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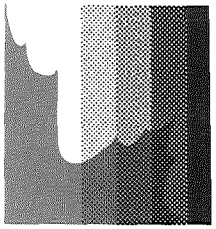

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POLLUTION FROM LAND USE ACTIVITIES

REFERENCE GROUP

LEGISLATIVE STUDY

INTERIM
REPORT
No. 7

SHORELINE LANDFILLING ACTIVITIES

November 1976

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PART I - FEDERAL

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I. OVERVIEW

Existing federal legislation and other arrangements while generally broad enough in powers do not provide a detailed and comprehensive framework for water pollution control from (1) landfill and construction excavations and (2) dredging. The best instruments are existing provisions and proposed amendments to the Fisheries Act respecting aquatic habitat protection and a wider capacity in the Minister to require plans and specifications of existing and proposed activities. However, the effectiveness of the plans and specifications provision is considerably reduced when the provision is not used systematically as if it were a permit system. Prohibitions against aquatic habitat destruction are also potentially undercut by provisions which permit other federal laws to authorize levels of aquatic habitat destruction without recourse to the Fisheries Act.

Non-statutory administrative procedures, while of value, face a number of difficulties in relation to existing federal laws in attempting to ensure that environmental matters are incorporated into decisions respecting such shoreline landfilling activities.

II. JURISDICTIONAL MEASURES

A. Fisheries Act[1]

Amendments

The principal provisions of this statute have been reviewed in previous reports. However, a number of amendments to the Act have been proposed, which are of relevance here.[2]

The definition of "fish" has been expanded to include "shellfish, crustaceans, aquatic animals and the eggs, spawn, spat and juvenile stages of fish, shellfish, crustaceans and aquatic animals."[3] This expansion of the definition of fish would appear to be a result in part of the difficulties which have occasionally confronted fisheries officers in establishing that "silt" or "sediment" is harmful or deleterious to "fish" per se.[4] This definition is also related to one created for the preservation of "aquatic habitat" also a proposed amendment to the Fisheries Act. The "aquatic habitat" definition means "the physical, chemical and biological components of the environment on which fish depend directly or indirectly in order to carry out their life processes and without limiting the foregoing includes living aquatic organisms, non-living nutrients and spawning grounds and nursery rearing, food supply and migration areas."[5] With these two definitions established, new offences are created in relation to "aquatic habitat" protection.

Aquatic Habitat Protection

Under the proposed amendments it is an offence for any person to carry out a work or undertaking that results in the harmful alteration, disruption or destruction of aquatic habitat.[6] Any alteration, disruption or destruction of aquatic habitat that is authorized by the Minister of Fisheries and Environment, the federal cabinet or under regulations to the Fisheries Act or any other piece of federal legislation is not an offence under the proposed amendments.[7] Fines upon summary conviction under this section may result in sums not to exceed five thousand dollars (for a first offence) and sums not to exceed ten thousand dollars for each subsequent offence. Upon conviction on indictment imprisonment for a term not exceeding two years is possible.[8] Where a person is convicted of an offence under section 33, in addition to any fines or any orders to refrain from doing certain things which the court may impose the court may also order that appropriate affirmative action be taken to ensure that further offences will not occur.[9]

Plans for Existing and New Activities

The Minister is also authorized to require plans and specifications from every person who carries on or proposes to carry on any work or undertaking that results or is likely to result in the alteration, disruption or destruction of aquatic habitat. Such information must be sufficient for the Minister to determine whether the work or undertaking results or is likely to result in any alteration, disruption or destruction of aquatic habitat that would be an offence

under section 31 and what measures, if any, would prevent such a result or mitigate such adverse effects.[10] After reviewing such information, if the Minister is of the opinion that an offence is being or is likely to be committed he may by order subject to regulations described below, or if there are no regulations, with the approval of the federal cabinet, require modifications or additions to the work or undertaking or the appropriate plans or prohibit or restrict the operation of or direct the closing of the work or undertaking.[11] The federal cabinet may make regulations prescribing the manner and circumstances in which the Minister may make orders respecting modification or prohibition of any ongoing or proposed work which may adversely effect aquatic habitat.[12]

The failure to provide the Minister with plans and specifications or other information makes the person liable upon summary conviction to a fine not exceeding five thousand dollars for a first offence, and to a fine not exceeding ten thousand dollars for subsequent offences.[13] The carrying out of works contrary to orders or plans noted in section 33.1(2) makes the person liable upon summary conviction to a fine not exceeding twenty-five thousand dollars for a first offence, and to a fine not exceeding fifty-thousand dollars for each subsequent offence.[13]

Emergency Pollution Problems

Deposits of substances deleterious to aquatic habitat or water frequented by fish must be reported to the appropriate fisheries inspector.[14] Reasonable measures must be taken by every person who deposits such deleterious substances to conserve fish and aquatic habitat and to prevent, counteract, mitigate or remedy any adverse effects that result or may result from such deposit.[15] Inspectors may, subject to the regulations, take any measures or direct that such measures be taken to preserve fish or aquatic habitat.[16]

The amendments to the Fisheries Act in summary may be described as covering the following areas: (1) aquatic habitat protection;[5-16] (2) existing and new pollution problems[10-12] (3) emergency pollution problems[14-16] and (4) increased penalties. Ancillary matters include broadening of civil liability for spills of deleterious substances to persons who either own or have control or custody (eg. carriers) of a deleterious substance which is spilled and the rights of action by federal and provincial agencies for recovery of costs for the clean up of a deleterious substance.[17]

Explanatory notes summarizing the Fisheries Act amendments indicate that the concept of protecting aquatic habitat while not new, was expanded because of increasing development pressures and the "possibilities of increasing alteration or destruction....especially in sensitive foreshore areas from landfilling operations." It is thus appropriate to emphasize the aquatic habitat amendments in the review here because they appear directly applicable to the activity of shoreline landfilling. The explanatory notes further outline that the

provisions dealing with existing pollution problems from existing activities are "principally directed to the impact of deleterious substances, such as effluents, deposited in fish frequented water." Since these provisions would appear to be of more general applicability to "point source" discharges, discussion of the full range of Fisheries Act amendments as it relates to existing activities has been limited here.

B. Migratory Birds Convention Act[18]

The principal provisions of this statute have been reviewed in previous reports. The Migratory Birds regulations make it an offence for any person to deposit or permit the deposit of oil, oil wastes or any other substance harmful to migratory birds in any waters or any area frequented by migratory birds.[19] This provision may have some applicability to dredging or landfilling activities in sensitive foreshore areas. Fines upon conviction are nominal, however, and no permit system is established.

C. Navigable Waters Protection Act[20]

The Act is administered by the federal Minister of Transport. The purpose of the Act is the protection of navigable waters for purposes of navigation. Works are defined to include "any dumping or fill or excavation materials from the bed of navigable waters."[21]

The Act provides that no work may be built or placed in, upon, over, under, through or across any navigable water unless the work and the site and plans have been approved by the Minister upon such terms and conditions as he deems fit prior to commencement of construction;[22] and the work is built, placed and maintained in accordance with the plans, the regulations and the terms and conditions set out in the approval referred to in section 5(1)(a).[23] Section 5 does not apply to any work that in the Minister's opinion does not substantially interfere with navigation.[24]

The Act provides that a work that is being constructed or has been constructed without Ministerial approval or is built contrary to approved plans may be removed by Ministerial order or upon non-compliance by the owner of the work, the Minister may cause its removal.[25] Failure to comply with a Ministerial order may result in a fine not exceeding five thousand dollars (no minimum) upon summary conviction.[26] Government costs associated with the work's removal are recoverable from the owner.[27]

Works may be approved by the Minister after construction has commenced.[28]

Regulations may be made by the federal cabinet under this Act for the purpose of navigation.[29]

The throwing or deposit of materials such as sawdust, and related materials that are liable to interfere with navigation is prohibited.[30] The throwing or deposit of stone, gravel, earth, cinders, ashes or

other material that is liable to sink to the bottom of navigable waters, where there is not at least twenty fathoms of water at all times is prohibited but nothing in this section may be understood to authorize the throwing or depositing of any substance in any part of a navigable water where such action is prohibited by or under any other Act.[31]

The Minister of Transport is authorized to appoint places in any navigable water not within the jurisdiction of certain harbour commissions where stone, gravel, earth, cinders, ashes or other material may be deposited notwithstanding that the minimum depth of water at any such place may be less than twenty fathoms. The Minister may make rules regulating the deposit of such materials.[32]

D. Canada Shipping Act[33]

The Act is administered by the federal Minister of Transport. Under Part XII of the Act the Minister is responsible for certain public harbours not covered by the Harbour Commissions Act.[34] These include a number of harbours on the Great Lakes, including Kingston, Port Hope etc. Part XII provides for the appointment of harbour masters[35] whose "duties" include ensuring that the rules and regulations provided by the federal cabinet for the harbour[36] are complied with.[37] The harbour master must report all contraventions of such rules to the Minister and the Minister is authorized to instruct the harbour master to prosecute any one responsible for such contraventions.[37]

E. Harbour Commissions Act[38]

The Act provides for the establishment of Harbour Commissions and is also a responsibility of the Minister of Transport. Once a Commission is established it has the authority to regulate and control the use and development of all land, buildings and other property within the limits of the harbour.[39] Commissions are also authorized to purchase, construct and sell lands, buildings and equipment within the immediate vicinity of the harbour limits with the Minister's approval and below certain amounts without the Minister's approval.[40]

By-laws Commissions are further authorized with federal cabinet approval, to make by-laws respecting certain matters including the regulation or prohibition of the construction of buildings, structures, docks, wharfs within the harbour limits as well as the "excavation, removal or deposit of material or any other action that is likely to affect in any way the docks, piers, wharfs or channels of the harbour or adjacent lands".[41]

The majority of Commissioners must be appointed by the federal Cabinet. The remainder must be appointed by municipalities adjoining and within the harbour limits.[42]

F. Selected Harbour Commissioners' Acts

A number of Harbour Commissions established under the Harbour Commissions Act have enacted by-laws which deal with shoreline land-filling activities. These include Lakehead, Oshawa, Windsor and Belleville Harbour Commissions. Separate Acts for Toronto and Hamilton harbours have also enacted roughly similar provisions. Thus the provision will be noted only once with appropriate reference to where it may be found in the other Harbour Commissions by-laws.

