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“Let us heed the voice of youth”: Laundry Detergents, Phosphates and the Emergence of the Environmental Movement in Ontario

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Résumé de l'article

L'auteure part du débat des années 1960 sur les détersifs pour examiner les changements d'attitude face à l'environnement en Ontario. La première phase de la controverse sur les détergents commença en 1963 et porta sur la présence excessive dans les eaux de la province d'écume produite par les résidus détersifs. La Ontario Water Resources Commission ignora les protestations des gouvernements municipaux et demanda aux manufacturiers de résoudre eux-mêmes le problème. L'année 1969 marqua le début de la phase environnementale, alors que l'on rendait les détergents à base de phosphate responsables de la détérioration de la qualité de l'eau des Grands Lacs. Pendant cette phase apparurent des groupes de défense environnementaux solidement organisés, comme le Pollution Probe de l'Université de Toronto. Ce groupe utilisa les découvertes scientifiques et ses puissantes relations avec les médias pour mobiliser l'opinion publique contre l’utilisation de détergents à base de phosphate. Le présent article mesure le succès des stratégies employées pendant les deux phases du débat environnemental et relie le tout à l'émergence d'une conscience écologique dans la population.

"Let us heed the voice of youth": Laundry Detergents, Phosphates and the Emergence of the Environmental Movement in Ontario

JENNIFER READ

You're glumping the pond
Where the humming-fish hummed!
No more can they hum,
for their gills are all gummed.
So I'm sending them off.
Oh, their future is dreary.
They'll walk on their fins
And get woefully weary
in search of some water
that isn't so smeary.
I hear things are just as bad
up in Lake Erie.[1]

DR. SEUSS' TIMELY POEM, *THE LORAX*, HIGHLIGHTED A NUMBER of environmental issues prominent during the late-1960s and early 1970s. The hero of the poem, the Lorax, accuses the exploitative "Once-ler man" of habitat destruction, species extirpation, if not extinction, and air and water pollution. *The Lorax* is still in print today, 25 years later; and the issues retain ongoing significance. Despite the environmental movement's importance in shaping political debate since the 1960s, relatively little has been written about its origins in Ontario.[2] The controversy surrounding detergent pollution in the province, which extended through most of the 1960s, offers an excellent opportunity to examine the shift in attitudes that marked the emergence of environmentalism.

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1 Adapted by Pollution Probe from Dr. Seuss, *The Lorax* (New York, 1971).

2 Ontario historians have examined the emergence and impact of the Algonquin Wildlands League in its efforts to preserve Ontario's remaining wilderness areas. See Gerald Killan and George Warecki, "The Algonquin Wildlands League and the Emergence of Environmental Politics in Ontario, 1965-1974," *Environmental History Review* 16 (Winter 1992): 1-27; also Gerald Killan, *Protected Places: A History of Ontario's Provincial Parks System* (Toronto, 1993). Stephen Bocking, "Fishing the Inland Seas: Great Lakes Research, Fisheries Management, and Environmental Policy in Ontario," *Environmental History* 2 (January 1997): 52-73, examines the impact of environmental attitudes on Great Lakes fisheries management policy.

Until the 1960s, conservation concepts influenced natural resource policies. Conservationists emphasised rational decision making based upon scientific principles and technical training to achieve their primary goal – the efficient development of natural resources to ensure strong economic growth. Conservation-minded natural resource managers relied on close cooperation with business for successful programmes. During the first five decades of the century, conservation evolved from concentration on forestry and wildlife management strategies prior to the First World War to soil conservation in the "dirty thirties." The federal and provincial governments revived the concept in the immediate postwar era as part of their reconstruction policies, and conservation shifted to focus on river valley development, irrigation and water pollution control.[3]

The end of the Second World War heralded an unprecedented era of economic expansion in Canada. For the most part, leisure time and real income increased during this period right across the continent, affording people both the time and the affluence to escape the ugly and increasingly polluted urban areas where they lived. They went hiking, canoeing, camping and for day-trips in their cars, all in unprecedented numbers. This forced governments at the state and provincial, as well as national, levels, in both Canada and the United States, to expand their parks systems and accommodate the increasing demand for outdoor recreation opportunities. For instance, the Ontario provincial parks system grew from eight parks at the end of the war to 94 by 1967.[4] Attempting to explain the emergence of the environmental movement in the United States, one historian has suggested that increased exposure to the natural world

3 Samuel P. Hays, *Conservation and the Gospel of Efficiency: The Progressive Conservation Movement in the United States, 1890-1920* (Cambridge, 1959), remains the classic interpretation of the American conservation movement which influenced its Canadian counterpart. For some of the literature on the early Canadian movement, see Peter Gillis and Thomas Roach, "The American Influence on Conservation in Canada, 1899-1911," *Journal of Forest History* 30 (October 1986): 160-72; Janet Foster, *Working for Wildlife: The Beginning of Preservation in Canada* (Toronto, 1978); Robert Craig Brown, "The Doctrine of Usefulness: Natural Resources and National Park Policy in Canada, 1887-1914," in *Canadian Parks in Perspective*, 46-63; J.G. Nelson ed. (Montreal, 1970); Richard S. Lambert with Paul Pross, *Renewing Nature's Wealth: A Centennial History of the Public Management of Lands, Forests and Wildlife in Ontario, 1763-1967* (Toronto, 1967); Killan, *Protected Places*. Very little has been written on Canadian conservation after the 1920s. In "The Conservation Revival in Southern Ontario: From Flood Control to River Valley Development, Reconstruction Conservation and Emergence of Ontario Conservation Authorities, 1929-1952," unpublished manuscript, University of Western Ontario, 1996, Sara Morrison examines the re-emergence of a conservation movement during the Second World War, which she calls reconstruction conservation. The emphasis of reconstruction conservation on employment is the major difference between it and the earlier progressive conservation. See also Bruce Mitchell and Dan Shrubsole, *Ontario Conservation Authorities: Myth and Reality* (Waterloo, Ont., 1992).

