hectare.

Advantages

1. Easements in perpetuity provide long-term protection.
2. The initial cost is low compared to acquisition.

3. Landowners may be more willing to sell an easement than to sell the property.
4. Easements may protect a greater amount of habitat quickly compared to acquisition.
5. Property taxes on the secured habitat are paid by the landowners.

Disadvantages

1. Annual payment easements provide short-term protection.
2. Protection of habitat over a large area is costly because of easement payment and monitoring costs.
3. Easements in gross (the benefitting party is not required to be an adjacent landowner) may not be enforceable because of inadequate legislation.
4. Canadian courts may not favour easements because they restrict freedom, as is the historical position of American courts toward easements.
5. If not handled properly, easements are subject to abuse.

D. PUBLIC OR PRIVATE ACQUISITION IN FEE OR EASEMENTS, THROUGH GIFT, PURCHASE, DEVISE

Objective

1. Protect wetland permanently from private development.
2. Reduce flood losses.
3. Permit scientific and educational use of wetland.

Incidence of costs

Public pays for public acquisition but also receives multiple benefits. Private groups pay for private acquisition.

Advantages

1. No constitutional problem of uncompensated "taking".
2. Can afford permanent protection.
3. Active public use possible.
4. Federal grants may be available for open space acquisition.

Limitations

1. Costly.
2. Political opposition may arise to large scale land acquisition.
3. Creates public land management requirements.

Pros and Cons of Acquiring Wetlands

Acquisition of a fee or easement interest is a straightforward but costly method for protecting wetlands. Acquisition of a fee interest ensures public access and 100 per cent public control over land. Depending on its terms, an easement may also permit public access. Because acquisition of either full or partial interests avoids the taking issue, it may be a politically and legally attractive alternative to regulation. Under certain circumstances acquisition may ensure permanent

protection of the wetland whereas regulations are much more susceptible to changing political climates.

Despite advantages, public purchase of wetland is expensive. In addition acquisition can be time-consuming and politically unpopular if done on a large scale or by condemnation.

E. LEASE (LEASEHOLD ESTATE)

A lease is an agreement which for a rental payment to the landowner gives the tenant the right to control over the property for a specified term. Certain mutually agreed to conditions of the lease specify what the tenant may or may not do, and may contain a reversion clause. Leases which are registered on the title of the property safeguard the interests of the tenant in the event that the land is sold.

Advantages

1. There are no restrictions on the ability of the CWS entering into lease agreements with private landowners.
2. The initial cost is low compared to acquisition.
3. Leases can be useful as an interim means of protecting a desirable property for later acquisition.

Disadvantages

1. Leases provide only short-term protection.

2. Annual cash rental payments and management cost can be substantial if leases are widely used.

F. MANAGEMENT AGREEMENT

A management agreement between a landowner and a public agency is unlike a lease in that the landowner manages his property to protect habitat. The agreement can specify particular management practices that will enhance the habitat. This option is particularly useful for landowners who, for the most part, manage their lands for natural value, i.e., they have left undisturbed parcels of land for habitat, but are willing to do more with help. Compensation may or may not be part of the agreement.

Advantages

1. There are no restrictions on CWS entering into management agreements with landowners.
2. Management provisions can be tailored to suit both parties.
3. This option involves minimal cost or even no direct payment in the case of agreements that do not include compensation.

Disadvantages

1. Only short-term protection is provided; management agreements often provide for termination of the agreement

by either party by giving 30 days' notice.

2. Management agreements with compensation are not binding.

G. RESTRICTIVE COVENANT

This option is also known as purchase and resale. Land with valuable wildlife habitat is purchased, restrictions are placed on the property title to protect the habitat, and the land is resold to the private sector. A non-profit conservation organization acts as the agent for the public agency. Proceeds from the resale of lands protected by restrictive convenants are placed into a revolving fund for additional purchases of land. The covenant "runs with the land" and a reverter clause covers violation of the covenant -- the land would revert back to the non-profit organization for resale.

Advantages

1. This option provides long-term protection at low cost.
2. The federal presence in land ownership and management is inconspicuous to opponents of federal ownership of land.
3. Flood control benefits are provided; conservation of native vegetation on headwater areas reduces downstream flooding.

Disadvantages

1. Ongoing administrative costs increase in proportion to

the amount of habitat protected.

2. Increased enforcement is required.

3. Land with restrictions on use may have to be sold at less than market value.

4. Canadian courts may not favour this mechanism because of its restrictiveness.

H. CONSERVATION RESTRICTIONS (EASEMENT OR DEED RESTRICTIONS)

Objective

Prohibit private development while permitting continued private ownership of lands.

Incidence of costs

Private landowner.

Advantages

1. Low cost to government.

2. Provides basis for reduction in property tax.

3. Voluntary, may be politically acceptable.

Limitations

1. Expressly authorized in only small number of American states.

2. Does not generally permit public use of land.

3. Real estate tax reductions.

I. LAND USE REGULATIONS

Objectives

1. Protect health and safety from flooding, erosion, pollution.
2. Prevent nuisances.
3. Prevent fraud.
4. Protect wildlife, aesthetic values, other wetland values.

Incidence of costs

Landowner must bear cost of adjustments. Community bears cost of adoption and administration of regulations.

Advantages

1. Low cost to government.
2. Promote economic and social well-being.
3. Promote most suitable use of lands.
4. Can be put into effect immediately.

Limitations

1. Must not violate State and Federal constitutional provisions.
2. May not be adequately enforced.
3. Can't protect all wetlands.
4. Generally do not apply to governmental uses.
5. Limited application to existing uses.

J. ENVIRONMENTAL IMPACT STATEMENT REQUIREMENTS

Objective

Require consideration of short-term and long-term costs and benefits in decision-making.

Incidence of costs

Developers, public agencies.

Advantages

1. Require a careful balancing of factors by decision makers.
2. Expose projects to public review.

Limitations

Impact review does not protect wetlands unless impact requirements are combined with regulations.

K. WATER LEVEL MAINTENANCE, IMPOUNDMENT, PUMPING, OTHER MANAGEMENT TECHNIQUES

Objective

1. Stabilize wetland water levels.
2. Increase wetland area.
3. Improve waterfowl, wildlife habitats.
4. Re-establish natural species.

Incidence of costs

Generally public bears the cost but may also be carried out by private individuals and organizations.

Advantages

1. Enhance waterfowl, wildlife habitats.
2. Compensate for effects of prior damage.

Limitations

1. Costly in some instances.
2. Maintenance required.
3. May disturb natural flora and fauna.

L. INCOME TAX DEDUCTION

The present federal Income Tax Act provides for the complete deductibility of drainage costs (tile drainage) and those associated with the clearing of lands for agricultural purposes, thus encouraging the loss of wetlands
and other natural areas. Rather than single out one sector of the business economy and modify the tax structure of agri-business, it would be more appropriate to provide an incentive for landowners to maintain wetlands. A landowner would determine the number of wetland acres on his property and take an additional charitable deduction on his income tax return to a maximum of $500. Municipal tax notices would be required to be submitted with deduction claims. If the landowner claimed a deduction for drainage improvement on his land, he could not claim the deduction for

protecting wetlands. The principle that is being suggested for initiating this program is that wetlands are valuable to all people and therefore the expense of maintaining these wetlands for the public benefit should be shared by all. The cost of maintaining these wetlands should not be assigned to specific users such as waterfowl hunters or farmers, but should be assigned to all people.

Advantages

1. All the taxpayers bear the cost of protecting wetlands.
2. This option does not require negotiating with provincial governments.

Disadvantages

1. Only short-term protection is provided.
2. The required amendments to the Income Tax Act may be resisted because of lost tax revenue. However, revenue could be obtained by implementing a tax checkoff program.

M. PROPERTY TAX CREDIT

Municipalities and counties exempt wetlands and/or native prairie lands from taxation. Taxes previously paid on these natural areas are shown as tax credits which are applied against the taxes on cultivated lands. Once the tax exempt property is developed, the landowner loses the exempt status and must pay all deferred taxes. Tax revenue lost by the municipalities is recovered by grants from the provincial and/or federal governments. Several states have tax credit programs to protect wetlands and other natural areas.

Advantages

1. All taxpayers bear the cost of protecting natural areas. which indirectly benefit all citizens.
2. Tax credits promote a more favourable attitude towards wetlands and other natural areas - landowners see them more as assets rather than liabilities.

Disadvantages

1. Only short-term protection is provided.
2. Governments may be reluctant to implement the required

changes in legislation.

N. PROPERTY TAX REBATE

Municipalities provide tax rebates to landowners who maintain natural areas on their land. Any development of the natural area makes the landowner ineligible for the rebate. Grants from the provincial and/or the federal government cover lost tax revenues. The tax rebate program in Ontario administered by the inter-government Affairs Department, protects forests and agricultural land. Rebates are 50 percent of the general municipal levy of the assessed value of the land. A pilot tax rebate program which was implemented in Red Deer County, Alberta to protect uncultivated marginal lands and treed areas on farms was accepted by both landowners and the public.

Advantages

Similar to the advantages of tax credits.

Disadvantages

Similar to the disadvantages of tax credits.

O. REAL ESTATE TAX INCENTIVES

Objective

1. Encourage private land owners to hold land in open state.
2. Reduce burden of restricions.

Incidence of costs

Government has lowered tax revenues but also receives benefits.

Advantages

1. Encourage voluntary protection.
2. Reduce burden on landowners and threats of law suits.

Limitations

1. Reduce local tax revenues.
2. Not authorized in all States and/or provinces.
3. May not curb speculation in some instances.

WETLAND PROTECTION TECHNIQUES USED IN CANADA

In Canada, very few of these options have been considered or implemented. As matters now stand, in the majority of cases, the most economically competitive land use could not be modified to favour wildlife protection without a large expense being incurred by the landowner. Direct land acquisition has therefore been considered the key option for programs on private land and formal designation of Crown lands as wildlife areas. Due to changing times, attitudes and circumstances, most notably rising land values and fixed budgets, innovative techniques and alternatives are now being examined and explored in Canada.

CURRENT STATUS OF CANADIAN OPTIONS

Acquisition

To date habitat acquisition programs have been largely ad hoc and opportunistic with no clear relation to management objectives. Attempts are frequently made to priorize these programs but the time lags in budgeting by government have stifled major attempts to acquire land. Recently, government budgets have become more limited, due in part to the failure of wildlife agencies to spend previously committed funds effectively. Even with substantial non-government participation in recent years, funding has severely limited the amount of habitat that has been protected by land

acquisition in areas of intensive agriculture, and this limitation seems normal and continuous, as high quality agricultural land is so scarce in Canada. Public concern about the loss of agricultural land alone will limit this activity to small scale purchases, to acquire critical areas or fill in around previous land acquisitions.

Limited Use Agreements

Few efforts have been made to purchase less than a fee simple interest for habitat. The Canadian Wildlife Service, 1960's program was considered unsuccessful although the hidden value of recognizing landowners protection of wetlands and for extension purposes is only now recognized.

Property Tax Relief

While there are a variety of other agencies that depend on this system to encourage their objectives on private land, it has only been tried, on a pilot basis, for habitat retention in the Red Deer County of Alberta. Five options, including fencing incentives, tax relief and pheasant rearing were developed and implemented effectively through a steering committee comprised mainly of local landowners.

Protection of Crown Lands

Nationally, the Canadian Wildlife Service is responsible for 29

National Wildlife Areas, established to preserve critical migratory bird habitat by acquisition and management. This program started ambitiously in 1966, when nearly 30,000 hectares were protected. A low level of federal funding and difficulties in securing approval of new areas have slowed the program down. Migratory Bird Sanctuaries have been declared over private as well as government lands, but the regulations can afford Canadian Wildlife Service little habitat management responsibility for those sanctuaries. International efforts have helped support the recognition and protection of wetland habitats.

The Ramsar Convention, to which Canada acceded in 1981, has provided the federal and provincial governments with the opportunity to recognize the international importance of 15 sites comprising over 10.6 million hectares (an area greater than that of all the sites so far designated by the 62 countries that have now signed the Convention). However, the protection afforded by Ramsar designation is moral, rather than legal. This may not be enough, though it has proved remarkably effective in other countries since 1971.

Provincially, critical wildlife areas are identified and protected by land-use zoning designations, referral maps and the reservation of Crown lands. Such designations ensure that other agencies, industry and adjacent landowners are aware of the importance of these areas. There are very few areas that are specifically owned

and administered directly by wildlife agencies. Even lands purchased for wildlife purposes often are managed by other often competing land-use agencies. This also applies to lands acquired by private organizations but turned over to the Crown as wildlife habitat. In some cases, non-government organizations such as Ducks Unlimited (Canada), have been able to enter into legal agreements regarding the development of habitats, committing extensive amounts of Crown land and/or water.

Municipal zoning and recognition of habitat has been limited, except in a few provinces that have established conservation districts. In most cases, Crown land is either ignored or seen as a deterrent to orderly development. As a result, Crown land is often disposed of as quickly as possible to any local user.

In summary, habitat protection is a major component of habitat programs in Canada. It has been largely a reactive, time consuming activity that has often dominated the approach of wildlife agencies towards habitat. As the most difficult to assess, the most costly and the most contentious, wildlife agencies should review their expectations of acquisition and management very carefully.

CANADIAN FEDERAL LEGISLATION

Positive legislation

As the provinces have general powers over the control of natural

resources, property and the sale and management of public lands, except in special situations wetland related policy is of a provincial nature. However, there are certain federal Acts that do, in part, exert some influence on wetland protection.

Fisheries Act R.S.O. 1985, c. F-14

The Act, which specifically protects areas that provide habitat includes various wetland types in its list. Enforcement of the Act has been delegated by the Federal Government to the Ontario Ministry of the Environment, who has shown reluctance to enforce the Act, relying instead on provincial legislation which is more limited in scope (Bardecki, M.J., 1981 Phd.Thesis).

This Act makes it an offence for anyone to deposit or permit the potential deposit of a deleterious substance of any type, in water frequented by fish:

> s.31 (1) - No person shall carry on any work or undertaking that results in the harmful alteration, disruption or destruction of fish habitat.
>
> s.31 (5) - For the purposes of this section and sections 33, 33.1 and 33.2, fish habitat means spawning ground and nursery rearing, food supply and migration areas on which fish depend directly or indirectly in order to carry out their life processes.

In other words, the habitats include not only the water in the rivers, lakes, streams and oceans but the total surroundings in which plants and other life forms interact to make fish life possible.

The deposit however is permitted if it has been authorized by the Ministry of Natural Resources.

Navigable Waters Protection Act, R.S.C. 1985, c.N-19, ss.5-9

This Act prohibits the building or placing of any work in, upon, over, under, through or across any navigable water unless work and site plans have been approved by the Minister of Transport. A permit is needed to develop federal shoreline and bordering areas.

Dredging, which is a major threat to wetlands, is controlled under the Navigable Waters Protection Act. As the Act requires only consideration of how a project will affect navigation, and not potential environmental impacts, the value of this Act for protecting wetlands from harbour developments is non-existent.

Canada Water Act, R.S.C. 1985, c.C-11.

Under the Act "water quality management areas" may be designated where the deposit of any type of waste to waters of the area, or in waters leading to the area, would be prohibited. Whereas this Act could be used to protect wetlands from eutrophication and sedimentation resulting from wastes deposited into the watershed, in practice, no area has ever been designated as a management area (Estrin and Swaigen, 1978, Environment on Trial). Thus the applicability of the Canada Water Act to the preservation of the wetlands is questionable.

Migratory Birds Convention Act, R.S.C. 1985, c.M-7.

This Act prohibits, the deposition of oil, oily wastes or any other substance harmful to migratory birds in any water or any area frequented by migratory birds. In addition no person shall disturb or destroy a nest or shelter of a migratory bird.

Territorial Lands Act, R.S.C. 1985 C.T-6.

This Act administered by the Department of Indian Affairs and Northern Devolopment applies to Yukon and Northwest Territories land under the Crown's control (s.3). It allows the Cabinet, in consultation with the appropriate Territorial Council, to designate areas as land management zones and to make regulations respecting the protection, control, and use of the surface of the land in those zones (ss.31, 32). Use of the surface may be made the subject of a permit and failure to comply with conditions attached to its issuance, or other regulations, is an offence punishable by a $5,000 fine (s.33). In addition, the Cabinet has the power to authorize an inquiry into questions affecting Territorial Lands (s.19(h)).

PROBLEMS ASSOCIATED WITH CANADIAN WETLAND PROTECTION LEGISLATION

The simplest form of protection would appear to be the establishment of legislation prohibiting the destruction of wildlife and wildlife habitat. However, the reviewed legislation generally lacks habitat preservation incentives or where habitat preservation is mandated it is not adequately enforced. Current wildlife habitat legislation is very weak, particularly in relation to private land. This reflects government policy and the perception of wildlife as a common property resource with a corresponding lack of economic clout. A review of Canadian wildlife habitat legislation illustrates a lack of strong desire compared to the Fisheries Act which states that the principle of "no net loss" of fish habitat, prohibits certain activities detrimental to fisheries and requires that adequate mitigation, compensation and restoration activities are funded by the proponent.

Any provincial habitat legislation is limited to habitat development programs. There are virtually no legislative limitations placed on industry by wildlife agencies which are therefore forced to use legislation administered by other agencies that happen to include vague references to wildlife.

There are many problems facing wildlife protection efforts through

the convoluted process of using another Departments' legislation. Problems of administration, compliance, enforcement, technical expertise and conflicting policies between agencies make progress difficult. While recognition of other agencies is warranted, their success in enforcing their legislation for their own ends is poor, let alone their efforts on behalf of a subsidiary agency like wildlife. Wildlife agency program direction may be the cause. In a survey of enforcement activities across Canada in 1977 efforts to respect habitat were the prime responsibility but the lowest actual activity of uniformed staff. While more comprehensive habitat protection legislation is necessary and should be acquired, it is unlikely that a high enforcement profit can be expected, based on the limited success of the federal Fisheries Act.

On private lands, political and social acceptance of regulations would present additional problems in the implementation of this legislative approach. Mandatory regulations would ensure strong resistance from landowners if they are not accompanied by some form of incentive. On economic terms, farmers and government agencies do not support modest soil and water practices, under legislation intended to ensure long-term soil productivity.

Even with strong legislation to protect habitat, effectively administered and enforced with the co-operation of other agencies and industry through a fair referral system, habitat problems will still be frequent, especially on private land and where water

rights have been assigned. In some cases, habitat on Crown land may be affected by adjacent activities on private land. While legislation may be applicable, it would be considered inappropriate if inequitable treatment of a private landowner was perceived. The policy of most governments in these situations is to restore lands to public ownership. The principle of acquiring land of ecological significance is recognized in the "Federal Policy on Land-Use". (1980):

> "The Federal government will acquire and manage lands where necessary for those activities for which it is responsible so as to combine efficient provision of Federal government services with the achievement of broader social, economic and environmental goals."

All wildlife agencies have acquired and designated critical wildlife lands over the past few decades. As a strategy of last resort and as part of the spectrum of lands designated for special protection (including ecoligical reserves, natural areas, parks and recreation sites) a considereable portion of Canada has actually been designated for wildlife protection. Depending on the interpretation of the types of designation (sanctuaries, wildlife areas to games reserves and specially designated parks) it has been argued that 6% of Canada has been dedicated to wildlife habitat preservation (Simpson-Lewis et al, 1989). It is important to recognize the mix of federal, provincial and non-government organizations involvement in their acquisition. In addition many of the acquisition efforts by non-government organizations and many of the Crown easement and other restrictions on Crown land are not identified here.

Although fish and wildlife agencies are charged with the managment of wildlife resources, the management of the land and water base, which supports these resources is primarily administered by other competing land-use agencies.

Most wildlife agencies have internal policy statements that include the components of preserving (retaining, protecting, all wildlife (habitats) in the current diversity (distribution and abundance) for the enjoyment (present, future) of residents (regional, Canadians). Most of these policies do not:

1. directly address habitat;
2. identify habitat goals relative to species goals or objectives, as these aspects are undeveloped;
3. identify the breadth of habitat programs;
4. link with other land-use agencies and users policies and philosophies;
5. reflect concern for special or unique areas;
6. become stated clearly or publicly by governments;
7. become reflected in legislation;
8. link with government philosophy of development, economics and incentives (often conflicting policies between departments);
9. completely allow wildlife agencies to use the tools of habitat management (planning, coorperation, review of referrals, administer wildlife areas)

Only a few provinces have a specific policy statement that deals with habitat management. Only a couple actually provide the ability to declare and manage Crown lands, based on stated wildlife objective. In most cases, agreements with N.G.O.'s, such as Ducks Unlimited are the governments's most specific habitat policies. The typical situation only makes passing reference to habitat in conflicting land-use policies.

"Multi-use" or "integrated management" concepts are common and appear to advocate a strong commitment to wildlife habitat conservation. However, while even direct recognition of critical wildlife areas occurs the necessary administrative and legislative machinery does not reflect this recognition. These broad land-use policies have a major weakness in lacking an ecological umbrella and ensuring sufficient administrative direction and control of the management of Crown lands. In addition, while multi-use policies are in vogue, many other resource agencies have independent, often over-riding policies affecting the landscape. Many are indirect, such as taxation policies, while others are insidious such as incentives for exploration and development. Of all policy issues, the independent policies and ineffectual administration of Crown lands are of greatest concern.

Another problem exacerbating the situation is the fragmented and unclear jurisdiction for wetlands at both the federal and provincial levels. At the federal level, various departments have

an interest in wetlands: Energy, Mines and Resources (peat mining for energy and industrial purposes); Canadian Forestry Service (afforestation and reforestation); Agriculture (peat moss for horticulture; natural wetlands for wild rice; drained wetlands for agriculture); Canadian Wildlife Service (waterfowl and other wildlife); National Research Council (energy RD); Parks Canada (preservation of representative and unique ecological lanscapes); and National Defence (mobility on northern terrain).

There is a staggering number of federal and provincial legislative Acts, policies and programs that lead to habitat destruction. Federal and provincial legislative acts reviewed can lead to a loss of wetlands by the implementation of regulations, taxation policies and subsidization programs. The legislation provides landowners with incentives to increase cultivation on marginal lands. In addition, there are federal and provincial programs evolving from this legislation that may accelerate the loss of waterfowl habitat. Many of the programs controlled by the Department of Agriculture (federal and provincial) include subsidies and cost-sharing agreements. These programs generally encourage the expansion of agricultural activities which may encroach upon waterfowl habitat.

Under the terms of the Resource Transfer Act, 1930, the federal government has sovereignty over Indian lands, national parks, migratory birds and the export of natural resources. The provinces exercise jurisdiction over public lands and forests, minerals, oil,

natural gas, most recreational resources and non-migratory wildlife. Areas of jurisdiction shared by Canada and the provinces include agriculture, fisheries and water resources. One of the main reasons that agriculture has been extremely successful on both a federal and provincial scale is the fact that agriculture is enshrined in the British North America Act as a shared responsibility. Both the federal and provincial governments have been committed to working for the well-being of agriculture.

Pursuant to section 92(113) of the British North America Act (1967), regarding property and civil rights in the provinces, and pursuant to section 92(16) regarding matters of a local or private nature, the provinces have legislative jurisdiction over land use within their boundaries.

When a farmer acquires the ownership or title to a parcel of private land, he thereby acquires a bundle of rights and duties which comprise ownership. These rights are:

1. the right to possess and use the land;
2. the right to income from the land;
3. the right to deal with the land in the sense of transferring title or putting up title as security.

The farmer is running a business and economics are an important factor in guiding his operations. Wetlands are generally a negative factor to the landowner and the system he operates tends

to force him into actions which lead to habitat destruction (Canada, Department of Environment, Canadian Wildlife Service, 1980).

In order to achieve a balance in agricultural products, governments intervene in market place economics by providing incentives to produce commodities with high overhead expenses. These incentives reflected in federal and provincial legislation and policies, play a key role in the rate at which habitat is lost.

Most policies and programs developed by the Department of Agriculture (federal and provincial) show little or no consideration for the long-term environmental consequenses of their policies and programs. The Departments of Agriculture (federal and provincial) control a substantial number of programs, that promote and encourage habitat destruction.

Subsidies provided by federal and provincial governments and cost-shares agremeents between federal and provincial governments facilitate the implementation of agricultural programs. These subsidies and cost-shared agreements will continue to exert a significant influence on the rate of expansion of agricultural activities which encroach on habitat.

ONTARIO

Although there are potentially more avenues available for wetland protection at the provincial level, existing legislation in Ontario is too vague and/or indirect to be of major importance in wetland preservation.

The Municipal Act, (R.S.O. 1980 c.302)

Under the Municipal Act the following provisions may be applicable:

1. Nuisance regulations are in place where a project may destroy the balance of an ecosystem (s. 210 (134)).
2. Local councils have the power to purchase lands to prevent flooding(s.210(82)).
3. Such councils have the power to prohibit sand and gravel operations where the water table may be altered (s. 210 (137)).
4. They also have the power to purchase and/or drain wetlands.

Conservation Authorities Act, (R.S.O.1980 c.85)

Conservation authorities can play an important role in purchasing wetlands. Of the 32 conservation authorities in southern Ontario, 24 have active wetland acquisition programs (Bardecki, 1981).

The role of the conservation authority is to represent the

interests of the municipality in relation to watershed issues. The province may also appoint members to a conservation authority. These provincially appointed members are encouraged by the M.N.R. to consider issues in the context of the entire watershed as opposed to just within the specific municipality.

Subject to Provincial Cabinet approval, conservation authorities may make regulations applicable in the area under their jurisdiction, prohibiting, regulating or requiring permission of the authority for the placing or dumping of fill in any place where it may affect control of flooding, pollution or conservation of land.

Section 20 of the Conservation Act gives local conservation authorities the mandate to conserve natural resources. According to this section the objects of an authority are to:

> "establish and undertake, in the area over which it has jurisdiction, a program designed to further the conservation, restoration, development and management of natural resources other than gas, oil, coal and minerals."

For the purposes of accomplishing its objects an authority has the following powers pursuant to s.21 of the legislation:

(a) the right to study, investigate and develop programs for the conservation, restoration, development and management of natural resources within a watershed;

(b) the right to acquire, purchase, lease or expropriate land

it may require, subject to Cabinet approval;

(c) the right to enter into agreements with landowners to facilitate implementation of any project;

(d) the right to control the flow of surface waters in order to prevent floods, pollution or to reduce their adverse effects; and

(e) the power to enter into agreements with various levels of government re: the above.

Further powers of such authorities are found in section 28:

(1)(a) the power to restrict or regulate the use of water in or from rivers, swamps, streams, inland lakes, ponds, and natural or artificially constructed depressions in rivers or streams.

(b) the power to regulate the straightening or diversion of watercourses.

(c) the power to regulate the construction of any building or structure in or on a pond or swamp or any other area susceptible to flooding, pollution, or fill dumping.

(d) the power to regulate the placing and dumping of fill in any area of the authority's jurisdiction.

Ontario Heritage Act, R.S.O. 1980 c. 337)

Section 22 gives the Minister of Culture and Recreation the power

to register easements or covenants or create trusts over land where it relates to the conservation, protection and preservation of the heritage of Ontario. See "Stewardship Techniques" by Dr. Stewart Hilts and Ron Reid available from Publications Ontario.

Endangered Species Act, (R.S.O. 1980, c.138)

No person shall willingly destroy or interfere with the habitat of any species of flora or fauna declared in the regulations to be threatened with extinction. Two schedules to Regulation 287 list the endangered species (including many wetland species).

As many wetland species are on the endangered list it would appear this Act would be significant in wetland preservation. Unfortunately, the Act falls much short of this theory as it does not provide for stop work orders for wetlands that are being developed. You can prosecute but the wetland has already been lost.