Under the Oshawa Harbour Commissioners by-laws, for example, there is a prohibition against any person encumbering the water or shore; or draining, discharging or depositing in the water or on shore any object that might,..."cause a nuisance or damage or endanger property or persons.[43]

III. PROPRIETARY MEASURES

A. Public Works Act[44]

The Act is administered by the Department of Public Works. Under the Act, the Minister of Public Works has the management, charge and direction of such properties belonging to Canada as hydraulic works, harbour construction and repair; piers and works for improving navigation on water and related matters.[45] When the federal cabinet authorizes that certain works be performed in any navigable water for improvements to navigation it is made lawful for any officer or servant to enter upon, dig up, dredge and remove any part of the bed of a navigable water.[46]

B. Government Harbours and Piers Act[47]

The Act is directed to administration of commercial and federal marine facilities not under the jurisdiction of independent harbour commissions and includes such matters as breakwaters piers and certain harbours. The Minister of Transport administers commercial marine facilities. The Department of Fisheries and Environment is responsible for federal marine facilities used predominantly by commercial fishermen, sports fishermen and recreational boaters. This responsibility is undertaken by the Small Craft Harbours Branch of DFE. Construction, repair, control, administration and management of these facilities is the responsibility of DFE. Responsibility for Ministry of Transport marine facilities including their construction and repair remains a Department of Public Works responsibility.[48]

C. Fishing and Recreational Harbours Act (Proposed)[49]

This proposed Act would consolidate those responsibilities already administered by the Department of Environment's Small Craft Harbours Branch with respect to the development and management of certain fishing and recreational harbours in Canada. The Act is not intended

to apply to any harbour, works or property under the National Harbours Board or any of the harbour commissions or have effect upon the powers and duties of the Ministers of Transport and Public Works.[50] The Minister of Environment would be permitted to undertake projects for the acquisition, development, construction, improvement or repair of any harbour to which the Act applies.[51] The Minister would be permitted to enter into agreements with provinces or individuals to provide for any of the above enumerated undertakings.[52] The federal cabinet would be authorized to make regulations prescribing the terms and conditions of such agreements that are entered into.[53] Officers appointed under the Act would be authorized to enforce any part of the Act or regulations including requiring production of documents from any person on the premises to which the Act or regulations apply.[54] Such officers may not be obstructed or mislead in the carrying of their duties under the Act or regulations by any person.[55] Violations upon summary conviction may result in a fine not exceeding $25,000 or to imprisonment for a term not exceeding six months or to both.[56] No minimum fine or prison term is provided for.

IV. NON-STATUTORY ACTIVITIES

A. Federal Environmental Assessment and Review Process

The provisions of this process have been outlined in previous reports.[57]

B. Marina Policy Assistance Program[58]

The purpose of the Marina Policy Assistance Program is to encourage the development of additional public facilities for recreational boaters. The program is administered by the Small Craft Harbours Branch of the Department of Fisheries and Environment. Engineering services are provided by the federal Department of Public Works. Under the program the federal government may build breakwaters and may also perform initial dredging in the public areas of the harbour, provided that the developer establishes onshore facilities of equal value. Where dredging is necessary under the program it is performed by the Department of Public Works.

A formal agreement between the developer and the Department of Fisheries and Environment must be entered into, outlining the work that must be performed by each party. Dredging is usually undertaken after a tender call and contract award. Normally the developer must submit a plan to DFE outlining such matters as the economic justification for the proposal, a development plan and any long term plans for expansion. The development plan is normally required to include such matters as dredging required, a description of shoreward facilities and a construction schedule.

Dredging is normally done on a one time basis under such arrangements. Maintenance dredging may also be covered under certain circumstances.

Recent maintenance dredging activities undertaken by the federal government for this program have included deposit of dredge spoils on shoreward

areas and in Lake Erie. Amounts of dredged material have normally been in the range of 5000 - 11,000 cubic yards of Class 'B' material. (Normally sand, silt and clay sized particle fractions).[59] The activities carried out under this program are subject to the federal environmental assessment and review process prior to go ahead.

V. AGREEMENTS

A. Canada - U.S. Agreement on Great Lakes Water Quality[60]

As noted in previous reports the objective of the Great Lakes Water Quality Agreement is to improve the quality of the water in the areas of the Great Lakes now suffering from pollution and to ensure that Great Lakes water quality will be protected in future. The provisions of the Agreement including research and publication of findings is being undertaken by the International Joint Commission for the respective federal, state and provincial governments.

The Agreement calls for the development of measures for the abatement and control of pollution from various activities including land uses such as (1) land and construction excavations and (2) dredging described together as shoreline landfilling activities. Dredging was also the subject of a special International Working Group review to identify current practices, programs and institutional mechanisms for its control.[61] The Working Group's terms of reference required it to conduct its study and formulate its recommendations on the basis of the following principles: (1) dredging activities should be conducted in a manner that will minimize harmful environmental effects; (2) all reasonable and practicable measures shall be taken to ensure that dredging activities do not cause a degradation of water quality and bottom sediments and (3) as soon as practicable, the disposal of polluted dredged spoil in open water should be carried out in a manner consistent with the achievement of the water quality objectives, and should be phased out.

The Working Group published its findings and recommendations in May 1975[62] and held a Public Seminar on its findings and recommendations in January 1977.

VI. COMMENT

The principal federal constitutional authority to regulate foreshore landfill or dredging operations is derived from British North America Act provisions respecting navigation and shipping[63] and the transference from provincial to federal control of public harbours, dredges and related matters at the time of confederation.[64] In addition federal responsibility for seacoast and inland fisheries protection[65] provides a further foundation for federal involvement in certain activities that may effect fish and waters frequented by fish.

Landfill and Construction Excavations

NWPA and Environmental Protection

Existing federal legislation and other arrangements do not provide a comprehensive framework for water pollution control from landfills for industrial and commercial development activities. Most of the federal legislation outlined above (for example, the Navigable Waters Protection Act) does not have pollution control as one of its objects. Thus, while it is understood that exemptions to NWPA permit requirements for the dumping of fill in navigable waters have contained conditions, including occasionally environmental conditions, it is not possible to develop a water pollution control program for landfills from a statute whose sole purpose is protection of navigation. Where an application for a fill exemption did not or would not infringe on navigation, but did have environmentally negative implications, the Ministry of Transport would have no authority to deny the granting of such an exemption. Thus, while the informal referral mechanism that has been worked out between the Ministry of Transport and the Environmental Protection Service of Environment Canada on such applications has certainly alerted both agencies to the water pollution problems associated with such proposals, the NWPA is neither the appropriate nor the most adequate tool to effectuate control.

Harbour Commission By-laws

The other federal Acts outlined are also not directed to water pollution control per se, though some provisions of Harbour Commission by-laws do provide the respective commissions with authority to prosecute for dumping or filling that may become a nuisance within the harbour limits.[43,66] However, frequently Harbour Commissions are themselves the proponents of landfill activities within and immediately adjacent to their harbour limits for purposes of industrial and commercial expansion. In such circumstances it is more appropriate that they be the regulated rather than the regulator.

Fisheries Act Amendments

The Fisheries Act amendments[2] provide the best potential federal legislative mechanism whereby shoreline landfilling activities may be addressed and required to comply with federal environmental standards respecting fish frequented waters. This is so because the definition of aquatic habitat is broad enough to cover all or most of the sensitive foreshore areas that are frequently subject to heavy development pressures for landfilling as well as the fact that the Minister may require plans and specifications.

However, it is submitted that the proposed Fisheries Act amendments are inadequate in a number of respects. First, despite the fact that under the proposed section 31 there is a flat prohibition against carrying out a work or undertaking "that results in the harmful alteration, disruption or destruction of aquatic habitat," other proposed amendments modify and, it is submitted, seriously weaken this provision. Despite this flat prohibition on altering, disrupting or destroying aquatic habitat, no person will be deemed to have contravened this provision where regulations under the Fisheries Act or "any other federal Act" authorize such activity. Such a qualification of the

flat prohibition on aquatic habitat harm may be sufficient to emasculate the prohibition's effectiveness where authorization of activities under other federal Acts (such as NWPA, for example) continue to be directed to narrow interests and concerns (eg. protection of navigation).

Second, despite the fact that the Minister of Fisheries and Environment is authorized to request that plans and specifications of exising or proposed undertakings that might adversely effect aquatic habitat be submitted to him, the provisions do not establish a permit system to control such activities. Thus, it is likely that, as in the past, the Minister's use of such a provision will be highly selective. Moreover, the benefits to be derived from a permit system, such as (1) early identification of a proponent and (2) the nature of his proposed activity are lost by the procedure established in the Fisheries Act. The value of a permit system is that every proponent knows that the onus is on him to seek out the environmental agency and submit basic information to the agency's satisfaction as a condition precedent to being able to proceed with his proposal. Such a system also shifts the onus away from the environmental agency's having to find out through indirect means and inadequate information (such as currently occurs it is understood under NWPA permit applications) that a proposed activity may adversely effect environmental matters. The current scheme in short places the burden on the agency rather than on the proponent.

EARP and control of landfills under federal jurisdiction

Other federal mechanisms available for incorporating environmental protection measures into landfill proposals under federal jurisdiction are non-statutory in nature. The main instrument in this regard is the Environmental Assessment and Review Process (EARP) which developed as part of a federal cabinet directive to control pollution from existing federal facilities and to prevent pollution from proposed federal works.[67] Review of the scope of the EARP has been undertaken in previous reports.[57] In summary the process is intended to apply to projects and groups of projects (1) initiated by federal departments and agencies (2) for which federal funds are to be made available and (3) where federal property or federal Crown lands will be required to be used. Federal proprietary crown corporations and regulatory agencies are invited not required to participate.

