



POLLUTION FROM LAND USE

ACTIVITIES

REFERENCE GROUP

LEGISLATIVE STUDY

INTERIM

REPORT NO. 2

AGRICULTURE

PART 2. PROVINCIAL AND LOCAL CONTROLS

DRAFT ONLY

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TABLE OF CONTENTS

PROVINCIAL AND LOCAL CONTROLS

- I. Overview
- II. General Environmental Controls
  - 1. The Environmental Protection Act
  - 2. The Ontario Water Resources Act
  - 3. The Pesticides Act
  - 4. The Environmental Assessment Act
  - 5. The Conservation Authorities Act
- III. General Planning Controls - Provincial and Local
  - 1. The Municipal Act
  - 2. The Ontario Building Code and Act
  - 3. The Planning Act
- IV. Other Statutory Mechanisms
  - 1. The Public Health Act
  - 2. The Tile Drainage Act
  - 3. The Drainage Act
  - 4. The Weed Control Act
  - 5. The Woodlands Improvement Act
  - 6. The Agricultural Committees Act
  - 7. The Agricultural Rehabilitation and Development Act
- V. Non-Statutory Programs
  - 1. Capital Grants Program
  - 2. Agricultural Code of Practice
  - 3. Intra and Interministerial Committees
- VI. Agreements
  - 1. Canada/Ontario and Canada/U.S. Agreements on Great Lakes

Appendix I

## I. Overview

Review of provincial and municipal controls on point and nonpoint source water pollution from agricultural activities reveal that the only specific regulation is with respect to pesticides. Neither municipalities reviewed or the province had statutes or regulations of relevance to the control of (1) erosion from farm crop production practices (2) fertilizer and manure use, including intensive feedlot operations and grazing activities or (3) financial incentives to cover significant pollution control costs except on a limited basis. Even the specific control of pesticides use must be qualified as farmers who are working on their own land or helping neighbors do not have to obtain permits or licenses except for most of the most persistent of pesticides.

While some statutes reviewed did not exempt farmers from general prohibitions with respect to degrading water quality, there are several disadvantages to the farmer and the public from the absence of more specific controls for both point and nonpoint sources.

First, broad prohibitions of all types of pollution tends to obscure effective control of more subtle, diffuse sources. Greater regulatory emphasis on point source control aspects of feedlots was anticipated, for example, than for runoffs from land.

Second, regulations both restrict and educate. Where voluntary educative programs and Codes are substituted for them, the onus should be on such programs' proponents to demonstrate that the substitution is effecting the equivalent of regulatory control.

Third, broad prohibitions against water pollution do not address the problem of costs incurred by the farmer in controlling such contaminants. Such incentives would play a valuable supplemental role to other control and educative strategies.

Fourth, broad prohibitions tend to be exclusively reactive in nature. A strategy to increase surveillance and enforcement may be more expensive administratively in the long run than a preventive strategy.

## II. General Environmental Controls<sup>1</sup>

### 1. The Environmental Protection Act<sup>2</sup>

#### a. Administration

The Industrial Abatement Section of the Ministry of Environment is responsible for the protection of the natural environment from industrial processes as well as from commercial, institutional and agricultural operations.

#### b. Key Provisions

Animal wastes disposed of in accordance with "normal farming practices" are exempt from industrial effluent regulations, and livestock operators who dispose of animal wastes in accordance with normal farming practices are exempt from having to notify the Ministry when prescribed contaminant levels in the regulations have been exceeded.<sup>4</sup> Animal wastes disposed of in accordance with normal farming practices are exempt from the prohibition of not impairing the quality of the natural environment,<sup>5</sup> and livestock operators do not have to notify the Ministry when they impair the quality of the natural environment if their disposal of animal wastes is in accordance with normal farming practices.<sup>6</sup> Control orders<sup>7</sup> and stop orders<sup>8</sup> may be issued to livestock operators who are found to be unduly contaminating the environment.<sup>9</sup> Control orders may require the operator to limit or stop such contaminations permanently, for a specified period, or in the circumstances set out in the order, including installation of appropriate control equipment.<sup>10</sup> Such orders may be varied, amended or revoked by further orders from the Ministry.<sup>11</sup> The Ministry must serve notice of its intention to issue an order, as well as the factors surrounding the decision to issue an order, fifteen days before the actual issuance of the order.<sup>12</sup> The person to whom the Ministry intends to issue a control order may make submissions<sup>13</sup> to the Ministry at any time before the control order is issued.<sup>13</sup> Stop orders require the immediate cessation of the source of the contaminant either permanently or for a specific period of time.<sup>14</sup>

#### c. Key Regulations

Agricultural wastes resulting from farm operations including animal husbandry operations are exempt from waste management requirements<sup>15</sup> under Part V of the Act and the waste management regulation.

2. The Ontario Water Resources Act<sup>16</sup>

a. Administration<sup>17</sup>

b. Key Provisions

Requirements and prohibitions respecting the discharge or deposit of pollutants to surface or groundwaters<sup>18</sup> and public water supplies or areas so designated<sup>19</sup> must be observed by livestock operators. A permit is not required under the Act for the taking of water for livestock watering purposes or<sup>20</sup> for withdrawals of water of less than 10,000 gallons a day. A livestock operator does not need the approval of the Ministry of Environment to establish or extend sewage works the main purpose of which is to drain agricultural lands, or to drainage works under the Drainage Act.<sup>21</sup>

Comment

The basic purpose ascribed to the above environmental legislation is the prevention of pollution. In other contexts, this purpose is seen by the Environment Ministry to<sup>22</sup> be significantly enhanced by approval and permit requirements. It is clear, from the above review, that in an agricultural context, these statutes have been stripped of their preventive functions, with a consequent dependence on reactive pollution controls.<sup>23</sup> This would appear to be in marked contrast to the Ministry's otherwise preferred strategy of prevention rather than treatment.

The agricultural pollution control policy has heretofore been supported officially on the basis that traditional agricultural activities predate other activities, such as industrial development, which society more generally associates with serious pollution concerns; and that agricultural activities generally are not serious<sup>24</sup> pollution sources in any event except on an isolated basis. On this isolated basis theory rests the Ministry's official view that any outstanding agricultural pollution sources can therefore be dealt with as they are uncovered by complaints or water quality monitoring. A cooperative abatement program can be developed for this "unusual" circumstance or if necessary a prosecution may be instigated to obtain compliance.

However, discussion with several Ministry people in regional offices reveals that only a small percentage of actual water pollution events related to agricultural activities are unearthed through public complaints. (The exception to this statement is with respect to fish kills, where at least 50% of them are first brought to the attention of Ministry people through complaints.) Water quality monitoring was regarded as a positive contribution to unearthing problem areas, but was regarded as insufficient

on smaller streams where fish kills and less dramatic, but not less important water quality degradation also takes place.<sup>25</sup> Spot check inspections were regarded as a luxury; ie generally impossible because of staffing and funding limitations.

Moreover, while there is a recognition by MOE that existing livestock operations contribute to water quality degradation through, for example, direct cattle access to streams the Ministry is doing nothing unless a downstream user complains. There is, of course, MOE recognition that such a situation, whether associated with a complaint or not, needs rectification.<sup>26</sup>

Figures are not available at the time of writing for the number of operations under abatement programs but the following may be instructive of the general situation. In the MOE London district region in 1975 there were 30 complaints related to farm drainage problems (usually manure and corn silage runoff). Some abatement was regarded as possible in many of the complaint situations. Currently there are five abatement programs in the district which were developed after pollution incidents including fish kills occurred.<sup>27</sup> Two other sources of fish kills were farmers who were reluctant to undertake abatement programs after repeated contacts with Ministry of Environment and Ministry of Agriculture and Food extension service personnel. With respect to one of these farms the BOD count of the water adjacent to the farmer's property was 14,800 parts per million. The contractor is informed that raw sewage has a BOD count of only 200 P.P.M. At the time of writing no legal action had been instituted by the Ministry of Environment. The reason given was that the Ministry had instituted proceedings under s.32(1) of the OWRA against the other recalcitrant farm operator<sup>28</sup> and wished to await the outcome of such proceeding in the hopes that a favourable verdict in the one case would induce cooperation in the other. However, the prosecution has since been withdrawn by the Ministry at the direction of the Deputy Minister because of undertakings by the accused to cease the storage of the corn ensilage or to provide facilities for its containment.<sup>29</sup> It should be noted that the essence of the case is that a farm operator polluted a water course for several miles in both 1974 and 1975, was responsible for two fish kills in both incidents, resisted abatement requests by government personnel both times and then was successful in having charges against him withdrawn on the basis of an undertaking not to do it again. Whether this series of events strengthens, or lessens regard for the Environment Ministry in the region is hard to ascertain. It is equally plausible to argue that a government agency can take the search for a cooperative result too far, or that a prosecution that only yields an insubstantial fine is of little value to the environment if the problem remains unchanged. However, it was the government's decision to exempt agricultural operations from permit requirements which would allow the government to get a preventive handle on unsatisfactory operations before they resulted in serious pollution incidents. In the absence of such requirements it would appear to be an onus of government to explain a policy of nonenforcement of patently clear statutory prohibitions which in effect are the only line of defence for agricultural

pollution. One explanation reviewed by the contractor in the above case was that "the actions of the Ministry in prosecuting would appear to the public to be unreasonable in the absence of OMAF support."<sup>30</sup> But it is submitted that it is unfair for the Ministry to place farmers in the position of being in defacto breach of statutory prohibitions which will then as a matter of policy be rarely invoked against them.<sup>31</sup> It is submitted that this would appear to the public to be equally unreasonable, especially as environmental damage must usually occur before any awareness of a problem is even established by MOE.

Aside from the policy preference to this point for cooperation rather than prosecution, Ministry personnel noted that prosecutions frequently require water samples practically on the spot, as a basis for proof that pollution has occurred and time, resource and personnel requirements<sup>32</sup> make cooperation as a policy more attractive than legal action.

This is not to say, that the Ministry regards control by permit of certain aspects of agricultural activity as not feasible. With respect to the point source aspects of feedlots, for example, senior ministry officials believe that it is now both technically and politically<sup>33</sup> feasible to control them by a permit or approval process. They were of the view that the definition of waste disposal by normal farm practices could not be held to include running waste from a ditch or feedlot into a stream. Their definition of "normal farm practice" is one that conserves the nutrients in manure. In this regard they felt that because the OWRA defines sewage to include storm drainage, that it would be the proper vehicle for implementing a feedlot manure treatment permit system. It is submitted however that to fully implement this program it may be necessary to repeal the various sections in the EPA which presently provide an exemption for normal farm waste disposal practices. While the tendency has been to utilize the EPA for pollution matters other than water, because the Act says that where a conflict between it and any other Act appears in a matter<sup>34</sup> related to the natural environment, the EPA shall prevail, it might still be necessary to eliminate any vestige of uncertainty by repeal of the various exemptions for farm practices in the EPA. The most important things that can be said for a permit/approval process are that (1) it establishes a direct link between the regulator and the regulated (2) it makes identification of polluting operations easier by placing the burden on owners to identify themselves and the nature of their operations, (3) it establishes a more efficient and comprehensive inventory of waste discharges, (4) and it improves government enforcement capabilities.<sup>35</sup> In short, through a permit program the MOE can control the mode of operation of the facilities; how waste will be disposed of, where it will be land applied, waste application rates, amount of storage capacity necessary etc. It would not necessarily be required to employ large numbers of inspectors and other personnel to search out data and assess stream quality for every suspected polluting operation or farm drain. It would not have the burdens of, virtually having to



catch the violator in the act, of increased costs and of very likely ineffective results associated with insufficient personnel and money to conduct such investigations. Recent recommendations evolving out of the Thames River Basin Study however, would appear to anticipate nothing less than Ministry personnel traversing the highways and byways of Ontario to try and find out who is actually doing the polluting.<sup>36</sup>

It is submitted that the exemptions for agricultural waste practices have had the effect of hindering all four of the above goals. With the exception of the Agricultural Code of Practice<sup>37</sup> there has been ostensibly no dialogue let alone a link between MOE and the agricultural community. The above legislation has left the MOE to its own devices in terms of ferreting out polluters. Since operators need not identify themselves they can sit back and wait for MOE to detect them.<sup>38</sup> In the meantime, they may continue to pollute and MOE remain in the dark, about the magnitude of the job it should be arguing for tools to control. Of course, enforcement efforts are hindered as well.

It should be noted that the tentative MOE support for a permit program for feedlots appears to be premised on a number of factors. First, it appears to be a generally accepted principal that there are fewer intensive feedlot operations in the province now than in<sup>39</sup> 1971, though there are a larger number of animals per operation. Since personnel to administer a permit program may not be easily forthcoming, the smaller the number of operations, the easier for MOE to argue that permit controls are feasible. One suggestion from MOE officials was that the point source aspects of the Agricultural Code of Practice could be lifted from the Code and made a regulation under the OWRA.<sup>40</sup> It should be noted however, that since the number of operations that might exist is unknown even this administrative approach might become unfeasible once hard numbers for total operations were available. It should further be noted that MOE officials generally did not express views as to whether there should be numerical cutoffs for permits should the total number of operations prove to be too cumbersome for blanket application of permit requirements.

Second, while a permit program is regarded by MOE as technically and politically feasible for point source aspects of livestock operations, it is regarded as not feasible for the nonpoint aspects including manure spreading and feedlot waste disposal and storage aspects. It was felt that there would be too many storage facilities, that volume of work would require large resource and personnel requirements and that the difficulty of assuring compliance would<sup>41</sup> work against the success of such a blanket permit strategy. It was felt however, that the non-point aspects of such operations could be dealt with by regulation in stages if they were found to be too important to ignore. These strategies could include keeping manure spreading 1,000 feet from streams; running effluent through a sloping field; defining certain areas relative to streams and then regulating such areas by permits and the Code of Practice recommendations.

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It should be noted that there was some difference of viewpoint about the value of a permit system especially as expressed in the regional MOE offices. MOE London felt that a permit system for feedlots was unnecessary because feedlots were felt not to be as wide a problem or activity when taken in the context of the total contribution to water pollution of agricultural activities. MOE London region personnel believed that the descending order of importance of agricultural activities vis-a-vis pollution contribution was fertilizer use; erosion/sedimentation/drainage from general farm activities; feedlots; pesticides. In short they felt that the nonpoint agricultural activities were greater problems than feedlots, and that moreover, the nonpoint activities were less amenable to control by a permit system.<sup>43</sup> They felt that educational efforts offered the best prospect for success.