The Environmental Assessment Act, R.S.O. 1980 c. 140 (EAA) establishes procedures for the environmental assessment of certain public and private sector projects. The EAA applies to all public undertakings unless excluded by order or regulation, and only to those private undertakings that are designated by regulation. Ontario regulation 205/87 also exempts certain municipal undertakings, public bodies, provincial ministries and conservation authorities. In addition, many other regulations have been

published under the EAA exempting or designating specific undertakings or proponents from the assessment requirements of the Act. If a project is not subject to the Act, the proper procedure to request a "designation" is to write to the Minister of the Environment.

If the EAA applies to an undertaking, then the proponent cannot proceed with the project until the Minister accepts the EA document and approves the undertaking. However, the proponent can complete feasibility studies or research in order to comply with the EAA.

The EAA is composed of two distinct processes; the preparation and evaluation of environmental assessment documents and environmental assessment hearings. Note that not all proposals subject to the EAA require a public hearing.

The proponent first prepares an environmental assessment document (EA document) and submits it to the Ministry of the Environment for approval. The government then prepares a review of the EA document and makes the two documents available to the public for comments. Anyone can inspect the EA document and government review and make written submissions to the Minister or request that a public hearing by the Board be held.

The Minister can require the Environmental Assessment Board to hold a public hearing with respect to acceptance or rejection of the EA

document or the undertaking or with respect to the terms and conditions attached to the undertaking "when he considers it advisable" or when he has received a request for a hearing under s. 7(2) or 12(1). However, the Minister can refuse to require the EA Board to hold a hearing if he considers that the request for a hearing is "frivolous or vexatious or that a hearing is unnecessary or may cause undue delay".

Once the EA document has been accepted, the Minister, the proponent or anyone who has made written submissions can require a hearing by the EA Board with respect to the approval of the undertaking and any proposed terms and conditions.

In practice, there has not been even one instance in which the EAA has been applied as a means of protecting a wetland.

Environmental Protection Act, R.S.O. 1980 c. 141

This Act is administered by the Ministry of the Environment. It is the main "anti-polluting" law in Ontario providing for the "protection and conservation of the natural environment".

It is illegal to discharge a contaminant into the natural environment that is in excess of the permissable amounts set out in the regulations (s. 5(1)) or that causes or is likely to cause an adverse effect (s. 13). "Adverse Effect" is defined at section 1(1)(a) and includes the "impairment of the quality of the natural

environment for any use that can be made of it, injury or damage to property, plant or animal life, rendering any property or plant or animal life unfit for use by man, loss of enjoyment of normal use of property and interference with the normal conduct of business".

The Ministry must be notified when contaminants are discharged that are out of the normal course of events and that cause or are likely to cause an adverse effect (s. 14). In addition, the Minister can order clean up when a discharge injures or damages land, water, property or plant life (s. 16) and can order that preventative measures be taken (s. 17).

Part V of the EPA requires that a certificate of approval be obtained before a waste disposal site or waste management system can be operated or enlarged, unless they are exempted by Regulation 309. For example, Regulation 309 exempts derelict motor vehicle sites and on-site garbage grinders and provides for operating standards for waste disposal sites and management systems. Under s.4(1)3 of Regulation 309, dumps are designated as waste disposal sites and therefore require certificates of approval. The certificate of approval is usually issued with various terms and conditions restricting or defining the operation of the site.

The Director can refuse to issue a certificate of approval where he /she considers that the site may create a nuisance, is not in the public interest, or may result in a hazard to the health or safety

of any person (s. 38). The applicant can appeal the Directors decision to the Environmental Appeal Board (s. 121) and can appeal that decision to the Court or to the Minister.

Under section 30(1) of the EPA, a public hearing by the Environmental Assessment Board (EAB) is required for the disposal of hauled liquid industrial waste, hazardous waste, or domestic waste that is equivalent to > 1,500 persons. These are defined terms in Regulation 309. The Director (a person appointed by the Minister of the Environment) may request a hearing by the EAB before issuing a certificate of approval for projects that would not otherwise require a hearing.

In addition, where a By-law affects the location or operation of a proposed waste disposal site, the Director may direct the EAB to hold a public hearing to determine whether or not the By-law should apply to the proposed site (s.35). However, the Director can only do this if the applicant (for the waste disposal site) requests it.

Under section 28, a municipality is not permitted to raise money to finance any work for a landfill site until the certificate or provisional certificate of approval has been obtained. Further, where it is necessary in the public interest, the Minister can order the municipality to maintain, operate, alter, repair or replace a waste management system (s. 29).

In some cases the Environmental Assessment Act will apply requiring that the proponent prepare an environmental assessment document. In certain circumstances, the public have the power to request that a hearing be held. Once again, as a matter of practice, this legislation has not been invoked in the context of a wetlands case.

The Forestry Act (R.S.O. 1980 c.175) and The Woodland Improvement Act, (R.S.O. 1980 c.535)

These Acts provide some means of wetlands preservation. They allow for the establishment and maintenance of forested areas through agreements with landowners. An owner, if managing a forested area in accordance with an agreement, becomes eligible for a 50% rebate of the municipal and school taxes paid on the forested area. Although primarily aimed at maintaining cash timber crops, it could be possible to have swamps maintained for conservation purposes. The major drawback of these Acts as tools for wetland protection is that they provide assistance on a year to year basis and the program is subject to review or cancellation at any time.

Game and Fish Act, (R.S.O. 1980 c.182)

This Act and the Conservation Services Program provide similar agreements with landowners to preserve wildlife habitat as wildlife management areas could also be extended to include many wetlands. However, to date, the number of these is limited and a large portion of them are the results of agreements between conservation authorities and the Province, not individual land holders.

Lakes and Rivers Improvement Act, (R.S.O. 1980 c.229)

This Act regulates alterations to streams and lake beds or banks including the diversion or backing up of waters to ensure management and perpetuation of fish, wildlife and other natural resources. In other words, one can't dam up water without Ministry of Natural Resources approval.

Ontario Water Resources Act, (R.S.O. 1980 c.361)

This Act is also administered by the Ministry of the Environment giving the Minister supervision over all surface waters and ground waters in Ontario (s. 15). The Act prohibits water pollution and regulates well construction and businesses, water works, sewage works and municipal or public water or sewage projects. The Minister can refuse to issue a permit for certain "water works" when it is in the "public interest" (s. 23). In some cases, the Ministry of Housing, the local board of health and / or the local municipality may be responsible for plumbing inspections (s. 45). It is an offence to discharge any material of any kind into any waters or on any shore or bank or onto any place that may impair the quality of the water (s. 16). The quality of water is deemed to be "impaired", whether or not the water is actually impaired, when the material discharged causes or may cause injury to any person, animal, bird or other living thing as a result of the use or consumption of any plant, fish or other living matter or thing in the water or in the soil in contact with the water (s. 14).

Section 20 of the Act prohibits the taking of water or the interference with water supplies without a permit. If the taking of water interferes with a public or private interest in the water, the Director may prohibit the activity unless a permit is obtained (s. 20 (4)). The Director can make a similar order where the flow or leaking of water or the diversion, flowing or release of water from a hole or excavation interferes with a private or public interest in the water (s. 20 (7)).

The Planning Act, (R.S.O. 1983 c.1)

The councils of local municipalities have the power to prohibit building on low-lying, marshy or unstable land or land subject to flooding.

However, in the past the Ontario Municipal Board has ruled that private owners can request that the municipality change a zoning prohibiting development. Unless the municipality is willing to purchase the land, the zoning change must be given (Swaigen, J. 1979 Preserving Natural Areas in Ontario, CELRF). Therefore, while the Act could be effective in conserving wetlands, economic restraints limit its potential severely.

The following section may be of potential relevance in seeking to protect wetlands:

1(h). Official plans must have regard to environmental matters.

2. The Minister is responsible for considering matters of provincial interest.

2(a). Protection of the natural environment is a matter of provincial interest.

3. The Minister has the power to issue policy statements (e.g. '84 and '89 [draft] policy statements).

34(1)3. This provision allows zoning restriction in flood-prone, marshy areas.

34(9). Council may acquire land for non-conforming uses.

35(1). Holding provision by-law.

37(1). Interim control by-law.

40(7)(c). Agreements under site plan approval.

50(4)(h). Subdivision plan approval must consider natural resources and flood control.

50(6). Agreements under site plan approval.

54(4). District land division to enter into agreements where no municipality.

Further elaboration upon relevant mechanisms of the Planning Act will be provided in the upcoming discussion of "Municipal Jurisdiction" since it is this level of government which is most actively involved in the practical application of such legislation.

Public Lands Act, (R.S.O. 1980 c.413)

Under this Act the MNR requires anyone depositing material on

publicly owned lands (even if covered by water or ice) to obtain permission to do so first (see s.25(1)).

Wilderness Areas Act, (R.S.O. 1980 c.533)

This Act, administered by the MNR allows the Cabinet to make regulations to provide for the care and preservation of a designated wilderness and for the prohibition, regulation and control of the use of the land therein (s.7).

Offences are punishable by a $500 fine upon conviction (s.8).

Conservation Land Act, (1988 c.41)

Under this new legislation, rebates of up to 100 per cent are available to landowners of class 1 to 3 wetlands - as well as certain other heritage lands - for their conservation efforts which are conducted through land stewardship programs. One apparent difficulty is that the tax rebate does not operate in such a way as to bind future owners and, therefore, does not ensure long-term protection.

The role of the conservation authority is to represent the interests of the municipality in relation to watershed issues. The province may also appoint members to a conservation authority. They are encouraged to consider issues in the context of the entire watershed as opposed to just within the specific municipality.

Aggregate Resources Act, (1989 c.23)

The purposes of this Act include the following:

2(a) to provide for management of the "aggregate" (materials such as sand, gravel, clay and materials found in pits and quarries) resources of Ontario;

(b) to control and regulate aggregate operations on Crown and private lands;

(c) to require the rehabilitation of land from which aggregate has been excavated; and

(d) to minimize adverse impacts on the environment in respect of aggregate operations.

The Act provides a licensing system overseen by the Minister of Natural Resources. Licence applications involving aggregate operations require the submission of a report considering site rehabilitation plans, the environmental impact of the proposed pit or quarry operation and any remedial measures for mitigating adverse environmental effects (s.9). Under s.12 these matters will also be considered by the Minister in deciding whether ot not to issue a licence. Such environmental considerations also apply to the issuance of wayside permits (s.26). Section 58 allows for fines between $500 and $30,000 for each day the offence of operating a pit or quarry without a licence continues.

HARMFUL ONTARIO LEGISLATION

The Drainage Act, (R.S.O. 1980 c.126)

As it stands, this Act is a major threat to wetlands as it assists farmers, individually or in groups, in draining their lands. Under this Act, environmental assessment of drainage projects is optional for petition drains and not required for situations involving drain maintenance. The legislation allows for local municipalities, conservation authorities or the Minister of Natural Resources to request an environmental appraisal. However, if an appraisal is requested it is to be paid for by the body requesting it. Appeals of appraisal decisions can be made by any of the above-mentioned parties or affected landowners. Such appeals are made before the Ontario Drainage Tribunal. Recognizing the budgetary and staff limitations affecting these institutes it would be unlikely that assessments would be required except in extreme cases.

Mutual Agreement Drains

The Drainage Act gives mutual agreement drains formal status, and registration makes them binding on future owners of the land. Two or more owners may construct or improve a drain on their land and may enter into a written agreement. When a proper agreement is drawn up, it may be registered against the land for the protection of the owners.

Petition Drains

Landowners may petition the municipality if the majority of affected landowners are in favour of such a drainage project. An engineer will then investigate the project and report to council. If the report is adopted, a by-law is enacted to initiate the project.

The initial costs fall on the municipality which usually issues a debenture. The cost is recovered through an assessment of those affected by the project. The Province pays one-third of the costs.

Under this regime a landowner who wishes to preserve the existing state of affairs and fails in his bid to do so may also have to contribute to the project. Often, the cost of such contribution may be in the range of $5,000 to $10,000. If such cost is not paid the land may be seized.

A cost effective study is not required (in the last 12 years only one cost/benefit statement has been completed).

Tile Drainage Act, (R.S.O. 1980 c.500)

This legislation makes loans available for tile drainage work done on a farm. It is closely connected to the Drainage Act in that it provides financial assistance for the purchase and installation of field underdrainage, thus encouraging the destruction of wetland

areas.

A loan is obtained from the provincial government through the township council. After the township has passed the necessary borrowing by-law, an assessed owner may make application for a loan. The application is made before the commencement of work. The loan cannot exceed 75 per cent of the total cost of the drainage system.

The approval of a loan application lies within the discretion of council. If the Council refuses a loan, or loans less than 75 per cent of the cost, the applicant can appeal to the tribunal.

Two-Pronged Concept Rooted in Common Law

1. a landowner has the right to drain water into an established watercourse.
2. riparian rights - a landowner is not allowed to flood anyone downstream.

ONTARIO POLICIES

The Ministry of Municipal Affairs administers the Planning Act, 1983. In doing so, it is responsible for the review and/or approval of various municipal land use planning documents. It is also jointly responsible with the Ministry of Natural Resources for

ensuring that municipalities and planning authorities have regard for any wetlands planning policy statements.

Section 3 of the Planning Act, 1983 requires all municipalities, planning boards, Ministries and agencies to have regard to policy statements in carrying out their planning responsibilities. These policy statements must be approved by Cabinet and must relate to municipal planning that "in the opinion of the Minister are of provincial interest".

To date, the Ontario Government has not officially adopted any policy statements regarding wetlands protection. In 1984 the Ministry of Natural Resources introduced the "Guidelines for Wetlands Management in Ontario". Although this is the current operative document in Ontario, it does not provide any guidance for municipal land use planning. However, in 1989 the government introduced the draft "Wetlands Policy Statement" and the "Wetlands Planning Policy Statement - Implementation Guidelines" which are intended to repeal the 1984 Guidelines and become the official policy statement on wetlands under s. 3 of the Planning Act, 1983.

Unfortunately, the 1989 policy statement does not substantially change the local land use process, thereby leaving wetlands preservation largely to the discretion of individual municipalities. In addition, it does not provide interim

protection for the wetlands from premature development while the planning process is under way.

1984 "Guidelines for Wetlands Management in Ontario"

The purpose of these Guidelines is to "ensure that wetlands are managed in keeping with both present and long-term needs of the people of Ontario". Wetlands are described as essential natural resources that should be recognized by all land use planning and resource management agencies as "important components of their comprehensive plans and programs" to "ensure [that] their plans and actions consider all [of] the benefits of wetlands when arriving at decisions" but that the "protection of wetlands should not interfere unreasonably with existing uses of private land either within the wetland or in surrounding areas".

The 1984 Guidelines apply to wetlands identified and classified according to the provincial evaluation system as being of "provincial significance" (generally class I and II) or wetlands identified by municipalities as being significant and which are incorporated into their planning documents.

The general guidelines established by this document simply state that "every land-use planning and resource-management agency should have regard for the implications of its actions on wetlands within its management area" and that "all municipalities should ensure

that official plans, by-laws and planning programs undertaken by their respective Council or by delegated authority have regard to these planning guidelines".

With regard to Official Plans, "wetlands identified as having significance should be protected from incompatible activities wherever possible" and "developments in wetlands can occur under carefully considered circumstances where it can be shown that the wetland values can be managed adequately".

For zoning-Bylaws, "lands identified in an official plan for protection as wetlands should be placed in a zoning category that only permits uses that are compatible with wetland management such as forestry, aquaculture, fisheries management, wild rice, waterfowl production and open space". In municipalities without official plans, "significant wetlands should be identified for protection on the advice of the Ministry of Natural Resources and placed in a zoning category which prohibits uses that are incompatible with the future existence of the wetland.

In January 1989, the Ministry of Natural Resources published a draft "Wetlands Policy Statement" which is accompanied by the "Wetlands Planning Policy Statement - Implementation Guidelines". As a draft, this document does not yet have formal policy status under the Planning Act, 1983. According to a memorandum dated May 1, 1990 to all Ministry of Natural Resources Regional Directors and District Managers, until the Wetlands Planning Policy Statement is

passed by Council, the 1984 Guidelines must remain as the operative basis for policy implementation.

However, the Ministry's current interpretation of its approach to implementing existing Wetlands Policy was outlined at that time. Policy statements to note include that the Ministry;

1. Adhere to and support the principles contained in the 1984 Guidelines for Wetlands Management and promote the principles outlined in the Draft Wetlands Planning Policy Statement,

2. Provide input to and comment on planning proposals and development applications with a view to protecting provincially significant wetlands,

3. Ensure that official plans, comprehensive zoning by-laws and amendments reflect the provincial interest in wetlands protection, and

4. Where it is evident that insufficient regard is being accorded to provincially significant wetlands, pursue such matters at the Ontario Municipal Board.

1989 "Wetlands Policy Statement" and the "Wetlands Planning Policy Statement - Implementation Guidelines"

The 1989 "Draft Policy Statement on Wetlands" and the "Wetlands Planning Policy Statement - Implementation Guidelines" (both available from the Ministries of Natural Resources or Municipal Affairs) should be referred to in order to fully understand their application to specific situations.

The "Draft Policy Statement on Wetlands" applies to Class I and II wetlands ("provincially significant") and to Class III wetlands ("regionally significant") with the potential for including Classes IV to VII ("locally significant"). Classes III to VII can be deemed significant by regional or local municipalities.

The proposed general policies of the Ontario Government are that Class I and II wetlands be protected in the context of local and provincial land use planning objectives, that new land uses on or adjacent to the wetland be compatible with the wetland so as to maintain or improve it and classes III to VII may be identified in planning documents and protected in a manner deemed appropriate by municipal authorities.

The draft policies in relation to official plans include the identification and protection of provincially significant wetlands and the inclusion of policies which specify the information required and the matters to be considered by a municipality or planning board when evaluating proposals for development on or adjacent to provincially significant wetlands.

The draft policy in relation to By-Laws or Zoning Orders includes placing provincially significant wetlands in a restricted zoning category which permits only wetlands and compatible land uses.

The draft policy also outlines the criteria for justification of land use compatibility which applies to all development proposals on or adjacent to provincially significant wetlands which are to be used to determine compatibility with the affected wetland. These criteria include the following statements; that the protection of provincially significant wetlands be given primary consideration in the evaluation of any development proposal, that the classification of wetlands be maintained or improved, that the proposed use is compatible with existing conservation practises and that development minimizes its impact on the affected land.

The "Wetlands Planning Policy Statement - Implementation Guidelines" must be read in conjunction with the " Wetlands Policy Statement". It is a valuable document for anyone interested in proposals for wetland development since it identifies the different private and public sectors involved in wetlands preservation, outlines the applicable legislation and defines the limits to be imposed on officials implementing land use planning criteria for wetlands preservation and development. For instance, official plans and re-zoning will only be permitted two options in relation to Class I and II wetlands, the "No Development Approach" and the "Compatible Development Approach". The latter approach will only

permit new development if the proposal satisfies the "Land Use Compatibility" criteria which are outlined in detail in this document and reflect the criteria for justification of land use compatibility as discussed above.

Although the draft policy has not yet been approved by cabinet, the Ontario Municipal Board (OMB) recently applied the principals contained in the draft policy in deciding a case before it.

In August 1990, the OMB decided an appeal of two Zoning By-law amendments under section 34 of the Planning Act, 1983 and of two conditions attached to a proposed plan of subdivision under section 50 (17) of that Act[1]. The owner proposed construction of a golf course and housing development in the Township of West Carleton on and adjacent to a Class I wetland called "Constance Creek". The Ministry of Natural Resources refused to approve two conditions contained in the draft approval of the proposed plan of subdivision and referred the matter to the OMB.

In deciding to apply the draft Wetlands Policy Statement, the OMB stated that;

> "there can be no doubt that in this year, 1990, concern for environmental impact is an integral part of land use planning and this Board must recognize and accept that concept in the exercise of its jurisdiction."

It referred to section 1(h) of the Planning Act, 1983 where the

official plan is defined as "provid[ing] guidance for the physical development of a municipality ... while having regard to relevant social, economic and environmental matters". The OMB then went on to state that;

> "...when two Ministers of the Crown issue a statement pursuant to Section 3 of the Planning Act, 1983, even though that statement is not approved by Cabinet it behooves this board to take note of the statement. The government is the government, and its major concern is the public interest. The Board is not bound to decide in accordance with such policy, but the Board may give significant weight to the statement since the Board as an administrative tribunal has a duty to implement government policy where possible."

The OMB decided that the proposed project was not sufficiently compatible with the wetlands and repealed the Zoning By-laws stating that they were not a "proper exercise in land use planning". The OMB then drafted the 2 conditions in dispute to prohibit all alterations, grading and drainage within the boundary of the wetlands except in accordance with a Drainage Plan approved by the Region.

Municipal Jurisdiction / The Planning Act

Most key decisions regarding wetlands are made under the Planning Act, 1983 S.O. 1983 c.1 which is administered by the Ministry of Municipal Affairs. Municipalities are given broad powers under this Act regarding land use planning including the power to create and amend zoning By-laws and Official Plans and to subdivide land for development. "Municipality" is defined as a local municipality, a county and a regional, metropolitan or district

municipality (s. 1 (g)).

The Minister's Role

The Minister of Municipal Affairs has many responsibilities under the Planning Act, 1984 that require his approval for most of the decisions made by the Municipalities.

In carrying out his responsibilities under the Act, the Minister must have regard to matters of "provincial interest" which include protection of the natural environment, management of natural resources and the protection of features of significant natural interest (s. 2). This power exists independently of the "policy statements" discussed pursuant to section 3 of the Act (s. 3 (6)).

Under section 3(1), as previously discussed, the Minister may issue policy statements that have been approved by the Lieutenant Governor in Council on matters relating to municipal planning that are of "provincial interest" (s. 3(1)). The draft 1989 " Wetlands Policy Statement" and the "Wetlands Planning Policy Statement - Implementation Guidelines" have been introduced for the purposes of this section. Before issuing such a policy, the Minister must confer with municipal, provincial or federal bodies who have an interest in the proposed statement. Once published, municipal councils, local boards, crown ministers and every ministry, board, commission or agency of the government must have regard to the policy statement in exercising any authority that affects any

planning matter (s. 3(6)).

In addition, the Minister has been given wide powers under section 46 which equal a council's power to make orders regarding zoning by-laws, interim control By-laws and temporary use provisions (which will be discussed below). However, in exercising these powers, the Minister is not obligated to conform to the rules that the Councils are limited to including the requirement to hold public meetings. Anyone can appeal the Minister's order to the OMB (s. 46 (10)). Where the order has been appealed to the OMB and where a matter of provincial interest is or is likely to be affected by the order, the Minister may so advise the OMB and the decision must then be confirmed by the Lieutenant Governor in Council (s. 46 (15) and (16)).

Official Plans

Official plans are discussed under Part III of the Planning Act, 1983. An official plan is a document approved by the Minister which contains objectives and policies established to provide guidance for the physical development of a municipality while having regard to relevant social, economic and environmental matters (s. 1 (h)). Once an official plan is in effect, no public work can be undertaken and no By-law can be passed (with few exception) for any purpose that does not conform to the plan (s. 24).

Official Plan Approvals

Municipal Councils (including regional and local municipalities) have the authority to prepare the official plan for the municipality and adopt it by By-law (s. 17 (1)). The council must ensure that during the preparation of the plan adequate information is made available to the public and they must hold at least one public meeting. This meeting must be held no sooner than 30 days after the public have been given notice of the meeting and they must permit "any person who attends the meeting" an opportunity to make representations regarding the proposed plan (s. 17 (2) and (3)).

Notice of a public meeting held under s. 17 (2) must conform to Regulation 402/83 which requires; publication of the notice in a newspaper so as to give the public "reasonable notice" and notice by first class mail to every landowner within the area to which the amendment would apply, those within 120 metres of the area and to those who have requested in writing that notice be mailed to them.

The council is obligated under section 17 (5) to provide to any authority who may have an interest in the proposed plan, adequate information on the plan and an opportunity to submit comments. These authorities could include the Ministry of the Environment, the Ministry of Natural Resources or the local

Conservation Authorities. Once the above requirements have are complete, the council can adopt the plan by a By-law and submit the documentation to the Minister for approval (s. 17 (6)). Notice of this "adoption" of the plan must be given to various interested authorities within 15 days from the date the plan was adopted including notice to "each person who filed with the clerk a written request to be notified if the plan is adopted" (s. 17 (8)).

The Minister approves the plan unless it is referred to the OMB (s. 17(9)). The Minister is entitled to confer with various authorities who "have an interest in the approval of the plan" which includes "such other bodies or persons as the Minister considers may have an interest in the approval of the plan" (s. 17 (9). The council or "any person" can request that the Minister refer the plan to the OMB by including with their request a statement in writing setting out their reasons for the request (s. 17 (11) and (12)). The Minister must refer the plan to the OMB unless "in his opinion, the request is not made in good faith or is frivolous or vexatious or is made only for the purpose of delay" (s. 17 (11)).

If the plan is referred to the OMB and affects a matter of "provincial interest", the Minister can identify those matters to the OMB (no later than 30 days before the date of the hearing) whose decision then is not binding until approved by

the Lieutenant Governor in council (s.17 (19) and (20)).

Amending the Official Plan

Section 21 (1) states that the same provisions with respect to official plans apply to amendments of the official plan which are essentially contained in section 17. However, specific rules apply to amendments depending on who initiates the request for the amendment. Further, section 17 (4) states that if the official plan contains provisions regarding notice of the hearing and public meetings, then the rules contained in sections 17 (2) and (3) need not apply to applications for amendments.

Where the council requests the amendment, then the rules contained in section 17 (as discussed above) and section 21 apply (which permits the Minister to waive approval if a matter of "provincial interest" is not involved and if the Minister does not receive a request for a referral to the OMB).

Where "any person" requests the amendment and the council refuses to grant the amendment, then that person may request the Minister to refer the amendment to the OMB. A similar rule applies if "any person" requests a planning board to initiate the amendment (s. 22). The Minister may confer with other provincial authorities and may refuse to refer the

amendment to the OMB on "providing a written explanation for the refusal" (s. 22 (3)). If the amendment is referred to the OMB and the Minister is of the opinion that a matter of "provincial interest" is or is likely to be affected by the proposed amendment, then the Minister may so advise the OMB within 30 days of the hearing and the decision will not be binding until approved by the Lieutenant Governor in Council (s. 22 (5) and (6)).

As mentioned, section 21 (1) states that the same provisions with respect to the official plans apply to amendments of the official plan. Since section 17 (11) permits "any person or other body" to request the Minister to refer the plan to the OMB, then it is presumable that where a developer or land owner requests an amendment to the official plan, than any other person can request the Minister to refer the proposed amendment to the OMB as outlined in section 17 (11) unless in the Ministers' opinion, "the request is not made in good faith or is frivolous or vexatious or is made only for the purpose of delay". Again, the applicant must include with the request a statement in writing setting out the reasons for the request (s. 17 (12)).

Further, when the Minister is of the opinion that a matter of "provincial interest" as set out in a "policy statement" issued under section 3 is likely to be affected by an official

plan, then the Minister can request that the municipality adopt an amendment to have the Plan conform to the policy statement. Even if the municipality refuses, the Minister can make the amendment. However, the Minister, a municipality or any person can request that the OMB hear the matter whose decision must then be approved by the Lieutenant Governor in Council (s. 23). Again, if "in his opinion, the request is not made in good faith or is frivolous or vexatious or is made only for the purpose of delay" the Minister is not obligated to refer the matter to the OMB (s. 23 (3)).