The EARP is a fairly new administrative procedure and experience with it in relation to landfilling activities by federal entities is not extensive. However, preliminary experience with the process as it has developed in relation to the landfilling proposals of selected federal entities, such as harbour commissions in Ontario, may be illustrative of the difficulties of using a non-statutory administrative process to effectuate the equivalent of regulatory control.

First, there are problems of the presumed scope of the EARP. Harbour Commissions would appear to be neither agencies nor crown corporations as the terms are used in descriptions of the application of the EARP. Lack of precision in defining what the EARP was intended to apply to

has made it difficult for federal environmental officials to persuade some harbour commissions that commission activities (eg. landfilling proposals) are embraced by the EARP process. This has been the case, for example, with initiatives of the Oshawa Harbour Commission to landfill significant marsh and wetland habitat on the north shore of Lake Ontario for comtemplated harbour expansion purposes.

Second, cabinet directives on environmental protection procedures to be followed may conflict with other cabinet decisions relating to commercial development. In a shoreline landfilling context, a directive on preventing environmental pollution may conflict with a directive respecting major ports and harbours development.[68] Where separate administrative mechanisms or committees are set up to implement each cabinet directive's mandate, who is to determine which procedure is to be utilized or to take precedence in the context of any particular development proposal? Since cabinet directives are in-house administrative procedures and not law, recourse cannot be had to any public tribunal or court to resolve potential or actual "conflicts of jurisdiction".

Third, the relationship of cabinet directives to existing federal laws would appear to place such non-statutory mechanisms at a disadvantage in terms of ensuring that environmental matters are incorporated at the planning stage. As a result, EARP which is meant to be a planning tool to prevent environmental damage, may more frequently be a reactive tool. This proposition is reflected in Oshawa Harbour Commission initiatives respecting harbour development in sensitive marshland areas which have already included shoreline landfilling activities without prior authorization.[69,70]

Under the Harbour Commissions Act, harbour commissions are authorized to regulate and control the use and development of all land and other property within the limits of the harbour. Commissions are also authorized to purchase, construct and sell lands and other property within the immediate vicinity of the harbour limits with the Minister of Transport's approval and below certain amounts without the Minister's approval. The Act does not require a Commission to consider the public interest in matters of environmental protection in relation to its activities or to be cognizant of non-statutory environmental constraints (e.g. EARP) in the planning of its future initiatives. Nor does any other federal Act require this consideration by federal entities in the carrying out of their activities. As a result a Commission is statutorily unconstrained as to how and when it will take environmental matters into account.[71]

Senior environment officials involved in the Oshawa Harbour Commission initiative have been concerned that engineering and economic studies conducted prior to any environmental studies can have the effect of foreclosing any environmentally sound planning options that might arise from an EARP type review.

Fourth, as the EARP has evolved administratively, it has tended to concentrate on major development proposals whereas the original cabinet directive was concerned that all activities at the federal level be controlled. In practice this can mean that landfilling activities which are construed by the particular proponent federal agency (and perhaps the Environment Canada screening body set up under the existing procedures) as not requiring a full-blown environmental assessment might still require solutions of an environmental design nature. The EARP does not fully address and ensure that these smaller development activities are given appropriate review and approval by the relevant federal environmental agency. This may be especially problematic in a shoreline landfilling context, where provincial law, permits or approvals may be inapplicable to the proposal because of perceived or actual exclusive federal jurisdiction.[72]

Some of these difficulties could be alleviated, it is submitted, only by (1) amending each relevant piece of federal legislation (e.g. Harbour Commissions Act, NWPA, etc.) to require that the public's interest in environmental protection be consulted and observed; that relevant federal environmental agencies be consulted and their concurrence obtained prior to any project go ahead; that where more than $50,000 or $100,000 worth of planning has taken place for a proposal that no further monies be spent on the plan, proposal or concept without the appropriate environmental studies being undertaken, etc. or, in the alternative by (2) enacting a single statute to effectuate such ends. Such a statute has recently been proposed in Parliament.[73]

Summation

In summation, recently proposed amendments to the Fisheries Act respecting aquatic habitat protection offer the best potential at the federal level for controlling water pollution (principally sediments) from shoreline landfilling activities. Plans and specifications of the proponent may be requested by the Minister and modification or rejection of the proposal ordered. However, any conditions attached to a Ministerial order would have to relate to protection of fish and aquatic habitat. They could not be worded so as to be in relation to water quality protection alone. In practice, there may be few instances where conditions prescribed for the protection of fish and aquatic habitat would not also be of value and sufficient to protect water quality. However, such limitation in the use of the Act does exist and may prove a constraint in its use for the full range of water quality concerns in certain instances.

While the Fisheries Act binds the Crown and all federal agencies and private citizens, there are some other difficulties in the use of the Act for water quality protection. First, in practice the Minister's authority to invoke the requirement of plans and specifications for a proposal is rarely, or certainly not systematically, invoked for matters otherwise under federal jurisdiction. As a result the benefits to be derived from utilizing the provision as if it were a permit requirement are lost. It is also understood that proposed amendments to the Act do not contemplate using the provision in such manner (i.e. as a permit system). Second, while proposed amendments to the Act

widen the concept of protecting fish frequented waters to one respecting aquatic habitat protection, other proposed amendments may have the effect of undercutting this provision's usefulness by allowing activities under other federal Acts to adversely effect such habitat without recourse to the Fisheries Act provisions.

Other federal statutes reviewed do not provide adequate environmental constraints.

Non-statutory activities, principally the EARP process, suffer from a number of problems in attempting to control pollution from shoreline landfills including (1) problems of what entities at the federal level the process applies to (2) conflict with other cabinet level directives (3) disadvantages when confronted with federal laws that are silent on environmental matters resulting in reactive rather than preventive planning control and (4) a tendency to concentrate on large developments at the expense of smaller ones even though such smaller activities may not be subject to provincial jurisdiction or any other comprehensive environmental control mechanism at the federal level.

Dredging

In the Great Lakes area the federal Department of Public Works (DPW) carries out up to 500,000 cubic yards of dredging annually.[74,75] This activity consists principally of maintenance dredging which is carried out by privately owned dredges under contract. Individual dredging projects usually involve from 10,000 to 200,000 cubic yards. Because Great Lakes levels are expected to fall in the immediate future it is anticipated that there will be an increased demand for maintenance dredging throughout the Great Lakes system.[74]

Environmental concerns with dredging activity relate to the excavation, transportation and disposal phases.[62] Generally, such concerns relate to contaminated sediments introduced into the aquatic environment during such operations and marshland destruction.

The principal recommendation of the International Working Group on Dredging was that each dredging project should be examined, studied and reviewed individually (i.e. on a site specific basis).[62] Currently, the Department of Public Works enters all of its dredging projects into the EARP process. The principal areas for which DPW develops environmental information for such projects includes: proposed dredging location; operation; dump site (open water or land); previous dredging history in the area; and additional comments respecting preventive measures and evaluations of environmental advantages and disadvantages of the various alternative methods and alternatives of the proposed operation.[76]

Specific information requirements for which responses must be given also include a description of benthic (bottom dwelling) and aquatic communities in the project area; description and prediction of the

effects of dredging activity on water quality and aquatic biology; description of secondary changes which may occur from sedimentation and water quality degradation due to disturbance from dredging; effects of the dump site on the aquatic environment including alternatives; drainage pattern and proposed restoration methods (if land); and previous complaints (from Ontario Ministry of Environment, local medical officer of health and municipal records).76

Such information is provided to the Environmental Protection Service of Environment Canada as part of the EARP process. Normally, EPS will, where appropriate, recommend design changes and the creation of a five year monitoring program. For example, design restrictions in a dredge spoil containment facility might include the ability of the disposal area to control the movement of heavy metals (e.g. mercury) back into the aquatic environment; ensuring that there is no vegetative uptake of heavy metals; and the covering of the dredge spoils area to prevent wind and water erosion etc.[77] Other design[78] recommendations may be derived from provincial guidelines as well. Normally, it will be expected that such provisions will be incorporated into the dredging contract specifications.

While the process is expanding the awareness of federal agencies to environmental concerns, a number of difficulties arise with the current procedures both at the implementation level and also at the conceptual level.

Implementation Difficulties with Dredging Environmental Controls

At the implementation level there are problems respecting sufficient environmental agency resources to ensure that dredging contract specifications regarding environmental matters are being appropriately carried out. For example, it is understood that a common situation would be that a particular part of a harbour might be less than ideal for open water sediment deposition because of the sediment's poor quality. A normal EPS recommendation in such a situation is that the poorer quality sediments be placed at the bottom and the better quality sediments be dumped on top. While such recommendations would go into DPW contract specifications, EPS does not have sufficient resources to do on-site review to ensure that there is adequate compliance with the provision. Similarly, if a certain timing restriction is imperative to protect fish spawning areas from the deposit of poor quality sediments EPS does not normally have the resources to be in the field to ensure that the restriction is being observed by the dredging company. Indeed, the need for site specific examination was affirmed at the recently convened seminar on the International Working Group Dredging Report, even in a situation where clean spoil might be dumped on a spawning area. The dumping of clean fill directly onto a fish spawning area was described as likely to have an adverse impact on spawning.