The diffuse quality of fertilizer application affords the best example, of why MOE officials regard a permit system under for example the OWRA, as ineffective for diffuse sources of water pollution. It has been amply documented that when fertilizer rates exceed those recommended by OMAF, it has been found that nitrogen and phosphorus contribution to drainage water becomes significant.<sup>44</sup> The natural inclination of officials canvassed was for a program that would make the use of the soil test mandatory as a basis for fertilizer applications.<sup>45</sup> However, the simple requirement that a soil test be taken doesn't necessarily mean that its recommendations will be followed.<sup>46</sup> Because of this problem MOE and OMAF officials preferred a mixture of educational efforts and a limitation of the amount of fertilizer that could be sold to any farmer based on the number of acres under cultivation by him.<sup>47</sup> Beyond this, government officials felt that the number of staff and resources necessary to police fertilizer application approvals would be prohibitive given the number of crop farmers and the wide geographic area to be covered. They felt that greater water quality surveillance for high nutrient loadings adjacent to farms could be instituted on a limited basis to be used for possible prosecutions under the broad prohibitive sections of the OWRA and the EPA. These prosecutions could have positive educational value also. However, these statutes have not been used for such purposes to date.

### 3. The Pesticides Act<sup>48</sup>

#### a. Purpose and Administration

The purpose of the Act is to control the use of chemicals for the destruction of plant and animal pests, and to investigate, study and conduct research into the possible harmful effects of such pesticides and the control of pests on the quality of the environment.<sup>49</sup> The Ministry of Environment is responsible for

administration of the Act. The main bodies within the Ministry responsible for the supervision of the Act are the Pesticides Control Branch, which in addition to providing policy and program development, issues licenses, permits and approvals associated with the program. The branch also maintains liaison with the Pesticides Advisory Committee,<sup>50</sup> which makes recommendations concerning the classification of pesticides and related research with respect to a product's safety and environmental impact. The Committee also is responsible for an annual review of the Act and government pesticide publications, and makes<sup>57</sup> recommendations to the Minister. The Pesticides Appeal Board,<sup>57</sup> is responsible for reviewing submissions regarding appeals from licensing decisions of the Pesticide Control Branch Director.

b. Key Provisions

In addition to the investigatory powers noted above, no person is permitted to deposit, add, emit or discharge a pesticide or pesticide containing substance, whether acting or not acting under the authority of a licence or permit under the Act, or an exemption under the regulations, that causes or is likely to cause impairment of the quality of the environment<sup>52</sup> for any use that can be made of it greater than the impairment.<sup>52</sup> A license is required to operate an extermination business and no extermination may be performed except in accordance with a licence of a prescribed class and under such use conditions for a pesticide class as prescribed unless exempted under the regulations.<sup>53</sup> The obtaining of permits for land exterminations is necessary unless exempted under the regulations.<sup>54</sup> The Director of the Pesticides Control Branch is responsible for issuing licenses or permits in accordance with the Act and regulations.<sup>55</sup> The Director may revoke or refuse to issue a license or permit based on many factors including the past conduct of the proposed operator, the likelihood of danger to the health or safety of any person, the possibility of impairment of the quality of the environment, the possibility of a different method of control or extermination that will be substantially as effective as the proposed extermination and will cause or likely cause less impairment of the environment. The Appeal Board may hear submissions where the Director proposes to refuse to issue or renew a licence, suspend or revoke a licence or make, amend or vary a control order.<sup>57</sup> The Director must notify the applicant or licensee or person to whom the Director intends to issue a control order of his intentions, and inform that person that he has fifteen days to appeal to the Board.<sup>58</sup> The Board may order all such things as the Director is empowered to do under the Act and regulations, and<sup>59</sup> the Board may substitute its opinion for that of the Director. The Director, where he is of the opinion that an emergency exists by reason of danger to persons or impairment of environmental quality, may refuse to renew etc. a licence and give notice together with<sup>60</sup> reasons, and the order is effective upon service of the notice.<sup>60</sup> The Director may issue stop orders where he is of the opinion, upon reasonable and probable grounds, that an

emergency exists by reason of danger to health or safety of persons or impairment of environmental quality etc. with respect to the handling, storage, use, disposal transportation or display of a pesticide or pesticide containing substance.<sup>61</sup> The person to whom an order is directed must be given written reasons for the order and notice that he is entitled to a hearing before the Board within fifteen days of the issuance of the order.<sup>62</sup> The stop order is effective at and from the time it is communicated to the person to whom it is directed and must be immediately complied with, even if an appeal is contemplated or being undertaken.<sup>63</sup> The Director may make a control order requiring the person to whom the order is directed to limit, or stop such deposits, emissions, discharges or additions of pesticides permanently, for a specified time or in the circumstances set out in the order and to comply with any directions set out in the order.<sup>64</sup> Such orders may be amended by further orders from the Director.<sup>65</sup> A person who has deposited a pesticide effecting or likely to effect the environment must notify the Director.<sup>66</sup> The Minister may order such person to repair damage or clean up where contaminations of the environment have occurred.<sup>67</sup> Any person who contravenes any section of the Act of regulations or fails to comply with an order or a term or condition of a permit or licence is guilty of an offence and on summary conviction liable on a first conviction to a fine not to exceed \$5,000 for every day of the offence and to a fine not to exceed \$10,000 upon subsequent convictions.<sup>68</sup>

The Act permits the Lieutenant Governor in Council to make regulations prescribing pesticides, classes of pesticides and conditions for use pursuant to a permit,<sup>68a</sup> licencing of commercial applicators and businesses<sup>68b</sup> exempting persons or classes of persons from provisions of the Act and regulations, in whole or in part,<sup>68c</sup> excluding any land or water from the operation of the Act and regulations,<sup>68d</sup> governing, regulating or prohibiting the use, handling, storage, display or disposal of pesticides<sup>68e</sup> and pesticide container disposal<sup>68f</sup> providing for the issuance of permits.<sup>68g</sup>

### c. Key Regulations

The main regulations of interest to this study include exemptions for farmers who perform land exterminations on the farm land in which they are engaged in agricultural or forestry production. These exemptions are for use of Schedule 2-5 pesticides.<sup>70</sup> Where a farmer performs a land extermination on farm land for no consideration by means of a Schedule 2-5 pesticide and he is not carrying on an extermination business, he is exempt from permit requirements under the Act.<sup>71</sup> No person is permitted to wash any equipment used to perform an extermination in any lake, river or other surface water or in such a manner that any pesticide may be directly or indirectly discharged or deposited in such waters.<sup>72</sup> Empty containers that held Schedule 1, 2, and 5 pesticides must be disposed of by puncturing or breaking and burying the container in such a manner that it is covered by at least eighteen inches of soil and is not near any watercourse

or water table.<sup>73</sup> If a pesticide is involved in a fire or other occurrence that may result in the pesticide being released into the environment, the person responsible for a pesticide must notify the Director.<sup>74</sup> No person is permitted to use a pesticide containing a cyanide compound for an extermination in any building or vehicle where the pesticide may come into contact with any stream or lake.<sup>75</sup> A farmer or his employees who perform exterminations on animals within a farm structure occupied by him, by means of a Schedule 3 or 4 pesticide, is exempt from being licensed as a structural exterminator for that extermination.<sup>76</sup>

### Comment

There are really three categories of pesticide user with respect to agricultural activities<sup>77</sup> and each is treated differently under the Act, with respect to permits and licences. First, there are individual farmers. Second there are custom sprayers and third there are commercial sprayers. The first group, ie individual farmers, constitute the largest number of users of the three categories and also represent the largest volume of pesticides used in the province. While they must obtain a permit to use Schedule 1 (or prohibited) pesticides they otherwise have no permit requirements to meet with respect to use under the Act. They are still subject to the general prohibitions under the Act and regulations, but the success of these provisions in controlling poor use practices, depends on adequate detection and surveillance and generally spot checks and other inspections are not performed except in response to a complaint.<sup>78</sup> No records of use are required to be kept by farmers, for example with respect to use of pesticides in orchards except where the use of a schedule 1 pesticide is contemplated.

The second category of user would be the "farmer-neighbor" custom sprayer.<sup>79</sup> These would constitute the lowest total use but a moderately large group of users of the three categories. The criteria for exemption from permit or licence requirements for this group are he or they must be a farmer helping a farmer and only have one spray rig in operation at a time.

The third category of user is the commercial sprayer. This group is the smallest in number but total use is moderately heavy in relation to the two other groups. In this category both the businesses and the applicators are licenced.

There have never been any stop or control orders issued under the Act.<sup>80</sup> Environment enforcement records indicate that there have been five prosecutions under the Act since 1974.<sup>81</sup> The general type of prosecution has included, indiscriminate aerial spraying, unlicensed applicators and improper storage of pesticide supplies. There have not been any prosecutions of farmers for excessive application of pesticides to crops that ended up as water quality problems.<sup>82</sup>

This is not to say that Environment and OMAF have not taken an interest to date in farmer misapplication of pesticide compounds. Environment and OMAF have adopted procedures for detecting Hericide Damage and Evaluation.<sup>83</sup> These procedures generally relate to division of ministry responsibility for evaluating crop damage where either the grower believes such damage has occurred or where he believes such damage has not occurred. Some of these investigations for crop damage lead to spinoff investigations for soil and water quality impairment.

In the London area in 1975, for example, there were 12 complaints regarding well water contamination from pesticides (usually the herbicide atrazine) runoff from corn fields. The procedure usually begins with a sample being taken by Environment pesticide officers and sample evaluation by OMAF analysts at the Provincial Pesticide Laboratory in Guelph. In one file situation, the level of atrazine was found to be quite high.<sup>84</sup> The suspected source was silting and pesticides contamination washing off from neighboring farmers corn fields. While recommendations were made to the affected farmer whose ponds had been contaminated as to whether he should use the ponds for crop irrigation or not, the file indicates that no further action was taken. This included no apparent attempt to locate the precise farm or farms from which the pesticide had come, either to ascertain the management practices of the operators with respect to pesticides handling or whether the incident was a symptom of greater problems with respect to pesticide application that might need remedial assistance. There may have been an assumption that the diffuse nature of the contamination would make it impossible to identify remedial measures to be undertaken, if any. Moreover, it may have been assumed that this type of pollution, being so widely diffused over an area,<sup>85</sup> would not be the proper situation to attempt enforcement action.

This example isolates the dilemma of enforcement officials in dealing with the question of nonpoint or runoff pollution, and how to control it under certain circumstances. The educative effect of a prosecution under such circumstances might also be obscured.

While the Act permits the Ministry to promulgate regulations prescribing pesticides, classes of pesticides and conditions of use for the purposes of a permit<sup>86</sup> and such regulations have been published<sup>87</sup> the contractor is informed that there are some problems regarding agricultural use of pesticides and pesticide products. With respect to washing equipment, for example, the contractor is informed that farmers are not inspected as to their equipment washing techniques, though commercial applicators are. With respect to pesticide burial, the contractor is informed that improper burial and disposal near watercourses does occur. Farmers are said to be well aware of the prohibition against such activity. Environment field staff will only act if they see such an occurrence taking place. Because field staff are limited, regular inspections of farms are impossible and such detection infrequent. Only an increase in field staff would uncover more such incidents.<sup>88</sup>

The contractor is informed that there are no recommended or required practices, under regulations or guidelines, specifically addressed to control of pesticide applications and rates of application to avoid water pollution by way of runoff.<sup>89</sup> It has been argued that Agriculture's attitude is to ignore the fact that most pesticides (and fertilizers for that matter) even while only used a little will be lost to watercourses and lakes by soil losses.<sup>90</sup>

Indeed, discussions with OMAF and MOE officials indicate that they regard agricultural activity generated water pollution as minor compared to problems of human safety from pesticide wind-drift.<sup>91</sup> MOE and OMAF responsibilities in this context therefore are designed not to reduce use of pesticides, only to encourage and assure the safe and effective use of such products.<sup>92</sup> OMAF research efforts at this time do indicate that amounts of chemical insecticides can be reduced so that insect parasites and predators are not eliminated.<sup>93</sup> This research would appear to be at too early a stage to have been translated into across the board OMAF extension service recommendations to the agricultural community.

Despite some concern for farmer pesticide handling practices and actual habits of use, there was little support for an across the board farmer permit system for pesticides on Schedules 2-5. Nor was there support for public hearings before farmers would be permitted to use Schedule 1 pesticides by permit.<sup>94</sup> The general feeling was that such requirements would be onerous and difficult to apply if Environment staff wasn't increased sharply. There was support within Environment for a mandatory 1 day seminar, perhaps every three-five years in order that a farmer's knowledge and competency with respect to use could be refreshed. For every farmer attending the seminar, a non-transferable card would be issued indicating attendance at such a seminar. Without such a card, a farmer would be barred from purchasing any pesticides in the province.<sup>95</sup> Such a requirement couched as a one-time licencing requirement for a farmer to "demonstrate" competency and pesticide use knowledge vis-a-vis safety and environmental protection also found support outside government.<sup>96</sup>

#### 4. The Environmental Assessment Act <sup>97</sup>

Because this Act's provisions have been discussed in detail previously, remarks here will be limited to potential agricultural and OMAF enterprises which might become subject to the Act's requirements. Among the activities engaged in by OMAF are; weed control, drainage and tile drainage funding schemes, funding of farm pond and building construction, recommended fertilizer and pesticide application rates and possible alternatives to artificial fertilizer use and chemical pesticide use, recommended general farm practices regarding erosion control, Agricultural Code of Practice and general manure wastes recommendations.



The Act defines enterprises to include activities, proposals, plans, programs of the public and private sector.<sup>98</sup> The implications of the Act for agricultural activities are quite significant as they relate to water pollution from runoff. Much will depend on what OMAF activities may be exempted from compliance with the Act, once it applies generally to the provincial public sector, and later to the private sector.