4 Killan, *Protected Places*, 74-119.

combined with comparatively higher education levels to produce generally held environmental values among a large segment of the young, and now well-educated, population.[5]

The changing attitudes reflected a growing popular awareness of ecology. Issues raised in the 1950s debate about nuclear fallout – that an unseen pollutant could travel hundreds of miles from its point of origin to endanger human life, were amplified by the appearance of Rachel Carson's book *Silent Spring* in 1962. Carson argued that modern agricultural and forestry practices overused synthetic pesticides, endangering the health of wildlife and humans. Her book helped bring the concept of ecology into general use. The formal science of ecology emphasised the intricate interrelationship between organisms and their physical environment. During the 1960s, the term entered popular vocabulary to represent the complex functioning of the natural world, the impact of human activity upon it, and the need to achieve balance between the two. Several environmental disasters served to drive ecological concepts home. In 1967, for instance, the super-tanker *Torrey Canyon* struck a reef off the coast of Cornwall and spilled 117,000 tons of crude oil. Two years later, a Union Oil Company drilling platform off the California coast blew and the well ran freely into the Pacific for two weeks. Later that year, the Cuyahoga River, which empties into Lake Erie at Cleveland, caught fire![6]

Environmentalism emerged out of an intricate and evolving set of values reflecting an understanding of and concern about the human impact on nature as it relates to physical and spiritual human health. It was expressed initially in the efforts of the young, educated and environmentally aware activists who demanded a decision-making role in areas that traditionally had been within the purview of scientifically trained, expert managers. In the United States environmentalists formed lobby groups which pressed governments at all levels

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5 Samuel P. Hays, "From Conservation to Environment: Environmental Politics in the United States Since World War II," in *Environmental History: Critical Issues in Comparative Perspective*. Kendall Bailes, ed. (New York, 1985), 198-241. Hays explores the topic in greater detail with Barbara Hays, *Beauty, Health and Permanence: Environmental Politics in the United States, 1955-1985* (Cambridge, 1987). In contrast to Hays' emphasis on change and the unique aspects of postwar environmentalism, Robert Gottlieb chooses to focus on continuity by linking the environmental movement to the earlier urban reform movement in *Forcing the Spring: The Transformation of the American Environmental Movement* (Washington, DC, 1993.) A comprehensive look at the events that produced the shift in attitudes in North America and Europe is John McCormick, *The Global Environmental Movement: Reclaiming Paradise* (London, 1989).

6 Hays, "From Conservation to Environment," 214-18; Hays and Hays, *Beauty, Health and Permanence*, 21-29; McCormick, *Reclaiming Paradise*, 51-55; and Ralph Lutts, "Chemical Fallout: Rachel Carson's *Silent Spring*, Radioactive Fallout and the Environmental Movement," *Environmental Review* 9 (Fall 1985): 210-25.

to increase research and adopt the solutions presented by their own scientific experts.[7]

One of the earliest environmental issues to emerge in the Great Lakes basin was the detergent debate, which occurred in two stages during the 1960s. The first stage focused on the problem of excessive foaming, beginning early in 1963. In *Biodegradable: Detergents and the Environment* (1991), William McGucken examined the issue as it played out in the United States. The American industry solved the problem in 1965 by voluntarily changing to a biodegradable, non-foaming detergent.[8] While similar events occurred on this side of the border they have not yet been examined. Late-1968 marked the beginning of the second stage, when the phosphate content of detergents and its role in degrading water quality, especially in Lake Erie, captured significant media attention. McGucken's article, "The Canadian Federal Government, Cultural Eutrophication, and the Regulation of Detergent Phosphates, 1970" (1989), concentrated on the federal level, briefly touched on a number of environmental groups, but missed the debate's significance at the provincial level, especially the role played by Pollution Probe.[9]

Terence Kehoe used both stages of the detergent issue to highlight the shift in American business-government relations which occurred during this period. Traditional cooperation between the public and private sectors disintegrated as public input assumed increased importance in both the political process and business regulation. This was especially significant at the state and local levels. Kehoe stressed growing postwar affluence as a key factor in the change because growing concern about health and "the quality of life led to the creation of an extraordinary number of new laws and agencies charged with regulating the 'social conduct' of business firms."[10] Kehoe's concept of changing government-industry relations applies to the Ontario situation during the same period.

An examination of both phases of the detergent debate as they developed in Ontario will demonstrate the shift in thinking that marked the appearance of environmental values in this province. The first phase was distinguished by traditional business-government problem solving strategies, which rejected non-expert input despite a significant outcry from municipal governments across the province. Phase two was markedly different. By 1969, public values had changed

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7 Hays and Hays, *Beauty, Health and Permanence*, 531-34. See also Robert Paelke, "Environmentalism," in *Conservation and Environmentalism: An Encyclopedia*. Robert Paelke, ed. (New York, 1995), 260-61.

8 William McGucken, *Biodegradable: Detergents and the Environment* (College Station, 1991), 10.

9 William McGucken, "The Canadian Federal Government, Cultural Eutrophication, and the Regulation of Detergent Phosphates, 1970," *Environmental Review* 13 (Fall/Winter 1989): 155-66.