An ancillary effect of the EPS inability to undertake adequate field review is that the agency not only doesn't know if its recommendations are being followed, it doesn't know if its recommendations are successful in correcting the perceived water pollution problem (assuming the

recommendations are followed). As a result, in many instances, EPS is not in a position to refine and improve upon its recommendations to DPW in future dredging proposals.[77] This problem was recognized by the Working Group in 1975 when it noted that "Even though environmentally acceptable determinations may be integrated into project design, it appears from recent experience that there will be a continuing need for close supervision during the project execution phase by both the proponent and the regulatory agencies to ensure that the intent is achieved. Moreover, for some time it will be desirable to provide for detailed surveillance of selected projects to accumulate definitive experience data."[62] DPW officials also note "severe staff restrictions and limited budgets for controlling contaminants".[74]

One further result of this situation is that it may be difficult, or at least more difficult, for EPS to prosecute a dredging company for pollution, in part, because the agency may not have sufficient field information or evidence to support a case. The Working Group Report noted that the principal Fisheries Act enforcement tool was the capacity of the Department of Environment to prosecute a dredging company for pollution.[62] If the Department had sufficient personnel and more systematically utilized the Minister's provision to require plans and specifications and issued orders arising from such review it could then prosecute a company for violation of such conditions (such violated conditions constituting an offence without proof of pollution[13]). The current scheme of incorporating EPS comments into DPW dredging contracts means that EPS cannot enforce such violated contract specifications in any event. Only DPW could enforce whatever penalty provisions might exist in its contract.

Conceptual Difficulties with Dredging Environmental Controls

There are also difficulties with the current process at the conceptual level in terms of its ability to protect open water and wetlands. (Wetlands provide a vital function in maintaining water quality.[79]). This concern was best expressed at the Working Group Dredging Seminar by an Ontario naturalist organization. In summary, the organization was concerned about the ability of the site specific, case-by-case review of dredging projects to protect long-term quality. This approach allows the rationalization of local degradation allowing an incremental degradation of the total values to be protected. Without long-term goals and guidelines to provide a yardstick against which to measure individual dredging projects, it is difficult to know whether the project is compatible with or meets the achievement of such goals.[80]

Representatives of the Working Group argued that because of the many complicated factors and the wide variation in the natural conditions of the Great Lakes Basin, no rigid criteria could be established that would be acceptable for all situations. Therefore the Working Group, "after examining more doctrinaire approaches recommended that each project be examined on a site specific basis."[81] Moreover, habitat loss is not normally associated with maintenance dredging but with "new work dredging projects which individually may be of small scale but taken together can have implications on coastal zone ecology and

and loss of habitat".[82] Currently, maintenance dredging is the predominant dredging activity taking place in the Great Lakes system and it is expected to increase in future with the anticipated lowering of Great Lakes levels.[74]

The conceptual difficulty that remains, however, is similar to one expressed under the landfill and construction excavation discussion. A non-statutory environmental mechanism when confronted with existing federal law that is silent on environmental matters is placed at a certain disadvantage. It must work within a statutory framework that may be wholly alien to matters of environmental protection and for which Parliament has prescribed little or no leeway in terms of incorporating such conerns (e.g. protection of navigation under the NWPA). Or else such a mechanism may be incorporated into contract specifications in whole or in part authorized under other federal laws but for which the responsible environmental agency retains no enforcement capacity (e.g. incorporation of elements of EARP or EPS design recommendations into contracts authorized under the Public Works Act between DPW and the dredging industry).

The case-by-case approach while a clear step forward, still does not address or establish a roughly equal statutory right to environmental quality comparable to the statutory right to protection of navigation, for example. The latter activity begins with a prescriptive right to be undertaken (in essence a long-term goal of society that navigable waters be protected by dredging). The goal of environmental quality has no comparable support in federal law. One measure of some resulting difficulties may be found in the Report of the Working Group on Dredging itself. While the terms of reference of the Working Group required it to formulate recommendations based on principles that included "as soon as practicable" the phase out of open water disposal of polluted dredged spoil,[61] no such recommendations for either (1) interim guidelines for open water disposal or (2) a timetable for its phaseout were made.[80]

Summation

In summation, proposed dredging projects are now routinely entered into the EARP process. Once entered they are subject to either environmental assessment or environmental design review. Recommendations arising out of such review are incorporated into contracts entered into between DPW and the particular dredging company. Limitations on staff resources in federal environmental agencies make it difficult for the particular agency to know if its recommendations are being followed, of if followed whether they are successful at achieving the desired result. Environmental agency staff limitations may also reduce the effectiveness of Fisheries Act pollution control provisions to the extent that insufficient on-site review may result in inadequate evidence to prosecute a case.

NOTES

1. R.S.C. 1970 c. F-14 as amended.
2. House of Commons of Canada. Bill C-38, an Act to amend the Fisheries Act and to amend the Criminal Code in consequence thereof. Second Session, Thirtieth Parliament. First Reading, February 21, 1977.
3. Ibid. s.1.
4. See, for example, R. v. Stearns - Rogers Engineering Co. Ltd. (1974) 3 W.W.R. 285 (B.C.C.A.).
5. Op. cit. s.5. (new s.31(5)).
6. s.31(1)
7. s.31(2)
8. s.31(3)
9. s.7 (new s.33(7)).
10. s.8 (new s.33.1(1)).
11. s.8 (new s.33.1(2)).
12. s.8 (new s.33.1(3)).
13. s.10 (new s.33.4).
14. s.9 (new s.33.2(4)).
15. New s.33.2(5).
16. New s.33.2(6).
17. Amended ss. 33(10) and (11).
18. R.S.C. 1970 c. M-12 as amended.
19. Pollution Regulation SOR. 71/376 s.35 as amended.
20. R.S.C. 1970 c. N-19 as amended.
21. s.3(b)
22. s.5(1)(a)
23. s.5(1)(c)
24. s.5(2)
25. s.6(1)
26. s.6(2)
27. s.6(3)
28. s.6(4)
29. s.10
30. s.19
31. s.20
32. s.23
33. R.S.C. 1970 c. S-9 as amended.
34. s.591
35. s.592
36. s.594
37. s.595
38. R.S.C. 1970 c. H-1 as amended.
39. s.9
40. s.10
41. s.13(1)(c)
42. s.5
43. Oshawa Harbour Commissioners' By-laws. SOR/61-146 s.31 as amended. See also, for example, SOR/74-67 s.36 as amended (Windsor); SOR/60-37 s.32 as amended (Lakehead); and SOR/53-377 s.51 and 58 as amended (Belleville); Toronto Harbour

Commissioners Act S.C. 1911 c. 26 (By-law No. 11) and; Hamilton Harbour Commissioners Act S.C. 1912 c. 98 (General By-law).

44. R.S.C. 1970 c. P-38
45. s.9
46. s.37
47. R.S.C. 1970 c. G-9 as amended.
48. s.5
49. Proposed Fishing and Recreational Harbours Act.
50. s.3
51. s.5(1)
52. s.5(2)
53. s.9(i)
54. s.11
55. s.12
56. s.20
57. See Report No. 4 Transportation Corridors.
58. The program should be read in conjunction with those matters outlined under the Government Harbours and Piers Act and the proposed Fishing and Recreational Harbours Act.
59. Environment Canada. Small Craft Harbours Branch. Central Region. Annual Report 1974-1975.
60. Signed at Ottawa, April 15, 1972.
61. Annex 6 to the Agreement. "Identification and Disposal of Polluted Dredged Spoil."
62. Report of the Internation Working Group on the Abatement and Control of Pollution from Dredging Activities. May 1975.
63. S.91(10)
64. s.108 and Schedule 3.
65. s.91(12)
66. Utilization of such by-laws by Harbour Commissions for controlling filling activities is fairly rare. For example, there has been little use of the Toronto Harbour Commissioner's By-law No. 11 for controlling such activities in the last ten years. The by-law is most frequently employed against oil spills from ships or municipal sewers. Interview with G. Reid, solicitor, Toronto Harbour Commission, March 15, 1977. No prosecutions of filling activities have ever been undertaken under the Hamilton Harbour Commissioners general by-law as well. Interview with C. Furry, secretary, Hamilton Harbour Commission, March 15, 1977.
67. Government of Canada, Cabinet Committee on Government Operations. Directive on "Control and Abatement of Pollution from Federal Activities - Cleanup and Prevention", June 8, 1972.
68. Government of Canada. Cabinet Committee Directive on "Establishment of a Canadian Ports and Harbours Planning Committee for Major Harbour Developments," May 5, 1971.
69. It is understood that the Commission was issued a violation notice in 1975 by the local conservation authority for placing or dumping landfill at the mouth of a creek in contravention of authority dump and fill regulations. However, no further legal action was

taken by the conservation authority. It is open to some doubt whether provincial law can reach such activities under federal jurisdiction. See, for example, R. v. Canadian National Railways (1975) 4 C.E.L.N. 7 (Provincial Court of Ontario (Judicial District of Hamilton-Wentworth)).

70. This same 1975 dump and fill incident was the subject of questions in the House of Commons in May 1976, including a request as to whether the federal Department of Environment intended to take action against the Ministry of Transport (responsible for harbour commissions to Parliament) if any infractions of federal laws (Fisheries Act?) were indicated. As of November 1976 the response of the federal Minister of Environment has been that federal departments do not (it is understood that they cannot) take legal action against one another. It is also understood that no legal action has been instituted against the Harbour Commission by Environment. House of Commons of Canada. Notice Paper No. 1,054. Questions of Mr. Broadbent, Second Session, Thirtieth Parliament, May 4, 1976. Questions reintroduced November 15, 1976.

71. See, for example, Darling "Creation of Jobs Important to Harbour Commission: Rated Higher Than Environment", The Oshawa Times, March 3, 1976, wherein the Oshawa Harbour Commission chairman stated in part: "We rate the provision of jobs and the service to the industrial community as factors much higher than we rate environmental factors". The chairman also noted that the harbour commission, the department of public works and the ministry of transport are working on a development proposal for the harbour. No environmental studies have been conducted in conjunction with the above activity to date.