Land Use Control mechanisms

Part V of the Planning Act, 1983 discusses the procedures for various land use control mechanisms which include zoning By-laws, interim control By-laws, site plan controls and reserving of land for park purposes.

Zoning By-laws

Zoning by-laws can be passed by municipalities prohibiting the use of land except for specified purposes and prohibiting the erection of structures on land that is subject to flooding or on land with steep slopes, or that is rocky, low-lying, marshy or unstable (s. 34 (1)).

The council may acquire any land, building or structure that does not conform with a zoning by-law (s. 34 (8)). However,

if the property was "non-conforming" before the zoning by-law was passed, then the owner is permitted to continue with the "non-conforming use" so long as it continues for that purpose (s. 34 (9)) and the "non-conforming" use can be extended or enlarged by a zoning amendment (s. 34 (10)).

Before passing a zoning by-law, the council must hold a public meeting and provide the public with enough information to enable them to understand the zoning proposal. Any member of the public appearing at the public meeting must be given the opportunity to address the proposal (s. 34 (12) and (13)) (unless procedures in the official plan differ from these rules (s. 34 (14)).

Notice of a public meeting held under s. 34 (12) must comply with Regulation 404/83 which requires either; publication of the notice in a newspaper so as to give the public "reasonable notice"; notice by first class mail to every landowner within the area to which the amendment would apply, to those within 120 metres of the area and by posting the notice on every affected property or in an accessible public place; and mailed to those who have requested in writing that the notice be mailed to them. However, once a public meeting has been held, council are not required to give notice of any changes made to the proposed zoning by-law (s. 34 (16).

All boards, commissions, authorities or other agencies that have an interest in the zoning proposal must be informed by council of the zoning proposal at least 20 days prior to the passing of the by-law (s. 34 (15)). In cases involving wetlands, these parties could include Conservation Authorities, the Ministry of the Environment, and / or the Ministry of Natural Resources. If required, these authorities can obtain an extension of time to permit them to submit comments.

Under section 34 (17), once a by-law has been passed by the municipality notice of the passing of the by-law must conform to the requirements in section 2 of regulation 404/83. It must be published in a newpaper so as to give the public "reasonable notice", mailed to every landowner in the area and within 120 metres of the area to which the by-law applies; mailed to every person or agency who has asked the clerk in writing for notice and to those listed under section 2(2) of the regulation including the conservation authority, MNR and MOE.

Within 20 days from the date a zoning by-law is passed by the council, anyone can appeal its passing to the Ontario Municipal Board (OMB) by filing a notice of appeal with the clerk of the municipality setting out the objection to the by-law and the reasons in support of the objection (s. 34 (18)).

If a matter of provincial interest is involved, the Minister of Municipal Affairs may so advise the OMB within 30 days of the hearing of the appeal. The Lieutenant Governor in Council must then decide on the aspects of the by-law which affect those matters of provincial interest (s. 34 (28), (29) and (30)).

In addition, where an application for the amendment of a By-law is refused, the applicant may appeal the refusal to the OMB (s. 34 (11)).

Interim Control By-laws

Section 37(1) permits a council of a local community to pass an interim control by-law (ICBL) prohibiting the use of land, buildings or structures except for the purposes as set out in the by-law where by by-law or resolution, the council has directed that a review or study be undertaken with respect of land use planning policies in the municipality or in any defined areas which will be in effect for one year.

ICBL's are generally always used to stop development on property that is already zoned to permit the contemplated use. In a typical example, a developer decides to build on a site which is already zoned as "commercial" . In doing so, building or other permits will be required which alerts council to the potential problem.

Council then must decide to study the existing planning and zoning regime with the intention to rezone the property under s. 34 of the Planning Act so that the property will no longer be zoned "commercial".

Under section 37(2) the by-law can be extended up to a total of two years, and section 37(4) permits appeals of the by-law to the OMB within 60 days of it's passing. Unless a new by-law is passed within the time period of the ICBL, the prior zoning by-law will come into force again (s. 37(6)). Section 37(7) provides for a 3 year gap between any interim control by-laws affecting the same land.

Site Plan Controls

When an official plan identifies a "proposed site control area", the local municipality can by By-law designate the area as a "site control area" (s. 40 (2)). Once this occurs, development (which is defined to mean building construction), can only occur if the plans are approved by council (s. 40 (4)). However, the owner is entitled to appeal the terms of the site control plan to the Ontario Municipal Board (OMB) (s. 40 (12)).

As a condition of approval, the council are given wide powers under section 40 (7) to require such things as parking facilities and ramps. However, the council can also require

that the owner; include walls, fences, hedges, trees or shrubs for landscaping purposes or to protect adjoining lands; convey easements to the municipality for the construction or maintenance of watercourses, ditches, land drainage works, sewage facilities or other public works; and / or grade or alter the elevation or contour of the land and provide for the disposal of storm, surface and waste water from the land or structures.

The owner may be required to enter into an agreement to maintain these facilities or works. This agreement can be registered against the land and in some circumstances could become binding on any future owners of the property (s. 40 (10)). Further, the council is enabled by section 40 (11) to apply the provisions contained in section 325 of the Municipal Act (R.S.O. 1980 c. 302). This section allows the council to step in and do the work required under the site plan recovering the debt from the owner of the property in the same manner as for municipal taxes.

Reserved Land

The council is entitled under section 41 to make it a condition of development that a percentage of land be conveyed to the municipality for park or other recreational purposes. This must be done by passing a By-law, however, the land can be sold at any time (s. 40 (5)).

Subdivision of Land

Before being permitted to subdivide land, an owner must apply to the Minister for approval of the plan of subdivision (s. 50 (1)). A draft plan of subdivision must be submitted to the Minister which must show such things as watercourses, drainage ditches, swamps and wooded areas, include a description of the nature and porosity of the soil and outline any existing contours or elevations required to determine the grade of highways and the drainage of the lands (s. 50 (2)).

In considering the draft plan of subdivision, the Minister is obligated to have regard to the health, safety, convenience and welfare of the present and future inhabitants of the municipality. In addition, the Minister must also consider (amongst other things) matters of "provincial interest" as outlined in section 2 of the Act, whether the subdivision is in the public interest, whether the plan conforms to the official plan and adjacent plans of subdivision, the suitability of the land for the purposes for which it is to be subdivided, conservation of natural resources and flood control (s. 50 (4)).

The Minister may impose conditions to the approval of the draft plan "such as in his opinion are reasonable, having regard to the nature of the development". One of the conditions that can be imposed is that a percentage of land be conveyed to the

municipality for park or other recreational purposes (s. 50 (5)). The municipality and the Minister may enter into agreements regarding these conditions which can then be registered against the property becoming enforceable against the current and any subsequent owners (s. 50 (6)).

If the Minister refuses to approve the draft plan, the applicant has 60 days within which to appeal the refusal to the OMB by requesting that the Minister refer the plan to the OMB (s. 50 (13)). In addition, if either the applicant or the local municipality are dissatisfied with the conditions imposed by the Minister, they may give written notice to the OMB and the Minister requesting a hearing by the OMB of those conditions (s. 50 (17)).

Further, before the Minister gives his approval (or after having refused to approve the draft plan) the Minister (or anyone on application to the Minister) may refer the draft plan to the OMB unless, in the Minister's opinion, the request is not made in good faith, or is frivolous or vexatious or is made only for the purpose of delay (s. 50 (15)). The application for referral must be accompanied by written reasons outlining the reasons for the referral (s. 50 (16)).

Once the draft plan is approved, the subdivider can offer the land for sale but cannot sell the land until the final plan is registered. In addition, the subdivider can "proceed to lay down

the highways and lots upon the ground" and prepare a final plan which must be certified by an Ontario land surveyor (s. 50 (19)). Once the final plan is prepared and ready for registration, the Minister may approve the plan if "satisfied that the plan is in conformity with the approved draft plan and that the conditions of approval have been or will be fulfilled" (s. 50 (20).

At any time before approving the final plan of subdivision, the Minister may withdraw his or her approval or change any conditions contained in the draft plan (s. 50 (18)). In addition, if the final plan has not been registered within 30 days from its' approval, the Minister may withdraw his or her approval (s. 50 (21)).

Penalties under the Planning Act, 1983

Section 66 makes it a penalty to contravene section 40 (which prohibits development on site plan areas without first obtaining approval for the site plan), section 45 (mobile home erection), section 51 (which prohibits the subdivision and sale of land on an unregistered plan of subdivision), By-laws made under section 34 (zoning) or section 37 (interim control By-laws) or an order made under section 46.

The fine on a first conviction for an individual cannot exceed $25,000 and on subsequent convictions is limited to $10,000 per

day. For corporations, the amounts increase to $50,000 and $25,000 respectively. In addition, the court may prohibit the continuation or repetition of the offence. In general by-law violations are the responsibility of the local by-law enforcement officer at first instance.

Problems with the Land Use Planning Process

The existing land use planning and approvals process does not require that wetlands be protected. In particular, the lack of mandatory adherence to policy statements issued under the Ontario Planning Act of 1983 (the "Planning Act") means that there is no guaranteed protection of wetlands. The only requirement is that wetlands be considered.

It is a central concern that the procedures for amending official plans and approving individual projects does not ensure effective consideration of ecosystem protection goals. It also does not allow for the evaluation of the long-term, synergistic or cumulative impacts of certain undertakings. The procedures place serious timing and financial burdens on the local agencies commenting on plan reviews and private interests participating in the planning process. In many instances it also demands a level of expertise that simply does not exist. It is unacceptable that the land use planning and approvals process allows wetlands to be cleared, graded, altered and destroyed well before planning

approval is sought or obtained.

The Environmental Assessment Advisory Committee recently concluded in Report Number 38 on the Ganaraska Watershed that "the existing land use planning and approvals process in Ontario is inadequate to the task of maintaining social and ecological quality in the face of development pressures" (p.37). We concur with this conclusion and urge the provincial government to immediately begin a review of the municipal land use planning and approvals process.

In 1989, the Ontario Ministers Municipal Affairs and Natural Resources issued a proposed policy statement pursuant to section 3 of the Ontario Planning Act of 1983. It is submitted that the policy statement and its accompanying implementation guidelines will be minimally effective at protecting Ontario's wetlands.

Local municipalities are not required to comply with the policy. The policy authorizes municipalities, planning boards and agencies to consider wetlands in their planning process but it is not mandated. The planning process must be mandatory to ensure that wetlands are, in fact, considered by local governments throughout Ontario.

There are other deficiencies in the proposed policy. Particularly, it does not address wetland loss caused by grading, draining and filling of wetlands on agricultural land. Given that agricultural

land drainage is the most significant threat to wetlands in Ontario, it should be addressed. The policy also does not apply to wetlands smaller than 2 hectares and northern wetlands are virtually ignored.

The direct link between the proposed policy and the results of the Wetland Evaluation System is a serious problem that must be corrected. As well, it has been demonstrated that the existing methodology for classifying wetlands does not adequately reflect the true wetland values of many sites. It is recommended that the Wetland Evaluation System be modified and that any direct reference to the classification scores and evaluation results be removed from the proposed policy statement and implementation guidelines.

While the policy statement which encourages wetland planning is a constructive first step toward a comprehensive provincial wetland protection program, this proposed policy must be strengthened by making the planning process mandatory.

While there are numerous statutes and regulations which have some relevance and applicability, there is not one that specifically deals with wetland protection. Rather, wetlands are addressed through land use planning and miscellaneous legislation and regulation through which protection may occur by inference, chance or default. Also, at the present time, there is not one general wetland policy or statement of intent which provides a wetland

directive for these existing mechanisms. Clearly, a statement of wetland protection goals and objectives is urgently needed to focus existing statutes, regulations and programmes. It is submitted that this statement be provided by legislative initiative.

In Canada, both the federal and provincial governments have jurisdiction over wetland related issues. Federal involvement focuses on matters concerning migratory birds, national parks, navigation and shipping, and to some extent fisheries. The federal government has been involved in some wetland conflicts and undertakes a variety of wetland research projects. Provincial jurisdiction in respect of wetlands is much more extensive. Direct jurisdiction over property rights, land use development, and the management of natural resources and public land resides with the province. It is submitted that wetlands legislative initiatives can and should cover each of these areas of provincial jurisdiction. For instance, a co-ordinated planning approach to wetlands will provide some control over wetland losses, but cannot achieve an increase in the quality and quantity of wetlands. In particular, it will not stem the rapid rate of wetland conversion in the southern settled areas of Ontario where competition for land is fierce and undeveloped land is at a premium.

It is suggested that the provincial government begin developing specific statutory protection for wetlands which applies to all wetlands and prohibits the destruction or degradation of

significant wetlands or any part thereof. As well, it must provide for restoration and rehabilitation of wetlands that have been destroyed or degraded.

WETLAND PROTECTION TECHNIQUES USED IN THE UNITED STATES

SUMMARY OF STATE PROGRAMS

All but a few coastal states now provide some protection for coastal wetlands through wetland regulation statutes or broader coastal zone or shoreland acts with wetland components.

States vary greatly in their approaches and attitudes toward wetland protection. Even within States, different agencies may take different positions on wetland protection and development. The direction of State programs is open to change by reason of changes in political leadership and changes in a states fiscal health, among others.

Monitoring techniques vary from state to state and range from principal reliance upon interest groups and adjacent landowners to report violations to weekly surveys of coastal wetlands through overflights with a small plane (Georgia).

Wetland Regulation

More than a dozen states have permitting programs specifically directed at controlling the use of wetlands. Most of these programs are administered directly by state agencies, although local government may be given the authority to veto approval of

some projects.

A few states have established innovative regulatory programs for wetland protection that differ from the more typical permit or zoning approaches. For example, in Massachusetts, the Coastal and Inland Wetland Restrictions Acts place deed restrictions on wetland property to limit use to water-related uses into unrestricted land.

Thirteen states (as of 1989) require a permit for fill and for structures located in coastal wetland areas. Permits for regulated activities are evaluated on a case-by case basis in light of statutory and administrative standards. In addition, 9 states authorize a state regulatory agency to adopt wetland protective orders resembling zoning regulations, require permits, and to keep lists of permitted and prohibited wetland uses.

Explicit state inland wetland protection acts have been adopted only in Oregon, Massachusetts, Florida, Connecticut, Rhode Island, Minnesota, Michigan, New Hamphire, New Jersey and New York. In several states, inland wetland regulation is a component or an indirect result of broader State regulatory efforts applying to State waters, shorelands, floodplains, wild and scenic rivers or other areas.

Direct state floodplain or floodway regulations or state standards for local regulations have been adopted in at least 30 states.

Protection of ecological values is rarely an explicit objective, although a large measure of wetland protection may in fact be achieved by the very restrictive controls typically applied to floodway areas.

Non-Regulatory Efforts

Non-regulatory wetland protection efforts provide a valuable supplement to coastal and inland regulatory programs.

Waterfowl and Wildlife Protection Programs

All states have adopted wildlife protection and conservation programs. Programs include hunting regulations, acquisitions of wildlife and waterfowl protection areas, propagation and stocking of fish and waterfowl,
protection of rare and endangered species, and conservation education efforts. Many programs involve the acquisition and management of wetland areas.

Wetland management is often a component of State public land management programs. Wetland aqcquisition is a component of a few state flood control programs. Universities in several states, including the University of Wisconsin and the University of Minnesota, have acquired wetlands for educational and scientific purposes. Some states, including California, Connecticut, Michigan, New Hamphire, Pennsylvania, Rhode Island and Washington, authorize tax relief for wetland and open space areas.

Acquisition

Several States have programs that give priority to the acquisition of wetlands.

Incentives to Landowners

Some states authorize tax relief for landowners to preserve wetland and other open space areas. At least one state has a program resembling the Federal Water Bank Program.

Other Programs

Many states control wetlands through programs whose primary purpose is not wetlands protection. Types of programs include:

- coastal zone management
- flood plain management
- shoreline zoning
- scenic and wild rivers protection
- critical or natural areas protection
- dredge and fill acts
- wildlife and waterfowl protection
- public lands management
- public education
- stream alteration requirements
- site location of developments.

UNITED STATES FEDERAL LEGISLATION

At this time, Federal policies do not deal consistently with wetland use. In fact, they affect wetland use in opposing ways. On the one hand, some Federal policies encourage wetland conversion by reducing the cost of converting wetlands to other uses, especially agriculture. On the other hand, some wetlands use is controlled or managed through acquisition, easements, leases, regulation and policy guidance.

The Rivers and Harbors Act of 1899

The primary purpose of the Rivers and Harbors Act is to prevent the obstruction of navigation. The Act applies only when the structure or modification directly affects "a navigable water of the United States". This qualification places a geographical limitation on the authority of the Corps of Engineers under this Act. Wetlands along a navigable waterbody lying between deepwater and the line of mean high tide or the ordinary high water mark are part of the navigable waters of the U.S.. This is true even though the water is very shallow or passage into or through the area is blocked by sandbars or other barriers. Under the Act permits from the Corps are required for dredge, fill, and other activities that could obstruct navigable waterways. A Section 9 or a Section 10 permit will have to be obtained for work in these areas.

Any person who violates Section 9 or 10 of the Act by engaging in activities covered by those statutes without obtaining a permit, and any person who violated the conditions and limitations of a permit issued under those statutes is guilty of a misdemeanor. If convicted, the violator may be punished by fine, imprisonment, or both.

Section 404 of the Federal Water Pollution Control Act (FWPCA)

This Act provides the major avenue for Federal involvement in controlling the use of wetlands through regulation. However, it regulates only the discharge of dredged or fill material; excavation, drainage, clearing and flooding of wetlands are not covered explicitly.

Regulations state a general policy that "wetlands are vital areas that constitute a productive and valuable public resource, the unnecessary alteration or destruction of which should be discouraged as contrary to the public interest".

The regulations also state that: "Although a particular alteration of wetlands may constitute a minor change, the cumulative effect of such numerous piecemeal changes often results in a major impairment of the wetland resouces. Thus, the particular wetland site for which an application is made will be evaluated with the complete and interrelated wetland area."

According to the U.S. Army Corps of Engineers estimates for 1987 - 1988, Corps districts (excluding Alaska) processed permits for projects that, if completed as requested, would have resulted in direct and indirect conversion of approximately 100,000 acres of wetlands per year. The Corps authorized projects that, if completed in accordance with the conditions of the permits would involve the conversion of approximately 50,000 acres of wetland or about half the acreage applied for.

Briefly, persons seeking to conduct activities that would result in the discharge of dredge and fill material into waters of the U.S. first must apply for and obtain a permit from the local district office of the Corps. Some activities are specifically exempted; others are covered by general permits that require no applications for individual permits.

Under the Federal Water Pollution Control Act (FWPCA), pollution of the waters of the U.S. is ilegal. By defining "pollutant" in a very broad and general manner Congress has given the EPA and the Corps of Engineers the power to regulate a wide range of activities. Under the FWPCA, the building of a dam or the filling of a wetland area is water pollution.

Section 404 authorizes the Secretary of the Army, acting through the Chief of Engineers, to regulate the discharge (addition) of dredged or fill material into waters of the United States. The

original jurisdiction was confined to traditional navigable waters, but in 1975 a U.S. District Court decision directed the Corps of Engineers to extend its jurisdiction to include all waters of the U.S..Permits are required for activities along waters upstream as far as there are flows of 5 cubic feet per second on an annual average and on adjacent or contiguous wetlands. Where isolated wetlands and lakes have special significance, the Corps can assume discretionary authority.

Section 404 of the FWPCA gives the Corps of Engineers the power to issue permits for the discharge of dredge or fill material into the waters. Discharges that are otherwise illegal are lawful when made in accordance with a "Section 404" permit.

There are fundamental differences in the way Federal agencies and various special interest groups interpret the intent of section 404. The Corps views its primary function is carrying out the law as protecting the quality of water; habitat and other wetland values, although considered in Corps decisions about projects, are usually of secondary concern. In contrast, Federal agencies, such as the U.S. Fish and Wildlife Service, the Environmental Protection Agency, the National Marine Fisheries Services and environmental groups feel that the mandate of CWA obliges the Corps to protect the integrity of wetlands, including their habitat values.

The FWPCA protects the "waters of the United States" including navigable waters and practically all other waters and wetland areas located within the boundaries of the U.S.. In other words if the pollution of a lake, river or wetland area could affect the navigable capacity of a navigable waterbody, impair the recreational value of any waterbody, harm commercial fishing operation, or endanger industrial or agricultural activities, the FWPCA will prohibit the pollution of that waterbody.

This law applies to: placement of fill necessary to the construction of any structure in a water of the U.S.; the building of any structure or impoundment requiring rock, sand, soil or other material for its construction; site development for recreational, industrial, commercial, residential and other uses; causeways or road fills; dams and dikes; property protection devices; and fill for sewage treatment facilities, intake and outfall pipes associated with power plants.

This law does not apply to dredging where all material is removed and deposited on an upland site.

Section 404 (f) provides that certain discharges of dredged or fill material are statutorily exempt from the ban on water pollution. These discharge activities are not illegal and no permit is necessary to carry them out. The exempt activities are:

1. the discharge of dredge or fill material "from normal farming, silviculture, and ranching activities such as plowing, seeding, cultivating, minor drainage, harvesting for the prodution of food, fiber, and forest products, or upland soil and water conservation practices;

2. the discharge of dredged or fill material "for the purpose of maintenance, including emergency reconstruction of recently damaged parts, of currently serviceable structures such as dikes, dams, levees, groins, riprap, breakwaters, causeways and bridge abutments or approaches, and transportation structures;"

3. the discharge of dredged or fill material "for the purpose of construction or maintenance of farm or stock ponds or irrigation ditches, or the maintenance of drainage ditches;"

4. the discharge of dredged or fill material "for the purpose of construction of temporary sedimentation basins on a construction site which does not include placement of fill material into navigable waters;"

5. the discharge of dredged or fill material "for the purpose of construction or maintenance of farm roads or forest roads, or temporary roads for moving mining equipment, where such roads are constructed and maintained..."

In addition to these exemptions, a large number of activities fall under general permits. General permits are promulgated to increase the manageability of the 404 program at nationwide, regional and state levels for activities deemed by the Corps to have minor impacts on waters of the U.S.

The expanded use of general permits has reduced the number of permit applications by an estimated 90,000 cases annually (1989). While these permits may decrease control over use of wetlands, other general permits benefit wetland protection when best management paractices are required as part of the permit conditions.

Procedure

Before any individual or organization initiates any of the regulated activities a permit must be obtained from the Corps of Engineers.

A number of statutes are applied in evaluating applications. Some of the principal ones relevant to wetlands include the National Environmental Policy Act (NEPA), Section 401 Federal Water Pollution Control Act Amendments of 1972, the Endangered Species Act, the Coastal Zone Management Act, the Fish and Wildlife Coordination Act, the National Historic Preservation Act and the Interstate Land Sales Full Disclosure Act.

The Fish and Wildlife Co-ordination Act requires that the Corps consult with the U.S. Fish and Wildlife Service and appropriate state wildlife agencies before issuing any Section 404 permit.

The Act also requires that wildlife conservation be given equal consideration with other features of water resource development.

The review process gives the conservation agencies the opportunity to minimize adverse impact of a proposal or to recommend denial of any permit that would result in the destruction of valuable fish and wildlife habitat.

Each state retains the power to deny the water quality certification portion of the 404 permitting process, if the proposed action will affect water quality. Without state certification, the project cannot proceed.

If the Administrator of the Environmental Protection Agency (EPA) objects to a District Engineer's notice of intent to issue a 404 permit, the matter is referred to the Division Engineer, or ultimately the Chief of Engineers for a final decision. In addition, the EPA Administrator may prohibit the specification of any defined area as a disposal site whenever he determines that the discharge will have an unacceptable adverse effect on municipal water supplies, shellfish beds and fishery areas, wildlife or recreational areas.

Until the 1982 changes, regulations stated that no permit would be granted for activities that involved the alteration of wetlands identified as important "unless the benefits of the proposed alteration outweigh the damage to the wetlands resource and the proposed alteration is necessary to realize those benefits". Permit applications must supply sufficient information on the need to locate the project in the wetland and on the availability of alternate sites. The 1982 revisions to the Corps regulations eliminate the clause that the proposed alteration be necessary to realize benefits.

The 404 program also regulates certain geographic areas with less stringency than other areas. Prior to the 1982 regulatory changes, activities in wetlands that were not linked to a tributary system, above the headwaters of tributary streams or less than 10 acres in surface area did not require individual permits as long as certain environmental safeguards were complied with. The 1982 regulations expanded these exempted areas to include any isolated wetland regardless of size. Subsequent proposals published in 1983, reinstated this limitation.

In line with administration objectives to reduce the regulatory burden on industry and to increase the role of the States, the Corps revised many of its administrative procedures in 1988. The normal permit-processing time was limited to 60 days for typical projects, 90 days for controversial projects. The use of general

permits was expanded to include ALL (and not some) isolated waters and headwater areas. Statewide general permits are being used to transfer additional permitting responsibility to States.

Only a small number of section 404 and section 10/404 permit applications are denied; (291 out of 10,718 applications received in fiscal year 1987, about 2.7%). It should be noted that districts vary greatly in the percentage of permits denied. A much greater number of permits are modified in the course of the permit process.

States have a role in the 404 program. States veto permit applications by denying certification through section 401 of CWA and may administer portions of the 404 program if they meet criteria established by EPA. Twelve States are evaluating the possibility of assuming responsibility for the program on a trial basis. In general, most states neither have the capability nor the desire to assume sole responsibility for regulating wetland use without additional resources from the Federal Government; some states would be reluctant to do so even with the resources.

Any persons who violates the FWPCA by discharging dredged or fill material into the waters of the U.S. without a permit, either individual, general or nationwide, and any person who violates the conditions or limitations of a "Section 404" permit is subject to fine, imprisonment, or both. A civil fine may be imposed or the

violator may be found criminally liable. For second offences the fine is increased and the prison sentence is increased to a maximum of two years.

The EPA and the Corps of Engineers have the authority to order the stoppage of work on unauthorized activities and the authority to secure court orders to ensure compliance.

It should be noted that, presently, concerted lobbying efforts are being undertaken by farmers and developers for the purpose of de-regulating wetland protection under Section 404. Hence, the legislation may change very soon.

Limitations

In terms of comprehensive wetland management, 404 has major limitations. First, in accordance with CWA, the 404 program regulates only the discharge of dredge or fill material onto wetlands. Projects involving excavation, drainage, clearing, and flooding of wetlands are not explicitly covered by Section 404 and not usually regulated by the Corps. Yet such activities were responsible for the vast majority of inland wetland conversions between the mid-1950's and the mid-1970's. Rarely have these activities been halted or slowed because of Federal, State or local wetland regulations.

According to William R. Gianelli, Assistant Secretary of the Army (Civil Works),before the House Committee on Merchant Marine and

Fisheries on section 404 of CWA, August 10, 1982:

> "It is important to point out that wetlands subject to section 404 can be destroyed in a number of ways without any requirement for a Corps permit. They can be destroyed by excavating, draining, flooding, clearing, or even shading without the need for a Corps permit as long as those activities do not include the discharge of dredged or fill material. So, it is clear that section 404 does not serve as the Nation's comprehensive wetlands protection law."

Activities in some wetland areas are covered by nationwide permits, thus eliminating the necessity for individual permit review. Discharges of dredged or fill material in these areas may occur without the need for specific authorization from the Corps. The 1982 changes broadened these permits to encompass all isolated wetlands (removing) the 10-acre limit. Several States, opposed to nationwide permits have denied 401 certification for certain permits. In its May 12, 1983 proposed regulatory changes, the Corps reinstated the 10-acre limit.

Nationwide permits have been criticized on various grounds. First some sources claim that the Corps has no authority to exempt areas, as opposed to activities, from coverages; some States have sued the Corps on these grounds.