10 Terence Kehoe, "Merchants of Pollution?: The Soap and Detergent Industry and the Fight to Restore Great Lakes Water Quality, 1965-1970," *Environmental History Review* 16 (Fall 1992): 21-46.

significantly, enabling non-governmental environmental groups, specifically Pollution Probe, to challenge closed-door decision making. A comparison of the effectiveness of the tactics used in both phases will demonstrate the changing milieu created by the emergence of environmental values in the province.

Called "the prosperous years," the 25 years after the Second World War marked a fundamental change in the social and economic composition of Ontario society. The provincial economy grew steadily until the first postwar recession, beginning in 1957; the economy recovered in 1963 to continue expanding into the 1970s. Throughout the period, the unemployment rate rarely rose above 4 per cent. Between 1941 and 1961 Ontario's population increased from 3.7 million to over 6 million. The province attracted some 600,000 immigrants during the period, while the baby boom produced an unprecedentedly high annual birth rate of 25-26 per thousand with a high of 28.9 in 1947.[11]

The burgeoning population increasingly concentrated in cities, especially the Toronto-centred area extending along the Lake Ontario shoreline from Niagara in the west to Oshawa in the east, known as the "golden horseshoe." By the 1960s, this region was home to over 50 per cent of the province's population. It supported a manufacturing sector which employed roughly 30 per cent of the provincial workforce and created significant employment in related industries and services. Here, Ontario firms produced almost half of the nation's manufacturing output and were responsible for over 80 per cent in areas as diverse as automobiles, soaps and washing compounds, leather tanning, agricultural implements and prepared breakfast foods.[12]

The province's lakes and rivers were particularly vulnerable to this postwar industrial surge. Already degraded from depression-era neglect and the considerable industrial measures undertaken during the Second World War, water bore the brunt of the postwar boom.[13] The heavy industrialisation of this period ensured the introduction of a wide range of effluents into the Great

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11 J.K. Rea, *The Prosperous Years: The Economic History of Ontario, 1930-1975* (Toronto, 1985), 14-15, 193-222. See also Doug Owram, *Born at the Right Time: A History of the Baby- Boom* (Toronto, 1996), 4.

12 Ontario Department of Economics, *Ontario: Economic and Social Aspects Survey* (Toronto, 1961), 143-54; also Rea, *The Prosperous Years*, 14-34. Regional Development Branch, Department of Treasury and Economics, *Design for Development: The Toronto-Centred Region* (Toronto, 1970), 2-4.

13 This account prefaced almost every Ontario Water Resources Commission speech given before groups such as the Ontario Municipal Association, the University Women's Club of Welland, various mining and industrial associations, the Petroleum Association, the Department of Agriculture, the Dairy Branch Field Men's Conference, the London Progress Club, the Consumers' Association, the International Labour Council, the Niagara Regional Development Council, the Engineering Institute of Canada, the Smith Falls Water Commission, the Long Point (Norfolk) Ratepayers Association, and various Rotary Clubs. Ontario. Archives (AO), RG 84, OWRC, Central Records, "Ontario Municipal Association," and "Public Relations: Speaking, General, 1966-67."

Lakes; none were as visible as synthetic detergents. Wartime developments in the petroleum sector enabled manufacturers to produce more effective and cheaper synthetic cleaning agents than had previously been possible. This coincided with pent-up consumer demand unleashed by the return to peace. Thousands of new laundry machines and dishwashers readily accommodated the synthetic detergents.

A detergent is any agent that, when added to water, thoroughly saturates accumulated soiling particles such as dirt and oil (wetting), separates the particles from the item (dispersing), then links the particles to water molecules (emulsifying) and carries them away from the item. There are primarily two types of detergents, soaps and synthetics. Soaps are made from animal or vegetable fat and are most useful in soft water which is low in dissolved minerals such as calcium and magnesium. Both soaps and synthetic detergents have components called surface-active agents, or surfactants, which interface directly with distinct surfaces. Detergents are able to clean because the surfactant inserts itself between dirt and the item being washed and holds the dirt suspended in water.[14] In addition to the surfactant, synthetic detergents also contain a builder, most often a phosphate, which softens hard water by drawing suspended minerals out of the solution. In the early 1960s, surfactants counted for 10-15 per cent of synthetic detergents, while the builder made up another 60 per cent by weight. The remaining volume was concerned with aesthetic aspects, such as smell.[15] Due to the versatility and new affordability of synthetic detergents, they were favoured for both domestic and industrial cleaning.

A molecule called alkyl benzene sulphonate (ABS) served as the surfactant of the synthetic laundry detergents introduced in the immediate postwar years under names such as Fab, Tide and Surf. ABS was a long, asymmetrical molecule; one end attracted dirt, and the other attracted water. Between the two ends the molecule branched several times. This structure created two significant and related problems. Because of its design, ABS caused visible and long-lasting foam in concentrations as low as 1 mg per litre in sewage effluent. Other synthetic detergents, such as those used for industrial applications, did not branch and yielded much less foam which readily broke down in sewage treatment. Detergent manufacturers used the foaming property of ABS as a sales strategy appealing to housewives who, for years, had been encouraged to equate

14 McGucken, *Biodegradable*, 12-13; also AO, RG 84, OWRC, Subject Files, "Detergents: Miscellaneous Information," David Caverly to OWRC Management Committee, 29 March 1963. See also the Water Management Committee of the Canadian Manufacturers of Chemical Specialities Association, "Detergents and the Aquatic Environment," *Pollution and Our Environment: Background Papers*, Vol. 2 (Ottawa, 1966), 2-3.