72. See, for example, R. v. Canadian National Railways (1975) 4 C.E.L.N. 7 (Provincial Court of Ontario (Judicial District of Hamilton-Wentworth)) Provincial conservation authority dump and fill regulations held inoperative in relation to fill activities of an interprovincial railway. (Pursuant to s.92 (10)(a) of the British North America Act, 1967 as amended). See also Hamilton Region Conservation Authority. Recommendations on Applications to Dump Fill in Hamilton Harbour, August 3, 1972; where steel industry applications for conservation authority dump and fill permits in Hamilton Harbour were made while expressly reserving the right of the companies to dispute the jurisdiction of the conservation authority to control the dumping of fill into the harbour. (Presumably, this reservation is based on an opinion that the Hamilton Harbour Commission's federal jurisdiction takes precedence).

73. House of Commons of Canada. Bill C-236 "An Act to protect the Canadian environment by instituting mandatory impact assessment procedures prior to the construction of installations potentially damaging to the environment". (Private Members Bill - Mr. Wenman). House of Commons, Order Paper No. 9, October 22, 1976, Second Session, Thirtieth Parliament, Ottawa.

74. T.E. Douglas, Department of Public Works. "Comments on Present Dredging Trends in Canada", at the Seminar on the Report of the International Working Group on the Abatement and Control of Dredging Activities on the Great Lakes, January 14, 1977, Toronto. (Hereinafter Dredging Seminar).
75. In 1975, a reported 27 dredging applications for projects on the Great Lakes and its harbours and 54 inland waters applications were reviewed and processed, with a total volume of about 0.8 million cubic yards of material being dredged. International Joint Commission. Great Lakes Water Quality Board. Water Quality 1975. Appendix C. Remedial Programs Subcommittee Report.
76. Department of Public Works. (Ontario Region). The Effects on the Environment in the Planning of New Facilities. Section 6 on Dredging Activities. Environmental Assessment and Design, and Section 7 Dredging Information Sheet. November 1976.
77. Interview with M. Brooksbank, Environmental Protection Service, Environment Canada, September 14, 1976, Toronto.
78. Discussed infra.
79. D. Wilkens, Ontario Ministry of Environment. "Provincial Administrative/Regulatory Procedures", address to the Dredging Seminar, January 14, 1977.
80. M. Singleton, Federation of Ontario Naturalists. "Remarks to the International Working Group on its Report and Recommendations", address to the Dredging Seminar, January 14, 1977.
81. C. K. Hurst, Canadian Chairman of the International Working Group, "Dredging and the Environment", Dredging Seminar, January 14, 1977.
82. M. Brooksbank, Department of Fisheries and Environment. "Administrative/Regulatory Procedures," address to the Dredging Seminar, January 14, 1977.

PART II - PROVINCIAL AND
LOCAL CONTROLS

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I. OVERVIEW

Provincial capacity to control the water pollution aspects arising from (1) landfill and construction excavations and (2) dredging activities while broad may be said to be generally constrained by constitutional limitations and operative limitations within provincial legislative provisions. Where the validity of provincial jurisdiction is placed in doubt in relation to certain matters arguably under exclusive federal jurisdiction, then comprehensive and preventive federal environmental legislative constraints must be utilized as an important part of a pollution control strategy. If federal environmental constraints are not utilized in a systematic fashion then any provincial control strategy may be considerably reduced in effectiveness in relation to such activities. Operative constraints, such as exemptions of clean fill from preventive controls, may also hamper a comprehensive provincial strategy. Moreover, such limitations may also strain staff resources because only reactive pollution control instruments may be utilized. Prospectively, new legislative instruments, such as the Environmental Assessment Act, may help alleviate some of these operative difficulties.

II. GENERAL ENVIRONMENTAL CONTROLS

A. Ontario Water Resources Act[1]

The principal provisions of this statute have been reviewed in previous reports. Under the general prohibition section, however, the discharge of material into a lake, a river or watercourse or on any shore or bank or into or in any place that may impair the quality of such waters is an offence under the Act.[2]

B. Environmental Protection Act[3]

The principal provisions of this statute have been reviewed in previous reports. Under the Waste Management Regulations[4] "land-filling" is defined to mean the disposal of waste by deposit, under controlled conditions, on land or on land covered by water, and includes compaction of the waste into a cell and covering the waste with cover materials at regular intervals.[5]

Land-filling standards

Standards prescribed for the location, maintenance and operation of "land-filling" sites under these regulations have been adopted.[6] For example, "where necessary to isolate a landfilling site and effectively prevent the egress of contaminants, adequate measures to prevent water pollution must be taken by the construction of berms and dykes of low permeability".[7] Also, "where there is a possibility of water pollution resulting from the operation of a land-filling site, samples must be taken and tests made by the owner of the site to measure the extent of egress of contaminants and, if necessary, measures must be taken for the collection and treatment of contaminants and for the prevention of water pollution."[8]

The general provisions of the EPA make it an offence to discharge contaminants into the natural environment[9] (defined broadly to include the air, land and water of the province).

Rock-cliff Park decision

Ministry of Environment control[10] and stop orders[11] (as confirmed and varied by the Ontario Environmental Appeal Board) having the effect of preventing the owner of marsh lands from dumping clean fill on his property for the purposes of enabling him to construct houses for sale, were set aside by the Ontario Court of Appeal recently.[12] The Ministry of Environment had argued that the fill was impairing the quality of the natural environment. There was no evidence before the Court that the fill was placed in the lake adjoining the owner's lands or otherwise caused pollution beyond the owner's lands.

Two of the judges (a third dissenting) held that the EPA is applicable not only to the natural environment (as defined in s.1(f) of the Act) owned by Ontario or which is part of the public domain but that it is applicable in or within the whole of the province.

To hold otherwise would give the Act a very limited application to land in southern Ontario.

One of these two judges also held that provisions of the EPA purporting to prohibit activity on a person's own land which, apart from the Act, causes no injury to the property or person of others and breaks no relevant laws are not to be given a broad and remedial interpretation to accomplish the purpose of the statute.[13] Rather they are to be construed strictly in the sense that only clear and unambiguous language should be held to prevent such activity. "I do not find in the Act in clear and unambiguous language any prohibition of the deposit of clean fill upon an owner's private property, unaccompanied by any discharge of dust or odour into the air, pollution of surface or underground water, or escape onto adjoining land."[14]

C. Conservation Authorities Act[15]

The principal provisions of this Act have been reviewed in previous reports. The statute provides for the establishment of conservation authorities[16] and the undertaking in the area over which they are given jurisdiction of a program designed to further the conservation, restoration, development and management of natural resources other than gas, oil, coal and minerals.[17] For the purposes of accomplishing its objects, a conservation authority has the power respecting a number of matters including the control of the flow of surface waters in order to prevent floods or pollution or to reduce the adverse effects thereof.[18]

Subject to provincial cabinet approval, a conservation authority may make regulations applicable in the area under its jurisdiction prohibiting or regulating or requiring the permission of the authority for the placing or dumping of fill of any kind in any defined part of the area over which the authority has jurisdiction in which in the opinion of the authority the control of flooding or pollution or the conservation of land may be affected by the placing or dumping of fill.[19]

Conservation authority dump and fill regulations have been held inoperative in relation to dump and fill activities of an interprovincial railway.[20] Refusals by conservation authorities to issue permits under regulations respecting the dumping of fill have also been judicially upheld on appeal.[21]

D. Environmental Assessment Act[22]

The principal provisions of this Act have been reviewed in previous reports. However, a number of developments respecting the regulation of certain shoreline landfilling activities have occurred which are of relevance.

1. Section 30 Exemption Orders

Under section 30 the Minister of the Environment is authorized with the approval of the provincial cabinet to exempt by order undertakings from the application of the Act and regulations subject to terms and conditions imposed by the Minister. The Minister may exempt such undertakings where he is of the opinion that it is in the public interest to do so. He must take into account the purpose of the Act[23] and must weigh that purpose against the injury, damage or interference that might be caused to any person or property by the application of the Act to the undertaking. Exemptions or terms and conditions to exemptions may also be suspended or revoked by Ministerial order.[24]

Pursuant to this provision the Minister of Environment has exempted a number of Ministry of Natural Resources activities until July 1, 1979. Activities that have been exempted until then include dredging undertakings.[25] It is understood that such undertakings will ultimately be subject to a class or generic environmental assessment as distinguished from individual site or location specific environmental assessments.

2. Environmental Assessment and Local Shoreline Landfilling Activities

Conservation Authorities

The activities of conservation authorities are exempt from the provisions of the Environmental Assessment Act until July 1, 1977.[26] The manner in which conservation authorities will be required to respond to the provisions of the Act at that date has been under examination by a group of government representatives appointed by the Chairmen's Committee of the Authorities and the Minister of the Environment.[27] The CA-MOE Working Group has recommended that certain undertakings of conservation authorities be subject to the provisions of the Act. These undertakings include activities described as "lake shoreline alterations."[28] It is understood that such activities can be defined as or may include shoreline landfills. It has not yet been determined whether such activities will be subject to individual or class environmental assessments.

Municipalities

The activities of municipalities are exempt from the provisions of the Act un til thirty days after an exemption order by the Minister is made under section 30.[29] The manner in which municipalities will be required to respond to the provisions of the Act at such time has been under examination by a group of government representatives from municipalities and the Ministry of Environment. This Municipal Working Group has recommended that certain undertakings of municipalities be subject to the provisions of the Act. These undertakings include activities described as "waterfront plans".[30] While it is understood that waterfront plans could occasionally include shoreline landfilling activities, the Municipal Working

Group report indicates that the impact of other projects "such as landfilling operations, new marinas and harbour facilities was also considered." Because of this distinction between "waterfront plans" and "landfilling operations" it is understood that the Working Group is considering a separate designation for municipal landfilling activities. It has not yet been determined whether such activities will be subject to individual or class environmental assessments. The Working Group also notes that occasionally undertakings described as "lake shoreline alterations" which are normally associated with conservation authorities, might be the responsibility of municipalities. In such circumstances, the Working Group recommended that the municipality carry out an environmental assessment or that the conditions resulting from approval of the class environmental assessments prepared by the conservation authorities be applied to the corresponding municipal undertakings.[30]

III. OTHER STATUTORY MECHANISMS - PROVINCIAL AND LOCAL

A. Public Lands Act[31]

The principal provisions of this statute have been reviewed in previous reports. The Act is administered by the Ministry of Natural Resources. The Minister is authorized to manage, sell and dispose (by lease, licence, auction or tender) of public lands for a variety of purposes.[32] The Minister is further authorized to manage public lands by zoning for certain land use designations. Any area of public lands that are designated for a certain use must be administered only for the purposes defined for the designated class or zone.[33] Where lands are sold or leased under the Act letters patent may be attached as conditions under which the land is to be used in a particular manner or conditions under which the land is not to be used in a certain manner.[34] All such conditions must be deemed to be annexed to the land.[35] The Minister is authorized to release land use conditions from land sold or leased under the Act subject to any terms and conditions he considers proper.