For example, the Act could permit the program by program assessment of each of the above enumerated activities to ascertain (1) the degree to which each activity considered and impacted on environmental quality, including water quality; (2) where environmental factors were considered, for example, in OMAF extension service recommendations, what evidence is there that the recommendations are adhered to by the agricultural community in their activities, (3) are there alternatives to present programs or aspects of programs that would improve water quality without jeopardizing other equally legitimate goals; (4) how much environmental regulation may be necessary, if at all, for those programs and activities that are presently unregulated with respect to water pollution runoff factors.

## 5. The Conservation Authorities Act<sup>99</sup>

### a. Key Provisions

No regulations may be promulgated by authorities which may limit the use of water for domestic or livestock purposes.<sup>100</sup> The objects of authorities are to establish and undertake, in their jurisdictional area, a program designed to further the conservation, restoration, development and management of natural resources.<sup>101</sup> For the purposes of accomplishing their objects, authorities have the power to study and investigate the watershed to determine a program whereby the natural resources of the watershed may be conserved, restored, developed and managed<sup>102</sup> and to plant and produce trees on Crown lands with the consent of the Minister,<sup>103</sup> and on other lands with the consent of the owner.

### Comment

Because Conservation Authorities have reasonable autonomy in developing programmes as they see the needs of their watershed, there is considerable variation in how they utilize the above provisions with respect to conservation, including erosion and sedimentation problems. The authorities have tended more recently to emphasize flood control and the acquisition of lands for recreation and forestry purposes. While a brief survey of authorities by the contractor was not complete at the time of writing, the following are some tentative observations drawn from discussion with authority officials with respect to agricultural erosion control matters. There was a strong indication

that while erosion controls on farms had once been a strong part of authority programmes in watersheds with considerable agricultural activity, the initiative in this area had dropped off markedly in recent years.<sup>104</sup> There appears to be several reasons for this development. In Metro Toronto and Region Conservation Authority, for example, an agricultural subsidization program for development of erosion control measures, such as grassed waterways etc., was discontinued in 1970 because the agricultural community was found not to be taking advantage of the program. This appeared to stem from the fact that the watershed was undergoing a significant shift from rural land use to urban land use,<sup>105</sup> and a feeling amongst farmers that the trend would continue.<sup>105</sup> A further consideration would have to include the fact that farmers with some exceptions were not interested in a program of soil erosion control, to the extent that soil erosion had no adverse impact on crop yields.<sup>106</sup> Given this fact, and that authorities perceive themselves as reasonably autonomous, oriented toward a strategy of flood control management<sup>107</sup> with pollution concerns left to the Ministry of Environment<sup>108</sup> - and subject to financial and budgetary constraints<sup>108</sup> it is not surprising that soil conservation programmes would be reduced in scope or eliminated entirely. Discussion with provincial officials indicates that no programmes are being considered at present by the Authorities Branch to stimulate the reinstatement of such programs. It was felt that without better financing such programmes would not be viable. It was further felt that considerable external pressure from the general public would have to be made manifest for such programmes, before the province would re-orient its present financial strategies.

### III. General Planning Controls - Provincial and Local

#### 1. The Municipal Act<sup>109</sup>

##### a. Key Provisions

Under this provincial enabling statute, municipalities may enact by-laws to regulate the keeping<sup>110</sup> or restrict the number<sup>111</sup> of animals including cattle, goats, swine, horses or other animals within the municipalities or defined areas thereof.

##### Comment

While figures for the number of municipalities that have enacted such by-laws are unavailable a number of municipalities have adopted by-laws that attempt to deal with certain environmental problems associated with farm operations. The Township of West Lincoln, for example, has enacted a by-law to "control the location and erection of poultry, hog and veal calf barns."<sup>112</sup> The

by-law requires that in order to obtain a building permit for a farm building, the applicant must have approval from the Ontario Water Resources Commission,<sup>113</sup> the Ministry of Health and a certificate of compliance issued by the Ministries of Environment and Agriculture and Food under the Agricultural Code of Practice and the structure must be certain distances from roads, domestic dwellings etc. The impetus for the by-law was concern regarding air and odour problems associated with housing encroachment in traditionally rural areas. The by-law is silent on minimum distances from streams or water-courses for such animal operations. The only potential water quality control from this by-law is to the extent that MOE/OMAF review under the Code of Practice certificate of compliance program takes into consideration water pollution potential controls before issuing a certificate.<sup>114</sup> The contractor is informed that when water quality problems related to agricultural operations arise in the municipality they are referred to the Ministry of Environment because of its perceived role as the "guarantor of environmental quality" in the province. This may account for the lesser action taken by local municipalities regarding water quality problems associated with agricultural activities than air/odour problems; the latter, being in part a problem of location and hence subject to local land use controls whereas the former are more in need of management techniques better provided by perceived "experts".

## 2. The Ontario Building Code and Act<sup>115</sup>

### a. The Key Provisions

A person who constructs a farm building for his own use is exempted from the requirements of the Act provided the building is not intended for residential occupancy.<sup>116</sup>

#### Comment

This provision it is understood has resulted in a reduction in the number of applications by farmers for municipal building permits for new structures in several municipalities.<sup>117</sup>

Thus building by-laws that required an Agricultural Code Certificate were rendered ineffectual. Subsequent to the regulation's coming into force the Building Code Branch, of the Ministry of Consumer and Commercial Relations, which administers the Code, was informed by several municipalities that the regulation was creating a hardship for municipal officials. The Contractor is informed that municipal concern ranged from those municipalities in transition from rural to urban that wanted to retain control over the rural/urban development interface, to those municipalities that merely wanted to regulate farm buildings for the increased assessment taxes that could be acquired. Environmental concerns, including water quality concerns, were not prominent in the reasons

raised by municipalities, for wanting to retain building permit to Code specifications approval power.<sup>118</sup> It is understood that the section will be amended in the next few months to permit each municipality to determine for itself whether a farm building will require a permit or not.

### 3. The Planning Act<sup>119</sup>

#### a. Key Provisions

Municipalities may enact restricted area or zoning by-laws for prohibiting the erection of any class or classes of buildings or structures on land that is subject to flooding or on land where, by reason of its rocky, low-lying, marshy or unstable character, the costs of construction of satisfactory waterworks, sewage or drainage facilities is prohibitive.<sup>120</sup> Municipalities may also enact by-laws regulating the cost or type of construction and the height, bulk, location, size, floor area, spacing, external design, character and use of buildings or structures to be erected within the municipality or within any defined area or areas or upon land abutting on any defined highway or part of a highway, and the minimum frontage and depth of the parcel of land and the proportion<sup>121</sup> of the area thereof that any building or structure may occupy. No by-law may be passed by a municipality to prevent the use of any land, building or structure for any purpose prohibited by the by-law if such land, building, or structure was lawfully used for such purpose on the day of the passing of the by-law, so long as it continues to be used for that purpose.<sup>122</sup> The Minister may by order exercise any of the powers of municipalities with respect to zoning and subdivision control without the approval of the Ontario Municipal Board.<sup>123</sup>

#### Comment

Agricultural activities that may affect water quality can be influenced by the above land use provisions, both at the provincial and local levels of decisionmaking.

Moreover, as will be discussed more fully later, while the Agricultural Code of Practice does not have separation distances from streams or flood plains worked into its formulas for agricultural pollution control, the above land use provisions could effectuate the same ends. Pursuant to sections 35(1)3, and 35(1)4, a municipality, even in a general purpose zoning by-law, could stipulate that no buildings or structures - and this would include agricultural structures, such as feedlots - be erected within certain distances from a watercourse, for flood protection purposes. The contractor is informed that such provisions are fairly typical in municipal zoning by-laws now being promulgated.<sup>124</sup> A sampling of such by-laws were reviewed by the contractor. As a matter of policy, permits could be denied by either the minister

or a municipality on the basis that the costs of drainage works or construction new floodprone areas would be prohibitive. Such denials could include applications for new agricultural buildings or structures. The strategy could be especially successful where official plans included a policy of preservation of water quality.<sup>125</sup> Under such circumstances, where subsequent zoning by-laws failed to conform to the official plan or had insufficient provisions for adequately controlling the impact on water quality of agricultural operations, the MOE, or other agencies could argue before the OMB that such a proposed zoning by-law didn't reflect municipal or provincial policy.<sup>126</sup> However, because the Planning Act doesn't presently acknowledge the existence or role of such environmental agencies, such submissions would not necessarily be decisive or even prominent in OMB considerations.<sup>127</sup>

Indeed, despite a 1974 survey of municipalities in prime agricultural areas, which showed that 42% made reference to the MOE/OMAF Agricultural Code of Practice in their official plans and of a random sampling of 20 zoning by-laws, 65% of them made reference to intensive livestock operations (25% of these applying equal or greater restrictions than recommended in the Code)<sup>128</sup> there is general dissatisfaction amongst municipal planners with the official plan and zoning by-law as an agricultural pollution control technique.<sup>129</sup>

In part the reason for this dissatisfaction undoubtedly lies in the fact that many problems associated with agriculture and water quality extend from the fact that agricultural activities may have been there for a long time. As such they are probably subject to the non-conforming use protections noted above. Thus municipalities tend to leave such existing operations and pollution or nuisances from them as matters for the MOE to control; such control as environmental legislation allows. Also to the extent a municipality is concerned with agriculture's impact on water quality, official plan and zoning techniques still leave the municipality the problem of the extent of power and/or funds available to purchase environmental areas (eg. areas near streams) in order to compensate landowners, including those engaged in agriculture for such zoning changes.<sup>130</sup> Finally, there is the fundamental problem of the extent to which the Agricultural Code of Practice is presently adaptable into municipal by-laws for the purposes of water quality preservation. It is generally accepted that the Code as an expression of provincial policy was first created to deal with air and odour concerns not water quality. The concern for air/odour problems resulted from the increasing urban encroachment on agricultural areas and the conflicts of residents with farmers that resulted. As such the Code has increasingly been retooled to provide a reasonable sophisticated series of formulas to determine minimum acceptable setback and separation distances between farm building and residential dwellings. Because of these formulas the problem of encroachment is one which municipalities can deal more effectively with through zoning by-laws that would not only conform to the matters outlined in section 35 of the Planning Act, but also

allow an individual farmer to determine his status before the law.<sup>131</sup> However, the Code does not provide separation distance formulas for streams or watercourses and therefore provides no element of certainty to the applicant. Thus even if a municipality required compliance with the provisions of the Code through a zoning by-law, it could still only do so in the context of those provisions referred to under section 35 of the Planning Act. However, because the Code also deals with management techniques as they relate to water quality, the zoning by-law that attempted to get around the lack of a water quality distance formula and refused permits on the basis of a Code certificate rejection by MOE<sup>132</sup> - based ostensibly on subjective water quality management grounds - might be deemed arbitrary and unrelated to the purpose of s.35 by the OMB. Thus the incorporation of the Code into municipal zoning by-laws is seen to only provide air/odour controls and not water quality controls from agricultural operations.

Indeed at the time of review of the Code in 1974-75 officials involved in the review identified the agriculture/environment problem into two components; (1) environment and farm management (2) land use re encroachment of incompatible land uses and building sitings.<sup>133</sup> With respect to the first component, it was deemed to involve the effect the agricultural operation has on the environment with respect to the utilization or disposal of manure. "In this regard," the report noted, "there appear to be acceptable levels of contamination related to normal farm practices which do not represent an environmental concern from the perspective of the traditional farm community. Where unacceptable levels occur, they are quite separate from the land use component in that they generally concern farm management rather than location. Accordingly, such problems must be regulated within the existing constraint of environmental legislation." Since water pollution is deemed to be more of a management problem than a location problem (as air/odour is regarded) any positive effects that future municipal by-laws such as the Grey Township one have on water pollution will be indirect and incidental.<sup>134</sup>

Finally, while section 32 provides the possibility of Ministerial intervention through the issuance of land use orders, for the protection of shorelines, for example, such control orders regarding agricultural pollution to streams were deemed unlikely to be issued at present because (1) regarded as politically inopportune (2) administratively unwieldy (3) in opposition to the general provincial policy of municipal control which should only be preempted where immediate action deemed necessary.

#### IV. Other Statutory Mechanisms

##### 1. The Public Health Act<sup>135</sup>

###### a. Purpose and Administration

The Act is administered by the Ministry of Health. The main branch with responsibilities of interest to this study is the Community Health Protection Branch which is responsible for the funding and general oversight of local medical units of health authorized to be created under the Act.