15 McGucken, *Biodegradable*, 16-17. See also Tom Davey, "Eutrophication and Detergents: An Interview with P.H. Jones," *Water and Pollution Control* 106 (September 1968): 23.

plentiful suds with cleanliness. Ultimately, the excessive sudsing problem was an artificial creation of detergent marketers caught up in a campaign over who had the longest-lasting suds.[16]

The other related problem with ABS was its lack of biodegradability. Easily biodegradable substances can be broken down into harmless materials through the bacterial action of normal biological processes. This is the basis of many sewage treatment plants. Because of its branched construction, ABS was not biodegradable and the long lasting suds, which so appealed to consumers, piled up along those of the province's fast-running rivers and lake shores receiving treatment plant effluent. University of Toronto professor P.H. Jones noted: "The major hazard created by these foam banks was the break down in public relations between the large soap companies and the customer."[17]

Although complaints about foam in sewage treatment plants and rivers began in the early 1950s, the detergent industry insisted that ABS compounds were only partly responsible for the increasing mess. Surely, they argued, the small concentration of synthetic detergents could not be the primary cause of foaming in plants and in the waters receiving plant effluents.[18] In June 1962, the provincial agency responsible for water quality, the Ontario Water Resources Commission (OWRC), hosted a conference on "Problems in the Use of Detergents," which included representatives of the major detergent manufacturers, Colgate-Palmolive, Lever Brothers and Procter & Gamble. D.F. Carrothers, representing the Canadian Manufacturers of Chemical Specialities Association, concluded: "While detergent materials can be a contributing factor to some of the problems met in sewage treatment and water pollution, they are by no means the only or necessarily the most important factor. Thus, we consider that much of the publicity blaming detergents specifically is unwarranted."[19] Industry representatives insisted that problems "aggravated" by ABS were restricted to "a few areas in the world and do not yet exist in Canada."[20] Nevertheless, they agreed to cooperate with the OWRC and to look into the Ontario problem.

One area that experienced visible pollution problems was Wentworth County at the head of Lake Ontario. This included the heavily industrialised

16 P.H. Jones, "Does LAS Spell 'Pollution Free'?" *Water and Pollution Control* 105 (August 1967), 24; also William Ashworth, *The Late, Great Lakes: An Environmental History* (Toronto, 1986), 134-36; McGucken, *Biodegradable*, 21.

17 Jones, "Does LAS Spell 'Pollution Free'?" 24; also Ashworth, *The Late, Great Lakes*, 136.

18 Water Management Committee of the Canadian Manufacturers of Chemical Specialities Association, "Detergents and the Aquatic Environment," 4-5; McGucken, *Biodegradable*, 22-23.

19 D.F. Carrothers, "Household Detergents in Water and Sewage." AO, RG 84, OWRC, Subject Files, "Algae and Detergents."

20 Ibid., "Detergents: Miscellaneous Information," the Canadian Manufacturers of Chemical Specialities Association, "A Brief to the Ontario Water Resources Commission," 12 June 1963.

area surrounding Hamilton Harbour, including the city of Hamilton and, beyond that, Wentworth County. "Sewage, detergents, sludges, chemicals, oil . . . they all pour into the harbour," a Hamilton *Spectator* headline moaned in November 1962. Among the pollution problems explored in the accompanying article, detergents received a significant airing. Detergent residues persisted after sewage and water treatment and, in some American cities, the article noted, "the tap water already comes with a foamy crest." The American and German situations offered examples to be avoided in Canada. The author of the article pointed out that German manufacturers had to be ordered to change the formulation of their detergents in order to address the dilemma there. While the problems in Ontario were not as severe as in Germany, both the local medical officer of health and the director of Hamilton's municipal laboratories predicted that "the probable outcome will be much the same as Germany's, as syndets [synthetic detergents] build up in the water." To emphasise the point, the article featured photographs of an Ontario sewage treatment plant enveloped by foam.[21]

Disturbed by the problem of excessive form, the Wentworth County Council, consisting of municipal representatives from Stoney Creek, Dundas, Waterdown and the surrounding Hamilton area townships, unanimously passed a resolution on 18 December 1962 urging the provincial government to ban the use and sale of synthetic detergents. Citing its alarm over the pollution of Ontario waters by laundry detergents, the council noted that

> the basic cause of detergent pollution arises from the fact that most detergents marketed in Ontario have a mineral base (i.e. phosphorus) which cannot be broken down and purified by natural or artificial purification methods;
>
> AND . . . the pollution from mineral based detergents does not dissipate but rather has a cumulative effect causing such serious problems as the algae build-up in many lakes and other inland waters with its consequent ill effects;
>
> AND . . . other jurisdictions (ie Germany) have solved the detergent pollution problem by prohibiting the use of mineral based detergents;
>
> AND . . . detergents can be produced with equivalent cleansing properties by using an organic base instead of a mineral base (ie German and some parts of the U.S.).[22]

In addition to urging a ban on detergents, the council insisted that the province and the OWRC alert the public to the seriousness of detergent pollution. The council sent a copy of its resolution to every municipal council in Ontario, the chair of the OWRC, the Premier and the leaders of the provincial Liberals and New Democrats.

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21 Hamilton *Spectator*, 8 November 1962.

22 *Wentworth County. Proceedings of the Municipal Council of the County of Wentworth for the Year 1962*, December Session, 18 December 1962 (Dundas, Ont., 1962).