Second, discharges of dredged and fill material under nationwide permits are supposed to meet the following criteria: they cannot threaten endangered species or be discharged into a component of a State or National Wild and Scenic River System; they must be free of more than trace amounts of toxic pollutants; and fills must be

maintained to prevent erosion and other nonpoint sources of pollution. Discretionary authority, regional conditioning, and other measures also improve permit effectiveness. However, various parties contend that nationwide permits prevent the 404 program from stopping or mitigating destruction of much wetland acreage. Because there is little monitoring of activities for compliance, neither point of view could be verified with documented evidence.

Finally, some isolated wetlands are only covered by a nationwide permit. According to the OTA case studies, isolated wetland types that experience controversial regulation under the nationwide permit include vernal pools, isolated mountain wetlands, pocket marshes and closed basins in California swamps and bays of North and South Carolina; swamps of Southern New Jersey and wetlands of the prairie-pothole region and Nebraska.

Regulations allow the district engineer discretionary authority to require individual permits in areas covered under nationwide permits. This authority has been used in a few cases.

Most general permits are for activities that cause little or no impact on wetland areas and do not require individual project permits. Criticisms of general permits include:

1. the general permit process eliminates both the normal

public interest review and the opportunity for other agencies to comment on a project-by-project basis;

2. public notice is not required, which eliminates a means for informing State and local agencies of activities that may require non-Federal permits;
3. general permits may lead to cumulative conversion of wetland habitat to small-scale development, and
4. general permits are not closely monitored to ensure that BMPs are followed.

Since there are no reporting requirements for most general permits, many projects covered by a general permit can be undertaken without checking with the Corps. If someone reports a suspected violation, the Corps will investigate and determine if an individual permit is necessary.

Generally, permits are not denied unless substantial individual impact can be shown, the combination or cumulation of minor impact of many small projects is extremely difficult to evaluate in making permit decisions. These cumulative impacts are overlooked in many districts. No clear nationwide guidance exists on how, where and when to deny applications, and there is no legal basis for denying permits based on cumulative impact of possible future projects. Most Corps districts try to minimize the impacts of specific projects. The result appears to be an incremental conversion of wetlands, without projection of cumulative impacts based on good

scientific studies that entail adequate field investigations.

Several administrative problems presently limit the program's effectiveness.These problems include significant variations in the way different districts implement the 404 program, the lack of co-ordination between some districts and other Federal and State agencies, inadequate public awareness efforts, and the low priority given monitoring and enforcement.

Finally Federal water projects planned and authorized by Congress prior to environmental protection policies of the last dozen years are generally not considered to pose a significant threat to wetlands, even though they may be exempted from 404 requirements. However, projects authorized 10 to 15 years ago that are now being undertaken often cause significant impacts to wetlands.

Section 10 Compared to Section 404

Section 10 applies only to navigable waters and gives the Corps authority to regulate activities, including dredging and filling, in wetlands that are below mean high water.

Section 404 applies only to the discharge of dredged or fill material into the waters of the U.S.. The range of activities Section 404 regulates is narrower than in Section 10, but it applies to much more territory.

Often, section 10 and section 404 permitted activities are processed concurrently. Although wetlands covered by section 10 are also covered by section 404, and although wetland protection is not a stated goal of section 10 permitting, section 10 has served to protect wetlands against some impacts that are not dealt with by section 404 permitting. Unlike section 404, section 10 does not exempt any activities from coverage.

Fish and Wildlife Co-ordination Act

Requires that wildlife conservation be given consideration equal to concern for other aspects of the water resource development projects of the Corps, Bureau of Reclamation, and other Federal agencies. This Act has empowered FWS and the NMFS to evaluate the impact on fish and wildlife of all new Federal projects and federally permitted projects, including projects permitted under section 404. FWS and NMFS have used their authority under this Act to attempt to limit adverse impacts of projects on wetlands.

Federal Land Policy and Management Act of 1976

This Act requires the inventory, assessment and planning of federal lands including the assessment of aquatic habitats.

The Coastal Zone Management Act of 1972

The Coastal Zone Management Act, adopted in 1972, marked the beginning of a national land use planning effort. The Act is essentially an invitation to states to join coastal area protective efforts. It was designed to assist states in preserving their coast lines by disbursing federal grants-in-aid to states enacting such legislation. In order to get federal funding, states are required to set up and administer an approved coastal management plan. Although state participation is purely voluntary, and there are no federal enforcement powers established, most current state coastal wetlands legislation was enacted in the early 1970s in direct response to this federal program.

Section 307(c) of the Coastal Zone Management Act coordinates state and federal regulation of certain water and wetland areas. If an activity requiring a permit under the Rivers and Harbors Act and the FWPCA is to be performed in a state's coastal area, the applicant for a federal permit must first obtain a state permit, before the federal permit will be issued.

Pursuant to the act, the Federal Office of Coastal Zone Management sets guidelines and provides funding for States to prepare CZM programs. Approval of a state CZM program after review by the OCZM enables a state to receive further funding for program implementation. States have used such funding to hire personnel, monitor and enforce CZM regulations, and provide technical

assistance to localities, among other purposes.

This source of funding is for certain types of wetland acquisition, It is administered by the National Oceanic and Atmospheric Administration, U.S. Department of Commerce. This program provides grants-in-aid of up to $6 million a year to aid States, on a 50-50 basis, to acquire, develop and operate estuarine sanctuaries which can be preserved as natural areas for scientific, cultural or recreational uses.

The Coastal Zone Management Program as amended provides up to 80% Federal matching grants for the development of coastal management programs. Most programs give high priority to wetland protection. In addition, the program provides 80% Federal matching grants for the administration and enforcement of coastal management programs including land use regulatory efforts. Twenty-eight States have received approval for such program administration grants (1988).

Most states have emphasized local and regional rather than state implementation of coastal zone policies although the state retains the power to directly regulate coastal areas in the event local units fail to adopt and administer regulations meeting State standards. States taking this approach include Maine, Oregon, Wisconsin, Minnesota, Virginia and Washington.

As its title suggests, this Act applies only to coastal states.

Funds are thus not available to inland states with significant wetlands in the Mississippi River basin, the Great Lakes, or in the prairie pothole region. Moreover, it does not address the substantial non-coastal wetlands of coastal states. Nonetheless, this Act provides the impetus for state coastal wetlands initiatives, as well as the ground work for further federal land planning efforts.

The National Environmental Policy Act of 1969 (NEPA)

Section 102(2) of the National Environmental Policy Act of 1969 requires federal agencies to submit an environmental impact statement to the President's Council on Environmental Quality if the activities to be undertaken or permitted by those agencies will "significantly affect the quality of the human environment".

Clean Water Act of 1977

This Act strengthened the Corps of Engineers regulation of wetlands adjacent to navigable waters. It authorized the EPA to approve State wetland programs to regulated isolated wetlands and wetlands adjacent to tributary streams and lakes in lieu of Corps regulation, in some instances.

The Act:

1. Established new standards for state regulation of dredge and fill pursuant to area wide water quality protection efforts (Section 208 programs)

2. Authorized $6 million for the National Wetland Inventory.
3. Authorized EPA to make available up to $400,000 per year for each State to assist in administration and enforcement of programs.
4. Strengthened State control over Federal projects affecting navigable waters and wetlands including maintenance dredging by the Army Corps of Engineers.
5. Required that a more extensive evaluation of wetland impacts be carried out for Federal projects authorized by Congress.

Section 208 of the Act directs the U.S. Fish and Wildlife Service to provide technical assistance to States in developing regulatory programs for the discharge of dredged and fill materials into waters of the U.S. including adjacent wetlands. It also authorizes the U.S. Fish and Wildlife Service to conduct the national wetland inventory.

Under s.401(a)1 of the Act, states may now grant or deny "certification" for federally permitted or licensed activity that may result in a discharge into the waters of the United States. Michigan is one of the few states thus far which has assumed responsibility for ratifying s.401 permits. The decision to grant or deny certification is based upon the state's determination of whether the proposed activity will meet state water quality standards.

State water quality standards, including anti-degradation standards, as adopted pursuant to s.303 of the Act, serve as the criteria for granting a water quality certification to an applicant for a federal discharge permit or licence. If the state denies certification, the federal permitting or licensing agency is prohibited from issuing the permit or licence. Because the state's water quality requirements or regulations may be more stringent than the federal standards, the state may exercise very broad interpretation to protect wetlands. Furthermore, the state may place conditions or limits on its certification action which are enforcible as conditions of federal permits.

According to the EPA handbook, Wetlands and 401 Certification, states can take immediate action to exercise their s.401 authority.

1. All states should begin by explicitly incorporating wetlands into their definitions of state waters in both water quality standards regulations, and in state 401 certification regulations.
2. States should develop or modify their regulations and guidelines for 401 certification and water quality standards to clarify their programs, their decision process, and to incorporate special wetlands considerations into the more traditional water quality approaches.
3. States should make more effective use of their existing

narrative water quality standards (including the anti-degradation policy) to protect wetlands.

4. States should initiate or improve inventories of their wetland resources.

5. States should designate uses for their wetlands based on estimates of wetlands functions typically associated with given wetland types. Such potential uses could be verified for individual applications with an assessment tool such as the wetlands evaluation technique or habitat evaluation procedure.

6. States should tap into the potential of the outstanding resource waters tier of the anti-degradation policy for wetlands. It may not be an appropriate designation for all of the states' wetlands, but it can provide excellent protection to particularly valuable or ecologically sensitive wetlands from both physical and chemical degradation.

7. States should incorporate wetlands and 401 certification into their other water quality management processes. Integrating this tool with other mechanisms, such as coastal zone management programs, point and non-point source programs, and water quality management plans will help fill the gaps of each individual tool and allow better protection of wetlands systems from the whole of physical, chemical and biological impacts.

An initial problem which undermines the effectiveness of this section lies in the tendency of most state water quality agencies to focus on the "chemical" aspect of water. Administrators must be aware that chemically clean water is not enough if aquatic organisms lack nourishment and habitat.

More consideration must be given to the role played by wetlands in ensuring more comprehensive water quality management which will meet the intentions of the Clean Water Act. Having said this, s.401 Water Quality Certification, remains a very powerful tool for protecting the water quality functions of wetlands.

The National Historic Preservation Act of 1966

Section 210(3) of the National Historic Preservation Act provides for the protection of significant historical and archeological data.

Endangered Species Act of 1973

The federal Act prohibits a federal agency from initiating or funding actions which jeopardize the existence of a threatened or endangered species of plant or animal in such wetlands. The Act also authorizes the U.S. Fish and Wildlife Service to keep a list of threatened or endangered organisms and to update the information as necessary.

However federal law does not fully protect threatened or endangered

species on private property.

Executive Order 11990

Promulgated in May 1977, Executive Order 11990, Protection of Wetlands, mandates that each Federal Agency in carrying outs its individual responsibilities take action to minimize the destruction, loss, or degradation of wetlands and to preserve and enhance the natural and beneficial values of wetlands.

This order specifically requires that agencies avoid undertaking or assisting new construction in wetlands unless no practicable alternative exists, that all practical measures to minimize harm to wetlands are included in the action, and that agencies consider a proposal's effect on the survival and quality of wetlands.

The order directs each agency to provide yearly public reviews of plans and proposals for construction in wetlands and Section 4 provides that: When Federally-owned wetlands or portions of wetlands are proposed for lease, easement, right of way or disposal to non-Federal public or private parties, the Federal agency shall:

1. reference in the conveyance those uses that are restricted under identified Federal, State or local wetlands regulations; and
2. attach other appropriate restrictions to the uses of properties by the grantee or purchaser and any successor, except where prohibited by law; or
3. withhold such properties from disposal.

Executive Order 11988

Promulgated in May 1977, Executive Order 11988, Flood Plain Management, requires each Federal agency to avoid direct or indirect support of flood plain development wherever there is a practical alternative. Insofar as many wetlands are located in flood plains, this order could influence much wetland development.

Executive Orders 11990 and 11988 apply to such Federal Activities as construction projects, acquisition and disposal of lands, and grants in aid and technical assistance to states and localities for such activities as land and water planning and the building of roads, sewers and water supply systems. They do not apply to federally permitted or licensed activities on private property.

PROGRAMS

As of September 30,1981, FWS administered, through ownership, lease or easement arrangements, close to 879 million acres of land in the National Wildlife Refuge System. Waterfowl Production Areas, and coordination areas. Of this total FWS estimates that approximately 33.4 million acres are wetlands, 28.7 million acres of which are in Alaska.

Migratory Bird Hunting and Conservation Stamps

Since 1934, FWS has sold stamps. Proceeds are used to acquire

habitat for migratory birds. From the inception of the program to June 1989, more than 83 million stamps were sold, worth over $240 million and accounting for the purchase of more than 2.5 million acres of waterfowl habitat, a large portion of which is wetland.

Wetlands Loan Act

A related source of funding is the Wetlands Loan Act of 1961, which provides for interest-free loan advances toward wetland acquisition and easement. A total ot $200 million has been authorized by this program, out of which approximately $147 million has been appropriated through fiscal year 1983.

The Land and Water Conservation Fund Act

The Land and Water Conservation Fund Act of 1965 funds the purchase of natural areas, including wetlands.

Through the fund, matching grants are given to States, counties and localities for outdoor recreation purchases. From 1965 through the end of 1989, 137 projects involving 61,585 acres of wetlands were given $40.7 million from this funding source.

This has been a source of funds for state and local acquisition of outdoor recreation and open space areas. To qualify for funds, States must submit a comprehensive statewide outdoor recreation plan. While this program is not directed to wetland areas, some

wetland acquisitions have been carried out under the broad objectives of the Act.

The Unique Wildlife Ecosystem Program

The Unique Wildlife Ecosystem Program attempts to preserve unique and nationally significant wildlife ecosystems that are required to maintain viable communities within their historic range. The program is administered by the U.S. Fish and Wildlife Service.

Ecosystems are identified primarily according to their wildlife value, overall species diversity and imminence of threat. Under existing laws, these areas must remain a part of the National Wildlife Refuge System, with ultimate responsibilities retained by the Secretary of the Interior. The cost of federal management is prohibitive. Therefore, on a case-by-case basis, a cooperative management agreement with a state or local government or conservation organization is considered.

Unique Wildlife Ecosystems are protected through easements, land acquisition or other agreements that ensure the safety of wildlife on imminently threatened lands.

All acquisition procedures under this program and also the Waterfowl Production Area Program are conducted in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act (1970). The U.S. Fish and Wildlife Service endeavors

to negotiate with landowners on a willing-seller basis. All properties are appraised and fair market value offers are then made to landowners. The degree of public use allowed is determined by the compatibility of such use with wildlife populations.

Water Bank Program

The Federal Water Bank Program, administered by the Agriculture Stabilization and Conservation Service of the U.S. Department of Agriculture, provides positive incentives for landowners to maintain quality wetlands. The program is designed to preserve, restore and improve wetlands in migratory waterfowl nesting and breeding areas, while providing environmental and agricultural benefits.

To be eligible for the program, the land must be privately owned inland-wetland areas of a certain type and size that "in the absence of inclusion in the program, a change in use could reasonably be expected which would destroy its wetland character." Other eligible land includes privately owned land, adjacent to eligible wetlands, which is essential for the nesting, breeding, or feeding of migratory waterfowl. Normaly, in order to be eligible for participation, landowners must agree to designate a total of at least 10 acres in a conservation plan developed in cooperation with the soil and water conservation district in which the farm is located. Acreage can be less than 10 acres upon recommendation from SCS.

Persons owning eligible wetlands may enter into 10-year rental agreements, developed with the technical assistance of the SCS and the DNR, provide annual rental payments for wetlands and the adjacent upland habitat needed to make a good waterfowl breeding area. The landowners protect the Water Bank land from uses incompatible with wildlife values. Cost sharing assistance is available if needed, to make the unit more suitable as nesting habitat. Cost sharing grants generally cover 75% of the cost, to a maximum of $2,500.

Annual rental payments in 1979 were $5 per wetland acre, ranged from $10 to $15 per non-cropland acre, and averaged $40 to $50 per acre for cropland. These payments are clearly too small to halt landowners eager to convert wetlands, But there are incentives for persons concerned about wildlife habitat to manage their land accordingly.

While agreements have been in effect in 15 states, the program is concentrated in the prairie-pothole region of Minnesota, North Dakota and South Dakota.

From program inception in 1972 through 1988, congressional appropriations totalled over $150 million, with a little over 285,00 acres of wetlands and 600,000 of adjacent lands being covered by the 8,000 plus agreements that have been signed. Appropriations in 1982 were $8.8 million.

The Federal Aid to Wildlife Restoration Act (Pittman-Robertson Act)

This Act is the principal mechanism for Federal assistance to states for acquisition, restoration and maintenance of wildlife areas including wetlands. Grants for up to 75% of the cost of projects are available from this fund, which is derived from Federal excise taxes on the sale of firearms and ammunition.

U.S. STATE LEGISLATION

Almost all 30 coastal States (including those bordering the Great Lakes) have programs that directly or indirectly regulate the use of their coastal wetlands. Only a few inland States have specific wetland programs.

In a 1984 study of all 30 coastal states, the majority claimed high state coverage of coastal wetlands. About 20 indicated that their programs are more dominant than the 404 program in their state; half of these states said the 404 program was completely redundant. Other coastal states indicated that 404 plays an important role in protecting coastal wetlands.

The coverage of inland wetlands by costal states is varied: 17 states indicated that their inland wetlands are not well protected by state programs. 7 indicated that they provide protection for

most such wetlands. For the 20 inland states, programs provide little coverage to wetlands outside of small areas under direct state management. Isolated wetlands generally are not well regulated in most states.

States differ greatly in the types of wetlands they have, the wetland policies they employ, the problems they experience and their attitudes toward wetlands and the 404 program.

Alaska

Alaska requirements for oil and gas activities on State lease sale tracts of wet tundra often duplicate requirements for the activities but is conducted by four State agencies. The review process does not involve the general public or local governments; the 404 review of the same project application may allow for such input.

California

The California Department of Fish and Game reviews proposals for projects that may alter streambeds and impact upon fish and wildlife. The department proposes modifications and encourages the applicant to incorporate them into the project.

The California 1977 Policy for Preservation of Wetlands in Perpetuity has no direct mechanism for implementation.

The California Coastal Commision regulates some wetland-alteration activities in the coastal zone where the boundary is subject to political manipulation. The California Legislature has changed the boundary several times. The only statewide protection given to wetlands is provided indirectly through water-quality authorities who require permits for the discharge of pollutants into state waters. However, the effect of discharges upon wetlands usually is not a separate consideration in the permit process, which focuses on water quality, especially the quality of water used by people. Wetland habitat values are rarely considered.

Connecticut's Wetland Protection Program

1. **Inland Wetlands and Water Courses Act of 1974**

CONN. GEN. STAT. Sec. 22a-36 - 22a-45

Municipal Inland Wetland Agencies

Department of Environmental Protection

The Connecticut Inland Wetlands and Water Courses Act of 1974 provides for the protection, preservation, maintenance and wise use of the state inland wetland and water courses by:

- Preventing loss of fish and other beneficial aquatic organisms, wildlife and vegetation and the destruction of their habitats;
- Protecting the quality of wetlands and water courses; and
- Protecting the state's potable freshwater supply from drought, overdraft, pollution, misuse and mismanagement by balancing

Connecticut's need for economic growth and land use while protecting its environment and ecology.

The Connecticut law is a combination of enabling legislation and legislation specifying:

1. regulations for wetlands uses and standards;
2. authorizations to a designated agency to inventory wetlands and water courses.

While the Department of Environmental Protection must develop comprehensive programs and promulgate regulations to protect wetlands and water courses where municipalities fail to do so, local inland wetlands agencies are encouraged to develop regulations for activities affecting wetlands and water courses within their jurisdiction. No regulated activity can be conducted upon any inland wetland or water course without a permit.

Both the DEP and local inland wetland agencies exercising their statutory authority are empowered to review and regulate a proposed activity within a wetland or water course to assess and control the impact which the activity may have on water quality, wildlife and other resources.

The DEP or IWA may hold a public hearing pending inland wetland applications. In making a final decision on a permit application, the DEP or local IWA must consider the environmental impact of the

proposed action including:

1. Effects of the wetlands or water courses capacity to support biological life, prevent flooding, supply water, control sediment, facilitate drainage and promote public health and safety.
2. Alternatives to the proposed activity which might enhance environmental quality or have a less detrimental effect.
3. The relationship between the short-term uses of the environment and the maintenance and enhancement of long-term productivity.
4. Irreversible and irretrievable commitments of resources.
5. Character and degree of injury to the property.
6. The suitability of the proposed action.

The law applies to all non-federal public and private wetlands and water courses.

The following operations and uses are permitted:

1. Grazing, farming, nurseries, gardening, and harvesting of crops and farm ponds of three acres or less.
2. Residential home activities for which a building permit has been issued or are conducted on a subdivision lot.
3. Boat anchorage or mooring.
4. Uses incidental for the enjoyment and maintenance of residential property.
5. Construction and operations by water companies.

The local IWA or DEP regulates those activities which remove material from, deposit material in, obstruct, alter or pollute inland wetlands and water courses.

Florida

The Warren Wetlands Protection Act of 1984

This statute incorporates major improvements to Florida's wetlands protection law. At the time of its inception it was estimated that 40 per cent of Florida's 20 million acres of wetlands had already been lost. In the two years before the introduction of this legislation, 7,500 acres of wetlands were being destroyed per year on the basis of issued permits.

The legislation determines what constitutes a wetland by reference to a vegetative index including several hundred species of plants. The plants on the list are presumed to require saturated soils or to be associated with such soils. The legislation also eliminates the artificial distinction between submerged and transitional zones, and requires the Department of Environmental Resources to use a method to establish the line between uplands and wetlands. This is especially important in broad coastal marshes in south-west Florida. The addition of the Everglades to the definition of "waters of the State" assures that this vast Florida marsh is included in the legislative jurisdiction. Jurisdiction in this area is determined by reference to the vegetative index.

The legislation also remedies department jurisdiction in lakes. When draught lowers water levels in the wetlands, vegetation dries up and disappears. Sometimes it is hard to tell where waters of the State end and private uplands begin. In these cases, the Department now may exert jurisdiction to the "mean" or "ordinary" high-water line, when that line is landward of the vegetation line.

Although the vegetative index is the primary indicator of jurisdiction, the legislation allows the presence of hydric soils - soils which form under saturated conditions - to be used as an indicator when an applicant for a permit disagrees with decisions made in the permit process. The factors to be considered include:

1. The effects of the project on fish, wildlife and habitat, including endangered species;
2. Health, safety, or welfare;
3. The effect on navigation;
4. Whether the project might cause erosion or shoaling;
5. Adverse effects on fishing, both sports and commercial;
6. Whether the project will be temporary or permanent; and
7. Its effect on significant historical or archaeological resources.

The legislation allows for the adoption of stricter permiting criteria for outstanding Florida waters, areas of critical state concern, aquatic preserves, and resource planning in management areas. In deciding to grant or deny a permit, consideration shall

be given to measures which mitigate adverse effects that may be caused by a project.

The legislation also allows for consideration of the equitable distribution of projects. Florida has been nibbled to death by an endless series of small, individually insignificant projects. By and large the old legislation was helpless in curbing such projects. And now, in addition to looking at the effect of the new project, one can consider the effects of past and future projects in the same area. This could become a powerful tool for environmental protection.

In the area of agricultural land the Act gives the authority to regulate agriculture to the water management districts. In response to the concern that the water management districts would not be able to regulate agricultural activities effectively, a regulation was promulgated requiring that the regulation of agriculture by the water management districts must meet at least the same standards as the regulation of other uses of wetlands by the Department of Environmental Regulation.

Such standards are embodied in the following directives to the water management districts:

1. Consider the impact on fish and wildlife when reviewing permits for agriculture;
2. Assure that state water quality standards are met for

both surface and ground water. Surface water standards must be met at the point of discharge from agricultural water management systems.

3. Protect special areas of concern such as aquatic preserves, outstanding Florida waters, the Everglades, Steep Head Ravines, and environmentally endangered lands or environmentally endangered inlands. Special consideration is to be given to areas of critical state concern and resource planning and management areas.
4. Give special consideration to the ecological values of the wetlands affected by construction of the irrigation or drainage ditches.
5. Encourage public participation in developing and adopting rules.

Some of the shortcomings delineated below illustrate the potential problems with this legislation. Nevertheless, the Act does provide a useful working example of wetlands protection legislation and some,of the substantive matters that must be addressed therein.

There are serious concerns that the water management districts will not be able to regulate agricultural activities effectively. (One of the central concerns regards several questions over a lack of clarity regarding process issues.) The principal concern is over how agricultural interest would actually be regulated. Similar concerns would likely be voiced by developers since the rule making

process and the interpretation of which are to be accepted and which ones are to be rejected, is still unclear. There are further concerns over the criteria dealing with the nature of the appeals process. Nevertheless, the legislation vastly improves previous attempts on behalf of the Department of Environmental Regulation to protect remaining wetlands and will likely serve as an important wetlands protection tool.

The South Florida Water Management District is authorized to protect water resources and to ensure that construction of surface-water management systems do not adversely affect water resources. The district has authority to designate conservation areas; however, since it can only obtain easements for waterflow, damage to wetlands from development can occur.

The State general permit program of the South Florida Water Management District has notification requirements that differ from those of the Corps. To obtain a general permit, an applicant must have the project reviewed to ensure that certain standards will be met.

Florida provides a good example of a State that does not regulate some of the activities that threaten wetlands the most. Although the Florida dredge and fill laws do not regulate drainage activities, the South Florida Water Management District does have some control over drainage activities by requiring permits for the

construction and operation of surface water management systems. However, exceptions are provided for agriculture and silvicultural activities.

Georgia

The Coastal Marshlands Protection Act is under the administrative direction of a three-member committee made up of the top resource managers in the Department of Natural Resources (the Commissioner, the Director of Game and Fish Division, and the Director of Environmental Protection Division). The committee, through monthly "trustee" meetings, practices "participatory management" of the marshes and gives corrective program guidance to staff. By law,the Committee issues all orders and grants, and denies, revokes or amends permits.

The Department of Natural Resources reviews all federally funded projects in the coastal counties. The comments are sent through the A-95 clearing-house.

Even though Georgia claims ownership to virtually all tidelands and waterbottoms, and contends that the public trust applies to all such areas, it does not have any statutory authority in non-tidal wetlands. Georgia law provides that the state owns the bed of all navigable non-tidal streams. However, ther are certain exceptions to this provision and each must be considered on a case-by-case basis. Even in tidal marshes, certain activities of Federal and

State agencies, as well as public utilities, are exempted from the law.

Illinois

Illinois does not have any state wetlands legislation nor do any of its permit programs directly consider wetlands. Regulations concerning rivers, lakes and streams require that permits be granted before any activity (which affects the waters of the state) is undertaken. The Interagency Wetland Policy Act (1989) speaks to state organized projects which may have an effect on wetlands. Legislation reiterates president George Bush's commitment to "no net loss" but limits itself to measurement of those losses only with respect to state projects. Thus, the practical application (of the Illinois regulatory regime) only includes state activities and wetlands associated with public navigable waters.

Indiana

The state of Indiana has no wetland legislation. However, it does have two state controlled permit programs which impact upon wetlands. Those programs are outlined pursuant to the Indiana Flood Control Act and the Indiana Lake Preservation Statutes. The wetlands covered by this legislation include those within the one hundred year floodway established by the state and those wetlands which are at or below the water line, i.e. the legally established high water line. Activities regulated include those which are at or lakeward of the legal lake level, those which involve the

construction of structures, deposits and excavations in the floodway, and those which change the level of water or the shore line of a fresh water lake by excavating or filling. Activities which are automatically exempt include those which are involved with reconstruction or maintenance projects on streams in rural areas where a stream is less than 10 miles in length, or any land bordering or in Lake Michigan. Indiana is currently in the process of creating state-wide and general permits for many activities.