###### b. Key Provisions

The Ministry through its local health inspectors has the duty to determine whether the existing condition of any premises etc. or the method of manufacture or business process, or the disposal of sewage, trade or other waste, garbage or excrementious matter is a nuisance or injurious to health.<sup>136</sup> Any condition existing in a locality that is or may become injurious or dangerous to health is deemed a nuisance within the meaning of the Act.<sup>137</sup> Nuisances shall be further defined to include any drain or dung pit so foul or in such a state or so situated as to be injurious or dangerous to health, any stable or other building in which animals are kept in such a manner or in such numbers as to be injurious or dangerous to health; and any deposit of offensive matter including manure contained in uncovered trucks or wagons at a station or siding or elsewhere so as to be injurious or dangerous to health.<sup>138</sup>

A medical officer of health may enter premises within a municipality at all reasonable times and inspect and examine the premises for the purposes of carrying out this Act and may take such action as he considers necessary for carrying it out including the making of an order that the premises be closed and remain closed until the condition no longer exists, and the person in charge of the premises shall render the inspector such assistance as is necessary to make such entry, inspection and examination where the premises are dangerous or likely to become dangerous to health.<sup>139</sup> Such an order shall be in writing and shall include reasons for the order and may be directed to the owner or the person in charge of the premises.<sup>140</sup> The person to whom an order closing premises is directed shall be informed that he's entitled to a hearing within fifteen days of the issuance of an order.<sup>141</sup> The order however is effective at and from the time it is served.<sup>142</sup> The hearing is to take place before the Health Facilities Appeal Board, which may confirm alter or rescind the order or substitute its decision for that of the person who, made the order closing the premises.<sup>143</sup> Parties to the hearing include the owner or person in charge of the premises, the person who made the order and such other persons as the Board may specify are parties to the

proceedings before the Board may appeal from its decision or order to the Supreme Court of Ontario in accordance with the rules of court.<sup>145</sup> The Minister is entitled<sup>146</sup> to be heard, by counsel or otherwise upon such an appeal.<sup>146</sup> The Court on appeal may exercise all the powers of the Board to confirm alter or rescind the order closing the premises and to substitute its findings for that of the person who made the order or the Board, or the court may refer the matter back to the Board for rehearing, in whole or in part, in accordance with such directions as the court considers proper.<sup>147</sup>

Every medical officer of health has the duty of ensuring that the municipality or location for which he is appointed is regularly inspected<sup>148</sup> in order to prevent nuisances or to abate any existing nuisance.<sup>148</sup> Where upon such an examination he finds any premises in a filthy or unclean state or that any matter or thing is there that, in his opinion may endanger the public health, he may order the owner or occupant of the premises to cleanse the premises and to remove or destroy what is found therein.<sup>149</sup> "Premises" are defined quite broadly under the Act.<sup>150</sup> Where the owner of such premises is unknown, the medical officer of health or the local board of health may, without previous notice, immediately cause the nuisance to be abated.<sup>151</sup> The medical officer of health may also by notice require the owner of such premises to abate the nuisance within a time specified in the notice and to execute such works and do such things as may be necessary for that purpose.<sup>152</sup> Where a nuisance is caused in whole or in part outside the municipality, the local board of the municipality affected shall cause an inspection to be made and, when necessary, shall take or cause to be taken against the person by whose act or default the nuisance is caused as if such act or default were committed or took place wholly within the jurisdiction.<sup>153</sup> Where considerations of difficulty including costs of abatement or removal apply in the abating of a nuisance the Ministry may investigate and if its report recommends removal or abatement, the local board, or any ratepayer residing in the municipality, or within a mile thereof, may apply to a judge of the Supreme Court of Ontario for an order for the removal or abatement of the nuisance and to restrain the proprietors of any such industry from carrying on the same until the nuisance has been abated to the satisfaction of the Ministry, and the judge may make such order upon the Ministry's report or upon further evidence.<sup>155</sup> Where the owner neglects to abate a nuisance, after due notice, the medical officer of health or public health inspector may enter<sup>156</sup> the premises and take such steps as are necessary to abate it.<sup>156</sup> All costs and expenses<sup>157</sup> connected with such abatement are recoverable from the owner<sup>158</sup> or else through the collection roll as municipal taxes.<sup>158</sup> Where such removal or abatement involves the loss or destruction of property to the value of \$2,000 or more, no order of the Ministry or local board shall be enforced except by order of a judge of the Supreme Court.<sup>159</sup>

Schedule B of the Act, which is a by-law in force in every municipality until altered by the municipal council, requires that no



reservoir into which a stable is drained shall be established until the approval, in writing of the medical officer of health has been obtained.<sup>160</sup> Swine are not permitted to be kept within a municipality, except in pens with floors regularly cleansed and disinfected.<sup>161</sup> The keeper of every stable shall keep it and the stable yard clean, and shall not permit more than two wagon-loads of manure to accumulate in or near the stable at any one time, and shall at all times keep such manure in a proper covered receptacle.<sup>162</sup>

### Comment

The Public Health Act provisions, while ostensibly reactive in their application, do have the capacity to permit local and provincial government officers to abate and control agricultural waste practices which might amount to a nuisance or threat to health while at the same time having adverse impacts on water quality. Local health inspectors are also, unlike their MOE counterparts, explicitly authorized to undertake periodic inspections in an attempt to prevent as well as abate nuisances. In this regard, such procedures might well create a situation where normal agricultural waste disposal practices could be regarded as nuisances capable of abatement - where they would otherwise be exempt from abatement requirements under the EPA. It is interesting to note that where a Ministry report indicates that the existing operation, which would appear to include a livestock operation, constitutes a nuisance, the local board, or any rate-payer residing in the municipality, or within a mile thereof, may apply to a judge of the Supreme Court (of Ontario) for an order not only for the removal or abatement of the nuisance, but also for an order restraining the owner from continuing his operation until the nuisance has been abated. Such provision is unusual in that, except<sup>163</sup> for similar though little used provisions in the Municipal Act<sup>163</sup> and the Planning Act<sup>164</sup> regarding by-law and zoning violations, members of the public are generally not permitted to obtain injunctions for activities which affect them simply as members of the public.<sup>165</sup>

The contractor is informed by Health Ministry officials that health inspector activities have generally been limited to abating odour problems which amount to nuisances. Personnel constraints have effectively eliminated spot check inspections by health inspectors, though section 89 would appear to require regular inspections within the municipality to prevent or abate nuisances. The practice now is to send inspectors only in response to complaints from the public. Prosecutions<sup>166</sup> for violation of the above provisions are similarly rare.

2. The Tile Drainage Act<sup>167</sup>

a. Purpose and Administration

The Act permits municipalities to loan money to farmers for the purpose of draining agricultural lands to bring more land into production as well as determining similar procedures in unorganized territory. Administered by the Ministry of Agriculture and Food, with special responsibility now under the Ministry's Food Land Development Branch which is responsible for land use matters including funding for tile drainage systems.

b. Key Provisions

Subject to the approval of Cabinet, the Minister of Agriculture and Food may prescribe the manner in which drainage works are to be initiated and carried out in territory without municipal organization and the manner in which and the terms and conditions under which loans may be made to persons out of the funds appropriated by the legislature.<sup>168</sup>

3. The Drainage Act<sup>169</sup>

a. Purpose and Administration

The principal objective of this Act, as in the above statute, is to facilitate the construction, operation, maintenance and funding of drainage works in order to increase yields, improve crop quality and improve the condition of the soil. The Act is also administered by OMAF and its Food Land Development Branch.

b. Key Provisions

The principal sections of the Act of concern to this study include the following. Where a municipality has decided to initiate the construction of drainage works,<sup>170</sup> and has given notice of this intention to each municipality that may be affected, to the local conservation authority or where no authority exists, to the Ministry of Natural Resources, the affected municipality(s), the conservation authority or the Ministry, may inform the council of the initiating municipality within thirty days by notice that an environmental appraisal of the effects of the drainage works on the area is required. The cost of the environmental appraisal shall be borne by the party that requested it.<sup>171</sup> The initiating municipality may<sup>172</sup> also obtain an environmental appraisal on its own initiative. Every owner of land within the area to be drained, any public utility or road authority that may be affected by the drainage works, any local municipality, or conservation authority or if no authority has jurisdiction, the Ministry of

Natural Resources, that is dissatisfied with an environmental appraisal prepared pursuant to section 6 may appeal to the Drainage Tribunal established under the Act.<sup>173</sup> The Ministers of Natural Resources and Agriculture may also refer the environmental appraisal to the Tribunal.<sup>174</sup> The Tribunal may confirm the environmental appraisal or direct that it be reconsidered as the Tribunal considers proper.<sup>175</sup> No person may deposit anything but unpolluted drainage water into any drainage works.<sup>176</sup> The exception to this is where a municipal by-law of the initiating municipality has been approved by the Ministry of Environment.<sup>177</sup> Every person who contravenes the above prohibition is guilty of an offence and, on summary conviction is liable to a fine not to exceed \$1,000.<sup>178</sup>

### Comment

It would appear that there are two phases of concern with respect to drainage works; (1) the construction phase, and (2) the operation phase.<sup>179</sup> In theory section 6 is capable of permitting review of the likely silting and sedimentation to streams that would occur during the construction of a drain including mitigation measures. However, the Act has just come into force<sup>180</sup> and there has been no reported use of the section to date.<sup>181</sup> Thus it is too soon to tell what sort of positive application the section might have with respect to preventing or mitigating construction phase sedimentation to streams. It should be noted that the requirement that the entity asking for the environmental appraisal must pay for the appraisal's costs as opposed to the municipality proposing the drainage works, may well preclude some or many requests for such appraisals from financially strapped municipalities and conservation authorities. This requirement is the exact opposite of the provision in the Environmental Assessment Act, which requires the proponent of an undertaking to assume the costs of the environmental assessment. The theory in the Assessment Act being, he who stands to gain most from the undertaking should bear the costs of assuring that his gain is not the wider community's loss. The requirement in the Drainage Act would appear to stand that theory on its head.

Moreover, it may well be that because of the existence of this new provision in the Drainage Act respecting the preparation of environmental appraisals that all proposed drainage works under the Act will be exempted from the generally more demanding requirements of the EAA. This might be justified for example on the basis that most drainage projects are relatively small in size and therefore inappropriate to be subjected to the rigorous requirements of the EAA.<sup>182</sup> If this perhaps was the reason for the inclusion of such provisions in the Drainage Act, then it may well be the basis for exemption of drainage works from the EAA. However, because the Drainage Act is directed to review drainage works on a one at a time basis, it might still be appropriate to argue that the EAA should require a program environmental assessment on the total drainage program under OMAF.

This would permit a broad handle on the implications of and justifications for drainage schemes for water quality including potential province-wide protection mechanisms.<sup>183</sup>

With respect to section 83's requirement that only unpolluted drainage water be deposited into drainage works, a review of the indexes, and discussion with OMAF officials reveals that there have never been any prosecutions under this section. This may in part be due to the fact that up until recently there was some question as to whether silt and nutrients from fertilizer use were regarded as contaminants.<sup>184</sup> However, because the provisions of the OWRA exempt sewage works the main purpose of which is to drain agricultural lands, it may well be that such contributions to streams were recognized to be contaminants. Because control measures, for operation phase farm drains especially for farmer use of fertilizers for example, might have presented considerable regulatory headaches it may have been determined that they were not amenable to abatement except under only the most flagrant circumstances. If this was the case then section 83 may well have been little more than a shield from the more vigorous provisions of the OWRA.

#### 4. The Weed Control Act<sup>185</sup>

##### a. Purpose and Administration

Administered by the Ministry of Agriculture and Food's Seeds and Weeds Section. The Section oversees the appointments of municipally appointed weed control inspectors and the review of proposed municipal weed control by-laws. The Act is designed to facilitate control of weeds not only along public roads and areas within municipalities, but also in relation to maintaining crop yields on agricultural lands.

##### b. Key Provisions

Every owner of land is required to destroy all noxious weeds.<sup>186</sup> Weeds may be designated by municipal by-law as noxious, subject to the approval of the Minister.<sup>187</sup> All counties and regional municipalities are required to appoint area weed inspectors to enforce the Act,<sup>188</sup> and the Minister may appoint such inspectors where the municipality fails to.<sup>189</sup> Inspectors may enter upon land or buildings other than dwellings to search for noxious weeds.<sup>190</sup> Where an inspector finds noxious weeds, he may order the person in possession of the land to destroy the noxious weeds, and the person must comply with the order.<sup>191</sup> The person so ordered may appeal the order to the chief weed inspector who may hold a hearing to confirm or revoke the order appealed from or may make a new order. Parties to the hearing include the appellant, the inspector who issued the order, and such other persons as the chief inspector may specify.<sup>192</sup> No person may

obstruct an inspector in the course of his duties.<sup>193</sup> Where an order served under section 11 is not complied with, the inspector may cause the noxious weeds to be destroyed in the manner prescribed in the regulations.<sup>194</sup> Sections 4 and 11 do not apply to noxious weeds that are so far from any land used for agricultural or horticultural purposes that the noxious weeds can have no material effect on the agricultural or horticultural use of that land.<sup>195</sup> Every person who contravenes any of the provisions of the Act or regulations, or an order made under the Act, is guilty of an offence and on summary conviction is liable to a fine not to exceed \$50 for a first offence and for a second or subsequent offence to a fine of not less than \$50 and not more than \$100.<sup>196</sup>

The Cabinet may make regulations designating plants as noxious weeds;<sup>197</sup> prescribing the manner of and procedures for destroying noxious weeds<sup>198</sup> and requiring methods and procedures that shall be taken to prevent the establishment of any noxious weed.<sup>199</sup>

### c. Key Regulations

The means by which noxious weeds shall be destroyed are covering the plants with mulch or other substances that prevent the growth of the plants or the ripening of their seeds; pulling or otherwise removing the plants from the soil; cutting the roots or stalks of the plants before the seeds have developed sufficiently to ripen after the cutting; plowing or cultivating the soil in which the plants are growing; or treating with an herbicide that causes the plants to be destroyed or prevents the growth of the plants or the ripening of their seeds.<sup>200</sup> Nothing in this section authorizes any use of an herbicide that is contrary to any other law in force in Ontario.<sup>201</sup> An inspector may cause noxious weeds to be destroyed under section 13 of the Act where he is of the opinion that the propagation of the noxious weeds would be prevented or substantially reduced by reason of their destruction, and; that lands other than the lands on which the noxious weeds are growing are likely to be damaged by propagation of the noxious weeds.<sup>202</sup>

### Comment

While the regulations to the Act prescribe five different methods for eradicating weeds, discussions with OMAF officials indicate that 80% of weed control eradication on agricultural lands is done with the use of herbicides, with the remaining 20% done by the other four methods. On municipal roadsides 75% of weed control would be by use of herbicides.<sup>203</sup> The marked preference by the agricultural community for the use of herbicide weed control was attributed to its permitting the farmer to get away from having to summer fallow (which would mean having no crop) and the highly regarded efficiency of herbicides.<sup>204</sup> With respect to the potential adverse effects of certain herbicides, such as atrazine, on

water quality OMAF through its publications<sup>205</sup> and the Ontario Herbicide Committee<sup>206</sup> emphasizes the use of less persistent herbicides or the mixing of herbicides to reduce the length of time of their persistence in soils, consistent with continued weed controls. The use of more efficient non chemical weed controls appears to have been given scant attention, in terms of research funds or priority compared to herbicide use.<sup>207</sup>

5. The Woodlands Improvement Act<sup>208</sup>

a. Purpose and Administration

The Act is designed to facilitate the planting and improvement of woodlands on private lands pursuant to management agreements between the owners and the Ministry of Natural Resources. The Ministry and its Forest Management Branch are responsible for the Act's administration. The objectives of the Branch pursuant to the Act include encouragement of forest generation and production especially on private lands in Southern Ontario, where there is no significant Crown land area.

b. Key Provisions

The Minister, subject to the regulations, may enter into agreements with the owners of lands that are suitable for forestry purposes and that are situated in a private forest management area for the planting of trees or the improvement of woodlands on such lands.<sup>209</sup> Owners who enter into such agreements with the Ministry may not cut any trees growing on the land covered by the agreement except in accordance with the management program under the agreement.<sup>210</sup> The agreement may be terminated, and costs recovered by the Ministry where provisions of the agreement are breached by the owner.<sup>211</sup> The Cabinet may make regulations, including regulations designating parts of Ontario as private forest management areas.<sup>212</sup>

Comment

Such reforestation programs as outlined above can contribute to reducing both soil and wind erosion on rural lands as it may effect water quality. For example, they could be used to provide shade coverage on pasture lands near farm ponds such that the problem of cattle watering in streams could be mitigated. They might also be used to stabilize areas near streambanks such that erosion from farm animals overuse of sensitive bank areas could be reduced. Agreements could be entered into to stabilize rural lands that are no longer in production and which might otherwise be subject to erosion from nonuse. Such agreements could also foster the planting of trees as windbreaks as a hedge against wind erosion, but which might also have ancillary benefits to

control stream sedimentation from particle movement in air and by water erosion. Regulations under the Act have generally designated present and previous agricultural land, as private forest management areas to which the Act applies.<sup>213</sup> The Act itself on a province wide basis activated the planting of 7.9 million trees on 10,000 acres of private land in 1974-75.<sup>214</sup> However, as a matter of policy MNR will not enter into agreements for the planting of trees on private lands unless the land owner wishes to plant five acres or more.<sup>215</sup> This effectively eliminates the Act as a useful tool for the planting of windbreaks on farm lands, as such windbreaks usually are a single stand of trees 1,000 feet or a half mile long. This has apparently adversely effected some agricultural counties subject to wind erosion problems.<sup>216</sup> It may also limit the usefulness of the Act for other of the strategic controls noted above which could assist in the control of erosion and subsequent sedimentation.