Thomas Beckett, a Hamilton lawyer who went on to chair the Hamilton Region Conservation Authority as well as to become a member of the Conservation Council of Ontario (CCO), proposed the resolution.[23] The impetus for Beckett's move is unclear. In all likelihood it was a combination of press coverage, similar to the *Spectator* article, and a meeting he had attended that fall at Hamilton's Royal Botanical Gardens with OWRC Secretary, William McDonnell.[24] There, McDonnell had admitted that pollution from detergents was a serious problem of which the public remained unaware. McDonnell pointed out that, unless the public demanded change, the detergent industry would not undertake it voluntarily.[25]

The Wentworth resolution struck a chord with municipal governments across the province and soon letters supporting it flooded the OWRC offices. Some 277 municipalities from all regions of the province endorsed the resolution between January and March 1963. On 11 March, the Ontario Association of Rural Municipalities approved the resolution at its annual meeting.[26]

The OWRC hastened to reassure the municipalities approving the Wentworth resolution that it had the situation in hand. Remedial activity included OWRC meetings with industry representatives and an ongoing Commission investigation into the detergent problem. Although the OWRC admitted that detergent foaming somewhat interfered with the operation of treatment plants, and partially contributed to the growth of algae in rivers and lakes, it maintained that detergents were merely a nuisance.[27] Commission personnel had investigated the assertions in the Wentworth resolution and noted that "the

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23 AO, RG 84, OWRC, Central Records, "Public Relations: 1968, Jan-June, General Information," OWRC memo, 10 April 1968. The Conservation Council of Ontario (CCO) was an umbrella organisation founded by Francis (Frank) Kortright in 1952 for groups and individuals with an interest in conservation. It served a lobby/watch dog function. CCO Minutes, 1952-1953, Vol. 1, Conservation Council of Ontario Library and Archives.

24 One editorial noted that the Germans had banned non-foaming detergents by 1965 as well as citing OWRC findings that algal blooms were caused by detergents. *Globe and Mail*, 3 December 1962.

25 AO, RG 84, OWRC, General Managers' Files, "Detergents: Miscellaneous Information," Thomas Beckett to William McDonnell, 21 June 1963.

26 Ibid., OWRC, Central Records, "Wentworth County Resolutions, 1963." An interesting exception was the Sarnia City Council, which chose not to endorse the resolution after Dr. Duncan Cameron, a researcher at Imperial Oil, warned them that "50 percent of all detergents is used by industries and if it was prohibited this would mean shutting down industry." Cameron suggested that endorsing the resolution would prove embarrassing to the Sarnia council. *London Free Press*, 5 February 1963.

27 One of the inquiries came from the Minister of Transport, James Auld. AO, RG 84, OWRC, Subject Files, "Detergents: Miscellaneous Information," OWRC memo to the Honourable J.A.C. Auld from David Caverly, 13 March 1962. See also ibid., Central Records, "Wentworth County Resolutions, 1963," OWRC press release, 14 December 1962.

authors of the resolution are mixed up in the causes and effects."[28] In fact the document did confuse phosphorus builders, which readily broke down in sewage treatment plants and provided nutrients to support algae growth, with the ABS surfactant, which did not break down and caused the persistent problems with foaming. To Commission scientists, the Wentworth Council had clearly confused the scientific and technical aspects of the detergent debate and therefore should not be taken seriously. David Caverly, OWRC general manager, believed the Commission's best response to the resolution would be to widely publicise the fact that it remained actively involved in the search for a solution. His attitude was clear: leave problems to the people best able to deliver answers, scientifically trained resource managers.[29]

For the detergent industry, the Wentworth resolution raised the unwelcome spectre of government intervention. The potential for provincial legislation was heightened by European precedents, notably in Germany, and legislation then under consideration in some American states. In the United States, the industry had been searching for a non-foaming substitute for ABS since the 1950s, as pressure from Congress and state legislatures threatened to push detergent manufacturers towards a solution more quickly than they wished. The industry decided to find and introduce alternatives to ABS on its own terms rather than have change dictated by politicians. Detergent manufacturers also recognised that negative publicity had an unfavourable impact on sales. In June 1963, therefore, the American detergent industry announced that it intended to produce more readily biodegradable detergents within two years.[30]

In the meantime, Canadian representatives of the detergent multinationals worked to avert government intervention in Ontario. In May, delegates of the Canadian Manufacturers of Chemical Specialities Association met with the OWRC and reasserted the industry's position that detergent foaming was not yet a serious problem in Canada. They resisted the Commission's demand for expensive research into the problem, arguing that they had access to the extensive work being done in Europe and the United States through their international affiliates. They insisted that coercive legislation would only interfere

28 Ibid., Central Records, "Wentworth County Resolutions, 1963," OWRC memo to David Caverly from F.A. Voege, 27 March 1963; also ibid., Subject Files, "Detergents: Miscellaneous Information," OWRC memo to Management Committee from David Caverly, "Re: Technical Aspects of the Recent Detergent Problem," 29 March 1963. OWRC research into algae growth began during the summer of 1958. In 1963, the Commission's Research Division confirmed phosphorus as the limiting nutrient. OWRC, *Third Annual Report, 1958* (Toronto, 1958), 66-67, and *8th Annual Report, 1963* (Toronto, 1963), 99-100.

29 AO, RG 84, OWRC, Subject Files, "Detergents: Miscellaneous Information," OWRC memo to Management Committee from David Caverly, "Re: Recent Controversy on Detergents," 29 March 1963.