Permit processes include making determinations of benefits and potential impacts. The standards include requirements that the project will not adversely affect the efficiency or capacity of the floodway, will not result in hazards to the public, and will not have detrimental effects on fish, wildlife, and botanical resources. An investigation of the merits of the case requires that impacts on natural resources, scenic beauty, or lake contours be addressed. Legislation is weak on enforcement as there are no stipulations for enforcement of permit conditions. However, the legislation allows for court actions for damages. The state does offer income tax credits for wetlands which are contributed to or transferred by reduced price sale to the state. This will result in a tax reduction from state and federal income taxes.

Iowa's Protected Water Area Program

Protected Water Area Study

S.F. 2267 Sec. 2C (1978)

H.F. 734 Sec. 4-1(7) (1979)

State Conservation Commission:

Iowa does not have an enabling act for the protection of wetlands, Very little of the state's existing legislation specifically protects, preserves, and enhances the natural character of the land areas adjacent to lakes, rivers, and marshes.

In 1978 and 1979, the state legislature authorized an appropriation to the Iowa Conservation Commission (ICC) for the establishment of a Protected Water Areas (PWA) Study aimed at identifying and developing workable methods to preserve, protect and enhance a limited number of the more outstanding native areas adjacent to the state's rivers, streams, marshes and natural lakes.

Since the idea of a PWA Program was first conceived, the Iowa Conservation Commission has emphasized the need to coordinate existing legislation and management programs to implement a PWA Program in Iowa. One initial effort would be to amend the Iowa Scenic Rivers Act to include protection of lakes and marshes in addition to the protection it provides for rivers. Additional alternatives presently available to resource managers could also help to meet the needs identified in the PWA study.The alternatives available could include the following mechanisms and supportive legislation:

1. Fee Title
2. Land Acquisition

3. Conservation Easements
4. Leases
5. Local Zoning
6. Inclusion in State Preserve System
7. Tax Incentives

In addition to the existing tax incentive programs, a Wetlands Tax Incentive Bill was recently introduced in the Iowa legislature. This Bill would provide for the protection of wetlands, recreational lakes, forest cover, rivers and streams and their banks and open prairies through the establishment of a tax incentive program for the protection of these areas. The program would be administered by the county governments who are more closely involved with wetlands protection. While the Bill received approval from the Iowa House of Representatives in the 1988 legislative session, time did not allow for action by the Senate.

Maine's Inland Wetland Protection Program

1. **Stream Alteration Act**

ME. Revised Stat. tit. 12 Sec. 7776 - 7789 (as amended)

This Act declares it unlawful to dredge, fill or erect a permanent structure in or on any river, stream or brook, as defined, or on the land adjacent to these waterways in a manner that any dredged spoil, rill or structure may fall or be washed into these waters. A permit must be obtained before any of these activities can be conducted.

While wetlands are not specifically defined in this statute, non permanent or intermittent water courses are included in the definition of rivers, streams or brooks. However the law does not apply to river, stream or brook crossings in connection with public work projects which alter no more than 300 feet in any mile of shore not to private crossing or dam projects which alter not more than 300 feet in any mile of shore.

2. **Great Ponds Act**

ME. Revised Stat. tit. 38 Sec. 386 - 396

Lead Agencies

Department of Inland Fisheries and Wildlife (Stream Alteration Act)

Board of Environmental Protection (Great Ponds Act)

Maine regulates inland wetlands through the Stream Alteration Act and the Great Ponds Act. Some additional protection of inland wetlands is also provided for in Maine's Mandatory Shoreland Zoning and Subdivision Control Act (Title 12, Chapter 424). Shoreland areas are subject to zoning and subdivision controls under this Act. Municipal Governments are authorized to plan, zone and control the subdivisions of land. This jurisdiction often includes the shoreland areas of inland bodies of water protected under the Great Ponds Act and Stream Alteration Act. While local jurisdiction is limited to the shoreland of zoned areas, some

overlapping does occur. Most shorelands of great ponds, as defined, have been zoned.

The Great Ponds Act states that great ponds provide great scenic beauty and unique characteristics, recreational, cultural, historical and environmental values of present and future benefit.

The Maine law is an enabling law authorizing the Board of Environmental Protection to establish critical classifying great ponds according to their trophic conditions and stages of trophic development.

The law is administered by the Department of Environmental Protection. Proposed alteration activities require application of a permit to the Board of Environmental Protection before the activity can commence. The following are regulated activities:

1. Dredging or removing materials from below the normal high water line.
2. Constructing or repairing any permanent structure below the normal high water line.
3. Depositing any dredged soil or fill material below the normal high water line.
4. Bulldozing or scraping on land adjacent to a great pond so that material may fall or be washed into a great pond

A permit will be granted by the Board, in consultation with local

municipalities, if the proposed activity will not unreasonably:

1. Interfere with existing aesthetic, recreational, navigational or scenic uses.
2. Harm the natural environments of the great pond or of any stream flowing into or out of the pond.
3. Cause soil erosion.
4. Harm any aquatic or wildlife habitat.
5. Interfere with the natural flow of waters.
6. Lower the quality of the water.

Enforcement is delegated to inland fish and game wardens, coastal wardens and all other enforcement officers.

Any person who violates the law is guilty of a class E crime and punishable by a maximum fine of $255,000.

Maryland

In 1970, Maryland officially acknowledged a commitment to preserve and to protect its remaining tidal wetland resources.

Between 1971 and 1977 the Maryland Wetlands Program took action on 2,500 wetland licenses and several thousand other reviews with real or potential wetland involvement.

Both public and private wetland acquisition programs exist in Maryland. The public effort is largely conducted by the Department

of Natural Resources Program Open Space which seeks to acquire valuable wetlands contiguous to State parks, State forests and wildlife management areas. Other major acquisitions have been made by the U.S. Department of the Interior (Fish and Wildlife Service), the National Park Service and by the U.S. Department of Defense on military reservations.

Philanthropic and environmental organizations such as the Nature Conservancy, Maryland Environmental Trust, Delaware Wildlands, Inc., and the National Trust for Historical Preservation have been active users of perpetual or term-negative easements for wetland preservations. In Maryland, wetlands acquired by private groups are frequently subject to less public pressure for access and alteration.

Massachusetts Wetlands Protection Program

1. **Wetland Protection Act of 1972** (as amended through 1979)
Mass. Gen. Laws ch. 131 Sec. 40

2. **The Inland Wetlands Act of 1969** (amended through 1979)
Mass. Gen Laws ch. 131 Sec. 40A
Massachusetts was the first State in the U.S. to recognize wetland values with a state-level statute passed in 1963. This law simply stated that no one may fill, dredge or remove a coastal wetland without a permit from the State Department or Natural Resources.

The first Inland Wetlands Protection Law, the Hatch Act, passed in 1965 made Massachusetts the first state to pass legislation regulating wetlands alteration. At that time, the program was administered through the Department of Natural Resources (DNR). The program has since been reorganized, refined and improved.

In 1972, the Hatch Act was combined with the Jones Act, an Act passed in 1963 to regulate dredge and fill activities in coastal wetlands. The union of these Acts formed the present State Wetland Protection Act now administered through the Department of Environmental Quality Engineering (DEQE) and providing for local regulation or prohibition of any alteration activity in all inland and coastal wetlands,lands subject to flooding and other areas of the state.

In carrying out its responsibilities under the Wetland Protection Act, DEQ's goal is the protection of certain environmental resources and conservation of wetland resources through a program that includes helping conservation commissions administer the Act, reviewing local orders of conditions developed by conservation commissions, and serving as the appeal agency in a wetland case, if necessary.

The law authorizes local conservation commissions to regulate work that involves filling, removing, dredging or otherwise altering wetlands. Such activities are subject to an "Order of Conditions"

issued to the person proposing the work by the local conservation commission. The Act seeks to protect important resources, and by law encompasses the following six interests: public and private water supply, flood control, storm damage prevention, prevention of pollution, protection of land containing shellfish and protection of fisheries.

A Conservation Commission has 21 days in which to advertise and hold a public hearing concerning any complete notice of intent for wetland alteration. The Commission has the right of access to private property to carry out its duties. If the local Commission determines the wetland is significant, the Commission must impose conditions to protect the interest described in the Act.
The Commissioner of DEQE may back the local Commission or may find differently from the Commission and issue a superceding order which nullifies the Commission's order.

Certain activities are exempt from the Act--land in active agricultural production, mosquito control work and replacement of damaged public utilities.

This entire program has served as a model for many other states interested in enacting wetlands legislation.

In addition to the Wetland Protection Act, an Inland Wetland Act was passed in 1969 authorizing the State Department of

Environmental Management (DEM) to designate specific inland waters or wetlands, including flood prone areas, and issue orders restricting activities in these areas. The Act authorizes the DEM to determine significant wetlands to be permanently restricted from dedging, filling and other development activities. The Inland Wetland Act established a tax incentive program to encourage private citizens to protect their land without loss of value, enjoyment or title by allowing them to transfer or sell their development rights to local communities or a private trust. This ensures the private citizen and the DEM that the wetlands existing on the landowners property will remain open and undeveloped. Certain activities permitted through DEM, however, may still require a DEQE permit. The Massachusetts Wetland Protection Act authorizes the Commissioner of the DEQE to promulgate rules and regulations for protection of wetlands. Regulations are provided separately for inland and coastal wetlands.

Local conservation commissions issue permits regulating dredge and fill activities in all wetlands. Notice and appeal is through DEQE.

Any person who intends to alter any wetland must file a written "Notice of Intent" with the conservation commission including a plan describing the activity and its effect on the environment.

Typical activities regulated by the Act include filling, clearing land, removing muck or peat, grading, digging gravel, dumping, excavating, erecting a building, constructing or paving a parking area or roadway, installing drainage ditches or culverts, constructing groins or jetties, damming or changing the course of a stream, installing a dock or pier or dredging a boat slip in fresh or salt water.

Certain activities relating to agriculture, mosquito control and maintenance of drainage and flooding systems of cranberry bogs and most maintenance of existing utilities are exempt.

3. Inland Wetlands Act

The Inland Wetlands Act authorizes the Board of Environmental Management to adopt regulations restricting or prohibiting dredging, filling, removing or altering or polluting wetlands to protect public and private interest, wildlife, fisheries, water resources, floodplain areas and agriculture. Once inland wetland or floodplain areas have been restricted, no obstruction or encroachment can be put in place. The Commissioner of Environmental Management can amend an order of restriction subject to a public hearing.

In addition, through the adoption of Orders of Restriction, specified activities or uses will be regulated, restricted, or prohibited.

Statewide land use laws are just as open as local regulation to political attack, but the political arena is bigger. In individual cases, local officials or State officials may prove more able to resist pressures to develop wetlands. In some cases, only the Federal Government will be able to rise above the pressure. However, governments may sometimes be the bad actors in disturbing wetlands.

The law in Massachusettes in this area is horribly unsettled, but one implication of the doctrine appears to be that the land may belong to private persons, but the water belongs to the public.

Michigan Inland Wetland Protection Program

Goemaere-Anderson Wetland Protection Act of 1980

Act No. 203, Public Acts of 1979, January 1980 Approval.

The law establishes a victory for the state which had unsuccessfully introduced wetlands legislation for the past 12 years. Previous to this legislation, wetlands were regulated through a variety of piecemeal legislation (Inland Lakes and Streams Act, Shorelands Protection and Management Act). The new legislation will now provide protection for isolated wetlands and will cover all wetlands in the state.

The Goemaere-Anderson Wetland Protection Actprovides for the preservation, management, protection, and use of wetlands; requires permits to alter certain wetlands; provides for a plan or

preservation, management, protection, and use of wetlands and provides for remedies and penalties.

The Department of Natural Resources is authorized to promulgate the rules and regulations for the preservation, management, protection and use of wetlands. Those municipalities which choose to enact ordinances regulating wetlands may provide for more stringent definition and regulation of wetlands than the state program provides. In regulating wetlands, the municipality and the Department of Natural Resources must develop an agreement with each other to exchange information which will assist the municipality in administering its ordinance. This agreement also authorizes the municipality to issue permits for proposed activities in wetlands. The process allows for Department review of proposed permit applications. If the municipality does not have an ordinance regulating wetlands, it is still given the opportunity to review and make recommendations on permit applications. The Department or municipality has the option of holding a public hearing on the proposed permit application in the county in which the activity is to take place.

Any person proposing any of the following activities must first obtain a permit before conducting the activity:

1. Deposit fill material in a wetland,
2. Dredge, remove or permit the removal of soil or minerals from a wetland,

3. Construct, operate, or maintain any use or development in a wetland,
4. Drain surface water from a wetland.

The applicant must include an environmental assessment of the proposed use or development:

1. Effects upon wetlands benefits;
2. Effects upon water quality, flow, and levels; and
3. The wildlife, fish, and vegetation within a contiguous lake, river, or stream.

The law applies to all private and non-federal wetlands in the state. The following uses are allowed in a wetland without a permit:

1. Grazing
2. Farming, horticulture, silviculture, lumbering and ranching activities,
3. Construction or maintenance of farm or stock ponds
4. Maintenance, operation or improvement of an agricultural drain for the production or harvesting of agricultural products.

Aside from having solid direct wetlands legislation, Michigan was the first, and appears to be the only state which has formally assumed the permiting responsibility implemented by the Clean Water Act of 1977. To reiterate, this legislation encourages and allows states to assume the federal dredge and fill permiting

responsibility from the Army Corps of Engineers within certain state waters. The EPA approved the Michigan Department of Natural Resources Program for Water Management in August 1984. The EPA determined that Michigan had adequate authority to issue permits which comply with all pertinent requirements of the Clean Water Act including the 404(b)(1) guideline; had authority - including civil and criminal penalties - to abate violations of the permit or the permit program; and had authority to ensure that the administrator, the public, any other affected state and other affected agencies are given notice and opportunity to comment on each permit application. Through these programs Michigan administers an effective wetlands protection framework. The state processes approximately 6,000 construction permits a year; approximately 3,000 of these are s.404 permits in the state's assumed waters. By federal statute, the state cannot assume the 404 permit program in all waters of the state. The Army Corps Engineers retains the permit program in the navigable waters and those waters that reasonably could become navigable, as well as the wetlands adjacent to both.

Minnesota's Inland Wetlands Protection Program

The Wetland Enhancement, Preservation and Protection Act (1991)

At the time of writing, the Wetland Enhancement, Preservation and Protection Act had gone through the House of Representatives and was read for the second time in the Senate of the state of Minnesota. In its present form it is still subject to some, albeit

small, ammendments. This legislation is being passed for the purpose of using water resources of the state of Minnesota in the best interests of its people while recognizing conservation imperatives. The state has committed itself to a "no net loss" policy where quantity, quality and biological diversity is to be preserved. In part this policy will be accomplished through restoration and enhancement techniques.

According to the legislation, wetlands of the state must not be drained or filled, wholly or partially, unless there are no feasible and prudent alternatives and, unless they are replaced by restoring or creating wetlands areas of at least equivalent size, quantity, character and diversity.

The Board of Water and Soil in the state is the application review and permit granting body that oversees the protection of wetlands. Each local water authority is to develop a comprehensive management plan that covers all public waters in its jurisdiction. Each county must identify high priority areas for wetlands restoration and must develop a local mitigation plan to deal with the development of existing wetlands.

Once an application is made for development of a wetlands area a mitigation plan must be developed. It must be guided by the following principles in descending order of priority:

1) avoiding the direct or indirect impact of the activity;

2) minimizing the impact by limiting the degree of activity;
3) rectifying the impact by repairing, rehabilitating or restoring the wetland environment;
4) reducing or eliminating the impact over time by preservation or maintenance operations;
5) compensating for the impact by replacing or providing substitute wetland resources or environment.

Any mitigation activity must be within the same watershed or county as the impacted wetland. As well, if the wetland was located on non-agricultural land, then the ratio must be two acres of mitigated wetland for each acre of drained or filled wetland.

Mitigation plans, once developed, are reviewed by the Board of Soil and Water to see that they comply with state requirements. The methodology to be used in identifying and evaluating wetland functions must be within the state's purview since a technical evaluation of the plan will be undertaken. To guarantee successful completion of mitigation, mitigation must be completed prior to or concurrent with the actual draining or filling of a wetland, or a security deposit acceptable to the local government must be given.

Violations of the Act will result in requiring the violator to restore or replace any diminished or destroyed wetlands. Such violation constitutes a misdemeanor, but the penalty may be reduced by fifty per cent if restoration is undertaken within thirty days of notice.

The Act also sets up a system through which farmers can receive payments to have permanent preservation easements based on their land title to protect wetlands. The easements would prohibit draining, ditching, filling, burning vegetation or alteration of wildlife habitat. One problem with the plan is that payments can be stretched out over a period of years, and once funding runs out for the program and payment has not been made in full, the easement can be lifted, and activities on the wetland can continue. One other requirement of the Act is the establishment of a Wetlands Heritage Advisory Committee. It is to be composed of one representative from each of a statewide sportsman's organization, a statewide conservation group, a land developer, a natural sciences academic, farm organizations, and an agricultural commodities group. They are to advise the commissioner on the development of the rules, and identify strengths and weaknesses.

There are exemptions from prohibitions of activities in wetlands areas. They include: agricultural uses, road building or maintenance, and timber management that does not result in drainage or filling.

The Minnesota legislation is strong on legislative intent and definitions. However, it could use some strengthening on enforcement and penalties for violation. As well, some of its weakening exemptions should be removed.

Minnesota's Public Waters and Wetlands Permit Program

MINN. Stat. Chap. 105.37 - 105.391

Minnesota has several programs relating to inland wetlands protection which are administered through the Department of Natural Resources (DNR), Division of Waters. The DNR has classified all wetlands, streams and lakes which have been identified as serving a beneficial public purpose. However, the counties have not responded enthusiastically to the prospect of working on inventories and potentially assuming the responsibility of regulating certain classes of public waters. This delay in the public waters inventory process has postponed both the advent of more certainty in the permit program and acquisition under the State Water Bank Program.

Both the Water Bank Program and the Public Waters and Wetlands Permit Program are contained in Minnesota's Chapter 105: Water Resources; Conservation. Chapter 105 provides for the state control of 1) all public waters and wetlands and 2) any activity which will change the course, current or cross section of public waters or wetlands.

The Public Water and Wetlands Permit Program covers designated type 3, 4, 5, wetlands which are greater than 10 acres in rural areas and greater than 2.5 acres in cities. Activities regulated include any work that would change or diminish the "course, current, or cross section" of a water course or wetland. Draining, filling,

dredging, channelizing, construction of dams, harbours, or permanent off-shore structures, construction of bridges and culverts below the high water mark are all regulated. Exemptions include streams with watersheds less than 3 200 acres, debris removal, beach sand blankets, repair of public drainage systems, boat ramps, docks and floating structures. No state permit is required for Indian tribes, bands or communities for work on a reservation. Permit requirements apply to all public and private entities. The application fee is $75.00, as much as $5,500 can be charged for certain projects. Applicants may also have to cover public hearing costs. The permit requirement places the burden of proof on the applicant to show that the proposed project is reasonable, practical, and will adequately protect public safety and promote public welfare. Lack of other feasible alternatives, potential impacts to the water of the state and the protection of public health, safety and welfare must be considered. Permits authorizing drainage require replacement with wetlands of equal or greater value. Any violation of the statute results in a misdemeanor.

Minnesota's Public Waters and Wetlands Permit Program prohibits any work done below the ordinary High Water Mark of public waters and wetlands without first obtaining a DNR permit. Typical examples of projects requiring a permit include: draining, filling, dredging, channelizing, construction of dams, harbours or permanent off-shore structures, placement of bridges and culverts, and installation of

water and sewer crossings.

Some projects will not require permits from the DNR if certain conditions are met. Local units of government and other agencies, however, may still require permits for these projects.

The Water Bank Program

MINN. Stat. Chap. 103G.

The Water Bank Program provides for the protection and preservation of state wetlands. The program authorizes the DNR to promulgate rules and regulations to protect designated wetlands and supplement the landowners for a period of 10 years for the conservation of wetlands.

If a wetland qualifies for the program, the landowner must be able to show that drainage of the area would not violate any property agreements or adversely affect the rights of other landowners (if any), that outlet rights can be obtained by a statement demonstrating why proposed drainage would be profitable and a statement by a Professional Soil Classifier that the area would be high quality cropland. From this information a determination of eligibility is then made.

If the area is eligible, the Department of Natural Resources is then obligated to offer the qualifying landowner, within 60 days

after applying for a permit to drain, the following choices of compensation:

1. An offer to place the area in the State Water Bank Program.
2. An offer to purchase the area.
3. An offer to acquire an easement on the area, and/or
4. An offer to lease the area.

If within 60 days of receipt of a complete permit application the DNR does not offer the landowner the compensation choices as outlined, the landowner is legally entitled to drain the wetland. If the area is not eligible for the State Water Bank Program, the DNR must also inform the landowner of this and provide notice that he has the right to demand a hearing.

Terms for water bank or lease agreements generally restrict the use of the wetlands from all agricultural purposes. The adjacent lands that may be included in the agreement can be managed differently and the DNR may negotiate and outline a conservation plan for these lands.

Mississippi

The Mississippi program has a reporting requirement for exempted activities. In addition, exempted activities must be granted an exemption and must still comply with the public purpose of the

wetlands law, which is to preserve coastal wetlands except where a higher public interest is served that is consistent with the public trust. The Mississippi program also has a mechanism to eliminate unnecessary wetland alteration from activities of state agencies. Four agencies must approve state activities.

New Hampshire

Fill and Dredge in Wetlands; Rules and Regulations

N.H. RSA 483-A

The New Hampshire Wetlands Board was established to issue permits regulating all dredge and fill activities in tidally influenced areas, and all surface waters flowing and standing which include inland wetlands.

The law authorizes the Wetlands Board to develop rules and regulations establishing criteria for approval and disapproval of permit applications for activities in prime wetlands. No permit will be granted if the activity significantly impairs any of the following values of wetlands:

- Aquatic and wildlife habitat
- Sources of nutrients for aquatic life
- Vegetation
- Recreation and aesthetic opportunities
- Ground water supply
- Stream channels
- Flood water retention

Local governments have the option to designate, map and document prime wetlands lying within or partially within their boundaries. The Wetlands Board regulates the following activities: dredge, fill, construction, seasonal docks, replacement, repair and replenishment, removal, crossing, and dug ponds.

The following criteria determine approval of permit applications:

1. Type of freshwater wetland;
2. Location;
3. Identification of salt water marshes due to their productivity and past encroachments;
4. Impact on plant, fish and wildlife habitat;
5. Impact of proposed project;
6. Interference with aesthetic interests;
7. Impact upon abutting owners;
8. Size;
9. Interest and benefits to general public;
10. Impact on water quality and quantity.

New Hampshire's wetlands law permits municipal conservation commissions to intervene if they have notified the State wetlands authority within seven days of receipt of an application to fill or dredge.

A local hearing is then held by the conservation commission followed by a report filed with the State. This report must

include the local community's findings.

Ninety five per cent of the applications received between July 1975 and June 1976 were approved. The fact that many applications are assisted by agency personnel in preparing their forms so as to make Board approval imminent, accounts, in part, for the high percentage approved.

New Jersey

The New Jersey Fresh Water Protection Act of 1987 has been cited as the most comprehensive states wetland protection statute in the United States by a number of experts. The New Jersey Act recognizes a variety of wetlands benefits, as do most wetlands policies. The statement of purpose is perhaps the strongest. It says, in part:

> "...in this state, where pressures for commercial and residential development define the pace and pattern of land use, it is in the public interest to establish a program for the systematic review of activities in and around fresh water wetland areas designed to provide predictability and the protection of fresh water wetlands; that it shall be the policy of the state to preserve the purity and integrity of fresh water wetlands from random, unnecesasry or undesirable alteration or disturbance; and that to establish these it is important that the state expeditiously assume the fresh water wetlands permit jurisdiction currently exercised by the United States Army Corps of Engineers..." (Referring to s.404 of the Clean Water Act)

Permits are to be issued under certain conditions specified by the Act. An activity is to be permitted if it:

1. Is water-dependent or requires access to the fresh

water wetlands as a central element of its basic function, and has no practicable alternative which would not involve a fresh water wetland or which would have a less adverse impact on the aquatic ecosystem, and which would not have other significant adverse environmental consequences; or

2. Is non-water dependent and has no practicable alternative which would not involve a fresh water wetland or which would have a less adverse impacton the aquatic ecosystem and which would not have other significant adverse environmental consequences; and
3. Will result in minimum feasible alteration or impairment of the aquatic ecosystem, including existing contour, vegetation, fish and wildlife resources, and aquatic circulation of fresh water wetland; and
4. Will not jeopardize endangered and protected species;
5. Will not cause violation of state water quality standards;
6. Will not cause violation of toxic effluent standards;
7. Will not harm any marine sanctuary;
8. Will not contribute to degradation of water quality; and
9. Is in the public interest.

The statute explicitly states that there is a rebuttable presumption that practicable alternatives exist to any wetland

activity. The legislation defines the evidence that would be admissable to rebut the presumption that alternatives exist to wetland disturbance. This evidence is:

1. That the basic project purpose cannot reasonably be accomplished using one or more other sites in the general region that would avoid, or result in less adverse impact on an aquatic ecosystem; and
2. That a reduction in size, scope, configuration or density of the project as proposed, and all alternative designs to that of the project as proposed that would avoid or result in less, adverse impact on an aquatic ecosystem will not accomplish the basic purpose of the project; and
3. That in cases where the applicant has rejected alternatives to the project as proposed due to constraints such as inadequate zoning, infrastructure or parcel size, the applicant has made reasonable attempts to remove or accommodate such constraints.

An additional requirement for altering wetlands of exceptional resource value is the need to demonstrate a "compelling public need" for the proposed activity. The statute lists seven specific criteria to demonstrate whether an activity is in the public interest.

The New Jersey Act creates a wetlands mitigation bank for off-site

compensation for wetlands deterioration. Mitigation is a permissable condition for issuance of a permit which is likely to result in destruction of a wetlands resource. Broad use of general permits is provided for in the Act.

The Act establishes a comprehensive regulatory program for fresh water wetlands that requires permits for any actions that would significantly alter a wetland. The Act was specifically formulated to meet legal requirements for the state to assume s.404 permiting authority under the Clean Water Act. Under the Act, New Jersey will regulate a variety of activities and wetlands, including removal, disturbance or dredging of soils; drainage or disturbance of the water level or water table; and discharge or fill activity.

The Act uses criteria similar to those in s.404 for granting a permit, but specifies certain conditions a permit applicant must meet in order to demonstrate there are no practicable alternatives to wetland disturbance. Mitigation may be, and is likely to be, a condition of permit approvals. Permit conditions may require the creation or restoration of an area of fresh water wetlands of equal ecological value to those altered by the activities under thepermit. The Wetlands Mitigation Bank was created by the Act to finance mitigation projects and purchase wetlands for conservation purposes. The Act also defines transition zones between wetlands and dry lands and regulates activities in these areas. Enforcement mechanisms granted to the Department of Environmental Protection

include civil administrative penalties; civil action to seek injunctive relief, damages and/or restauration; civil judicial penalties; and/or criminal action by the Attorney General.
Policies of New Jersey's Hackensack Meadowlands Development Commission are less stringent than the 404 program. For example, the commission allows non-water-dependent uses of wetlands. It is only because of the 404 program that such projects may be denied or mitigation measures may be required.