6. The Agricultural Committees Act<sup>217</sup>

a. Purpose, Administration and Key Provisions

The purposes of agricultural committees are to co-operate with and make suggestions to the agricultural representative of their county respecting matters, including soil conservation, reforestation and weed control.<sup>218</sup>

7. The Agricultural Rehabilitation and Development Act<sup>219</sup>

a. Purpose and Administration

The purpose of the Act includes the co-ordination with the federal government of programs of research and investigation with respect to development and conservation of water supplies and for soil improvement and conservation pursuant to federal provincial agreements described below. Administered by the Ministry of Agriculture and Food and the Agricultural and Rehabilitation and Development Branch (ARDA) whose responsibilities also include farm consolidation and enlargement, development and community grazing pastures.

b. Key Provisions

The Minister may, with the approval of Cabinet, enter into an agreement with the Government of Canada providing for projects for soil improvement and conservation that will improve agricultural efficiency in the province.<sup>220</sup> Programs of research and investigation regarding such matters may also be undertaken.<sup>221</sup>

## Comment

Concern was expressed by numerous officials with respect to the effects of erosion on crop production and water quality. The contractor was readily informed, however, that there are no well-defined programs to meet this concern in a systematic fashion pursuant to either of the above Acts or through other techniques. Except for advice provided on an individual basis,<sup>222</sup> or through publications<sup>223</sup> or the media regarding good crop management, grassed waterways, diversion ditches etc. as erosion control measures, requirements or incentives for the adoption of such schemes are non-existent. No cost sharing programs for erosion control installation, or time limits associated with such a scheme are presently contemplated; nor<sup>224</sup> are the adoption of soil loss limit regulations anticipated.

A measure of the low priority presently assigned to soil conservation can be gleaned from a comparison of the ARDAII 1965-70 agreement with the one presently in force for 1975-77. The present Agreement has as its priority farm consolidation and enlargement, and the development of programs for rural employment and development.<sup>225</sup> Dropped from the Canada-Ontario agreements in 1970 was a Part respecting soil and water conservation. The objectives of that Part had been to advance soil and water conservation projects including watershed conservation projects, provided a major part of such projects served agricultural and rural development purposes. Approved project and program types included (1) comprehensive watershed projects for the protection, management, development and improvement of the soil and water resources of a watershed consistent with physical and economic soundness as found acceptable on the basis of a cost-benefit analysis; (2) water conservation projects including water management for the prevention of erosion including flood and sediment damage. Where multi-purpose projects for integrated development were involved pollution abatement and fish and stream maintenance could be included, and (3) land conservation projects for protection from soil deterioration, rehabilitation of eroded and depleted soils and reduction of water and sediment damage.<sup>226</sup>

No information was available as to the reason for the discontinuation of that part of the agreement, except that the presently emphasized programs, especially for drainage schemes, are regarded as of greater benefit to the agricultural community in terms of bringing more land into production and otherwise promoting rural redevelopment. It may also be that recently good weather cycles had reduced the concern of the agricultural community for matters respecting erosion, especially where crop production was unaffected.<sup>227</sup> The emergency atmosphere that surrounded the creation of the Prairie Farm Restoration Administration in the 1930's has generally been absent in the East and could further explain why the soil erosion potential of the above noted ARDA programs might be regarded as not needing continuing assistance.<sup>228</sup> Discussion with officials indicated no plans for restoration of such a scheme of programs. The present ARDA agreement is to terminate in March 1977.



## V. Non-Statutory Programs

### 1. Capital Grants Program

A capital grant of \$3,000 is available for specific improvements on commercial farms, as part of a long term policy for capital improvements on Ontario farms. The grant is on a one-time basis and may cover up to 40% of the cost up to the \$3,000 level. The development of manure management programs for the acquisition of equipment for such programs would be eligible under the scheme. For the period 1967 to July 15, 1976 grants totalling \$738,900 had been made for the construction of manure storage facilities. Another \$3.3 million had been made available since 1971 for manure stable cleaning equipment.<sup>229</sup> The grants program is also regarded as potentially applicable to effecting remedial measures to stream-banks which may have been eroded by cattle access to the banks.<sup>230</sup>

### 2. Agricultural Code of Practice

The purpose of the Code is to assist interested farmers in reducing the potential of their livestock operation to pollute air, soil and water and to provide guidelines for the use of land in relation to the livestock industry. With respect to water quality the Code is designed to provide management recommendations to control water pollution caused by livestock watering in streams, ponds or lakes<sup>231</sup> as well as manure management techniques for controlling runoff from feedlots and fields.<sup>232</sup> The Code is advisory in nature though farmers are strongly advised to apply for a certificate of compliance issued by the Ministries of Environment, Agriculture and Housing pursuant to the Code.<sup>233</sup> Farmers who do apply and have their operations approved can usually expect assistance from the Ministries involved in the event<sup>234</sup> of environmental disputes. The most recent version of the Code<sup>234</sup> is meant to be incorporated into municipal zoning by-laws where municipalities so desire. As a zoning by-law, the Code has far greater application to controlling air/odour problems than controlling problems with respect to water quality.

#### Comment

There were 650 applications for certificates under the Code in 1975, with approximately 15% of those applications denied certificates.<sup>235</sup> Approximately 3% of the applications would have had direct references to water pollution potential and conditions as identified by government evaluators.<sup>236</sup> It was estimated that not more than 10 applications were turned down in 1975 because of inadequate facilities for controlling runoff to streams. Probably no more than 10 applications to the program would have had high water pollution potential whether or not they were subsequently turned down.

Because application to the Code and an approval will often permit farmers to obtain building permits or loans, from for example, the federal farm credit corporation, it was the opinion of most commentators that the Code was only reaching farmers who had intentions of expanding or altering their operations. By the same token, existing operations were thought not to be taking advantage of the Code to any significant degree.

Moreover, no information was available, to give an indication of just what percentage of farmers whose operations presented potential or actual water quality problems, the Code was actually reaching. That is to say, the figure 650 may represent 99% of the farmers whose operations may present water quality problems, or it may represent 1% of such operations. As such, it is difficult to gauge the success of the Code as a substitute for a regulatory permit/approval program discussed above.<sup>237</sup> Moreover, because of the Code's traditionally and continuing greater emphasis on control of air/odour problems and its concomitant greater sophistication in that regard, the adoption of the Code by municipalities, as a sort of back door regulatory control, would appear to have minimal control possibilities for water quality. This is especially so to the extent municipalities might well be legally barred from rejecting permit applications where a denial of a certificate under the Code had been for ostensibly water quality reasons.<sup>238</sup>

The Code incorporates many desirable practices and concepts to minimize agricultural water pollution. However, its creators still regard it as a mechanism that farmers should not be required to comply with but only strongly encouraged to do so. This view has already begun to change with respect to air/odour building siting problems, where adoption of the Code in official plans and zoning by-laws is now actively encouraged.<sup>239</sup> It is submitted that the problems associated with agriculture and water quality are equally pressing if not more so,<sup>240</sup> and point to the Code's eventual transition from guide to requirement as partially meeting this concern for the control benefits it would bring as outlined above.<sup>241</sup>

### 3. Intra and Interministerial Committees

#### a. Farm Pollution Advisory Committee

This committee, consisting of farmers, appointed by the Minister of Environment, was created to assist MOE and OMAF in resolving farm pollution problems when all reasonable efforts on the part of the Ministries to achieve abatement have failed. The committee is provided with a comprehensive report on the history of the Ministries involvement for each problem referred to them, including complaints, investigations, and interviews previously conducted. The responsibility of the Committee is to provide the Ministry with practical advice on the farm pollution problem and assist in determining to what extent a farmer is employing methods which are consistent with normal farming practice. Based on advice from the Committee, and the likelihood of farmer compliance with that advice, the Ministry may then consider further action including issuance of a control order or prosecution under section 14 of the Environmental Protection Act.<sup>242</sup>

#### Comment

The Committee has issued twenty to twenty-five reports on farms since its inception in 1973. While the Committee was established to deal with air/odour problems, particularly as they were occurring in the Niagara region, a review of the Committees' reports and correspondence indicates that runoff problems were frequently identified as well.

The files handled by the committee usually represented only the most recalcitrant of livestock operators, frequently representing flagrant examples of water pollution from barnyards and manure piles. However, it has been suggested that an exposed barnyard and manure pile is still standard procedure in "many, many areas" of the province; in part because the costs, for example, of roofing feedlots<sup>244</sup> to keep out rainfall and subsequent runoff, are prohibitive.

#### b. Environmental Quality Subcommittee<sup>245</sup>

The subcommittee is responsible for reviewing recommendations for soil management practices<sup>246</sup> in Ontario to ensure that the potential for detrimental effects on the environment is within acceptable limits; to make representation to the appropriate organizations when currently followed practices, whether recommended or not, have an unacceptable potential for detrimental effects on the environment; to define research requirements in relation to the effects of soil management practices on environmental quality.

## Comment

The subcommittee pursuant to the above duties and terms of reference has identified two areas of particular concern to which it is presently devoting research time and has made tentative recommendations. These include (1) erosion and (2) manure use.<sup>247</sup> With respect to erosion the subcommittee was of the view that the extent of erosion from agricultural land has increased considerably in recent years. This was as a result of (1) a reduction in emphasis on soil erosion control in advisory programs and (2) the expansion of corn acreage on to more erodible soils.

It has recommended expansion of research to determine the extent of erosion occurring under different soil management practices; the development of practices to reduce erosion without limiting food production levels; and greater emphasis in advisory programs on the need for erosion control.<sup>248</sup>

With respect to manure use the subcommittee noted that the Agricultural Code of Practice specifies acreage for manure use based on animal units calculated on the nitrogen content of manure. The EQS noted that at present recommended rates nitrogen levels after one or two years might increase in drainage waters considerably in excess of those regarded as acceptable. The EQS also noted that while the Code also recommends that winter spreading of manure be avoided, the EQS was of the view that this practice is still being used extensively in Ontario and is a significant contributor of nutrients.

The EQS recommended continued and expanded research to determine the effect of continuous high rates of manure application on the nitrogen content of the soil and drainage water. It further recommended that increasing emphasis be placed on manure handling practices to reduce to a minimum, consistent with sustained crop production, the contribution of nutrients to ground and surface water.

### c. Committee on Sewage Sludge Utilization on Agricultural Lands<sup>249</sup>

## VI. Agreements

### 1. Canada/Ontario<sup>250</sup> - Canada/U.S.<sup>251</sup> Agreements on Great Lakes Water Quality

Pursuant to these executive agreements between the named governments, research studies and development of measures to reduce pollution from various activities including agricultural activities are being undertaken. Various research efforts including many undertaken at the University of Guelph pursuant to PLUARG are underway regarding

such matters as land application, erosion, fertilizer and pesticide use and transfer and manure management practices.

## NOTES

1. Because many of these statutes' general requirements, provisions, prohibitions and administering branches were discussed in Interim Report No. 1, that discussion will not be duplicated here. Remarks herein will be limited to those provisions which have applicability to the land use category under discussion and have not been previously referred to. Where necessary, reference should therefore be made to the first report.
2. S.O. 1971, c.86 as amended. Discussion of both the EPA and the Water Resources Act will center on livestock operations. Pesticides controls will be described under the Pesticides Act. Fertilizer and erosion and sedimentation from farm practices are unregulated in Ontario as they relate to water quality concerns (except for the possibility of prosecution for actual or potential water quality degradation from such activities.)
3. s.5(2) "Normanl farming practices" are not defined in the Act. As noted in Interim Report No. 1, there are currently no regulations under the EPA which have applicability to water pollution matters. The section is therefore of moot value, with respect to water quality. Similarly, s.8(3)(c) which exempts a livestock operator from the requirement of having to obtain a certificate of approval for the construction, alteration or extension of his operations which might effect the natural environment, would appear to be concerned with matters other than water quality. See, for example, section 8(1). This would appear to stem from the Ministry's desire to deal with most aspects of water quality under the OWRA. For a general survey of federal and provincial manure waste control legislation and programs see M. D. Rigby "A Review of Legislation Affecting Manure Management in the Canadian Livestock Industry", for Environment Canada (March 1975).
4. s.13(2). Again there are no water quality regulations pursuant to the EPA or any other environmental statute in Ontario, so this aspect is moot.
5. s.14(2).
6. s.15(2).
7. s.6.
8. s.7.
9. This discovery usually occurs as a result of investigating water quality complaints or through the Ministry water quality monitoring program.