30 McGucken, *Biodegradable*, 66-97. See also Kehoe, "Merchants of Pollution?" 26-27.

with their research programme and would result in more expensive and inefficient alternatives by rushing the industry to a less than ideal solution. Legislation that emphasised only one aspect of a complex situation, they pointed out, might cloud the real cause of the problem.[31] A few months later, Canadian detergent producers refused outright to implement the detergent formulation changes just announced by the American industry.[32]

By the summer of 1963, the OWRC finally recognised that its cooperation with the industry was not as smooth as had been intimated to the public. The Commission admitted internally that foaming was a problem and that it did not accept the industry's position. Behind closed doors, the OWRC applied pressure for change, but it continued to support detergent manufacturers in public.[33] The OWRC's strategy resembled government-business relations typical of the conservation era. Commission personnel believed that more could be accomplished through dynamic interaction between their experts and business representatives than by offering antagonistic public ultimata. As long as the technical people were at work on a solution the public did not need to know the details.

Press coverage of the situation generally favoured the industry's stance and ridiculed the Wentworth resolution.[34] Many writers found the industry explanation convincing and echoed the OWRC position that blamed the current confusion on the technical and scientific ignorance of the municipal officials who had drafted the resolution. These comments infuriated Thomas Beckett, the author of the Wentworth resolution, who responded to a particularly scathing article in *The Globe and Mail* by firing off a letter to William McDonnell, Commission Secretary. Beckett accused the OWRC of supporting the detergent industry against the municipalities. Referring to McDonnell's speech at the Royal Botanical Gardens, Beckett reminded Secretary McDonnell that he himself had acknowledged the level of detergent pollution in Ontario waters to be of "'serious proportions.'" All the same, Beckett contin-

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31 AO, RG 84, OWRC, Subject Files, "Detergents: Miscellaneous Information," "A Brief to the Ontario Water Resources Commission, Presented by the Canadian Manufacturers of Chemical Specialities Association," May 1963.

32 Ibid., "Meeting with Detergent Industry, August 14th, 1963."

33 Next to the Association's assertion, on the OWRC copy of an industry brief, that "no such situation [similar to Europe] has been created in Canada by the use of synthetic detergents," someone wrote: "We dispute this." See "A Brief to the Ontario Water Resources Commission, Presented by the Canadian Manufacturers of Chemical Specialities Association," May 1963. See also AO, RG 84, OWRC, Subject Files, "Detergents: Miscellaneous Information," "Meeting with Detergent Industry, August 14th, 1963."

34 For sample newspaper items, see *The Financial Post*, 30 March 1963; *The Globe Magazine*, 18 May 1963, reprinted in Conservation Council of Ontario, *Bulletin* 10 (May 1963): 3. Also *Globe & Mail*, 21 June 1963.

ued, "it is quite apparent that an attempt is being made to minimise the important [sic] of this problem and suggest that the municipalities were badly informed." Beckett was angered that an agency which had been created to meet the needs of Ontarians now acted like "an ally of the soap manufacturers," ignoring "the pleas of several hundred municipalities."[35]

Ultimately, the OWRC continued to ignore the objections of the local governments and allowed the detergent industry to implement its own solution. After a thorough investigation of the matter, the Commission determined that the situation did not require the degree of intervention called for in the Wentworth Resolution. In part, the OWRC based its decision on a 1963 American Water Works Association investigation. The study concluded that U.S. legislators should not address the problem of foam at that time. Various state hearings in the matter had found that the industry was making significant headway towards alleviating the situation. The report also declared that none of the proposed legislation adequately addressed the situation and that forcing a change on the industry, before it was prepared to switch, would only drive up the cost of detergents. The U.S. industry's announcement of a voluntary change reinforced the report's conclusions. The British House of Commons' decision not to regulate the U.K. detergent industry also offered strength to the OWRCs decision.[36]

The OWRC believed that the American shift to biodegradable detergent, scheduled for 1965, would affect Ontario as well. Given the relatively small number of North American companies manufacturing detergent components, it was unlikely that the material required to produce non-degradable detergents would be available to Canadian manufacturers once U.S. manufacturers had completed the large task of converting to an ABS substitute. "It seems reasonable, therefore, not to insist upon regulation of an industry which is already heavily committed toward regulating itself," David Caverly concluded.[37] Indeed, late in 1963, Canadian manufacturers reversed their initial decision to maintain existing detergent formulations and declared that Canadian detergents would be changed to solve the problem of foam. The new detergents replaced the branched ABS surfactant with an unbranched derivative – linear alkylate sulphonate (LAS). Detergents formulated with LAS surfactants foamed much less and were readily degradable with existing sewage treatment technology.[38] Industry and government newsletters stressed the voluntary nature of the

35 AO, RG 84, OWRC, Subject Files, "Detergents: Miscellaneous Information," Beckett to McDonnell, 21 June 1963.

36 Ibid., OWRC, Central Records, "Wentworth County Resolutions, 1963," David Caverly to Wentworth County Council, 21 May 1964.