The provisions of the New Jersey Coastal Area Facilities Review Act (CAFRA) generally are similar to section 404 but have some features that are more, or less stringent. For example, this Act prohibits major development in wetlands unless the project is water dependent, there is no practical alternative on a non-wetland site, or the project involves only minimum alteration of natural tidal circulation, natural contour, or wetland vegetation. This law applies to all activities, not just the disposal of dredged and fill material as does section 404. CAFRA also prohibits development that adversely affects white cedar stand; the 404 program does not have such specific prohibition. However, projects less than a certain size in non-tidal marsh wetlands are not regulated under CAFRA, although the Corps might regulate some of these activities.

The New Jersey Pineland Preservation Commssion program prohibits residential, commercial and industrial development on wetlands, or

within 300 ft.of wetlands, unless extraordinary hardship and a demonstrated public need can be shown.

New York's Freshwater Wetland Protection Program

Freshwater Wetlands Act

N.Y. Envir. Conserv. Law art. 24

Local units of government, Department of Environmental Conservation, Adirondack Park Agency.

The Freshwater Wetland Act was passed in 1975. It provides for the preservation, protection and conservation of freshwater wetlands and the benefits derived from these wetlands. The Act is designed to prevent the despoliation and destruction of freshwater wetlands and to regulate use and development of these wetlands to secure the natural benefits of freshwater wetlands, consistent with the general welfare and beneficial economic, social and agricultural development of the state.

The law is administerd by the DEC. After issuance of the state's official Freshwater Wetlands Maps, persons desiring to conduct regulated activities on freshwater wetlands or their adjacent area must first obtain a permit where close examination is required, or a letter of permission from the DEC or the local government, whichever is applicable. No permit will be granted unless the proposed activity is in compliance with land use regulations established by the local government or DEC for the wetlands under its jurisdiction. The standards for granting a permit include:

compatibility with the preservation, protection and conservation of the wetland and its benefits; compatibility with public health and welfare; and no more than insubstantial degradation to or loss of any part of the wetland. Weighing based on the quality of the wetland is also considered. However, a permit for a class one, two, three, or four wetland will be granted if the project is the only "practicable alternative" for the proposed objectives and no upland alternative is available; for a class one, two, or three wetland there must be "minimal" degradation of the wetland benefits and functions; and for class four wetlands a "reasonable effort" must be made to minimize degradation.

With respect to sanctions for violations of the legislation, the 1975 Act set the maximum civil penalty at three hundred dollars and the maximum criminal penalty at one thousand dollars (two thousand dollars for a second offence). No current guidelines for penalty assessment exist. Enforcement in penalties vary from region to region within the state. There is provision for restoration of an injured resource by the violator.

Part 663 of the regulations addresses the different kinds of activities that may affect freshwater wetlands. Some activities, eg. most agricultural pursuits, are not regulated because they are exempted in the Freshwater Wetlands Act itself. Others, such as ordinary maintenance activities, have been exempted by the DEC because they are expected to have little or no effect on wetlands.

The impacts of some other activities will usually be slight; but because under some circumstances the impact could be significant, an abbreviated procedure (termed "letter of permission") will be used to review an application to undertake them. The full permit procedure is required for those kinds of activities which are likely to have a substantial effect on wetlands. Part 663 contains a list of activities, indicating which are exempt, which most often will require a letter of permission and which will require a permit.

The classification, with standards tied to it, and consideration of the likely effect of different kinds of activities on freshwater wetlands, provide the basis for the DES's regulation. In practice, the following wetlands are regulated: wetlands greater than 12.4 acres; wetlands of unusual local significance; and Class I wetlands which are near a body of water used primarily for water supply. Adjacent areas are also regulated under the permit program.

Freshwater Wetlands Preservation Program

Upon completion of the Freshwater Wetlands maps, the DEC, in conference with local governments, is responsible for developing a statewide freshwater wetland protection program providing for the preservation and maintenance of freshwater wetlands.

After completion of the freshwater wetlands map, the DEC must classify wetlands according to their appropriate land use,

determining what land uses are compatible with the wetlands through preparation of minimum land use regulations. A framework for making this determination is contained in the wetland classification system and Part 663 of the Regulations. Once these regulations are completed and a hearing is conducted, local governments have six months to submit proposed regulations, consistent with the states's regulations, governing freshwater wetlands within its boudaries.

Prior to the adoption of the final freshwater wetlands maps and implementation of the law, an interim program and set regulation was in force providing a permit procedure for freshwater wetlands.

The local law must be as protective of freshwater wetlands and as effective as the State law. If the local government did not adopt a local ordinance, the county government assumed jurisdiction by adopting an ordinance. In turn, the DEC assumed the authority to implement the wetland protection law in the event the county government failed to do so. Should a local or county government which has assumed the authority to implement a local ordinance improperly administered the program, the authority to implement the program will revert to the DEC. The local or county government may recover their authority at any time by adopting and implementing a wetland protection ordinance consistent with the state program, and by notifying the county or DEC of the adoption.

The DEC has the authority to exempt from local implementation those freshwater wetlands which, due to their size or special characteristics of unique environmental value or due to common characteristics, are appropriate for statewide jurisdiction.

The law applies to all non-federal public and private freshwwater wetlands and their adjacent areas. The following are exempt from regulation by law or have been determined to have little or no effect on the functions of wetlands: existing uses and activities, scenic, historic, wildlife and scientific preserves; non-motorized forms of outdoor recreation; fishing; shellfishing, hunting or trapping; educational and scientific research activities; establishing walking trails; recreational mooring; gathering firewood; agricultural activities. These activities do not require a permit or letter of permission.

Tidal Wetlands Act

The Tidal Wetlands Act, which went into effect in 1973, was urgently needed to halt the destruction, by unregulated dredging, dumping and filling, of vast areas of wetlands on Long Island and the lower Hudson River.

This legislation took the form of regulatory permit program, administered by the Department of Environmental Conservation in two phases. The first phase was a moratorium on development, until an inventory of tidal wetlands could be be completed. During this

moratorium, applications for permits to dump, dredge, or fill were considered only when the applicant had demonstrated hardship. Otherwise, the applicant was required to wait until the completion of the inventory, the adoption of the resulting maps and accompanying land-use regulations and institution of a permanent permit program (this permanent program took effect in Sept. 1977).

There are several significant differences between the two wetlands programs in terms of their scope and areas subject to regulations. In contrast to the estimated 35,000 acres of tidal wetland in the state, there are an estimated 640,000 acres of freshwater wetland. However, the Freshwater Wetlands Act exempts certain activities from permit requirements. The most significant exemption applies to agricultural activities, including drainage. Farmers are only required to obtain permits for filling and for the erection of non-agricultural structures.

The Freshwater Wetlands Act authorizes any of the 1,600 village, town, city and county governments in the state to become the regulatory authority if sufficient local wetlands legislation has been adopted. No permit is then required from the State in a local government that has assumed regulatory jurisdiction. Since any person, including a State agency, is subject to the permit restrictions of the Act, a municipality with regulatory authority has jurisdiction over any State agency wishing to conduct an activity in local wetlands.

The Act also creates a five-member Freshwater Wetlands Appeals Board and empowers the Board to hear appeals from decisions regarding wetlands made by any level of government throughout the State.

North Carolina State Program General Permits (1981)

The North Carolina Department of Natural Resources and Community Development and the Army Corps Engineers developed the State Program General Permits (SPGP) in 1981 to reduce unnecessary duplication between the state and federal permiting programs. This procedure eliminates the necessity of obtaining separate Corps permits for most coastal development projects if the applicant receives a state permit. The applicant must receive a state permit from the North Carolina Division of Coastal Management (NCDCM) and, if applicable, s.401 certification from the North Carolina Division of Environmental Management (NCDEM).

The procedures developed for the SPGP allow most applications to be authorized by the state permit in a timely manner, but also permits environmental review and safeguards. The state processing procedures allow for public review and comment on the application; the permit cannot be issued if there is an unresolved federal objection.

North Dakota

A number of political compromises were made in order to gain passage of S.B. 2035 in the 1987 session of the North Dakota legislative assembly. Since 1977, when the legislature tried to impose conditions on federal acquisition of wetlands in the state, wetlands protection has generated controversy. Efforts to fund the Garrison Diversion Unit Irrigation Project have created more conflicts over states' wetlands position. The "no-net-wetlands-loss-bill" (ch.6132, North Dakota Century Code) was passed with the support of agricultural interests because wildlife lobbies agreed to support the Garrison Diversion Unit, as well as certain modifications to the swamp buster regulations of the federal Food Security Act of 1985. The state Act, while recognizing that wetlands should be protected and preserved, specifically provides that agricultural concerns must be accommodated in the protection of wetlands and that protected wetlands should provide some economic return to the landowner. The Act is an explicit policy to balance water development and wetland preservation.

Existing state law requires that a permit be acquired from the state engineer for any project to drain a wetland that has a watershed of 80 acres or more. The new policy under the S.B.2035 mandates that the state engineer and game and fish commissioner must find that drained wetlands will be replaced by an equal area of wetlands or equivalent cash contribution to a newly created "Wetland Bank" (E.G. Land Bank) as a condition for approving a

drainage permit. The state engineer will maintain the Wetland Bank, and a revolving Wetlands Replacement Fund is established in the state treasury by the Act. Debits to the Wetland Bank may not exceed 2 500 acres total. This number acts as a threshold beyond which no new drainage permits will be approved.

Anyone who wishes to drain a wetland is required to pay a minimum of 10 per cent of the cost to replace it. The balance is to come from federal, state or other private interests. If the 2 500 acre limit has been reached in debits to the Wetland Bank, an applicant must pay the full replacement cost in order to gain approval for a permit.

Ohio

Ohio has neither direct wetlands legislation nor a state controlled permit program. It simply relies on Section 404 permits and Section 401 Water Quality Certification. Its District of Natural Resources has drafted a policy statement which provides that it is department policy to protect, restore and create wetland ecosystems. However, this statement has no real legal context at the state level in which to be applied. In its absence, a state-wide wetlands inventory is being conducted.

Oregon

In Oregon, two pieces of legislation, the Wetlands Conservation Act - 1989 and the Removal - Fill Law, 1989, regulate the

development of wetlands. Both these Acts are administered by the Division of State Lands (DSL). The mandate of the DSL is to promote protection through a "no-net-loss" threshold while looking to increase wetland resources that are restoration. The other purpose of the legislation is to reduce delays and uncertainty that have previously existed in wetlands planning.

To achieve the above goals, the Wetlands Conservation Act has two requirements. The first is to establish a state wetlands inventory and the second is to develop local wetland conservation plans. Local governments are encouraged to identify the wetlands that exist within their jurisdiction, and follow up with conservation plans for these wetlands. By involving local communities and by following guidelines laid out in the legislation, the cities and counties can designate which wetlands will be protected, filled or mitigated. This should expedite the permit review process since predeterminations will have been made about the status of the wetland area in question.

The considerations that are to be incorporated into a local conservation plan are included in the Act. The plans are expected to contain:

a) a detailed inventory and map of the wetlands covered under the plan;

b) an assessment of wetland functions and values;

c) designation of wetland areas for protection, conservation

or development;

d) a mitigation plan to provide for restoration and enhancement of lost areas;

e) monitoring provisions to ensure mitigation goals are met;

f) identification of public uses of the wetlands and waters and conflicting planned uses; and

g) specification of buffer areas and uses allowed on lands which are adjacent to wetlands.

Once a conservation plan has been developed it must be reviewed and approved by the DSL. There is an opportunity for a public hearing and commentary. To be approved, the plan must be consistent with the goals of the legislation. A wetland may be designated for development only if there is a public need for the development, any losses are fully offset by creation, restoration or enhancement of wetland functions, and there are no less damaging alternative locations. The plan should be consistent with the protection, conservation and best use of the water resources of the state.

If there is no conservation plan in place for a proposed wetland development, the DSL must evaluate the permit application by following the guidelines laid out for the conservation plan. As well, the DSL may condition the permit so as to ensure that a project:

a) is properly designed or configured to minimize the need

for alternatives to waters of the state;

b) is the minimum size necessary to reasonably provide for the proposed use;

c) complies with applicable conditions of the acknowledged comprehensive plan and land use regulations for the area;

d) is designed to minimize impacts from implementing the project; and

e) is conditioned to ensure wetland creation, restoration or enhancement measures are implemented to fully replace impacted resources.

While the Act sets out the considerations that must go into a permit review, it is the Removal Fill Law that requires a permit for any removal or fill activities in any waters of the state, and backs up the requirement with fines and misdemeanor charges for noncompliance. As well, any person who is aggrieved or adversely affected by the grant of a permit may file for an appeal.

If removal or filling activities are occuring in any waters of the state without a permit being issued or contrary to the conditions of the permit, the DSL has wide ranging powers. An order requiring the person to cease and desist from any violation can be made. As well, a hearing can be held to determine whether the person who committed the violation should pay damages to compensate the public for any destruction or infringement of any public right. These damage awards double if the violation was negligent or triple if

the violation was intentional. Criminal penalties may also be added.

Pennsylvania

Pennsylvania has no direct wetlands legislation but seems to have a permit program that is fairly rigorous under its Dam Safety and Encroachments Act (Chapter 105 of the Pennsylvania statutes). All wetlands influenced by projects which require a permit under this legislation are covered. Such activities include enlargement, modification, maintenance, operation, construction of any dam, reservoir or encroachment. The legislation also regulates discharges of dredge or fill material and encroachment into the wetland. Existing general permits which may be issued on a statewide basis have not negatively influenced wetland losses nor have those projects which are exempt from regulation.

For certain types of undertakings environmental assessments are required. A rather stringent test has to be passed before a permit will be issued. It provides that "unless the applicant demonstrates... that the project will have no significant adverse effect upon the public natural resources..." a permit will not be issued. Among the important standards for granting permits are the following: environmental, social, and economic balancing; the weighing of public benefits related to expected damages; the lack of other feasible alternatives; the potential for accumulative effects to piecemeal changes to wetland resources. It is also

stated that the project must adequately protect public health, safety and the environment and is consistent with the environmental rights and values secured by the commonwealth in its capacity as trustee for the public in the maintenance of natural resources.

Sanctions include civil penalties up to ten thousand dollars plus five hundred dollars per day for continued violations. Criminal penalties provide for fines of up to one thousand dollars and a maximum of sixty days imprisonment. A second offence within two years of a prior conviction raises the fine to five thousand dollars and maximum imprisonment to one year. Each day of a continued violation is seen as a separate offence.

Rhode Island's Fresh Water Wetlands Program

Fresh Water Wetlands Act

R.I. Gen. Laws Sec. 2-1-18 through 2-1-25

Department of Environmental Management:

The Fresh Water Wetlands Act was passed in 1971. It provided for the protection of fresh water wetlands by prohibiting their destruction or disturbance by individuals, companies or state and local governments without permission from the Department of Natural Resources. The Act has significantly been amended and updated to its present form.

The law is administered by the Fresh Water Wetland Section of the Division of Land Resources in the Department of Environmental

Management. The Fresh Water Wetlands Section (FWWS) is authorized to receive, analyze, investigate and process complaints, requests for preliminary determination and applications for approval to alter fresh water wetlands.

Any person to conduct an alteration activity within a fresh water wetland or within any of the buffer zones established around fresh water wetlands, must go through the following steps before a permit to conduct the activity is issued.

Step 1: Request for Applicability Determination

The applicant may request an applicability determination as to whether or not the Wetland Act applies. If the FWWS determines that the proposed activity will insignificantly alter the wetland, or that adequate controls will be provided, the application will be approved.

Step 2: Application for Approval to alter a Fresh Water Wetland

Approval or disapproval to alter a fresh water wetland depends on whether or not the proposed activity will alter the wetland.

The formal application process requires public notice for 45 days. During this time, the local mumicipality where the proposed activity is located may review the application. If the municipality

approves the application, the DEM can still deny approval of the activity.

The rules and regulations developed and adopted by the DEM generally prohibit the discharge of waste, dredging, filling, draining, construction activities, alteration activities or any other activities that significantly alter the biological or hydrological character of wetlands. The DEM's jurisdiction includes buffer zones adjacent to freshwater wetlands:

- Within 50 feet of any fresh water wetland
- Within 100 feet for rivers under 10 feet wide;
- Within 200 feet for rivers over 10 feet wide;
- Within the 100 foot floodplain.

The law applies to all public and private fresh water wetlands. Activities which are not considered to significantly alter a fresh water wetland include:

1. Selecting tree cutting without destruction to soil and existing topography;
2. Grazing and continued agricultural practices;
3. Manual removal of debris or accumulated sediment form stream channels where no changes in stream cross section or profile is anticipated.

Due to the strength and effectiveness of Rhode Island's Fresh Water Wetlands Act, Rhode Island is one of several states being

considered for Section 404 certification of the Federal Clean Water Act.

Vermont

The methods of protecting wetlands fall into two broad categories. Regulatory approaches tend to be more controversial. This state has relied more heavily on non-regulatory techniques.

Non-Regulatory Approaches to Wetlands Protection

- Information and Education

Numerous public and private agencies provide information and technical services concerning wetlands to landowners and the general public. In 1977, the General Assembly established a Fragile Areas Registry to promote public awareness of the state's outstanding natural areas, including wetlands. This statement provides a degree of regulation, but only for fragile areas which are already in state ownership. Unless the registry is also backed up by an active information, education and acquisition program which is adequately funded, this effort will produce only limited and temporary protection for fragile areas which are in private ownership.

- Acquisition of Wetlands

Many of the acquisitions by the State and municipalities have been made with matching federal funds administered by the Heritage

Conservation and Recreation Service (formerly the Bureau of Outdoor Recreation) or the U.S. Fish and Wildlife Service.

For both public and private agencies, the principal constraint upon this method of protection is the lack of sufficient funds to purchase every important wetland area. Federal and state tax laws do provide incentives to owners who wish to make a charitable gift of their property and a significant number of acquisitions have been achieved in this manner.

There is an additional constraint upon private organizations that want to preserve wetlands through acquisition. Unless the property is being actively used as part of a public education program, the organization must pay property taxes based upon the land's fair market value (i.e. development value). This is true even though the organization is tax exempt in all other respects. Vermont's Current Use Assessment Act does not change this situation, because it applies only to productive agricultural land and managed forestland.

- Acquisition of Partial Interests (Conservation Restriction)

Chapter 155 of Title 10, Vermont Statutes Annotated, authorizes municipalities and certain departments of state government to acquire partial interests in property for conservation purposes. These interests may be variously known as conservation restriction, development rights and open space easements. Under this

arrangement, the owner continues to hold title to and the right to use the property, but gives up certain rights to develop it. Unfortunately, as Chapter 155 is currently written, it does not apply to private organizations.

- Land and Water Reserves

Some Vermont wetlands have been voluntarily protected by landowners who have enrolled their property in the Water Bank Program. This program is run by the Agriculture Stabilization and Conservation Service within the U.S. Department of Agriculture. It compensates owners at a fixed rate for an extended period, usually 10 years, in return for an agreement that wetlands committed to the program will not be filled or otherwise altered.

Regulatory Approaches to Wetland Protection

The Federal Government, State of Vermont and a number of municipalities have passed laws to regulate and limit development of wetland areas to some degree. Either because of the limited scope of the laws or because of insufficient staff to properly administer them, they provide only a patchwork of protection, and do not constitute a comprehensive wetlands protection program.

- Local Laws

Vermont towns and cities have been authorized to adopt plans and zoning bylaws under the Municipal and Regional Planning and Development Act. Under this law, municipalities may guide growth

into areas where development is most appropriate and away from areas of ecological significance. Although Chapter 117 does not mention wetland areas specifically, its provision, if construed broadly, would enable municipalities to protect significant wetland areas from development.

Unfortunately few, if any, municipalities have used this authority.

- State Laws

Vermont has no state law which specifically protect wetlands, although several laws do provide some protection. Of these, Act 250 is clearly the most significant. Developments requiring an Act 250 permit must not have "an undue adverse effect on the scenic or natural beauty of the area, aesthetics... or rare and irreplaceable natural areas".

The principal deficiency of Act 250, at least as it concerns wetlands protection, is that its jurisdiction extends only to large developments and subdivisions. Many commercial, industrial, residential or even governmental developments which may alter or destroy a wetland do not require Act 250 permits because they are too small to reach the jurisdictional threshold. Furthermore, all agricultural and forestry activities below 2500 feet elevation are exempt from Act 250, irrespective of their impacts on wetlands.

Virginia

In 1968, the Virginia Legislature directed a study of Virginia's wetlands leading to the enactment of the Virginia Wetlands Act of 1972.

- Virginia Wetland Act

Prime regulatory authority is vested in the Virginia Marine Resources Commission. Local government is, however, given the option of adopting a model ordinance which would enable it to regulate wetlands within its jurisdiction through a specially created local wetlands board of five persons. However, the action of the local boards are subject to override local decisions, for cause, as well as to receive appeals from interested citizens, applicants or government agencies.

Permit Process: The Act requires completed action on an application in 90 days otherwise an application is automatically approved. The Act requires that copies of applications be sent to the Virginia Institute of Marine Science (an independent state scientific agency) which makes a field investigation and provides written advice to both the regulatory agency and the applicant.

Guidelines: The Act established policies and standards. It further required the VMRC, with the advice and assistance of the VIMS, to develop and promulgate guidelines.

Inventories: The Act requires VIMS to make an inventory of tidal wetlands and to maintain the inventory.

It is interesting to note that only 12 percent of the applications are being flatly denied, About 90 percent of those which are approved undergo considerable modification to eliminate or reduce wetlands losses.

Chesapeake Bay Preservation Act (1988) (see 25 sections 10313 to 10-327 of the Code of Virginia)

The 1988 Chesapeake Bay Preservation Act provides an additional level of protection to these states' tidal wetlands. It is recognized that Ontario has no tidal wetlands. Nevertheless, the legislation is informative and has some applications. The Act is responsive, in part, to agreements among the states of Virginia, Maryland, and Pennsylvania, the District of Columbia and the Environmental Protection Agency to manage the land use in ways that improve water quality in the Chesapeake Bay region.

The Act requires local governments in the twenty-nine counties of "tide water Virginia" to incorporate water quality protection in their comprehensive plans and land use regulations such as zoning ordinances and subdivision regulations. The Act also requires these local governments to define and protect environmentally sensitive areas such as wetlands. The sensitive lands will be regulated under the administrative designation, "Chesapeake Bay

preservation areas."

A new state level citizen board, the Chesapeake Bay Local Assistance Board, will oversee implementation of the Act. The Board is housed in and staffed by the Virginia Department of Natural Resources. The key oversight authority of the board is the development of criteria that local governments are required to follow in designating preservation areas and adopting land use regulations. In developing the criteria, the statute directs the board to consider the economic and social costs and benefits of the criteria. The legislation defines water quality very broadly, however, including such benefits as aquatic life and conservation, as well as health, safety, and welfare.

Wisconsin

Protection can be effected in numerous ways. Wisconsin's efforts to maintain wetlands and their functions have not been promulgated as wetland protection programs per se. The Wisconsin Conservation Department (Department of Natural Resources since 1967) has actively pursued a wetlands acquisition program since 1930 in the name of hunting and fishing.

The "public trust" doctrine, which directs the State to hold the waters of the State in trust for the people of the State, derives from the Northwest Ordinance of 1787 and the State's constitution.

Protection for navigable waters of the state includes protection for contiguous wetlands. Shoreland zoning is enforced by reference to the ordinary high water line of navigable bodies of water.

Protection under the public trust and shoreline zoning provision is limited. Despite a strong legal basis, enforcement is weak and violations are numerous. More significantly, many of Wisconsin's wetlands are not connected, except by ground water in some cases, with navigable bodies of water.

Attempts to adopt a specific wetland protection statute in Wisconsin have been unsuccessful. Wetland bills have been introduced in all sessions of the legislature since 1971. Each draft has been weaker than the previous one.

The present array of protection mechanism are so scattered among different agencies and so fragmented in nature as to discourage public participation. At present many wetlands receive no protection by any of these regulations.

Chapters 30 and 31 of the Wisconsin Statutes

Many activities affecting navigable waters require permits from the DNR under these statutes, Navigable waters are very broadly defined.

A permit is required for: dredging; creation of artificial

waterways within 500 feet of the ordinary high water mark; enlargement of existing waterways; grading of shorelines in excess of 10,000 square feet; channel changes; construction of bridges or many other structures; placement of fill or pipelines; creation, alteration, or removal of dams; and diversion of water for agriculture.

Permits are not required for the creation of ditches extending from a waterway in order to drain wetlands above (but not below) the ordinary high water mark for farming purposes. A permit will be needed later for cleaning out the ditch. No permit is necessary for grading the bank or a lake or stream for highway purposes.

A permit will be granted if the project does not materially obstruct the navigation or reduce effective flood capacity and is not detrimental to the public interest. It must also be established that the project will not injure public rights or interest, including fish and game habitat, and that the project will not cause environmental pollution. Finally the project must not adversely affect the flood flow capacity, be detrimental to public rights, or rights of other riparians.

An individual must obtain a permit from DNR before initiating any of the regulated activities. DNR almost always conducts a field investigation of the site. Depending on the activity, public notice of the proposed action may or may not be required.

- Endangered Species Law

According to Wisconsin's endangered species law under Secion 29.415, Wisconsin Statutes, a person can remove or transport threatened or endangered plants from his or her owned or leased property, but not from public or other private lands.

Wetlands that are harbor threatened or endangered plants or animals are protected by government-funded projects through a number of federal and state statutes, rules and policies. Privately owned wetlands that harbour a threatened or endangered animal might be protected by a strict interpretation of Wisconsin State 6.29.415 (4)(a), which prohibits the "taking" of an endangered or threatened animal, but private landowners and corporations are currently exempt from federal or state laws protecting threatened or endangered plants.

Forestry, agriculture and utility industries are exempt from the state subsection on removing or transporting endangered plants.

- Shoreland Zoning

The Water Resources Act of 1965 created Section 59..971 of the Wisconsin Statutes, which requires the zoning of shorelands in unincorporated areas of each county. Shorelands are defined as lands within 1,000 feet of a navigable lake, pond or flowage, and lands within 300 feet of a navigable river or stream or to the landward side of the flood plain, whichever distance is greater.

To comply with the Water Resources Act each county must enact shoreland regulations, including zoning provisions land division controls, and administrative provisions ensuring enforcement of the regulations. The legislation enables but does not require counties to protect wetlands within the shoreland area.

Many activities including filling, drainage, dredging, general farming, soil removal, and solid waste disposal are prohibited without a Special Exception Permit. Fifty-four counties have chosen to adopt conservancy zoning for wetlands.

Shoreland zoning ordinances must be examined individually for each county to determine which activities are regulated in wetlands.

About a third of the counties did not adopt conservancy zoning.

Incorporated areas are not required to adopt shoreland zoning. Usefulness of shoreland zoning ordinances to protect wetlands varies from county to county and depends on enforcement by the zoning administator and the level of knowledge about wetlands by members ot the Board of Adjustment and the Planning and Zoning Committee.

- Floodplain Zoning

The Water Resources Act (1965) also created Section 87.30 of the Wisconsin Statutes, which requires floodplain zoning for all areas

where the probability exists for serious flood damage. Local governments must adopt ordinances that contain maps delineating the floodway, the floodplain and restrictions concerning land use in these areas.

Lands within the floodwway are general limited to open space uses. Fill and construction activities that interfere with discharge of flood waters are prohibited.

Floodplain zoning can prevent conversion of wetlands for uses inappropriate to the floodway or floodplain. It can be used to control urban development and to preserve floodplain wetlands with flood storage capacity. But the enabling floodplain legislation does not specifically authorize local governments to protect wetlands.