Penalty for unauthorized filling

Every person who throws or deposits or so causes any material or substance to be thrown or deposited upon public lands whether or not covered with water or ice, or both, without the written consent of the Minister or an officer authorized by the Minister is guilty of an offence and on summary conviction is liable to a fine of not more than $500.[36]

The Minister is further authorized to grant a lease or issue a licence of occupation respecting any public lands covered with water at such rent or fee and upon such terms and conditions as he considers proper or as are prescribed by the regulations. With the approval of the provincial cabinet, the Minister may sell any such lands at such price and upon such terms and conditions as the Minister considers proper.[37]

B. Beds of Navigable Waters Act[38]

Administered by the Ministry of Natural Resources, this Act declares that the beds of navigable waters are deemed not to have passed to anyone granted title by the Crown to land that borders on such navigable waters in the absence of an express grant of such title. These beds remain the property of the provincial crown.[39]

C. Beach Protection Act[40]

The principal provisions of this statute have been reviewed in previous reports. The Act is administered by the Ministry of Natural Resources. The Act prohibits the removal of sand from the bed, bank, beach, shore or waters of any lake, river or stream in Ontario except under the authority of a licence issued under the Act.[41] Licenses are not required of municipalities for municipal use or of individuals resident in Ontario for their own personal use.[42] The removal of sand from Lakes Erie, Ontario and Huron may be prohibited or regulated under regulations issued by the provincial cabinet.[43]

Violations of the provisions of this Act may bring a maximum fine of $1,000 (a minimum of $10).[44] No prosecution may be commenced, however, except under the consent in writing of the Attorney General of Ontario.[44] This last provision alters the common law right of any person to prosecute for violations of legislation.[45]

D. Municipal Activities Under Planning Legislation

While environmental planning in Ontario is perceived by municipalities to be "primarily the responsibility of the Province" through such agencies as the Ministries of Environment, Natural Resources and conservation authorities,[46] municipal and regional official plan development is also an important component in such a process. In practice, the development of official plans and policies and resulting zoning by-laws is an interactive process between the several levels of government.

For example, in the approval of an official plan, the Minister of Housing may refer the plan to any ministry that may be concerned and modifications arising out of that process may result in policies that are more explicit in protecting certain facets of the environment. After the plan's approval, zoning by-laws must conform to the plan.

However, the generality of official plans and the potential for conflict with the jurisdiction of senior levels of government may sometimes result in some environmental policies in an area or regional official plan not being able to be fully realized. This

difficulty may be demonstrated in a shoreline landfilling context, where a multiple of jurisdictions may frequently be involved.

For example, the Durham Region Official Plan environmental policies include "wherever possible, the Regional Council shall endeavor to retain in a natural state, all marshes, swamps, bogs and water recharge or headwater areas, and environmentally sensitive areas and shall not permit development which could result in damage to these natural areas."[47] The principal goal of the Region's environmental policies includes providing "present and future residents of the Region with a high quality living environment that protects and enhances natural features, incorporates good community planning and design and minimizes pollution of air, water and land resources."[48]

At the same time, a review of the Regional Official Plan maps of designation indicates that the Oshawa Second March area - understood to be one of the more significant marsh areas in Ontario and the fifth largest marsh in North America - has been designated for an "industrial use."[49] It is understood that the reason for this discrepancy in the Region's policy and planning designations is the fact that the ownership of the properties which constitute the Oshawa Second Marsh is vested in the Oshawa Harbour Commission (OHC), an entity established under federal law. Representations by OHC counsel to the Region during the course of the development of the Durham official plan have emphasized the Regional government's lack of authority over the Oshawa harbour. OHC submissions to the Region have therefore asserted that the Regional government has no alternative but to adopt the OHC proposal to designate land surrounding the harbour for industrial development.[50] The matter is currently before the Ontario Municipal Board.

Municipal and regional planning inventories in preparation for official plan development can also be beneficial in describing ecosystems within the region, and evaluating existing and potential water quality conditions with and without the implementation of plan proposals. In a shoreline landfilling context they may also once again highlight the limits of area or regional municipal control in the face of superceding senior government jurisdiction. For example, in Hamilton-Wentworth Regional planning initiatives the water quality in all parts of Hamilton Harbour is described as "generally poor."[51] The need for "industrial expansion and expansion of port facilities", draft planning reports state, "have resulted in reclamation by filling and a 20 per cent reduction in harbour water area between 1917 and 1970." Landfilling operations have been described as "accentuating water quality degradation". The draft planning studies further indicate that "it is estimated that an additional 100 acres of waterfront land will be required before the end of this century to handle the estimated growth in cargo of approximately

500,000 tons per year. Any future reclamation by landfill together with increased sewage effluent from expanding communities may further jeopardize the self-cleansing potential of the harbour and reduce the quality of water within the harbour itself and of that entering Lake Ontario."[51]

Under such circumstances, a high degree of cooperation between local government and the Harbour Commission will be necessary to effectuate regional environmental planning goals as the jurisdiction within the harbour itself is primarily the Harbour Commission's.

Even in situations where senior government jurisdiction is not in conflict with area or regional environmental planning goals, commentators note that local environmental policies frequently need to be tied to much more specific means of accomplishing such goals if the official plan's stated environmental objectives are to be met.[52] Environmental assessment requirements made mandatory in the Official Plan itself for municipal undertakings can be one means of meeting such a concern. A number of recently adopted regional official plans have incorporated such requirements.[53]

IV. NON-STATUTORY ACTIVITIES

A. Ministry of Environment Guidelines for Fill Emplacement and Marine Construction[54]

The purpose of the guidelines is to assist MOE staff in assessing construction activities; outlining potential water resource impacts and; suggesting appropriate mitigation measures. The guidelines in and of themselves are without legal effect unless they are in whole or in part tied to specific approvals.

Dredging and spoils disposal

The marine construction guidelines address water quality concerns arising from dredging; dredge spoils disposal in open water; parameter levels; spoils disposal within dyked areas or on land and; dredge spoils disposal within containment facilities.

Matters reviewed for dredging and open water spoils disposal include the physical, chemical and biological quality of dredged materials; quantities involved; location of dredging or disposal site in relation to other water users (including fish and wildlife); physical characteristics of the watercourse; existing and potential quality and use of the water in the dredging or disposal area; frequency of maintenance dredging; and past history of spoils in the area.[55]

Matters reviewed for land or dyked area spoils disposal include adequacy of dyked structure to contain spoils under forces of lateral pressure, seepage, and/or erosion; the quality and quantity of any supernatant[56] draining to a watercourse; and the adequacy of native soils to contain contaminants (including groundwater quality

protection).[57] The guidelines note that the proponent should be aware that the MOE has special regulations governing on-land disposal of contaminants including a formalized permit system (sanitary landfill permits).

Matters reviewed for dredge spoils disposal containment facilities include capacity considerations; design and construction considerations; operational; effluent quality and maintenance considerations. The guidelines emphasize as a general rule that a containment area for spoils disposal should provide: "retention of the spoil solids and contaminants within the designated confines so that it will not re-enter any watercourse or cause detriment to adjacent areas and allow only water of acceptable quality to return to the watercourse.[58]

Fill Emplacement

The filling referred to in these guidelines relates to the filling in of a portion of a body of water "and has no relation to an on-land sanitary landfill." "In most cases," the guidelines note, such "a landfill is a stone or rubble armoured earthfill structure."[59]

The guidelines note that the possible environmental effects of landfills include: increased turbidity during and after construction; formation of embayments which may generate nuisance conditions; loss of benthic habitats and fish spawning areas because filling removes water area from use by aquatic organisms; contamination of aquatic environments where core material for landfills is obtained from construction areas and dredge spoils.[60]

MOE policy as enunciated in these guidelines includes: turbidity levels from fill emplacement should not be such that they exceed MOE criteria for particular water uses; control of runoff so that adjacent water body water quality is not degraded; material not meeting open water spoils disposal guidelines is generally unsuitable for unconfined dumping in a watercourse as well; where fill contains toxic, hazardous or excessive quantities of nutrients measures must be taken to prevent such material from gaining access to surface and ground waters; and filled areas should be located so that they do not impair water quality.[61]

The guidelines also make a number of recommendations on protecting water quality from landfills.

B. Ministry of Natural Resources Guidelines for Dredging Operations on Inland Waters[62]

The guidelines form a checklist of concerns respecting dredging activities and their control in relation to environmental quality and protection. The guidelines note that "poorly planned dredging programs can have serious consequences upon the immediate environment, either over the short-term or on a long-term basis."[63] The environ-

mental impact concerns of dredging and related activities such as spoil disposal (open water or land) are addressed in the guidelines through such general parameters as: location of the spoil disposal area and the effects that the deposition of these materials will have on the environment; the type of equipment and the methods used in dredging; pipeline and road access location and construction; dyke location and construction; hydrological aspects of the lake watershed and; prevention of accidental spills of deleterious materials. The guidelines in and of themselves are without legal effect unless they are tied in whole or in part to specific approvals.