37 Ibid.

38 Jones, "Does LAS Spell 'Pollution Free'?" 24.

decision and the industry's responsibility in tackling the issue.[39]

By 1965, the issue of foaming appeared to be solved. OWRC attempts to influence the industry had been resisted successfully by the detergent manufacturers and they had been able to address the problem on their own terms. Despite the industry's concern about the Wentworth resolution, concentrated negative reaction to foaming materialised only at the municipal level. The provincial legislature appeared more concerned about declining Great Lakes levels than about pollution problems associated with detergent foaming. The issue was raised during the annual debate on the estimates for the Department of Energy and Resources Management in 1963 but it did not appear to concern Premier John Robarts. In the House of Commons, the possibility of diverting Great Lakes water into the United States dominated federal discussion. In pollution debates, detergent foaming generated little concern.[40]

Oddly, the OWRC did not take the opportunity presented by the Wentworth resolution to use the argument of overwhelming public concern to demand changes in detergent formulae. This stemmed from its reluctance to acknowledge the relevance of the scientifically inaccurate resolution. The press also appeared inclined to trust the scientific experts and to question the credibility of the Wentworth County Council. At this point, the general public demonstrated little interest in environmental issues. For a visible and messy problem, the issue of foaming raised relatively little public complaint in comparison with the later response to pollution problems.

Although the detergent industry had addressed the problem of foaming successfully, another issue associated with detergents soon took its place. The trouble was algae. Whether by accident or design, the Wentworth resolution had addressed the appearance of algae in the province's waters, but had tied it

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39 Canadian Institute on Pollution Control, *Newsletter* (1964): 19; AO, RG 84, OWRC, Central Records, "Resource Ministers Council, 1962," Pollution and Our Environment newsletter, *Resources* 2 (December 1965). See also "Detergents Made Biodegradable," *Water and Pollution Control* 104 (February 1966): 27; and Water Management Committee of the Canadian Manufacturers of Chemical Specialities Association, "Detergents and the Aquatic Environment," 4-5.

40 For example, see Ontario. Ontario Legislature. *Debates*, 19 December 1962, 473; 11 March 1963, 1576-87; 31 January 1964, 347-58; 24 February 1964, 883; 21 April 1964, 2253-326; 18 March 1965. A good gauge of the pollution debate at the federal level is the annual proposal for an amendment to the *Criminal Code* to make water pollution nuisance punishable under the *Criminal Code*. W.L. Herridge, NDP member for Kootenay West, first proposed the amendment in 1961. He made the proposal annually between 1961 and 1968 while he sat in the House. For sample debates, see Canada. House of Commons. *Debates*, 2 June 1961, 5793-801; 13 February 1962, 822-27; 1 February 1963, 3366-75; 8 July 1964, 1943-50. Select newspaper stories and editorials on general pollution issues: Toronto *Telegram Magazine*, 31 August 1963; Toronto *Telegram*, 6 May 1964; *Simcoe Reformer*, 1 May 1964; *Globe & Mail*, 5, 6, 12 and 20 May 1964 and *Globe Magazine*, 13 June 1964; *The Montreal Star*, 13 and 22 May 1964; *Windsor Star*, 5 May 1964; and *Toronto Star Weekly*, 13 June 1964.

to detergent foaming. However, algal blooms had nothing to do with the ABS surfactant. Phosphate builders were at the root of the new problem.

Algae are rootless water plant that, like all living things, require energy and nutrients to grow. The plants get their energy from sunlight and the nutrient fuel they require from carbon, hydrogen, oxygen, nitrogen and phosphorus. All these are available naturally to algae, with the exception of phosphorus, which therefore determines the extent of growth and is called the limiting nutrient.[41] When organic matter, including algae, dies in water, it is broken down by aerobic and anaerobic bacteria. The aerobic bacteria require oxygen to convert the material into simpler organic substances, some of which are then used for food. The more organic substance there is to decompose, the faster oxygen is consumed by the bacteria.[42] Thus, a large amount of dying and decaying algae threatens fish and other aquatic life, which require dissolved oxygen to live.

The phosphorus producing the algal blooms entered waterways from three sources: the spring run-off of manure applied to frozen fields during the winter; partially treated sewage effluent rich in the nutrient; and detergents. Sewage treatment plants could remove only the limited amount of phosphorus required in the bacterial treatment process; any amount in excess of that entered the receiving waters with the treated sewage effluent. Even before the introduction of synthetic detergents, sewage contained more of the nutrient than treatment plants could use. After the advent of the new cleaning agents, the phosphate content of sewage more than doubled, causing two to three times the amount to enter North American lakes and rivers than before the Second World War. Scientists called this rapid, human-generated enrichment of water cultural eutrophication to distinguish it from the natural, long-term process.[43]

All this phosphorus created the luxurious blooming of many algae, but particularly one called cladophora which grew in large, filamentous green clumps. In September 1964, some 800 square miles of algal bloom coated the surface of Lake Erie. At the same time, close to 43 miles of shoreline between Toronto and Presqu'ile Point were covered by accumulated cladophora. The following summer, Lake Erie and the southeast section of Lake Ontario were again subject to extensive bloom. Algal growth inter-

41 Davey, "Eutrophication and Detergents," 22-25; J.M. Appleton, "'Fertility Pollution': The Rapidly Increasing Problem," *Water and Pollution Control* 106 (June 1968): 26-27 and 44; and Ashworth, *The Late, Great Lakes*, 129-36.

42 Gilbert Masters, *Introduction to Environmental Engineering and Science* (Englewood Cliffs, NJ, 1991), 116-18; also Ashworth, *The Late, Great Lakes*, 126.