- Acquisition

Within the DNR, the Bureau of Wildlife Management and the Bureau of Fish Management have the authority to acquire wetlands in meeting program objectives. Each bureau is only authorized to purchase lands which meet certain biological criteria as well as certain sociological (recreational user) criteria.

On the whole, funds for land acquisition are very limited and, as a result, the bureaus are required to set priorities for the types of land that offer benefits to fish and wildlife so that only the

most critical lands are purchased.

The largest type of land acquisition effort within either bureau is the "intensive" acquisition program or the "named properties".

Here, the criteria involve a significant resource base:

- several thousand acres of marsh or several miles of stream corridor that offer fish and wildlife production as well as recreation opportunities.

A second type of program offered by the two bureaus is "extensive" in scope. Entitled "Remnant Areas" in Fish Management and "Extensive Wildlife Habitat Areas" in Wildlife Management, these two programs are primarily wetland oriented and place emphasis on habitat that is critical for the production of fish and wildlife. The resource base is much smaller than the "Intensive Properties" and varies in size from less than 40 acres to about 300 acres. One of the primary criteria for the selection of tracts in this program is the relationship of the wetland to their lands and how secure these lands are from being developed for conflicting uses.

- <u>Acquisition by Local Government</u>

Town, village, city or county governments can establish park commissions. Under Chapter 27 of the Wisconsin Statutes, these commissions can buy, sell, or trade land. Park commissions are authorized to manage almost all land owned by that unit of

government, and can do so for scenic or conservancy purposes. They can apply for acquisition money from state (ORAP) and federal (LAWCON) sources. Parks commissions have a high potential for protecting wetlands for public education and recreational purposes, if there is local support for such programs.

SUMMARY TABLES OF STATE WETLAND LEGISLATION AND POLICY

(SEE NEXT PAGE)

PROBLEMS ASSOCIATED WITH U.S. WETLAND PROTECTION LEGISLATION

Even for states with wetland regulatory programs, there may be gaps in wetlands coverage. State programs often exempt some activities from permitting requirements, such as agriculture.

Some state laws encourage the conversion of wetlands. In particular, some drainage is subsidized (by Kentucky, Ohio and Nebraska). For example, although state law in Nebraska charges one agency to protect wildlife habitats and another to protect water quality, a third agency is required by law to plan for draining wetlands and county boards are required to drain areas upon petition by owners.

Expenditures and staffing for wetland-regulated state regulatory activities are highly variable. Agency personnel with wetland responsibilities often carry out other duties as well. The number of employees working part-time or full time on wetland matters ranged from 1 to over 20. Of States listing budgets that can be traced to wetlands figures range from $10,000 to over $100,000 in 10 states, Six states indicated almost no staffing and budget

SUMMARY TABLE OF REGULATIONS AFFECTING WETLANDS (1988)

Regulation	Activities Regulated	Wetlands Covered	Agency Contact
SECTION 404, p. 8 (federal)	Disposal of dredged materials or placement of fill.	Wetlands adjacent or contiguous to lakes, rivers and streams. Other wetlands with special values.	U.S. Army Corps of Engineers
SECTION 10, p. 11 (federal)	Any work in, over, or under navigable waters.	Wetlands adjacent or contiguous to navigable waters.	U.S. Army Corps of Engineers
CHAPTERS 30 & 31, p. 12 (state)	Most alterations of navigable waters.	Wetlands contiguous to navigable waters and below the ordinary high water mark.	Wisconsin DNR
ENDANGERED SPECIES LAWS, p. 15 (federal & state)	Destruction of habitat harboring endangered species through government action or funding.	Wetlands harboring endangered species.	Wisconsin DNR; U.S. Fish & Wildlife Service
SHORELAND ZONING p. 16 (state & local)	Most activities within a specified distance from lakes, rivers and streams. Extent of protection depends on particular county.	Wetlands within conservancy districts set by each county; applies only to unincorporated areas.	County Planning and Zoning Administrator
FLOODPLAIN ZONING p. 17 (state & local)	Activities that might interfere with discharge of floodwaters or increase extent of flood damage.	Wetlands within floodway or floodplain.	County Planning and Zoning Administrator
AGRICULTURAL CONSERVANCY ZONING p. 18 (state & local)	Non-farm development in zoned areas. Adopted at discretion of county and town.	Wetlands in zoned areas.	County Planning and Zoning Administrator

STATE WETLAND AND FLOODPLAIN REGULATORY PROGRAMS*

ALABAMA

State Coastal Area Board currently developing a coastal management plan. When the plan is put into effect, the Board will issue permits regulating dredge and fill in tidally influenced areas. [ALA. CODE TIT. 8 Sec. 312 - 320.]

ARKANSAS

Local units not adopting adequate ordinances regulating activities in floodways and floodplains may be required to adopt and enforce state developed regulations. [ARK. STAT. ANN. Sec. 21-1901 to 21-1904.]

ALASKA

State Department of Natural Resources issues permits regulating activities on state-owned land and intertidal zones. [ALASKA STAT. Sec. 38.05330, 38.05070, 38.05107.]

State Department of Natural Resources issues permits to appropriate water, which may become right to appropriation of that water. Wetlands are defined to be waters of the state. [ALASKA STAT. Sec. 46.15030 - 46.15185.]

State Department of Environmental Conservation regulates wetlands through water quality standards and Clean Water Act Sec. 401 certification. [ALASKA STAT. Sec. 46.03100, 46.03110.]

ARIZONA

Local units delineate and then regulate floodplains pursuant to Department of Water Resource's guidelines. [ARIZ. REV. STAT. Sec. 45-2341 to 45-2346.]

CALIFORNIA

State Lands Commission issues permits and leases regulating dredging, sand and gravel excavation and other activities in any tidal or submerged lands under state ownership. [CAL. GOVT. CODE Sec. 13109, CAL. RES. CODE Sec. 6301 - 6312, 6321 - 6327.]

State and Regional Coastal Commissions issue permits regulating dredge and fill to 1000 yards above mean high tide. [CAL. PUB. RES. CODE. Sec. 3000 - 3900.]

State Reclamation Board issues permits regulating dredge and fill activities in the Sacramento-San Joaquin River System and its tributaries. [CAL. WATER CODE pt. 4, Sec. 8520 - 9377.]

San Francisco Bay Conservation and Development Commission issues permits regulating dredge and fill activities in and near San Francisco Bay. [CAL. GOVT. CODE Sec 65600 - 66661.]

Local units regulate activities in state designated floodways pursuant to state minimum standards. Failure to meet state standards results in loss of state funds for flood control projects. [CAL. WATER CODE Sec. 8400 - 8415.]

*Source: "State Wetland and Floodplain Regulatory Programs," National Wetlands Newsletter, February, 1979.

COLORADO

Counties regulate land use, including floodplain and, to a minor extent, wetland use. State Water Conservation Board designates floodplains and may request county to stop dangerous land uses. State Department of Game and Fish can designate significant wildlife habitat, pursuant to a county request. [COLO. REV. STAT. Sec. 24-65.1-101 et seq.]

State Department of Game and Fish has authority to acquire water rights to protect wildlife by maintaining minimum stream flows, affecting wetlands adjacent to streams. [COLO. REV. STAT. Sec. 37.92.102(3).]

CONNECTICUT

State Department of Environmental Protection issues permits regulating dredge and fill, construction, and other activities in tidally influenced areas. [CONN. GEN. STAT. ANN. Sec. 22a - 28 to 22a - 35.]

Municipalities issue permits regulating most dredge, fill, and construction activities in inland wetlands and water courses. Where local units fail to adopt regulations which conform to state standards, the State Department of Environmental Protection issues the permits. [CONN. GEN. STAT. ANN. Sec. 22a - 36 to 22a - 45.]

State Department of Environmental Protection establishes stream channel encroachment lines based on previously recorded floods. Construction activities within these lines require state permits. [CONN. GEN. STAT. Sec. 25-4a to 25-4g.]

DELAWARE

State Planning Office issues permits regulating activities in coastal zone. Specified heavy industrial development prohibited. Appeal to Coastal Zone Industrial Control Board. [DEL. CODE tit. 7 Sec. 7001 - 7013.]

FLORIDA

State Department of Environmental Regulation issues permits regulating dredge and fill activities adjacent to or in navigable waters and state-owned tidally influenced areas. Locals issue permits regulating certain fill activities adjacent to or in navigable waters, subject to approval by Department of Environmental Regulation. State Department of Environmental Regulation district centers are authorized to issue permits for certain minor projects. [FLA. STAT. ch. 253, ch. 403 pt. 5.]

State Department of Environmental Regulation issues permits regulating the construction, modification and expansion of stationary installations which may adversely affect the quality of any waters or bodies of water in the state. [FLA. STAT. ch. 403 pt. 1.]

State Department of Natural Resources manages specified Aquatic Preserves and may establish additional areas. Department of Environmental Regulation may issue permits allowing only certain limited activities in preserve areas. [FLA. STAT. ch. 258.]

State Department of Environmental Regulation issues permits and establishes rules regulating construction activities in a specified area of the coastline. [FLA. STAT. ch. 161.]

State may designate Areas of Critical State Concern. Local regulation of such areas must comply with state development principles. State will regulate areas where local units fail to adopt adequate controls. [FLA. STAT. ch. 380.]

GEORGIA

State Coastal Marshlands Protection Committee issues permits regulating dredge and fill in tidally influenced areas. [GA. CODE ANN. Sec. 45-136 to 45-148.]

HAWAII

State Land Use Commission issues permits regulating activities in conservation districts, which include some wetlands and floodplains. [HAW. REV. STAT. Sec. 179.1 - 179.4, 205.2.]

IDAHO

State Department of Water Resources issues permits regulating dredge and fill in stream channels. [IDAHO CODE tit. 42, ch. 38.]

ILLINOIS

Regional Port Districts issue permits regulating dredge and fill activities in navigable waters within the Port Districts. The State Department of Transportation issues permits regulating dredge and fill activities in public waters of the state. [ILL. ANN. STAT. ch. 19 Sec. 65 (Smith-Hurd).]

State issues permits regulating development in delineated floodplains. [ILL. ANN. STAT. ch. 19 Sec. 65(F)(Smith-Hurd).]

INDIANA

State Department of Natural Resources issues permits regulating all activities in lakes and their shorelines at or below mean sea level. [IND. CODE Sec. 13-2-11.]

State Department of Natural Resources issues permits regulating activities within the floodway of any stream. Local units regulate floodplains pursuant to state standards. [IND. CODE Sec. 13-2-22.]

IOWA

State Natural Resources Council regulates activities in stream channels and floodplains. Municipalities may adopt regulations to administer the program. [IOWA CODE ANN. Sec. 455A.35, 455A.37, 455A.29.]

State Conservation Commission conducted a Protected Water Area Study to develop a plan for the preservation of natural and cultural resources along certain rivers, lakes, wetlands, and adjacent land areas. [S.F. 2267 Sec. 2C and H.F. 734 Sec. 4-1(7)]

KANSAS

State Division of Water Resources must approve plans for channel changes, dam construction, and levees and similar structures. [KAN. STATE. ANN. Sec. 82a-301 to 82a-305a (as amended, 1978 Supp.), 24-126.]

Local units regulate activities in floodplains pursuant to state standards. Local ordinances must be approved by State Division of Water Resources. [KAN. STAT. ANN. Sec. 12-734, 12-735.]

KENTUCKY

State Department of Natural Resources and Environmental Protection, Division of Water Resources, issues permits regulating construction and other activities which will obstruct the flow of waters in streams and floodways. [KY. REV. STAT. Sec. 151.250, 151.260, 151.310.]

LOUISIANA

State Wildlife and Fisheries Commission issues permits regulating the discharge of dredge and fill material in and on banks of streams designated as Natural and Scenic Rivers. Channelization, channel realignment, clearing and snagging, and reservoir construction are prohibited in such streams. [LA. REV. STAT. ANN. Sec.56:1841 - 56:1849.]

State Department of Natural Resources issues permits and grants leases for construction of wharfs, piers, bulkheads, fills, and other encroachments on or reclamation of water bottoms. [LA. REV STAT. ANN. Sec. 41:1131, 41:1701 - 41:1714.]

MAINE

State Board of Environmental Protection issues permits regulating dredge and fill and other activities in all tidally influenced areas. Local units may be authorized to issue permits, subject to override of local decisions by the Board. [Alteration of Coastal Wetlands, ME. REV. STAT. tit. 38 Sec. 471 et seq.]

State Board of Environmental Protection (B.E.P.) issues permits regulating alterations of great ponds and lakes. [Great Ponds Act, ME. REV. STAT. tit. 38 Sec. 386 - 396.]

State Department of Inland Fish and Wildlife issues permits regulating dredge, fill, and the erection of permanent structures in, on, over or adjacent to, and affecting, rivers and streams, including contiguous wetlands. Certain dams and crossings are exempt from this regulation. [Alteration of Rivers and Streams, ME. REV. STAT. tit. 12 Sec. 2206 - 2212 (as amended).]

State B.E.P., Land Use Regulatory Commission, in cooperation with the Planning Office, sets standards for mandatory zoning of shoreland areas along the coast, rivers which drain 25 square miles or more, and great ponds. One of the dis- tricts, the Resource Protection district, includes shoreland wetlands and floodplains and slopes greater than 25 percent. If local units do not adopt adequate regulations, the B.E.P. or the State Land Use Regulation Commission will. [Mandatory Shoreland Zoning Act. ME. REV. STAT. tit. 12 Sec. 4811 - 4814.]

The B.E.P. and the municipalities issue permits regulating the construction of wharves and weirs in navigable waters. [Wharves and Weirs Act, ME. REV. STAT. TIT. 38 Sec. 1021.]

MARYLAND

State Department of Natural Resources issues permits regulating dredge and fill in tidally influenced private areas. State Board of Public Works similarly regulates state tidal areas. [MD. ANN. CODE Sec. 9-101 et seq.]

Department of Natural Resources issues permits for construction of dams and any other obstruction in water courses. [MD. ANN. CODE Sec. 8-901.]

MASSACHUSETTS

Local conservation commissions issue permits either regulating or prohibiting work that could remove, dredge, fill or alter coastal and inland wetlands, land subject to flooding and other areas in the state. Notice and appeal to Department of Environmental Quality Engineering. [MASS. GEN. LAWS ANN. ch. 131 Sec. 40.]

State Department of Environmental Management may issue orders designating specific coastal wetlands and areas subject to flooding in which dredge and fill activities are to be restricted. [MASS. GEN. LAWS ANN. ch. 130 Sec. 105.]

State Department of Environmental Management may designate specific inland waters or wetland areas, including flood-prone areas, and issue orders restricting activities in such areas. [MASS. GEN LAWS ANN. ch. 131 Sec. 40A.] The state regulates the use of specific floodplains. [MASS. GEN. LAWS ANN. ch. 5-18, 554; Mass. Acts 459, 463.]

MICHIGAN

State Department of Natural Resources issues permits regulating dredge, fill, construction, and other alterations below ordinary high water on inland lakes and streams. [Inland Lakes and Streams Act, MICH. COMP. LAWS ANN. Sec. 281.951 - 281.965.]

State Department of Natural Resources issues deeds, leases, agreements, permits and certificates regulating work on public trust lands below ordinary high water in the Great Lakes. [Great Lakes Submerged Lands Act, MICH. COMP. LAWS ANN. Sec. 322.709, 16.352, 24.102, 24.104.]

State Department of Natural Resources and Water Resources Commission establish comprehensive plan for the use and management of shorelands. Local units adopt ordinances, which must be approved by the state with respect to the regulation of "high risk" (erosion-prone) and "environmental" (important to fish and wildlife) areas. [Shorelands Protection and Management Act, MICH. COMP. LAWS ANN. Sec. 281.631 - 281.645.]

State permits are required for activities in floodway and floodplain areas identified by the state. [MICH. COMP. LAWS ANN. Sec. 323.5b, 560.117.]

The Department of Natural Resources, in cooperation with local units of government, issues permits regulating all alteration activities in all inland wetlands. [GOEMAERE - ANDERSON WETLAND PROTECTION ACT. No. 203, MICH. PUBLIC. ACTS OF 1979.]

MINNESOTA

State Department of Natural Resources issues permits regulating the use of all "public waters" serving a public purpose. Counties may administer the permit program for certain public waters, pursuant to state standards. [MINN. STAT. ch. 105.]

Local units must regulate critical areas designated by State Department of Natural Resources by issuing development permits pursuant to a comprehensive plan. Where local units fail to adopt controls, state regulates areas. [MINN. STAT. Sec. 116G.01 - 116G.14.]

Counties must adopt shoreland zoning consistent with state standards. Where local units fail to adopt adequate regulations, State Department of Natural Resources regulates shorelands. [MINN. STAT. Sec. 105.485.]

Local units issue permits regulating activities in floodplains in conformance to state standards. Where local units fail to adopt adequate regulations, the State Department of Natural Resources regulates floodplains. [MINN. STAT. Sec. 104.01 - 104.07.]

MISSISSIPPI

State Marine Resources Council issues permits regulating most dredge and fill activities in tidally influenced areas. [MISS. CODE ANN. Sec. 49-27-1 et seq.]

MISSOURI

Landowners may petition county circuit court for authority to erect a private dam for mills, electric power, or light works across a non-navigable stream. [MO. REV. STAT. Sec. 236.010, 236.020, 236.030.]

Owners of any swamp, wet, or overflowed land have the right to drain or protect the land for sanitary reasons or agricultural purposes with an open ditch, tiles or a levee. [MO. REV. STAT. Sec. 244.010.]

MONTANA

State Department of Fish and Game must give approval of dredge and fill activities by public agencies in stream beds and their immediate banks. [MONT. REV. CODES ANN. tit. 87, ch. 5.]

Local Conservation Districts must give approval of dredge and fill activities in stream beds and their immediate banks for private projects in accordance with state approved rules. [MONT. REV. CODES ANN. tit. 75, ch. 7.]

NEBRASKA

Local units regulate activities in floodways pursuant to state standards. Where local units fail to adopt adequate regulations, state enforces the state standards. [NEB. REV. STAT. Sec. 2-1506.01 to 2-1506.17.]

NEVADA

State Division of Lands issues letters of authorization regulating dredge and fill activities in navigable waters. Permits issued for activities in Lake Tahoe must receive Department of Environmental Protection concurrence. [NEV. REV. STAT. Sec. 321.595.]

State Department of Fish and Game issues permits regulating dredge and fill activities in all streams and their watersheds. [NEV. REV. STAT. Sec. 501.105.]

NEW HAMPSHIRE

State Wetlands Board issues permits regulating all dredge and fill activities in tidally influenced areas, and all surface waters flowing and standing (except small ponds). [N.H. REV. STAT. ANN. ch. 483-A, 482 Sec. 41-e to 41-i, 488-A, 149 sec. 1.]

NEW JERSEY

State Department of Environmental Protection issues permits regulating all dredge and fill activities in tidally influenced areas along specified rivers and bays. [N.J. STAT. ANN. Sec. 13:9A-1 to 13:9A-10.]

Department of Environmental Protection issues permits regulating construction of new facilities in coastal areas. Areas regulated under the wetlands act above are excluded. [N.J. STAT. ANN. Sec. 13:9A-1 to 13:9A-21.]

State regulates floodways. Local units regulate floodplains pursuant to state standards. State regulates floodplains where local units fail to adopt adequate regulations. [N.J. STAT. ANN. Sec. 58:16A-50 to 58:16A-66.]

NEW YORK

State Department of Environmental Conservation issues permits regulating activities in tidal wetlands. [N.Y. ENVIR. CONSERV. LAW art. 25.]

Local units issue permits regulating activities in freshwater wetlands in accordance with state standards. Department of Environmental Conservation regulates wetlands where local units fail to adopt regulations and in wetland areas of statewide significance. The Adirondack Park Agency regulates activities in wetlands within its jurisdiction. Appeals from local and state issued permits to Freshwater Wetlands Appeals Board. [N.Y. ENVIR. CONSERV. LAW art. 24.]

State Department of Environmental conservation issues permits regulating dredge and fill in wetlands that are adjacent to or contiguous to navigable waters. [N.Y. ENVIR. CONSER. LAW ART. 15-0505]

NORTH CAROLINA

State Department of Natural and Economic Resources issues permits regulating dredge and fill in tidally influenced areas and state owned lakes. [N.C. GEN. STAT. Sec. 113 - 229.]

State Department of Natural and Economic Resources may issue orders restricting or prohibiting dredge anad fill activities in coastal wetlands. [N.C. GEN. STATE. Sec. 113 - 230.]

Cities and counties issue permits regulating certain activities in coastal areas of environmental concern (including wetlands) pursuant to state guidelines. State Coastal Resources Commission may develop land use plan and issue permits for such areas if local units fail to adopt adequate plans. [N.C. GEN. STAT. Sec. 113A - 100 to 113A - 128.]

Local units issue permits regulating obstructions in state-identified floodways. [N.C. GEN. STAT. Sec. 143 - 215.51 to 143 - 215.61.]

NORTH DAKOTA

State Water Resources Commission issues permits regulating dikes, dams and other channel modifications in waters of the state, and drainage of certain ponds, sloughs, and lakes. [N.D. CENT. CODE Sec. 61-01-22, 61-02-14, 61-02-20.]

State Health Department regulates discharges into state waters. [N.D. CENT. CODE ch. 23 - 26.]

OKLAHOMA

State Water Resources Board issues permits regulating all discharges of dredge and fill material in all waters. [OKLA. STAT. tit. 82 Sec. 926.1 et seq.]

OREGON

State Division of State Lands issues permits regulating the removal of material from and the filling in of all natural waterways and their beds and banks. [OR. REV. STAT. Sec. 541.605 - 541.665.]

State Land Conservation and Development Commission may recommend designa- tion of, and regulate, areas of critical state concern. [OR. REV. STAT. Sec. 197.005-197.430]

State Highway Engineer, Division of State Lands, and State Land Board regulate specific scenic rivers, and issue permits regulating certain activities in the scenic river and along its banks. [OR. REV. STAT. Sec. 390.805-390.925]

State Forester regulate all forest practices, and must give written approval of stream channel changes resulting from forest practices. [OR. REV. STAT.Sec. 527.610-527.730.]

PENNSYLVANIA

State Department of Environmental Resources issues permits regulating contruction of dams and encroachments in all state waterways. [PA.STAT.ANN.tit.32 Sec.681-691.]

PUERTO RICO

Puerto Rico Department of Natural Resources and Puerto Rico Planning Board, through Regulations and Permits Administration, issue permits regulating activites in the coastal zone, which includes coastal waters, submerged lands, offshore islands, and a shoreland area including wetlands. [Law No. 75 (June 24, 1975), Law No. 76 (June 24, 1975), Law No. 23 (June 20, 1972), Puerto Rico Coastal Management Program.]

Puerto Rico Planning Board, with Regulations and Permits Administration, issues permits regulating development in zonewd areas and restricts construction in floodable areas. [Law No. 75 (June 24, 1975), Law No. 76 (June 24, 1975), Act No. 3 (September 27, 1961).]

RHODE ISLAND

Coastal Resources Management Council issues permits regulating dredge and fill below mean high water mark in tidally influenced areas. (R.I. GEN. LAWS Sec. 46- 23-1 to 46-23-16.]

State Department of Natural Resource issues permits regulating dredge and fill in intertidal salt marshes. (R.I. GEN. LAWS Sec. 2-1-18 et. seq.]

State Department of Natural Resources issues permits regulating dredge and fill in all inland waters. Local concurrence required. (R.I. GEN. LAWS Sec.2-1-18 to 2-1-24.]

SOUTH CAROLINA

South Carolina Coastal Council issues permits regulating activities in coastal critical areas (primary dunes, coastal waters to high tide, periodically inundated wetlands and marshlands subject to saline influence, and beaches). Coastal management plan sets performance standards as criteria. [S.C. Code Sec. 48-39-10 to 48-39-240.]

State Water Resources Commission issues permits regulating construction activities in navigable waters (below mean high water in tidally influenced areas and below normal high water elsewhere) outside the jurisdiction of the South Carolina Coastal Council. [Budget Control Board, art. 6,R19-100.]

SOUTH DAKOTA

State Division of Game Fish and Parks issues permits regulating special uses of lake bottoms held in public trust. [S.D. COMPILED LAWS ANN. Sec. 41-2-32., 41-2-18.]

TEXAS

General Land Office, State School Land Board regulate dredge and fill activities in coastal public lands by granting easements. [NAT. RES. CODE ch. 32, Sec. 32.001-33.176.]

Department of Parks and Wildlife issues permits regulating the extraction of sand, marl, gravel, mudshell in coastal bays, rivers, streams and lakes except within the limits of certain incorporated cities. Dredging activities in connection with mineral leases granted by the General Land Office, State School Land Board. [PARKS AND WILDLIFE CODE ch. 86.]

County Commissioners Court issues permits regulating certain extractions of sand, marl, gravel, etc., in certain shoreline and island areas. (NAT. RES. CODE Sec.61.211-61.227.]

VERMONT

Vermont Water Resources Board issues permits regulating dredge and fill in certain lakes, ponds, and streams. (VT.STAT.ANN.tit.29,ch.11]

Local ordinance regulating activities in floodplains developed in accordance with state standards. Permits issued locally with state oversight. (VT.STAT.-ANN.tit.10, Sec. 751-3.]

VIRGIN ISLANDS

Territorial Department of Conservation and Cultural Affairs regulated activities in shoreline areas. (V.I.CODE ANN. tit. 12 Sec. 401-407.]

Cutting and/or injuring vegetation in and along streams requires written permission from Department of Conservation and Cultural Affairs. (V.I. CODE ANN. tit.12 Sec. 121-125.]

VIRGINIA

Local Wetland Boards issue permits regulating activities in tidally influenced areas pursuant to state guidelines. Where local units fail to establish a Wetland Board, the Virginia Marine Resources Council issues permits. Local decisions are subject to review by, and appeal to, the V.M.R.C. [VA. CODE ch. 2.1 Sec. 62.1-13.1 to 62.1-13.20.]

WASHINGTON

State issues permits regulating activities in floodways and floodplains. Permitting authority may be delegated to local units. (WASH. REV. CODE Sec. 86.16.- 0100-86.16.900.]

State sets standards for local shoreline zoning and permitting programs for shorelines and associated wetlands of navigable rivers and lakes. State may adopt regulations of statewide significance. State issues permits regulating certain uses of statewide significance. (WASH. REV. CODE Sec. 90.58.010-90.58.-930.]

WEST VIRGINIA

State Department of Natural Resources responsible for the management of the state's water resources. The Public Lands Corporation within the D.N.R. issues permits and may otherwise regulate certain activities in navigable streams of the state. [W.VA. CODE ch. 20 Sec. 1-15.]

WISCONSIN

State Department of Natural Resources establishes a comprehensive plan for navigable waters and their shorelands. Counties adopt zoning ordinances in compliance with state standards. Where local units fail to adopt adequate controls, the state adopts an acceptable ordinance. [Shoreland Zoning Act, WIS. STAT. ANN. Sec. 144.26,59.971.]

State Department of Natural Resource sets standards for the regulation of floodplains by cities, villages, and counties. Where local units fail to adopt adequate regulations, the state adopts an acceptable ordinance. [Flood Plain Zoning Act, WIS. STAT. ANN. Sec. 87.30.]

WYOMING

State identified areas of critical or more than local concern are to be regulated by local units according to state development guidelines. State may adopt land use plan for areas if local units fail to. (WYO. STAT. Sec. 89-849 to 89-862.]