V. COMMENT

Provincial jurisdiction to regulate such matters as (1) landfill and construction excavations and (2) dredging may be said to arise generally from British North America Act provisions respecting public lands[64] property,[65] local matters[66] and natural resources.[67]

Landfill and Construction Excavations

Ministry of Environment studies of selected harbours indicate that shoreline landfilling activities are causes of "measurable degradation of water quality in the region of the filling."[68] Other studies of waterfront landfill sites indicate that such sites can create pockets of local water quality degradation.[69] The dumping of fill creates localized high turbidity in the water with elevated bacteria and nutrient values. (This is understood to be most noticeable during periods of high wind and heavy wave action. Areas which have not been stabilized by armouring are also susceptible to erosion during these conditions.) However, bacteria increases resulting from landfill construction are understood to diminish rapidly after stabilization has occurred.[69] Landfill site embayments frequently result in "generally poor water quality because of the transport of pollutants into the area and subsequent poor circulation with cleaner offshore lake water."[69] Other government water quality concerns with landfill sites have been noted above.[60]

Provincial capacity to control the adverse environmental effects of shoreline landfilling activity through the use of the OWRA, EPA, the Public Lands Act, conservation authority regulations and prospectively through the use of the Environmental Assessment Act, while extensive, may be said to be constrained by several factors including: (1) constitutional limitations (2) limitations within the operative provisions of provincial legislation and (3) staff resource limitations. The cumulative effects of these constraints may have significant implications for comprehensive environmental protection and enforcement of landfill controls.

Constitutional limits of provincial fill controls

Constitutional limitations on provincial water quality landfill controls have manifested themselves in both judicial determinations and also in the operative permit and enforcement activities of provincial agencies. For example, as noted earlier, conservation authority dump and fill regulations have been held inoperative in relation to fill activities of an interprovincial railway.[20] Such a limitation would likely constrain other provincial laws in relation to such activities as well.

Harbour Commissions, engaged in dumping and filling, have also been known to ignore conservation authority dump and fill regulations. Because of the doubtful validity of such regulations in relation to activities on federal lands, or to the activities of Commissions within their harbour jurisdiction, conservation authorities have frequently not followed up the issuance of violation notices with prosecutions in the courts. For example, a 1975 violation notice issued by the Central Lake Ontario Conservation Authority to the Oshawa Harbour Commission for unauthorized dumping of fill was not pursued by the authority because of such anticipated constitutional constraints.

Similarly, private sector applications for conservation authority dump and fill permits in harbours under the jurisdiction of harbour commissions have been made while expressly reserving the right of the companies to dispute the jurisdiction of the conservation authority to control the dumping of fill into the harbour.[70]

Where the validity of provincial jurisdiction is placed in doubt in relation to certain matters arguably under exclusive federal jurisdiction, then the absence of comprehensive preventive federal environmental legislative constraints (which may then be delegated to the provincial agency, if necessary) may result in a provincial control strategy of considerably reduced effectiveness. While the federal Fisheries Act provides a base for provincial agencies to control landfill activities that are otherwise under federal jurisdiction, unless provincial agencies can systematically use the Minister's provision respecting plans and specifications as if it was a permit system, then the Act's effectiveness as a preventive tool will be diminished. It is understood that proposed amendments to the Fisheries Act do not contemplate the systematic use of the Minister's capacity to request plans and specifications (and to issue orders arising from such review) as if the provision was a permit system. Whether provincial agencies could utilize the provision in such manner is arguable. (Parenthetically, the recently consummated Canada-Ontario Accord would appear to re-affirm each government's committment to enforce each other's environmental legislation the above reservations respecting systematic use notwithstanding).

Operative limits in provincial legislative provisions

Within the provisions of various pieces of provincial environmental legislation there are also operative constraints attached to how an agency may be permitted to control a particular waste or contaminant. Frequently, such restraints may result in reactive rather than preventive control of a landfill activity, or at the very least, a less comprehensive approach to the problem. For example, under the EPA regulations,[4] "inert fill" (normally understood to mean or include "clean fill") is designated as a waste but exempted from Part V of the Act (the waste management and certificate of approval sections) and the provisions of the regulations including compliance with various containment, dyking, sampling and testing measures to prevent water pollution.[7,8] As such, the failure of a shoreline landfill site proponent to obtain a Ministry of Environment certificate of approval or to comply with the regulations is not an offence under the Act where he intends to use clean fill.

The general prohibition sections of the EPA[9] and the OWRA[2] would still apply to the landfill activity and could be utilized if water pollution were to result. However, the prohibitions are after the fact or reactive pollution control tools. The preventive tools available to the Ministry (Part V and the regulations) have been removed from the Ministry's use because of the designation of "inert fill" as a waste exempt from the Act. Since government studies and guidelines indicate that landfill activities can be sources of local water quality degradation,[60,68,69] it is submitted that the rationale for exempting "inert" or "clean" fill from the preventive instruments in the EPA be re-examined. The continuance of such exemptions coupled with recent judicial determinations of EPA provisions[12] may provide a serious constraint to MOE control strategies. With respect to control of fill activities, it is understood, however, that the majority of such activities would not exclusively take place on land/water property owned by one person.

Prospectively, preventive controls of landfill operations may be effectuated by use of approvals under the Environmental Assessment Act. However, the relationship between such EAA approval and EPA exemptions of fill activities (involving inert or clean fill) ought to be further explored to determine whether the continuance of the EPA exemptions might impinge in any way on the effectiveness or validity of EAA approvals. Query also whether the judicial opinion in Rockcliffe Park might also prospectively effect the validity of approvals under the EAA in situations analogous to the Rockcliffe case.

Operative provisions of other provincial statutes such as the Public Lands Act, while of value, also suffer from a number of difficulties. For example, the penalty for unauthorized filling of public lands upon summary conviction is a maximum fine of $500.[36] Such a small

penalty is hardly likely to act as a deterrent, especially as maximum penalties are rarely assessed by the judiciary. If the provision is to prove a serious penalty and deterrent for unauthorized filling, rather than being viewed as little more than a fee, then the amount of fine should be increased significantly. In addition each day that the offending activity continues should constitute a separate offence so that multiple charges may be laid and cumulative fines assessed.

It is also understood that when a person engages in filling or continues to engage in unauthorized filling, there is no means under the Act of halting such activity during the time that any MNR charges are waiting to come before the courts. It ought to be possible pursuant to the Public Lands Act for stop orders to be issued when filling and related activity takes place without Ministerial consent or when terms and conditions on filling as set out in a Ministerial consent are being violated. Although MNR can seek injunctions, in practice such a route is time consuming. In such circumstances a person may be able to complete his fill activity without Ministerial consent and before the case can be heard in court. The after the fact assessment of penalty thus becomes a moot point from an environmental protection perspective. Other revisions in the Act should provide for the capacity to issue removal and clean-up orders or the capacity to assess against the individual the costs of government removal and clean-up where appropriate.

Other operative constraints to agency control initiatives may be found in the Conservation Authorities Act. The control of the dumping of fill along watercourses is the major regulatory method whereby conservation authorities can reduce pollution in the form of siltation in streams under their jurisdiction. However, the Conservation Authorities Act does not specifically authorize the issuance of fill permits with terms and conditions attached. Other legislation, such as the Environmental Assessment Act, does authorize the appropriate agency to impose conditions on any approvals or permits issued. An inference that may be drawn therefore is that if the legislature intended conservation authorities to impose conditions on permits, it would have specifically authorized such control techniques.

Because the judiciary will often strictly interpret legislation that constrains the use of private property, it is arguable that a judicial determination might hold that without specific legislative authorization, conservation authorities do not have the power to attach conditions to a fill permit. In short, as the Act reads, conservation authorities may only accept or reject applic ations for fill permits. A number of conservation authorities have recognized this difficulty, and where they're prepared to make a favorable decision on part of a fill application, they will normally request

the applicant to re-apply or to amend its application so that the authority may accept the application for a permit as re-submitted.

However, many authorities still issue permits with conditions attached. If the above discussion is accurate then their entire permit program could be vulnerable if subjected to court challenge. Moreover, many authority regulations, while not specifically authorizing permits with conditions attached, empower an authority to "withdraw any permission given under the regulation, if, in the opinion of the Authority, the conditions of the permit are not complied with."[71] Because the Act under which the regulations are created does not specifically authorize the withdrawal of a permit where conditions have been violated (in part because the Act does not authorize the attachment of conditions to permits in first instance) any attempt by an authority to withdraw a permit for such reasons could also be subject to court challenge. (Parenthetically, the Act does not specifically authorize the withdrawal of a permit which has been given for any reason). A number of authorities have recognized the difficulties created by the present statute and regulations and have redrafted their regulations so that they are empowered to "withdraw any permission given if, in the opinion of the authority, the representations contained in the application for the permission are not carried out."[72]

Agency resource and enforcement limitations

Because MOE control of landfill projects (where only inert or clean fill is involved) cannot currently be authorized through a preventive certificate of approval process (under Part V of the EPA) the agency normally negotiates with the landfill proponent, including in many instances conservation authorities, to ensure that the agreed upon control techniques are incorporated into contract specifications and carried out. Implicit in this process is the capacity of the MOE to issue stop orders or to prosecute for resulting pollution, but these are reactive tools which in the long run may also put a greater strain on the agency's time and staff resources than preventive instruments.

Currently, it is understood that there have been instances where landfill proponents, including conservation authorities, have exhibited poor control over contractor construction methods; have permitted the dumping of fill without adequate pollution preventive works; have continued to dump beyond agreed to periods; have exhibited poor control over smaller trucks dumping materials other than clean fill (e.g. oil and paint cans, varnish and turpentine); and have failed to provide information such as estimates of fill lost to lakes during winter storms as per previous negotiations.

Prospectively, Environmental Assessment Act approvals should aid in eliminating some of these difficulties by making the violation of such control techniques offences under the Act in first instance (where these techniques are terms and conditions under an EAA approval).