10. S.70.
11. s.72.
12. s.73(1). In practice this usually means that a copy of the report of the provincial officer who undertook the preliminary investigations is forwarded to the person about to be served with the control order.
13. s.73(2).
14. s.74. But see Re Canada Metal Company and MacFarlane (1973) 10.R. (2d) 577, 2 CELN 161 which held that the Ministry, in issuing a stop order must act judicially not arbitrarily which in essence requires an objective not subjective test of what is reasonable and probable in respect of likely or actual environmental harm.
15. R.R.O. 1970, Reg. 824, s.3, as amended. Controls with respect to the spreading of sewage sludge on agricultural land will be reviewed in the Disposal Areas report.
16. R.S.O. 1970 c. 332 as amended.
17. The same branches that were mentioned in Interim Report No. 1 and above would be involved with the OWRA with respect to agricultural activities of concern to this study.
18. ss. 30-32. See Interim Report No. 1 and discussion of the more detailed contents of these provisions.
19. s. 36.
20. s. 37.
21. s. 42(b)(d)(e).
22. See, for example, Ontario Ministry of Environment, Submission to the Royal Commission on Electric Power Planning Public Information Hearings, May 1976, pp 2 and 18.
23. Discussion of the Ministry of the Environment, Ministry of Agriculture and Food and Ministry of Housing voluntary Agricultural Code of Practice Certificate of Compliance program will be discussed infra.
24. See, for example, remarks of Everett Biggs, Ontario Deputy Minister of Environment at a conference on "Waste Recycling and Canadian Agriculture" April 24-25, 1975, Toronto". See pp. 149-150 of the proceedings of that conference published by Agricultural Economics Research Council of Canada. But c.f. "Pollution Problems Associated with Poultry and Animal Wastes in the Ontario Great Lakes Basin", Black, Robinson and Lane (1971) in which the authors demonstrated the

"massive potential" of animal and poultry manures to pollute Great Lakes Basin Waters with increased BOD, suspended solids, nitrogen, other nutrients and infectious agents and allergens. See also the findings of the Thames River Basin Water Management Study (1975) (Ministry of Environment and the Ministry of Natural Resources) with respect to the magnitude of agricultural contributions to water pollution in an ostensibly agricultural area. See also "Agriculture and Water Quality" in Report of the Agricultural Research Institute of Ontario, OMAF for the period April 1, 1974 to March 31, 1975 which states "Available information suggests that the contribution from agriculture (to water, air and nuisance problems) may be significant at both regional and local levels. Data on fish kills from feedlot runoff, nutrient problems due to runoff from cultivated lands, the possible contamination of groundwater from crop production and land disposal of wastes, and the increasing size of agricultural production operations indicate that the environmental consequences must be properly assessed. These changes have the potential to adversely affect surface and groundwater quality unless continued efforts are made to accompany these changes with improved waste management methods."

25. Interview with D. Morrow, D. Osmond and J.T. Samuel, S.W. Regional Offices of the Ministry of Environment, London, Ontario, June 3, 1976.
26. Interview with F. Durham, Chief Industrial Abatement Section, S.W. Regional Office, MOE, London, Ontario May 13, 1976. See also Thames River Basin Study, Ministry of Environment and Ministry of Natural Resources (1975) Appendix C, "Water Quality Management Options", where options for bettering water quality included restricting cattle access to streams by the use of fence or shrub barriers. The problem of water pollution from cattle watering in streams is also prevalent in Eastern Ontario as well, and is regarded as a matter for the MOE to enforce if not cleaned up. See Remarks of D. Presant, Agricultural Engineer, OMAF at an Agricultural Code of Practice Committee Meeting, November 29, 1974, Toronto. With regard to new and expanding operations, the MOE encourages farmers to apply for a certificate of compliance under the Agricultural Code of Practice. Fuller discussion, infra. With respect to existing agricultural pollution problems besides cattle watering, the MOE will frequently resort to the Farm Pollution Advisory Committee, made up of farmers. This committee will



often be called in for recalcitrant operators that have been uncovered, in a final attempt to obtain compliance before legal action is contemplated. Fuller discussion, *infra*.

27. Interview with J.T. Samual, *supra* note 25. Because of the frequent storage and stockpiling of vegetable processing wastes (usually sweet corn) by farmers in the London regional area, and the concomitant runoff pollution, including fish kill, incidents that have occurred there, MOE regional personnel have developed proposed "Guidelines for Stockpiling Vegetable Processing Wastes." (Proposed but not in effect as of June 1, 1976.) The guidelines, which are only suggestions, recommend; construction of horizontal concrete pads that drain to a containment system; the containment system could be a trench, tank or lagoon; and the proper timing of the application of corn silage liquids to avoid ponding, runoff or excessive infiltration into land drainage systems or groundwater.
28. See R.V. James MacGregor Farms, in Ministry of Environment, Legal Services Branch index for prosecutions under the Ontario Water Resources Act for the years 1974-1976, Toronto.
29. Memo dated April 12, 1976 from E. Biggs to L. McCaffrey (MOE solicitor) to withdraw charges pending against James MacGregor Farms regarding September 1975 fish kill in Barnock Burn River which was traced to the discharge of corn ensilage from the MacGregor Farm.
30. Memo dated April 9, 1976 from J. Barr, Assistant Deputy Minister of Regional Operation to E. Biggs.
31. Ministry Legal Services Indexes reveal no other prosecutions undertaken or pending under the OWRA for agricultural water pollution incidents for the period 1974 to 1976. Nor is it known at this writing whether the other farm operator has undertaken to control his operations in compliance with Ministry recommendations.
32. See, for example, "Report on a Fish Kill" from West Central Region of Ministry of the Environment May 1974 and "Investigation of Farm Wastes Contamination," Central Region of the Ministry of Environment March 1976. These two manure runoff incidents illustrate problems of proof as well as the time and resource requirements necessary to piece together effective and useful data as a basis for further action. Both reports are unpublished internal documents. No prosecutions resulted from the filing of these reports.

33. Interview with D. Jeff, M. Wood and P. Dennis, Ontario Ministry of Environment, June 8, 1976, Toronto. They felt this was of course contingent on PLUARG studies finding that feedlots in their point source aspect are a clear problem. In this regard, it was also felt that the agricultural community has long dealt with controls in other aspects of its operations, such as on prices and quantities of various commodities produced, such that environmental regulation wouldn't come as a stunning precedent against this background.
34. EPA; section 96.
35. One of the frequent comments noted by the MOE and OMAF personnel is that they don't have a handle on the number of feedlot operations that present a problem for water quality preservation in the province.
36. See note 26, supra under Appendix C, "Water Quality Management Options", regarding "Environmental Surveillance and Enforcement". The report concludes "Increased surveillance of rural drains and watercourses could be undertaken to identify the inputs of pollutants from rural households and farm wastes, including intensive livestock operations", at p. 106.
37. To be discussed, infra.
38. See comments of J.H. Nodwell, OMAF, at Agricultural Code of Practice Committee Meeting, November 29, 1974, Toronto.
39. The term "fewer" is relative. There is no hard data in the province as to the number of feedlots in operation. A 1971 OMAF beef feedlot survey of 243 operations revealed the following numerical breakdowns which were believed to be representative of the total picture in the province: (Source, N. Roller Economics Branch, OMAF, Interview June 2, 1976, Toronto).

<u># of animals per operation</u>	<u># of operations</u>	<u>% of total</u>
100-300	121	49.8
301-500	63	25.9
501-700	22	9.0
701-900	14	5.8
901-1100	6	2.5
1101-and up	17	7.0
	<u>243</u>	<u>100%</u>

Mr. Roller was of the opinion that there would be fewer operations today in the 100-300 animal category, but that there would be more operations with a larger number of animals per such operation.

40. Recommendation of D. Jeffs, Water Resources Branch, Ministry of Environment, June 8, 1976, Toronto.
41. *ibid.*
42. *ibid.*
43. Supra note 25. OMAF and University of Guelph faculty also believed that pollution problems generally associated with erosion and runoff from farm fields might dwarf wastes from feedlots, but that manure runoff from farm fields is a significant problem. Interview with Dr. M. Miller, University of Guelph, Department of Land Resource Science, June 23, 1976.
44. See for example, M. Miller, "The Contribution of Plant Nutrients from Agricultural Lands to Drainage Water", (1975); M. Miller and W. Nap "Fertilizer Use and Environmental Quality," (1971) and Thames River Basin Study" Appendix C "Water Quality Management Options" re limiting fertilizer application rates to those recommended by OMAF in its soil test and other programs.
45. See for example, "Report of the Environmental Quality Subcommittee (OMAF) to the Ontario Soil Management Research Committee, February 4, 1976, University of Guelph, Ontario. Minutes of that meeting; and interview with M. Miller, supra, note 43.
46. See for example, K. Best and D. Blackburn "Farmer's Use of the Soil Test Report" University of Guelph (1972). The authors found that 56% of farmers canvassed in Haldimand County made one half or more changes in the soil test report recommendations, that were regarded by OMAF as ill-advised. It should be noted that the basis for such a view was made on economic and crop requirement grounds. The report doesn't indicate whether environmental factors were included in the assessment of whether a soil test recommendation change was advisable or ill-advisable. See also D. Osmond. MOE "Address to a Fertilizer Information Meeting" regarding "Thames River Basin Study - Findings with Respect to Agriculture", March 23, 1976, London, Ontario.

47. Interview with M. Miller, *supra* note 43. See also Report of the Agricultural Research Institute of Ontario, *supra* note 24, with respect to a program that has been initiated by the Soils and Crops Branch, OMAF to attempt to reduce the amounts of fertilizer applied by growers in Kent, Essex and Middlesex counties in S.W. Ontario. The program includes site and field demonstrations by OMAF officials to show growers that phosphorus application for example, can be reduced several fold without affecting yield. There was also the view that growers would undertake a reduction in fertilizer use on their own simply because fertilizer costs were becoming prohibitively expensive. Interview with K. Fallis, Director, Soils and Crops Branch, OMAF, July 12, 1976, Toronto. However, a 1975 survey of between 40-50 farmers in Kent, Essex, Lambton and Middlesex counties suggested that fertilizer rates of use were not necessarily declining with increased fertilizer prices. Interview with H. Lang, OMAF extension agronomist, Ridgesown Agricultural College, June 10, 1976. See also "Ontario Soils" OMAF publication 492, regarding recommended soil management practices including fertilizer practices (1975).
48. S.O. 1973, ch. 25 as amended.
49. s. 2. There is not an actual purpose section in the Act. This has been extrapolated.
50. Created under s.9. This committee provides a principle means of Ministry of Agriculture and Food input into (1) changes to Pesticides Act regulations (2) classification of chemicals (3) restrictions in use. Source, R. Frank, OMAF-U of Guelph, Director of Provincial Pesticides Laboratory, Guelph, Ontario, June 8, 1976.
51. s. 12.
52. s. 3.
53. s. 4.
54. s. 6.
55. s. 10.
56. s. 10(2) and (3)
57. s. 13(1).
58. s. 13(2)
59. s. 13(4).

71. s. 73. This is frequently known as the "farmer helping a farmer" exemption.
72. s. 23.
73. s. 25.
74. s. 27.
75. s. 36.
76. s. 55. A "farm structure" is defined to include a structure used for agricultural or forestry production but doesn't include a structure used for primarily storage or human habitation. s.1(f).
77. Interview with D. Wilson, Director, Pesticides Control Branch, Ministry of Environment, May 28, 1976, Toronto.
78. Sales records would be available from sales outlets however.
79. Supra note 71. Apparently proposed regulations by the Ministry of Environment to remove or modify the O. Reg. 618/74 s. 73 exemption were shelved recently where agricultural interests argued that they were not necessary and a hindrance to crop production. Interview with W. Lammers, D. Veal, and T. O'Neill, MOE Central Region, June 14, 1976, Don Mills, Ontario.
80. As of May 28, 1976. Apparently one is in preparation though unrelated to agricultural use.
81. Ministry of Environment prosecutions index, as of May 1, 1976.
82. The aerial spraying case did involve pesticides spray that drifted to a watercourse, but this was from a commercial applicator's activity. No information is yet available as to the amount of fine or whether the case is under appeal, as it was a recent decision.
83. Procedures for Herbicide Damage Detection and Evaluation (1976) joint statement of MOE and OMAF.
84. 9.2 ppb.
85. A 1973 "Survey of Pesticide Use in Ontario" (Economics Branch, OMAF), indicated that numerous counties in southern Ontario had the highest herbicide per unit area application rates in the province.
86. s. 28 of the Act.

87. Supra, notes 72-75, for example.
88. Interview D. Wilson, supra note 77.
89. Interview D. Morrow, supra note 25. OMAF application rate publications for crops do have MOE input however.
90. Interview D. Chant, zoologist, University of Toronto June 2, 1976. Dr. Chant argued that in some instances the OMAF "Spray Calendar", which gives monthly use of pesticides in Ontario, will inform a farmer of when it is appropriate in the year to spray for apple maggot, but is silent on the farmer's being sure to investigate that he has apple maggot or is likely to have apple maggot before spraying.
91. Interview with R. Frank supra note 70. See also R. Frank et al "PCB and Pesticide Inputs and Outputs in Six Agricultural Mini-Watersheds, in Ontario 1975," presented to the Canadian Chemical Conference, London Ontario, June 7, 1976. The report indicates that the main problem in Ontario watersheds today lies with continued high levels of atrazine which is an herbicide extensively used in corn production. Peak concentrations reached 5ppb in some periods.
92. Interview, D. Wilson, supra note 77.
93. Supra note 24, Report of the Agricultural Research Institute, p. 151. See also OMAF - University of Guelph Contract Research Publication (NO. 4-4) respecting Research Project Index 1975-76, Office of Research, September 1975 in which the following research efforts respecting alternatives to chemical pesticides are being investigated; Distribution, biology and control of the alfalfa weevil and its parasites; pests of field corn in relation to cultural practices; microbial pathogens of insects and their use in control; effects of sterilants on livestock insects; parasites and predators of the face fly in Ontario pp. 66-67.
94. The only use of Schedule 1 pesticides by farmers is in mouse and bat control application within buildings, which is regarded as an unlikely contributor to water quality problems. There was some concern expressed that farmers are importing illegally, pesticides that would be Schedule 1 pesticides in Ontario because customs officers were inadequately trained to guard against such importations by farmers as opposed to commercial dealers. While the province may only control the use of a pesticide, the federal government has the exclusive jurisdiction under the Pest Control Products Act, R.S.C. 1970 c.P-10 to control the manufacture and registration of pesticides

and pest products. Once a manufacturer has pulled his Canadian registration, Ontario farmers, by crossing the U.S. border, may still be able to obtain that product.