Table 25.—Values Protected by State Wetlands Regulatory Progams In New England

	Connecticut		Maine		Massachusetts		New Hampshire		Rhode Island	
	Salt	Fresh	Salt	Fresh	Salt	Fresh	Salt	Fresh	Salt	Fresh
Flood control	P	P	P	NA	P	P	P	P	P	P
Water quality	—	P	—	NA	P	P	—	—	—	—
Recreation	P	P	P	NA	—	—	P	P	—	P
Fish	P	P	P	NA	P	P	P	P	P	P
Wildlife	P	P	P	NA	—	—	P	P	P	P
Esthetics	P	P	—	NA	—	—	P	P	P	—
Water supply	—	P	P	NA	P	P	—	—	P	P
Erosion	P	P	—	NA	—	—	—	—	P	—
Sediment capture	P	P	—	NA	—	—	P	P	—	—
Shellfish production	P	—	P	NA	P	P	P	P	P	P
Navigation	P	—	P	NA	—	—	—	—	—	—
Ground water	—	—	—	NA	P	P	P	P	—	P
Vegetation	—	—	—	NA	—	—	P	P	P	—

P = Protected.
— = Not protected.
NA = Not applicable.

SOURCE: Data from OTA's New England case study.

Table 26.—Exemptions by State Wetland Regulatory Programs In New England

	Connecticut		Maine		Massachusetts		New Hampshire		Rhode Island	
	Salt	Fresh	Salt	Fresh	Salt	Fresh	Salt	Fresh	Salt	Fresh
Farm ponds	—	•	•	NA	?	?	—	—	—	—
Farming	—	•	—	NA	•	•	—	—	—	—
Boat moorings	—	•	•	NA	—	—	—	—	—	—
Municipal water supply	—	•	—	NA	—	—	—	—	—	—
Uses incidental to residential property	—	•	—	NA	—	—	—	—	—	—
Navigation aids	•	—	—	NA	—	—	—	—	—	—
Public health emergencies	•	—	—	NA	—	—	—	—	—	—
Mosquito control	•	—	—	NA	•	•	—	—	—	—
Snow dumping	—	—	•	NA	—	—	—	—	—	—
Maintenance and repair	—	—	•	NA	—	—	•	•	—	—
Some requirements for sewage disposal	—	—	•	NA	—	—	—	—	—	—
Utility maintenance	—	—	—	NA	•	•	—	—	—	—
Emergency work	—	—	—	NA	•	•	—	—	—	—
Silviculture	—	—	—	NA	•	•	—	—	—	—
Small wetlands (size limits vary by State)	—	—	—	NA	—	—	•	•	—	•
Riverbank cut and fill with conditions	—	—	—	NA	—	—	—	—	—	•

• = Exempted activities.
— = Activities regulated.
NA = Not applicable.

SOURCE. Data from OTA's New England case study.

LOCAL WETLAND REGULATION EFFORTS IN SELECTED STATES

The following table describes local wetland regulations in States with a large number of programs.

STATE	AREAS REGULATED	DESCRIPTION	COMMENTS
Connecticut	Inland wetlands	1. The Inland Wetland Protection Act of 1972 authorized towns to adopt wetland regulations. A State regulatory agency is authorized to adopt regulations in the event towns do not. 2. Wetlands are mapped based upon soils (poorly drained, very poorly drained, alluvial and floodplain) determined by the Soil Conservation Service. 3. The State has conducted data gathering efforts and workshops.	1. Some problems have been encountered with map scale, accuracy, administration, and enforcement of the act.
Florida	Tidal wetlands	1. Local regulations of inland wetlands is required by State "Critical area" regulations adopted for Big Cypress and Green Swamp critical areas and the Florida Keys. In addition, a number of local units have independently adopted wetland regulations. 2. The State regulates fill and dredging of wetlands under a water pollution control act.	1. There is widespread interest in wetlands, particularly in coastal mangrove and barrier islands. 2. Some communities, like Sanibel, have assumed leadership roles in wetland protection.
Massachusetts	Tidal wetlands Inland wetlands	1. Permits for alteration of inland and coastal wetlands must be submitted to town conservation commissions. The State wetland regulatory agency is authorized to adopt protective orders for inland and coastal wetlands. Landowners may appeal local decisions to the State regulatory agency. 2. State has mapped both coastal and inland wetlands. State protective orders have been adopted primarily for coastal wetlands but some orders have also been adopted for inland areas. 3. Many towns have adopted their own wetland zoning or special protection bylaws.	1. There is widespread interest in wetlands throughout the State. 2. The Audubon Society has conducted a three-year study of local wetland regulations to aid local wetland protection programs. 3. Problems have arisen with administration and enforcement of the act.
New York	Inland, some coastal wetlands	1. Municipal or county regulation of inland wetlands consistent with State standards is required by the Freshwater Wetlands Act of 1975. If municipalities fail to regulate wetlands, the regulatory function is transferred to the county. If the county fails, the function is transferred to the State. 2. The State is encouraging local programs through regulations, technical assistance, wetland mapping. 3. The State has adopted a moratorium for tidal wetlands.	1. Both coastal and inland programs are in early stages of implementation. 2. Programs are seriously limited by lack of budget.
Virginia	Tidal wetlands	1. The Tidal Wetland Protection Act of 1973 establishes a cooperative State/local protection program. A model wetland ordinance is contained in the act. If municipalities do not regulate wetlands, permits for development must be obtained from the counties. If counties fail to regulate, permits must be obtained from the State. 2. The State has inventoried wetlands and developed guidelines and guidebooks for local implementation with the help of the Virginia Institute of Marine Sciences. The Institute evaluates each proposed wetland application and makes recommendations to local wetland boards.	1. Regulations have been adopted by 25 communities which contain 90% of State coastal wetlands. 2. State-University-Local cooperation is very good. 3. The trend of losing 450 acres of wetlands per year has been reversed to an estimated 20 acres per year.
Washington	Inland and coastal wetlands within "shoreline" areas	1. Washington Shoreline Zoning Act of 1971 requires that local governments adopt "master programs" for shoreline areas defined to include wetlands. 2. The State has developed guidelines for shoreland use.	1. This act defines wetlands to include not only wet-vegetated areas but other lands. 2. The State has worked closely with local units in developing master programs.
Wisconsin	Inland wetlands within "shoreland" areas	1. County regulation of shoreland areas within 1,000 feet of lakes and 300 feet of streams is required by the Shoreland Zoning Act of 1966. The State regulatory agency is authorized to adopt regulations for shoreland areas if counties fail to adopt satisfactory controls. 2. The State has adopted administrative regulations and model shoreland zoning ordinances, which encourage conservancy zoning for wetlands within shoreland areas. 3. The State has worked closely with local units and provided manuals, guidebooks, technical assistance. 4. Wetlands have been defined based upon topographic and soils maps.	1. The program has worked with fair success. However, there have been some problems with wetland definition and enforcement of regulations. 2. A new wetland mapping effort is anticipated in the near future.

STATE AND LOCAL WETLAND MANAGEMENT AUTHORITIES

STATE	PERMIT PROGRAMS	ZONING WITH STATE REGULATIONS	STATE POLICIES	BASES FOR LITIGATION	FLOOD PLAIN REGULATIONS	RIVER PROTECTION PROGRAMS
Illinois	Illinois DOT regulates dredge and fill activities within Public waters					
Indiana	Acts of 1947; Ch 181 & 301 - areas below average water level of lakes		Natural Resources Comm. policy 6/27/68 - to preserve remaining wetlands		Acts of 1945 - Ch. 18 - requires permit for construction in floodways.	Natural Scenic and Recreational Rivers Act. P.L. 1973; 124 Note 2
Michigan	Inland Lakes & Streams PA 1972; 346 - below water line of lakes & streams Great Lakes Submerged Lands PA 1955; 247 - below GL high water Wetlands Protection Act 1979 regulates filling dredging development or drainage	Shorelands Protection PA 1970; 245 - areas in GL flood danger. Require marsh protection Soil Erosion & Sedimentation PA 1973; 347 - local reg of "earth changes"	Wilderness & Natural Areas - protection of certain state controlled areas.	Michigan Environmental Protection Act PA 1970; 127	Floodway Encroachment Act PA 1968; 167 - permit required for construction in floodways	Natural Rivers Act PA 1970; 231 Note 2
Minnesota	Public Waters Ch. 105; 1937 - water bodies must be designed	Shorelands Development 105.485 - standards for local adoption[1] Critical Areas-Ch 116G - state must designate areas	Environmental Policy Act 116D		Flood Plain Management Act - 104.01 - standards - local areas must adopt	Wild & Scenic Rivers Program 104.31, note 2
New York	Freshwater Wetlands Act Article 24 of ECL - areas over 12.4 acres or of special significance Tidal Wetlands Act Art. 25 of ECL Stream Protection Law (15-0505)				Article 16 of ECL - allows for purchase of land for flood control ECL 36-0101 - state may adopt reg. for local areas which don't	Wild & Scenic Rivers 6-15-2715
Ohio			Natural Heritage Program		No significant regulations	Wild, Scenic & Recreational Rivers Act SB 108; 1972 Note 2, Note 3
Pennsylvania	PA Dam Safety & Encroachment Act (32PS) PA Floodplain Mgmt. Require permits for the construction alteration maintenance & operation of all water obstruction & fill activities in, along, across watercourses, lakes and wetlands.		Policies soon to be issued by Environmental Quality Board	Both the New FP Mgmt Act & the DS & EA allow for equity suits brought by the State, and Co., municipality or aggrived person to enforce the act & correct violators	Title 32 - requires permit for obstructions	Scenic Rivers Act PA 1972; 283

STATE	PERMIT PROGRAMS	ZONING WITH STATE REGULATIONS	STATE POLICIES	BASES FOR LITIGATION	FLOOD PLAIN REGULATIONS	RIVER PROTECTION PROGRAMS
Wisconsin	Navigable Waters Chap. 30 WI statutes - permit required for dredging, filling, flooding, or building structures below the ordinary high water-mark Solid Waste Disposal Licensing Program-(Section NR 180.13(3), WI Admin. Code) - prohibits location of solid waste land disposal facilities within wetlands. WI Pollution Discharge Elim. Sys. Program (Chap. 147 WI Statutes) - regulates amount of pollutants discharged to waters of the state including wetlands.	Shoreland Zoning[1] 59.971 & 144.26 - restricts activities in shoreland wetlands - unincorporated areas only - co-administered with state oversight and maps. - wetlands recommended to be put in conservancy districts.	WI Natural Resources Bd. Policy NR 1.95 Wetlands Preservation, Protection and Management		Flood Plain Zoning 87.30 - must be open space for special circumstances	Wild Rivers Program 30.26 note 2 note 3

1 Coverage is 1000 ft. from public waters or 300 ft. from rivers and streams
2 Zoning is part of program
3 Money available for land purchases

allocations for wetland management.

Most states do not have permitting programs solely concerned with wetlands. Instead they rely on federal programs, State influence on some federal programs, state wetland-acquisition programs and other state programs that incidentally cover some development activities on some wetlands and cover those activities that occur beyond the boundaries of wetlands yet may have an adverse effect on them.

Some state programs may encourage the protection of wetlands but lack the authority to require protection or mitigation of potential impacts. For example, the California Department of Fish and Game reviews proposals for projects that may alter streambeds and impact upon fish and wildlife. The department proposes modifications and encourages the applicant to incorporate them into the project. The California 1977 Policy for Preservation of Wetlands in Perpetuity also has no direct mechanism for implementation. The policy limits the action of state agencies in approving projects that will harm wetlands and exempts some wetlands from the policy.

While a large number of states actively regulate at least some of their wetlands, many face problems that significantly hamper their efforts.

For most of those states with wetland programs, the major

implementation problem is funding for hiring a sufficient number of staff with appropriate expertise and for monitoring and enforcement of permitted activities.

Monitoring and enforcement of state regulations are often hindered by lack of staff. This is particularly true for inland wetlands. Enforcement is less of a problem in coastal wetland programs due in part to their more limited geographical scope and more easily identified physical characteristics.

Enforcement is, of course, the key to wetland protection. Strong public education programs and watchdog interest groups who report violations and appear at public hearings can facilitate local enforcement. Periodic surveys of wetland areas and consistent prosecutional violations will discourage violations.

Difficulties often are related to reduced Federal funding for wetland programs and coastal-zone management activities. Federal assistance has been important to states, for example, in developing inventories, in setting up coastal programs, and in acquiring wetlands. Cutbacks in Federal programs directly affect the capabilities of many states and localities.

Even more serious than federal cutbacks is the budgetary crisis confronting many state governments. Wetland program budgets generally have not kept pace with inflation, and in most cases have

been static. They have even been projected to decline in the future. Few states have come up with replacements for the federal funding that will be lost and few programs whether dependent on federal funding or not, are likely fo fare well when making funding requests from financially strapped state legislatures. A major factor behind low funding is the absence of legislative and public support for wetland protection, especially when such protection appears to conflict with development activities.

States and regions even within states differ radically in the awareness and attitudes of legislators and residents toward wetland values and wetland protection programs.

In many states, more than one agency handles programs that protect wetlands. In some states, there may be four or more agencies involved. Inconsistency in policy often results. Another sort of fragmentation takes place within single agencies; agencies and their personnel with wetland protection responsibilities between states and local governments can cause problems for wetland protection.

Administration support for State coastal management programs has been reduced significantly, and no funds have been requested in the past three years for wetland acquisition (1989).

Fourty-four states have special statutes that offer some form of

preferential tax treatment for land in agricultural, open space, forest, or recreational uses, Many of these statutes may be applied to wetland areas such as forested wetlands, although wetland protection is not an express statutory objective.

Furthermore, many state statutes commonly regarded as addressing wetlands protection in fact are directed to regulation of flood control, erosion, or zoning. Thus, at the outset, it must be noted that there is substantially less direct state regulation of wetlands than is often assumed. Unless a state adopts a statewide comprehensive statute directed explicitly towards state wetlands protection and preservation, it is unlikely that a well-managed protective effort will result. Thus, Arizona's Flood Control Districts statute will not directly accomplish wetlands preservation. Similarly, California's numerous related statutes may address certain wetlands, but the statewide wetlands problem as such, has been ignored. To provide effective wetlands protection, a direct provincial wetlands statute is recommended.

Prototype State Wetlands Statutes

Of all the state wetlands protection statutes, New York's Freshwater Wetlands Protection Act provides the best state model for consideration of legislative initiatives in this area. A number of factors make this statute a good prototype. First, it is explicitly directed towards wetlands protection. Second, the statute is general in its design and can easily be adapted. Third,

the Act addresses most pertinent issues in wetlands protection. Fourth, the statute incorporates the sample forms necessary to effective and efficient administration by providing permit applications and filing forms. Finally, it is both distinctive and comprehensive in its elaboration. This statute provides an excellent model for larger provinces, where complex administrative issues must be considered and where a broad statute is needed.

The state wetlands statutes of Washington, South Carolina, etc., and Connecticut, also appear to provide excellent examples of protective legislation. Each represents a significant effort on behalf of state wetlands, and should be consulted as a useful reference. These five statutes are heavily drawn upon in the following examination of the key statutory elements which legislators considering wetlands legislation should review.

Key Statutory Elements

Some of the key statutory elements of state wetlands legislation are outlined below. These include provisions on legislative purpose and findings, definitions, mapping, administration, and enforcement.

- Statement of Policy and Findings

A clear declaration of legislative intent is helpful in guiding future legislative interpretation and in encouraging support. The declaration should attempt to clarify the weight to be given

economic and other non-environmental factors in measuring the statutory preservation standard. A provincial wetlands statute should be founded upon a preservationist public policy. Many current legislative programs detract from this emphasis by stressing industrial and economic interests. For example, North Dakota and Alabama adopt policies which balance the interest of protection with local industry. Florida's statute, which otherwise might be considered fairly comprehensive, fails to provide any explicit policy guidelines. It has been argued that even though the intent may be clearly inferred, a lack of clarity regarding how competing interests should be weighted can expose an Act to undesirable litigation on issues of interpretation. Moreover, without a statement of policies and findings the state loses the benefits of educating landowners and the general public to the need for wetlands regulation. Virginia and New York, by comparison, explicitly direct a preservation priority. For example, the Virginia statute, after long enumeration of relevant policy issues, specifically and directly provides:

> "...it is declared to be the public policy of this Commonwealth to preserve the wetlands and to prevent their despoliation and destruction and to accomodate necessary economic development in a manner consistent with wetlands preservation."

- Defining Wetlands

The definition of "wetlands" adopted should facilitate the identification of areas covered by the statutes.

"Wetlands" definitions rely on a variety of characteristics. They commonly describe whether the land is inundated by surface waters or flood waters, the type of vegetation prevailing, soils, and the horizontal distance of the land from the high water mark. Most states also utilize certain descriptive land types such as swamps, bogs, marshes, salt marshes, shorelines and estuaries. Finally, many statutory definitions specifically designate certain sites to be covered by the legislation. A sound definition, such as that found in the model legislation proposed by the Great Lakes Wetlands Policy Consortium, should incorporate a number of these elements and be specifically tailored to the province's particular needs and characteristics.

- Mapping

Mandatory mapping by a provincial or local administrator is essential to wetlands preservation. Maps help define and clarify wetlands boundaries. Provisions for public hearings give the public an opportunity to participate in the preservation decision process. In combination, provisions for public hearings in administrative mapping create a more educated and co-operative public, and lessen the likelihood of future dispute. New York's mapping and hearing mandates are notable for their procedural clarity. Larger provinces implementing such legislation should, however, be careful to delegate these mapping and hearing responsibilities to local administrators in the interests of efficiency and responsiveness.

Regulated Activities and Exemptions

Statutes should establish regulatory powers over all activities affecting the wetlands and surrounding areas. Specifically limited and enumerated exceptions from the permit requirements may then be carved out. The scope of the exempted activities is extremely significant. There are some activities that ought not to be carried out in wetlands, but generally activities of a less harmful nature may be permitted subject to appropriate regulation. Agriculture is among the most common uses exempt from certain controls. Despite the fact that "agricultural practices are the principle threat to wetlands in many areas", the agricultural exemption occurs in almost all wetlands statutes. Because of the considerable political power of agricultural interests in most state legislatures, it is unlikely that a wetlands bill will be passed which overly regulates agricultural activities. According to one authority, the impact of agricultural drainage, cultivation, and pesticide runoff may be minimized by incorporating provisions promoting the following agricultural practices:

(1) utilizing minimum tillage farming techniques;
(2) avoiding drainage and dyking;
(3) adopting soil conservation measures to control erosion and agricultural runoff;
(4) maintaining wetlands buffer areas;
(5) fencing streamside wetlands and influent streams to reduce erosion and direct pollution by cattle;

(6) reducing application of manure to frozen soils during the winter;

(7) controlling pesticide and herbicide applications;

(8) increasing wild crop harvesting and agriculture consistent with actual wetlands characteristics.

These constraints may be promoted by affirmative requirements or by making them the conditions for exemption from certain regulation.

Exemptions also frequently apply to official government activity including: public health activities, mosquito control projects, emergency actions, and normal maintenance and repair of existing public structures. Certain of these, such as emergency actions and minimal repair projects, should be exempted in the interest of cost containment. Others should not. Projects including large scale maintenance, repair, construction, and any chemical activity for example, whether undertaken by private citizens or government agencies, should be subject to regulation. Many states entirely exempt government action from regulation, but this is unwise. It is not the source of the activity but its effect which is relevant. The Connecticut approach, which expressly subjects government agencies to regulation, is preferable. New York exempts only public health activities of the Department of Health and specifically mandates review of all current mosquito control projects. Both appear to be appropriate solutions to this problem.

Exemptions based upon actor status (around farmer or government agent) are common but carry the potential to undermine even well drafted protection statutes. The attempt at curtailment of certain governmental agency actions by another agency having similar scope of authority could trigger inter-agency friction. This problem may best be resolved by requiring inter-agency co-operation.

Finally, exemptions to regulation often include recreational and sporting activities as well as conservation and research projects. Arguably, any blanket exemption is undesirable and limitations should be incorporated. For example, motor powered boating might be prohibited or subjected to permiting in certain areas. Certain particularly endangered wetlands should be barred from all use. Specific state needs and the characteristics of particular wetlands must be considered in designing appropriate limitations.

The effectiveness of a wetlands statute is inversely related to the extent of exemptions incorporated. Even the soundest policy and comprehensive program will be frustrated by wide special interest exemptions. Even such detrimental activities as sewage treatment and mining have occasionally been exempted. And clearly these render the statutes meaningless in terms of effective protection. Unfortunately, at present similar undesirable and broad exemptions exist in nearly every state wetlands statute. Indeed, in this area a sound model is not to be found.

Permits

States generally adopt the permit system whereby persons proposing to use wetlands in a manner that is regulated must apply to the administrator for a permit. The application is then considered in light of the legislative policy and any permit criteria. The responsible body should be empowered to grant, deny, or condition a permit. The ability to limit or attach conditions to a permit allows administrators to balance legitimate private and public concerns with wetlands preservation.

Administrative discretion should be guided by statutory criteria. The list of factors to be considered in evaluating a permit application may be more or less extensive. An extensive list is found in Connecticut. Applied together the criteria require administrators to closely examine the environmental impact of any proposed action and possible alternatives. A permit may not be issued unless the Commissioner of Environmental Protection expressly finds that a "feasible and prudent alternative" does not exist. The absence of clear criteria exposes a statute to unfettered administrative discretion. In Maine, for example, permit may be granted upon a mere showing that,

> "...the proposed activity will not unreasonably interfere with existing recreational navigational uses; nor cause unreasonable soil erosion, nor unreasonably harm wildlife or fresh water..."

The "reasonableness" of the harm is to be determined in accordance

with "the satisfaction of the board or municipality." This statutory provision is vague and carries the potential of sanctioning "reasonable" but destructive uses of the state's wetlands.

State vs. Local Regulations

A decision must be made regarding how much regulatory authority should be delegated to local governing bodies. Certain states retain all permitting authority in a state body. In Delaware, localities are involved only to the extent that permit seekers must show compliance with the applicable county or municipal zoning law. Local conservation and development plans are also among the factors to be considered before the issuance of any permit. Other states (such as Washington) delegate all authority to local governments. Maine delegates to local agencies only upon formal requests.

The primary benefits of oversight at the provincial level are objectivity and co-ordination. The primary virtue of local control is responsiveness. Provincial experience in co-operative regulation must dictate the degree to which both sets of benefits may be realized.

The potential conflicts of interest between provincial and local authorities are illustrated by reactions to a recent court ruling in Connecticut. Westport, Connecticut, residents were upset over a court decision that a city ordinance protecting wetlands was

unconstitutional. The town sought more authority in development decisions in the belief that the state government would not protect wetlands to the extent desired by local residents. The motivation for their concern is unclearfrom reviewing the case itself. Arguably, in addition to conservation objectives citizens of Westport were interested in curbing further development to bolster their property values. Meanwhile, the neighbouring towns and the County are expanding rapidly and may be in danger of severe overdevelopment. The State has argued that it has a legitimate competing interest in distributing development throughout the County. Thus, State and Town interests are coming into direct conflict.

The reverse problem may also arise. It is our experience that local authorities have often favoured development to the exclusion of conservation values particularly in economically depressed areas. Because extreme positions may be adopted at the local level, local authorities should be subject to a check at the provincial level. Optimally, the province should establish a balance between provincial and local wetlands authority. For instance, Virginia's state statute incorporates a Model Wetlands Ordinance for adoption by counties, cities and towns. Upon local adoption, jurisdiction over permit consideration is vested in the local wetlands board. If the town does not enact a wetlands ordinance within one year of the governing county's adoption thereof, permit consideration is vested in the county wetlands

board. The State Commissioner of Marine Resources reviews all decisions of the wetlands boards and may recommend full Commission Review in certain circumstances. Judicial review is a further check on the wetlands permit decision.

The New York scheme is similar. Under its Freshwater Wetlands Act, the lowest level of government has jurisdiction over permits. As in Virginia, a town, city, or village may adopt a wetlands ordinance. If it fails to adopt one, the governing county has jurisdiction. If the county has not adopted a wetlands ordinance, jurisdiction vests in the state. New York's Tidal Wetlands Act establishes concurrent jurisdiction between the state and locality, with the state conferring with the local government to establish a wetlands program.

Involving all levels of government appears to favour, but perhaps complicate, administrative protection of the wetlands. As noted by one commentator of the New York scheme:

> "Private interests seeking to exploit tidal areas must now first obtain permission from all four levels of government. In their search for the jurisdictional pea of power from whence flow such permits, they will find a pea under each shell: federal, state, county and town; for what has resulted from the flurry of protective legislation of the 1970s was the jurisdictional split pea soup flowing through all levels of government."

The aim should be a workable balance between state and local authority.

Enforcement

While permit systems are effective regulatory mechanisms they should be backed by enforcement authority of the kind outlined in the Great Lakes Consortium Model Legislation. The New York statute is weak on enforcement language.

Several good models are also found in the New England states and Washington. They suggest the elements which an effective set of enforcement provisions should include.

a. Injunctive authority

Injunctive authority should be explicitly provided as is done in the Great Lakes Consortium Model Legislation. All wetlands statutes recognize this authority but vest it in different entities. Maryland requires that the State Attorney General initiate such action. Connecticut and Washington expressly allow action to be taken at the local level; in Connecticut "the suit of any person or agency of state or municipal government," and in Washington, "by the attorney general or the attorney for the local government." This delegation is desirable as local authorities are likely to be more aware of current developments and require less response time. Rhode Island is unique investing substantive authority in its director of environmental management. The director himself has the "power by written notice to order the violator to cease and desist immediately..." and to bring prosecution by

complaint and warrants to the state district court if there is a failure to comply. Moreover, the director may obtain relief in equity or by prerogative writ when necessary. Although it would appear beneficial to vest equitable authority in the state wetlands administrator, local control should not be eliminated entirely.

In a smaller province, such as PEI this is probably not critical. However, in a larger province such as Ontario, local authorities should not be pre-empted.

b. Civil penalties

Authority to impose a significant civil penalty gives state authorities an effective and flexible means of effectuating policy. Procedurally, they are not as cumbersome to impose as criminal penalties. They are also more effective in exacting the intended performance - wetlands protection - than criminal penalties which focus on punishment rather than performance. Connecticut, Rhode Island, and Washington all set a civil fine of $1,000. Proper notice, consistent application and speedy determination are facilitated by a statute that specifies a certain civil penalty, as does the model legislation. These should apply to both violations of the statute and violations of the permit. The long-term effect of such amounts can be maximized by providing that the penalties should be adjusted to reflect changes in the cost of living index.

c. Criminal liability

Despite the fact that criminal penalties are only recently being invoked in the American regulatory context, most states have included them in their wetlands statutes for some time. If such a provision is to be useful, it should take the penalty to the seriousness of the breach. Penalties as low as $25.00, such as those found in Washington law, are of questionable deterrent effect. Similarly, given the reluctance of courts to imprison "white collar" criminals, prison sentences should be reserved for the most severe statutory violations.

Maryland offers a good prototype provision. It increases penalties for repeated offences, makes non-compliance with the permit as well as non-compliance with the permiting process an offence, and addresses the problem of a defense based on lack of notice. It thus maximizes the likelihood that the provision will be applied and minimizes its arbitrary application.

d. Restoration as a remedy

Users who illegally impair wetlands should be subject to an order to restore them as is the case in some state legislation and the model legislation. A restoration order is the strongest message a province can send its constituents regarding its commitment to long-term wetlands protection.

Civil and criminal fines will undoubtedly be inadequate to cover the cost of restoration, and such penalties are always in danger of becoming considered a mere cost of development with no deterrent value at all. By incorporating and enforcing a restoration remedy, responsibility in permitting a questionable project falls on the party most able to assess the risk.