Dredging

Many of the same comments raised above respecting constraints on provincial controls of shoreline landfilling activity are applicable with respect to dredging environmental controls as well. That is to say, while provincial capacity to control such activity is broad (though no legislation specifically covers dredging) it is constrained by constitutional and operative limitations.

Constitutional constraints over provincial environmental controls respecting dredging activities stem from the broad powers conferred on the federal government to control navigation and shipping.[73] Judicial determinations have indicated that such federal powers are "to be widely construed."[74] Commentators have summarized the extent of the federal navigation power as follows: "The navigation power of Parliament extends inland to intraprovincial waters as well as to interprovincial and international waters. It embraces, of course, protection of public rights of navigation recognized by the common law, and also any extension or modification of such rights. The authority of Parliament in relation to navigation is not affected by the fact that the title is in the Crown in right of a Province."[75] The result of this wide power, it has been said, is that every navigable body of water in Canada is subject to exclusive federal control over all matters concerning navigation.[76]

Where preventive federal environmental legislation and provincial law can be combined,[77] maximum control over federal dredging projects may be achieved. In the absence of such federal environmental constraints, provincial control may be less thorough or in doubt altogether.

Leaving aside the constitutional constraints to provincial and local control of dredging, there are a number of operative concerns as well. For example, with respect to land disposal of dredge spoil, it is understood that frequently the public and the recipient of the dredged spoil (e.g. the local municipality) are not included in planning respecting such spoil disposal. Thus, while the local municipality may have use for the spoil, if it is unaware of the timing of its arrival, it may not have considered it in current budget or official planning options.

This issue also leads to another operative concern. How is care and control of the dredged spoil site ensured? It is understood that the Ontario Ministry of the Environment prefers the alternative of a confined disposal site which will restrict contaminant movement to open water disposal of contaminated dredged material.[78] In this regard, (again leaving aside constitutional constraints) it is arguable that the MOE could utilize on a systematic basis, its certificate of approval process under Part V of the EPA and its regulations to effectuate preventive controls over dredged spoil sites. Contaminated dredged spoils are arguably a "waste" and would not likely be regarded

as "clean" or "inert" fill (which is exempt from Part V and the regulations). Indeed, MOE guidelines note that the "proponent should be aware that the MOE has special regulations governing on-land disposal of contaminants including a formalized permit system."[54] It is understood that the systematic application of Part V requirements to such on-land dredged spoil sites is under consideration. Currently federal department of Public Works contract specifications with the particular dredging company will frequently include on-site disposal techniques which reflect concerns noted in MOE guidelines.[79]

Where long-term egress of contaminants and resulting water pollution is a possibility from such sites, local governments may be unwilling to assume responsibility for the ultimate control and management of dredged spoil site areas, especially where liability may arise. To the extent that this is the case, federal expropriation of the said lands may be the only alternative. In such instance, care and control of the site become exclusively a federal responsibility, and MOE controls (e.g. Part V) would likely be of no effect.

Summation

Provincial capacity to control the water pollution aspects arising from (1) landfill and construction excavations and (2) dredging activities while broad may be said to be generally constrained by constitutional limitations and operative limitations within provincial legislative provisions. Where the validity of provincial jurisdiction is placed in doubt in relation to certain matters arguably under exclusive federal jurisdiction, then comprehensive and preventive federal environmental legislative constraints must be utilized as an important part of a pollution control strategy. If federal environmental constraints are not utilized in a systematic fashion then any provincial control strategy may be considerably reduced in effectiveness in relation to such activities. Operative constraints, such as exemptions of clean fill from preventive controls, may also hamper a comprehensive provincial strategy. Moreover, such limitations may also strain staff resources because only reactive pollution control instruments may be utilized. Prospectively, new legislative instruments, such as the Environmental Assessment Act, may help alleviate some of these operative difficulties.

NOTES

1. R.S.O. 1970, c.332 as amended.
2. s.32(1).
3. S.O. 1971, c.86 as amended.
4. R.R.O. 1970, Reg. 824 as amended.
5. s.1(20).
6. s.10)1). The heading for this section, however, is "Standards for Waste Disposal Sites." Normally, these standards would be utilized in conjunction with waste management certificates of approval under Part V of the EPA. It is understood that land-filling sites in a shoreline landfilling context are not subject to the requirement of obtaining a certificate of approval under this Part. "Inert fill" is exempt from Part V & O.Reg.824.
7. s.10(1)(6).
8. s.10(1)(7).
9. s.14 of the Act.
10. s.6 of the Act.
11. s.7 of the Act.
12. Re Rockcliffe Park Realty Ltd. and Director of the Ministry of the Environment (1976) 5 C.E.L.N. 23; (1976) 10 O.R. (2d) 1. (Ontario Court of Appeal).
13. The purpose of the EPA is "to provide for the protection and conservation of the natural environment." (s.2).
14. Per Arnup, J.A., supra note 12, (1976) 10 O.R. (2d) 1, at p.11.
15. R.S.O. 1970, c. 78 as amended.
16. s.10.
17. s.19.
18. s.20(k).
19. s.27(f).
20. R. v. Canadian National Railways (1975) 4 C.E.L.N.7 (Provincial Court of Ontario (Judicial District of Hamilton-Wentworth)).
21. Re Case and Catarqui Conservation Authority (1972) 1 C.E.L.N. 2, 4 (Ontario Court of Appeal).
22. S.O. 1975, c.69.
23. The purpose of the EAA is "the betterment of the people of the whole or any part of Ontario by providing for the protection, conservation and wise management in Ontario of the environment." (s.2).
24. s.30(b)(c).
25. Order-in-Council 2891/76 respecting Ministry of Natural Resources exemptions (No.8).
26. O.Reg. 836/76 s.8.
27. Ontario Ministry of the Environment. EA Update: An Environmental Assessment Digest on the implementation of the Environmental Assessment Act in Ontario. October 1976. Vol.I, No. I.
28. Ontario Ministry of the Environment, EA Update, January 1977. Vol.II, No. I.
29. O. Reg. 836/76 s.5.

30. Report of the Municipal Working Group Recommendations for the Designation and Exemption of Municipal Projects under the Environmental Assessment Act. December 1976.
31. R.S.O. 1970 c.380 as amended.
32. ss.2,18.
33. s.16.
34. s.21.
35. s.22.
36. s.29.
37. s.45.
38. R.S.O. 1970, c.41.
39. s.1.
40. R.S.O. 1970, c.40 as amended.
41. s.3(1). Licences are issued and revoked under s.2.
42. s.3(2).
43. s.9.
44. s.10.
45. For general background see S.H. Berner, Private Prosecution and Environmental Control Legislation: A Study (1972). Commissioned by Environment Canada.
46. See, for example, City of Mississauga. Draft Official Plan of the City. December 1976. s.4.7. Conservation.
47. Regional Municipality of Durham. Official Plan. As adopted by Regional Council. July 14, 1976. Section on Environment. s.1.2.2.
48. Ibid @ s.1.1.
49. Regional Municipality of Durham. Official Plan. Regional Structure Map A-4. As adopted by the Regional Council. July 14, 1976.
50. See, for example, "Harbour Control Blocked by BNA Act "The Toronto Star, October 3, 1975, reporting the submissions of OHC counsel to the Durham Region planning department.
51. Regional Municipality of Hamilton-Wentworth. Substudy of the Regional Official Plan. Environment. (Draft) November 1975.
52. Lang and Armour. Municipal Planning and the Natural Environment. Draft Final Report to the Ontario Planning Act Review Committee. June 1976.
53. See, for example, Durham and Waterloo Region Official Plans.
54. Ontario Ministry of Environment. Water Resources Branch. Guidelines Evaluating Construction Activities Impacting on Water Resources. (Draft) January 1976.
55. ss.12.1 and 2.
56. "Supernatant" is understood to be the remaining liquid part of a sediment/water mixture after the sediments have settled out.
57. s.12.4.
58. ss.12.5(1-5).
59. s.13.1.
60. s.13.1.1.
61. s.13.
62. Ontario Ministry of Natural Resources. Policy Research Branch. November 1974.
63. p.1.

64. s.92(5).
65. s.92(13).
66. s.92(16).
67. s.109.
68. Ontario Ministry of Environment, Water Quality Branch. Hamilton Harbour Study, 1974.
69. Beak Consultants. Waterfront Environmental Monitoring Program - Lake Ontario. A Report for The Metropolitan Toronto and Region Conservation Authority, Toronto. March 1976.
70. See, for example, Hamilton Region Conservation Authority. Recommendations on Applications to Dump Fill in Hamilton Harbour, August 3, 1972.
71. See, for example, O. Reg. 356/74 s.7 (Grand River Conservation Authority); O. Reg. 113/76 s.7 (Saugeen Valley Conservation Authority).
72. See, for example, R.R.O. 1970 Reg. 118 s.7 as amended (Hamilton Region Conservation Authority).
73. The British North America Act, 1867 as amended. (s.91(10).).
74. City of Montreal v. Montreal Harbour Commissioners (1926) 1 D.L.R. 840. (Judicial Committee of the Privy Council).
75. B. Laskin, "Jurisdictional Framework for Water Management," Resources for Tommorrow Conference (1961) Background Papers 211 at 216.
76. P. Emond, "The Case for a Greater Federal Role in the Environmental Protection Field: An Examination of the Pollution Problem and the Constitution", (1972) 10 Osgoode Hall Law Journal 647 at 675.
77. See discussion on page 11.
78. W.D. Wilkens, Ontario Ministry of the Environment. "Provincial Administrative/Regulatory Procedures," an address at the Seminar on the Report of the International Working Group on the Abatement and Control of Dredging Activities on the Great Lakes, January 14, 1977, Toronto.
79. See, Interim Report No. 7 Part I - Shoreline Landfilling Activities (Federal) November 1976.