95. Interview D. Morrow, supra note 25.
96. Interview D. Chant supra note 90. Dr. Chant also felt that Schedule 1 pesticides should not be used at all. In his view even though used infrequently, the example of the New Brunswick spruce budworm spraying controversy suggests that political pressure for heavy Schedule 1 use could occur in Ontario as well. If a pesticide is available for use, through even a generally prohibitive use Schedule, then sooner or later that pesticide will be used. In this regard, the role of the Environmental Assessment Act hearing procedure for provincial government and private sector activities might have considerable application to this problem in publicly airing a matter before a decision would be taken. It is not yet known whether or when the Act might apply to such permit requests under the Pesticides Act.
97. S.O. 1975, c. 69.
98. s. 1(0).
99. R.S.O. 1970, c. 78 as amended. This Act has been discussed in greater detail in Interim Report No. 1.
100. s. 27(2)(a).
101. s. 19.
102. s. 20(a).
103. s. 20(p).
104. Interview with A. D. Latournell, Director, Conservation Authorities Branch, Ministry of Natural Resources, June 17, 1976. See also L. R. Webber "Workshop on 'Agricultural Erosion'" in "A Conference on Erosion-Causes, Effects, Controls" sponsored by the Conservation Council of Ontario and the Soil Conservation Society of America (Ontario Chapter) Toronto, 1972 in which it was noted that conservation authorities were not advising farmers operating valley lands of appropriate erosion control measures; p. 56.
105. Interview with J. Agnew, Land Management Division, Metro Toronto and Region Conservation Authority, Downsview, Ontario, July 15, 1976. It was not known at the time of writing, whether other authorities were still implementing such a program, even on a reduced scale.

106. Webber, supra note 104 at page 58. In the short term this is viewed as a likely continuing situation. In the median and long term however, soil loss can not be ignored. Particularly in Eastern Ontario with its rolling topography and considerable corn crop production, erosion with adverse crop effects is a distinct possibility. Interview, D. Presant, agricultural engineer, OMAF, Sterling, Ontario, June 29, 1976. This factor might stimulate renewed farmer interest in erosion controls, with ancillary benefits to water quality, but by then considerable damage may have been done.
107. Interview with S. B. White, Acting Regional Conservation Authorities Program Supervisor for the Ministry of Natural Resources, July 17, 1976, Richmond Hill, Ontario.
108. Latournell, supra note 104. The Conservation Authorities Branch, is responsible for partial funding and technical assistance to local authorities. For the 1975/76 budget the grants made to local authorities totalled \$31.4 million. This is approximately \$6-7 million less than the 1974/75 budget allocation. Cuts in the grants program are further anticipated for the foreseeable future.
109. R.S.O. 1970, c. 284 as amended.
110. s. 354(1) 1.
111. s. 354(1) 2.
112. By-Law no. 28-70. While this by-law has land use implications it is in effect merely a building by-law in that the township does not yet have an official plan or corresponding zoning by-law. It is understood that the by-law is being re-drafted to ultimately become a zoning by-law once an official plan is adopted for the township. Interview with Gord Killens, Clerk, Township of West Lincoln, July 16, 1976.
113. Now the Ministry of Environment. Because of the farm exemptions under the Water Resources Act, MOE does not give approval except under the voluntary certificate of compliance program pursuant to the Agricultural Code of Practice. Therefore the requirement for such an approval under the by-law would not be enforceable. Moreover, under provisions of the new Ontario Building Code a person who constructs a farm building for his own use is exempted from the requirements of the Building Code Act, provided the building is not intended for residential occupancy. This may cast further doubt on the



enforceability of the by-law. Fuller discussion, infra.

114. There have been 22 building permits issued by the Township in 1976 thus far, all of them only after issuance of a certificate of compliance by MOE/OMAF. With respect to water quality control factors in the Code of Practice certificate program see discussions under the Planning Act and under the Code of Practice, infra.
115. S.O. 1974 c. 74.
116. O. Reg. 925/75 s. 2.9.2. "Farm Building" is not otherwise defined in the Code.
117. Interview with M. Caranci, Ministry of Environment, Cambridge Ontario, May 21, 1976. The Code became law November 1975.
118. A permit process under a local municipal building department was regarded as a means of alerting a municipality to a potential pollution, including water pollution problem however. Interview with R. Sider, Building Code Advisor, Ministry of Consumer and Commercial Relations, July 14, 1976, Toronto.
119. R.S.O. 1970 c. 349 as amended. As with other Acts in this second report that were discussed in detail in Interim Report No. 1 discussion here will be limited to a short recitation of the key provisions and brief commentary. Where necessary reference should therefore be made to the first report.
120. s. 35(1) 3.
121. s. 35(1) 4.
122. s. 35(1) 7. This is known as a "non-conforming use".
123. s. 32(1).
124. See for example Township of East Nissouri, Restricted Area or zoning by-law No. 821, March 1969, and Ministry of Housing's Conditions for final plan for registration of subdivision in Township of Holland, respecting prospective zoning by-law, July 1975.
125. See, Lang and Armour, "Municipal Planning and the Natural Environment", Draft Final Report to the Ontario Planning Act Review Committee, June 1976, which included a survey of local and regional official plans for their commitment, priority and capacity for protecting environmental, including water quality factors.
126. Interview with D. Mitchell, Plans Administration Branch Ministry of Housing, May 27, 1976, Toronto.

127. MOE submissions to the Planning Act Review Committee indicate that often municipalities will not refer to it development proposals or official plans and zoning by-laws in a timely fashion. The result is that often MOE is playing catchup with such proposals, and frequently feels that it is being asked to bail municipalities out of bad land use planning decisions with insufficient time and tools.
128. See G. McAlister, D. Mitchell, Plans Administration Branch, Ministry of Housing, Memo to Director of the Branch, A. Beaumont, December 11, 1974. See, for example, Township of Warwick (Lambton County) Zoning By-Law No. 23-74 (pending) regarding site regulations in agriculturally zoned areas. Section 6.1.2 (d); "Notwithstanding any other regulations contained in this by-law, the use of any land or the erection of any structure for the feeding, breeding or raising of intensive livestock or poultry, or the storage or disposal of manure from such animals, shall be prohibited unless a Certificate of Compliance has been received."
129. Supra note 125. A survey conducted by Lang and Armour of municipal planners, found that many felt that zoning and other municipal action was very weak when dealing with agricultural pollution. This pollution was perceived to include the compromising of stream quality by the location of feedlots and grazing areas close to streams, as well as by runoff of nutrients from the use of fertilizers. This was also confirmed by the contractor in a prior interview with M. B. Stagg, Director of Planning, Regional Municipality of Waterloo, May 10, 1976.
130. This problem was noted in the urban areas Interim Report also.
131. See for example proposed zoning by-law s. 5.2 provides that "all structures used to house poultry, livestock or fur-bearing animals, residences, commercial, industrial or institutional uses shall obtain a Certificate of Compliance issued by the Ontario Ministry of Agriculture and Food, and the Ontario Ministry of Environment. Any proposed use which has obtained a Certificate of Compliance shall be deemed to conform to the Minimum Distance Separation Formulas, 1, 2, 3 Schedule A as applicable." The superiority of this by-law provision over that noted in note 128 is that (1) the by-law here is requiring compliance with the Code only for those provisions referred to in section 35 of the Planning Act (eg. location and spacing) and (2) is also providing a formula that is factual and readily ascertainable to the person attempting to determine his status in relation to the law.
132. Such as the by-law noted under note 128.
133. See D. Mitchell, Ministry of Housing, Status Report: Agricultural Code of Practice, July 11, 1975 at page 3.

134. Interview with G. Penfold, Planner Huron County, who was responsible for drafting the proposed Grey Township by-law and Schedule of formulas. May 27, 1976. For example, one requirement in the Code which is air oriented, i.e. lids must be on manure tanks, is regarded as having ancillary water quality runoff aspects simply because when a lid is on a tank, overflow of the contents and subsequent runoff is not possible.
135. R.S.O. 1970, c. 377 as amended
136. s. 4(d)
137. s. 85
138. s. 86
139. s. 87(1)
140. s. 87(2)
141. s. 87(a) (2)
142. s. 87(a) (3)
143. s. 87(a) (4)
144. s. 87(b) (1)
145. s. 87(c) (1)
146. s. 87(c) (3)
147. s. 87(c) (4)
148. s. 89(1)
149. s. 89(2)
150. s. 1(s) "premises" means any land or any building, public or private, sailing, steam or other vessel, any vehicle, steam, electric or street railway car for the conveyancy of passengers or freight, any tent, van or other structure of any kind, any mine, or any stream, lake, drain, ditch or place, open, covered or enclosed, public or private, natural or artificial, and whether maintained under statutory authority or not;
151. s. 90
152. s. 92
153. s. 93
154. s. 94(1) and (2)

155. s. 94(2)
156. s. 95(1)
157. s. 95(2)
158. s. 95(3)
159. s. 96(1)
160. Schedule B s. 14.
161. Schedule B s. 22.
162. Schedule B.s. 23
163. R.S.O. 1970, c.284 s. - 470. Where any by-law of a municipality or of a local board thereof, passed under the authority of this or any other general or special Act, is contravened, in addition to any other remedy and to any penalty imposed by the by-law, such contravention may be restrained by action at the instance of a rate-payer or the corporation or local board.
164. R.S.O. 1970, c. 349, s. 43. In addition to any other remedy or penalty provided by law, any contravention of a by-law that implements an official plan and any contravention of section 19 may be restrained by action at the instance of the planning board of the planning area in which the contravention took place or any municipality within or partly within such planning area or any rate-payer of any such municipality, and any contravention of an order of the Minister made under section 32 may be restrained by action at the instance of the Minister or the municipality in which the contravention took place or any adjoining municipality or any ratepayer of any such municipality or adjoining municipality.
165. See, for example, John Swaigen "Let the People Sue," The Globe and Mail, May 27, 1976.
166. Interview with Peter Wilmet, consultant, community health protection branch, Ministry of Health, Toronto, June 11, 1976. One recent prosecution under Schedule B of the Act was dismissed by a provincial court judge hearing the charge, in part because there did not appear to be conclusive evidence as to when manure heaped behind a barn ceases to be an effective fertilizer and becomes instead a health hazard. The charge was under section 4 of the Schedule which prohibits any person from "suffering an accumulation on his premises of anything that may endanger public health," including "manure," see Information No. 5213, (Provincial Court (criminal division) County of Glengarry) April 26, 1976; and "Manure Case Dismissed," The Globe and Mail, April 29, 1976.

167. R.S.O. 1970, c. 461 as amended.
168. s. 9a(1)
169. R.S.O. 1970 c.136 as amended, in particular by S.O. 1975c. 79
170. s. 1. 11. "drainage works" includes a drain constructed by any means, including the improving of a natural watercourse, and includes works necessary to regulate the water table or water level within or on any lands or to regulate the level of the waters of a drain, reservoir, lake or pond, and includes a dam, embankment, wall, protective works or any combination thereof.
171. s. 6(1) "Environmental Appraisal " is not otherwise defined in the Act.
172. s. 6(2)
173. s. 10(7). The Tribunal is appointed by the Cabinet. No criteria is established for appointments to the tribunal with respect to knowledge or competence in environmental control or conservation matters; though one member of the Tribunal for each hearing must be a lawyer. s. 97.
174. s.10(8)
175. s. 10(9)
176. s. 83(1)
177. ibid
178. s. 83(2)
179. See, for example, Agricultural Land Drainage in Ontario, Final Report of the Select Committee on Land Drainage, Legislative Assembly, Toronto, June 1974. The report notes drain construction phase siltation and sedimentation to streams as well as drain operation phase increased nutrient loadings. These problems were also documented in the Thames River Basin Study, supra note 24 at pp 35 and 39.
180. April 1, 1976
181. Interview with J. Johnson, drainage engineer, land use division, OMAF, July 15, 1976.
182. Supra, note 179 where the Select Committee noted that except for a few more ambitious drainage schemes, such as Holland Marsh, most recent drainage projects have been relatively small in size. It should be noted that the

Select Committee recommended that an environmental impact statement on every new drain proposed in Ontario be filed with the council of the municipality in which the drainage works is proposed. The Committee may have made this recommendation in part because it recognized that the cumulative effect of a number of drainage projects, each of which has only a minor adverse effect on the environment, may still have serious overall effects. See pages 15, 17 and 39 of the Committee's report.

183. In 1975 for example, \$16.2 million was spent by the provincial government alone with respect to tile drainage schemes. Another \$3.7 million was spent by the province and \$9.7 million by municipalities with respect to drainage projects. It might therefore be argued that taken cumulatively, drainage program funding is a major annual provincial local activity that ought to be subject to some reasonable programmatic overview as might be provided under the EAA Source for figures; J. Johnson, *supra* note 181.
184. Interview with J. Johnson, *supra* note 181 and Select Committee Report, *supra* note 179. Some Ministry of Natural Resources and Environment officials, especially in the London, Ontario area, believe that the provisions effectively turn streams into farm drains in which more pollution is permitted.

185. R.S.O. 1970, c.493 as amended.
186. s. 4.
187. s. 8.
188. s. 6(1).
189. s. 6(3).
190. s. 10.
191. s. 11.
192. *ibid.*
193. s. 12.
194. s. 13.
195. s. 19.
196. s. 20.
197. s. 21(a).
198. s. 21(b).
199. s. 21(d).
200. R.R.O. 1970, O. Reg. 825, as amended by O. Reg 195/73.  
s. 4(1)(a)-(e).
201. s. 4(4).
202. s. 5(a)(i) and (ii). Item ii would appear to refer to agricultural lands which may be affected by the propagation of noxious weeds on adjacent non-agricultural lands.
203. Interview with H. Henry, responsible for administration of the Weed Control Act, OMAF, Toronto, July 16, 1976. On occasion the use of herbicides by township road crews has resulted in adverse effects on cropland. See Gabriel Maurice v. Township of Tiny 2CELN 22 (Ontario Court of Appeal), March 27, 1973 where the court upheld a damages award claim given to an Ontario potatoe farmer after a township road crew sprayed an herbicide onto his crop. The township's defence contended that the herbicide spraying was being conducted pursuant to the Weed Control Act, and was reasonable and prudent. It further claimed that the damages were due to among other things the improper use of fertilizer containing 2-4-D by the farmer. The contractor is informed that there were 40 complaints with respect to herbicide drift in 1975 though no figures were available as to how many of those complaints including herbicide drift to watercourses.

204. Interview with H. Henry, *ibid.* It was estimated that a farmer could apply herbicides to 5-10 acres per hour whereas with summer fallowing weeds must be cleared every ten days all summer by use of other methods.
205. See "Guide to Chemical Weed Control" (1976) OMAF Publication 75. This publication as well as other OMAF publications listed within it, do not make further reference to the other methods of weed eradication listed in the regulations which do not make use of herbicides. This may be simply because the other methods are regarded as traditional and therefore likely to be already well known to the farmer, though perhaps less highly regarded because of lessened efficiency and greater costs, included labour costs associated with their use.
206. The Committee is interministerial in nature, and is responsible for publications such as No. 75, above. Its responsibilities include coordinating research results from various experimental stations and formulating appropriate recommendations for herbicide use.
207. *Supra* note 93 Research projects under contract between OMAF-University of Guélfh. Except for some biological experiments regarding use of the hawkmoth to control the cypress spurge weed little non-chemical weed control research would appear to be underway. See sections on Weed Control Research.
208. R.S.O. 1970, c.502.
209. s. 2.
210. s. 3.
211. s. 4.
212. s. 5(1)(c).
213. R.R.O. 1970, O. Reg. 832 as amended. No regulations concerning the prevention of soil erosion as a result of farming practices have been promulgated, however.
214. Ministry of Natural Resources, Annual Report, for the fiscal year end March 31, 1975 at pp. 5 and 6. New agreements pursuant to the Act totalled 461 covering 17,000 acres, while all agreements in effect to March 31, 1975 totalled 3,675 covering more than 190,000 acres in the Province. Figures for the number of agreements that would have been with farmers, as opposed to cottagers for example, were not available. Moreover, not all of the above agreements would be strictly for the planting of trees. Many agreements would have been entered into for the purposes of "improvement" which would only include (1) thinning, and (2) removal of non-commercial species. Interview W. Thurston, Supervisor, Advisory Services Section, Forestry Management Branch, MNR, July 20, 1976.



215. Ibid, Interview W. Thurston. The contractor is informed that the policy has recently been increased to 10 acres. The policy was instituted because it was believed to be economically unviable for MNR to engage in planting trees on acreage smaller than five acres.
216. Interview with A. Watson, agricultural representative, OMAF, Kent County, June 25, 1976. The county's farmers have still been encouraged to plant trees to protect against wind erosion, and some trees from MNR have been made available for that purpose. In 1968 for example, 20,000 trees were planted by farmers; in 1975 80,000 were planted. In an attempt to get the Ministry of Natural Resources to alter its policy, The following resolution was presented by the Kent County Soil & Crop Improvement Assoc. to the 1973 Annual Meeting of the Ontario Soil & Crop Improvement Association held January 30th and 31st.

"WHEREAS the Ontario Ministry of Natural Resources will plant trees for individual land owners under the Woodland Improvement Act providing the land owner plants at least five acres and;

WHEREAS it is equally important in some parts of Ontario to establish windbreaks which don't constitute five acres and;

WHEREAS the Ministry of Natural Resources has the expertise and equipment to plant trees which will ensure maximum growth and also control weeds in these planted trees;

BE IT RESOLVED that the Ontario Soil & Crop Improvement Association request the Ontario Ministry of Natural Resources to initiate a program for planting windbreaks in Ontario similar to the program available under the Woodland Improvement Act."

No action on the resolution has ever been taken by the Ministry.

217. R.S.O. 1970, c.9
218. s. 8.
219. R.S.O. 1970, c.12.
220. s. 11(1).
221. s. 11(2).

222. Interviews with; R. Brusso, assistant agricultural representative, Norfolk County, June 21, 1976; G. Thompson, agricultural rep., Waterloo County, July 20, 1976; D. Presant, contact Engineer, OMAF, Sterling, Ontario, June 29, 1976, indicated that meetings and recommendations on an individual basis as farmers developed problems were the extent of their activities. A. Watson, supra note 216, indicated that encouragement of farmers to plant windbreaks to control wind erosion had met with some success because of the severity of that problem in Kent County. G. Thompson noted that approximately 6 farmers would seek advice from his office per year because of advanced problems with soil erosion.
223. Ministry of Agriculture Food, "Ontario Soils" Publication 492 (1975) has recommended practices for erosion control and soil loss control. Publications 363 and 296 on vegetable and field crop recommendations (1976) however are silent on the adverse impacts of erosion for crop production, or water quality.
224. A recently established OMAF subcommittee on environmental quality has recently written a report on soil erosion in Ontario with recommendations to be discussed elsewhere in this report.
225. Federal-Provincial Rural Development Agreement (Canada-Ontario) 1975-77, August 7, 1975. See also, Ministry of Agriculture and Food, Annual Report for the year ending March 31, 1975 at pages 5 and 6.
226. Canada-Ontario Rural Development Agreement (ARDA II) 1965-70 Part VIII "Soil and Water Conservation, pp 22 and 23.
227. Interview with D. Presant supra, note 222.
228. Ibid.

229. Source, R. Thompson, associate director, extension branch OMAF, which is responsible for administration of the program, July 15, 1976. Another \$1.7 million had been made available since 1967 for the construction of farm ponds. Such ponds are regarded in certain instances by MOE as having caused water quality problems. Interview D. Osmond, et al, supra note 25.
- 230 Interview D. Present supra note 222. Several cattle stream-bank erosion incidents investigated in 1975 would have required remedial costs in excess of the \$3,000 level. No other OMAF programs exist to act as a supplement where such gaps occur.
231. The Code notes that the main solution to keeping cattle from eroding streambanks and fouling watercourses is to fence the livestock from water and pump the water to the cattle. Both the fencing and the pumps are regarded as expensive.
232. Generally these include spreading manure at Code recommended rates; working manure into the soil within 24 hours of spreading; constructing grassed waterways, plowing across slopes to reduce streambank erosion; not spreading manure on steeply sloping land, particularly during winter or early spring; constructing manure holding tanks and retaining walls to prevent runoff from feedlots, manure piles and silage juices and keeping manure piles and manure spreading away from watercourses and streams as much as possible.
233. See Appendix 1, Evaluation Form pursuant to the Certificate of Compliance Program.
234. January, 1976.
235. Source K. Clarke, contact engineer, OMAF, Vineland Station, Ontario, May 11, 1976. The following figures are also from Mr. Clarke.
236. See Appendix one items 5, 6 and 7 under Table 8 for example.
237. See text and notes 33-35.
238. See Planning Act discussion and accompanying notes.
239. Supra note 234 at p 7.
240. See, for example, J.H. Nodwell, OMAF February 7, 1975 draft of Agricultural Code or Practice Introduction in which it is stated at page 2, "The problems of water quality are of even greater significance than those of nuisance odours." This sentence does not appear in the published draft of the Code January 1976.
241. See discussion and notes 33-35 regarding environment legislation.

242. It should be noted that a determination that a farmer is not utilizing his wastes pursuant to normal farming practice would be a prerequisite to further action under the EPA. Such a determination would not be necessary for a prosecution under the OWRA.
243. Approximately 3-5 have subsequently resulted in control orders being issued, with one prosecution (with respect to air problems surrounding a swine operation) undertaken in 1975. At least one control order was not being complied with.
244. Comments of R.B. Taylor, Ontario Federation of Agriculture, at a Meeting to Discuss changes in the Agricultural Code of Practice, November 29, 1974, Toronto. Mr. Taylor argued for special financial assistance for farmers forced to make major changes to meet environmental standards.
245. The OMAF - U of Guelph subcommittee was created in 1975 under the auspices of the Ontario Soil Management Research Committee. The OSMRC's duties include bringing together the farmer, the industry, and government/university personnel to discuss, investigate and recommend sound soil management practices in Ontario. The OSMRC's and the EQS's membership are drawn from these sources.
246. "Soil management practices" are defined to include (1) the on-farm handling and application of fertilizers, animal manure, sewage sludge and other materials, (2) cultural practices as they may influence erosion and hence sediment and nutrient transfer to surface water.
247. Report of the EQS to the OSMRC, February 4, 1976, Guelph, Ontario.
248. See "Soil Erosion in Ontario" June 1976 a report prepared for the OSMRC which included sections on the extent of erosion from agricultural land; whether erosion is increasing, decreasing, remaining the same; its effects on crop production and water quality, available technology to reduce erosion, further research needs; and the type of extension programmes to be initiated to ensure that available technology is being effectively used. The report's research recommendations included; that PLUARG Agricultural Watershed Studies be continued for an additional two years to provide more reliable estimates of the extent of erosion in Ontario and the extent of sediment delivery to surface waters; that in conjunction with the PLUARG programme, increased emphasis be devoted to the quantification of the extent of soil movement on farm fields; that research be expanded to develop or adapt for Ontario tillage practices for crop production that will reduce soil and nutrient losses and their delivery to surface waters without an unacceptable reduction in yield; and that a programme be developed to quantify the effect on yield of soil movement in localized areas in farm fields. It's extension recommendations

included, the development of a section on the effects of erosion on productivity and water quality for inclusion in crop and vegetable publications of OMAF; and the designation in OMAF's Soils and Crops and Engineering branches of two specialists whose major responsibilities would be to develop a greater awareness by farmers of the effects of erosion and to promote more widespread and effective use of existing erosion control practices.

- 249. This Committee will be discussed under the Disposal Areas Report.
- 250. 1971.
- 251. 1972.

EVALUATION FOR CERTIFICATE OF COMPLIANCE FOR FARMS

Report to (District Officer, M.O.E.) \_\_\_\_\_

From \_\_\_\_\_ Date \_\_\_\_\_

Farmer \_\_\_\_\_  
(name and postal address)

Lot \_\_\_\_\_ Con. \_\_\_\_\_ Township \_\_\_\_\_ County \_\_\_\_\_

This evaluation is for certification of the management & siting of facilities for:

- Existing livestock operation only (no construction proposed).
- Specified changes, additions or commencement of livestock operation:
  - (a)  New (no existing bldgs.)
  - (b)  Enlargement (may include new building)
  - (c)  Remodelling or major renovation
  - (d)  Rebuilding (e.g. after fire)
  - (e)  Manure storage
  - (f)  Other pollution abatement

1. Manure storage (circle applicable words) wet, semi-solid, dry bedded, covered, open, in-situ, concrete, earthen, pad, wall, silo, tank, pit, pile, above, below, on grade. Days storage \_\_\_\_\_
2. Water pollution potential  Nil  Low  High (Specify) \_\_\_\_\_
3. Manure utilization  Own land  Rented land  Other  Incorp. in 24 hrs.
4. Manure haulage  Public road  Covered transport
5. Method of dead animal disposal \_\_\_\_\_
6. Housing:  Total confinement  Open feedlot  paved  dirt
7. Noise pollution potential (e.g. fans)  Nil  Low  High (Specify) \_\_\_\_\_
8. Housekeeping, other indications of management \_\_\_\_\_
9. Official plan  Yes  No Designation or zoning \_\_\_\_\_
10. Community potential  Agricultural  Other (specify) \_\_\_\_\_
11. Community attitude  Resistance  Similar (i.e. neighboring livestock)  
 Tolerance  Dissimilar (i.e. no neighboring livestock)
12.  Meets  Does not meet M.D.S. criteria. Coefficient \_\_\_\_\_
13. Other comments \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

14. Evaluation of application (Table 7) (circle one) 1 2 3 4 5 6

15. Reservations/provisions/major changes re acceptance \_\_\_\_\_

16. Conditions of certificate:

The manure from \_\_\_\_\_  
(number and types of animals)

should be spread evenly over a minimum of \_\_\_\_\_ acres.

Specify applicable condition numbers from Table 8 (1-12) \_\_\_\_\_

Other \_\_\_\_\_

**TABLE 7. EVALUATION OF APPLICATION  
(For Sections 14 & 15 of Evaluation Form)**

1. Acceptable	No evidence of future environmental problems
2. Acceptable	With minor reservations noted in Section 15 of evaluation form.
3. Acceptable	Only with applicant's agreement to the provisions noted in Section 15.
4. Unacceptable as proposed	Should be renegotiated considering major changes as noted in Section 15.
5. Unacceptable as proposed	Further negotiation appears impossible
6. Unacceptable	Because of lack of information

**TABLE 8. CONDITIONS RECOMMENDED FOR CERTIFICATE  
(For Section 16 of Evaluation Form)**

1. No significant additional expansion of the farming operation is likely to be considered feasible at this site. (Enter reason on evaluation form, Section 16).
2. A fly control program should be instituted.
3. Visual screening (engineer fills in specific operations on evaluation form, Section 16) should be undertaken utilizing landscaping or fencing.
4. Only a solid manure system should be used. (specify in No. 5).
5. The solid manure system storage should —
  - (a) be located at another site
  - (b) have capacity for six months accumulation of livestock manure
  - (c) be constructed of concrete
  - (d) be covered
6. The effluent from the — (a) barnyard (b) feedlot (c) exercise yard (d) solid manure storage — should be contained and handled in the same manner as liquid manure.
7. The liquid manure system storage should —
  - (a) have sufficient capacity for six months accumulation of livestock manure.
  - (b) be covered
  - (c) be protected by a safety fence
  - (d) be constructed of reinforced concrete
  - (e) be a lined earthen pit
  - (f) Other (specify in section 16)
8. Equipment used for the transfer and spreading of livestock manures should be —
  - (a) leakproof
  - (b) equipped with a satisfactory cover
  - (c) stored out of view when not in use
9. All land receiving livestock manures should be systematically cropped.
10. No livestock manures will be disposed of on this site.
11. No incineration of dead animals will be done on this site.
12. Other (Enter on evaluation form)