43 Davey, "Eutrophication and Detergents," 22-25; Appleton, "'Fertility Pollution,'" 26-27 and 44; also Jones, "Does LAS Spell 'Pollution Free'?" 24-25. See also Masters, *Introduction to Environmental Engineering and Science*, 134-46.

fered with recreational and commercial boating and fishing, affected water intake pipes and treatment plants, and created "obnoxious odours" when it washed up and decayed along the shoreline.[44] Many scientists attributed the growth of cladophora to cultural eutrophication.[45]

In 1964, the Canadian and American federal governments asked the International Joint Commission (IJC) to investigate the pollution of Lakes Ontario and Erie, and the international section of the St. Lawrence River. This was the fourth time the IJC had been asked to assess Great Lakes pollution since its creation under the 1909 Boundary Waters Treaty. Consisting of six commissioners, three each appointed by the federal governments of Canada and the United States, the IJC was assigned investigatory powers under the treaty. The Commission's previous pollution investigations had been limited to the Great Lakes connecting channels – the St. Mary's, Rainy, St. Clair, Detroit and Niagara rivers.[46]

With increasing instances of algal blooms, fish kills and oil spills, the two governments asked the IJC to examine pollution in the lakes themselves. For research such as this, the Commission supplemented its staff by seconding federal, provincial and state civil servants, and occasionally private consultants, to serve on its technical advisory boards. All technical surveys required during the course of the investigation were carried out by government water agencies. The federal departments of Energy, Mines and Resources and of Health, as well as the OWRC, contributed both personnel and facilities to the project. This served to tie personnel and research from both levels of government closely together. By December 1965 the IJC had completed its first interim report and sent it to the two governments. The report outlined the eutrophica-

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44 International Joint Commission (IJC), *Interim Report of the International Joint Commission United States and Canada on the Pollution of Lake Erie, Lake Ontario and the International Section of the St. Lawrence River* (Ottawa, 1965), 3-5. The OWRC had been investigating the appearance of cladophora since 1958, the year of the first significant bloom after the Commission's creation. See OWRC, *Third Annual Report, 1958*, 66-67, and annual reports through to the 1970s; also OWRC, *A Report on Algae Cladophora* (Toronto, 1958); OWRC, *Cladophora Investigations – 1959 – A Report of Observation on the Nature and Control of Excessive Growth of Cladophora sp. in Lake Ontario* (Toronto, 1959); and Duncan McLarty, *Cladophora Investigations – 1960 – A Report of Observation on the Nature and Control of Excessive Growth of Cladophora sp. in Lake Ontario and Lake Erie* (Toronto, 1960). Until the late-1960s, Commission investigations focused on controlling algae through the application of chemical algicides and through mechanical means of collecting inshore growth.

45 IJC, *Interim Report, 1965*, 6. Eutrophication is a gradual, natural process whereby organic wastes wash into a lake, decompose and consume oxygen.

46 The IJC also had quasi-judicial powers under the treaty, being the arbiter of boundary water diversion. For its earlier pollution findings, see IJC, *Final Report on the Pollution of Boundary Waters* (Ottawa, 1918); *Final Report on the Pollution of Great Lakes Connecting Channels* (Ottawa, 1951); *Report of the International Joint Commission United States and Canada on the Pollution of Rainy River and the Lake of the Woods* (Ottawa, 1965).

tion problem and recommended that both American and Canadian federal authorities cooperate immediately with provincial and state governments to ensure maximum removal of phosphates from municipal and industrial waste being discharged into the lakes and their tributaries.[47]

The IJC report coincided with an outpouring of public concern about the pollution problem in the Great Lakes in general, and about algae in particular. Citing the Commission's findings, in February 1966 the *Globe and Mail* called for swift federal action.[48] When the House of Commons resumed sitting later that month, opposition MPs took up the cry and urged more federal spending on pollution research and control.[49] Growing concern over environmental issues reflected a shift in societal attitudes towards the natural world. By the mid-1960s, Ontarians had come to expect available and abundant outdoor recreation space. Suddenly, Great Lakes beaches, where they had raised their children or grown to adulthood themselves, were a mass of stinking algae and dying fish and no longer the beautiful recreation spots they had once been.

Letters began to flow into the OWRC from a variety of sources over the fall and winter of 1965-1966. Among those expressing concern about phosphate pollution were women's groups, the United Auto Workers and private citizens. One young writer, alarmed by the widely reported death of Lake Erie, wrote: "Why cannot Ontario, which covers half the lake's shoreline, co-operate with other border states to get tough on the sources of this sewage. Our generation will look back either with appreciation to your generation's foresight in this matter, or with disappointment at your inability to deal decisively with this important problem."[50] Such letters reflected the emergence of environmental values in the province, although at this point the concern still lacked focus.

Not surprisingly, Commission personnel reacted defensively to the criticism. OWRC general manager David Caverly scathingly attacked those he called publicity-seeking, scientifically ignorant "Johnny-come-latelies" both

47 IJC, *Interim Report, 1965*, 16. The report also recommended that the construction of combined sanitary and storm sewers be prohibited and that the process of separating combined sewers then in existence be started. During heavy rainfall or spring run-off, combined sewers often outstripped treatment facility capacity and spilled untreated effluent into the lakes and rivers, increasing the phosphorus load and risking bacterial contamination of the receiving waters.

48 *Globe and Mail*, 3 February 1966. The *Toronto Star* had raised the issue several years previously (3 February 1962).

49 Canada. House of Commons. *Debates*, 8 February 1966, 934-35.

50 AO, RG 84, OWRC, Central Records, "Great Lakes: Public Enquiries, 1964-76," Greg McConnell to Premier John Robarts, 24 January 1966. Other letters in the file include: Ora Patterson, Hamilton Local Council of Women to OWRC, 30 December 1965; Fred Palmer to OWRC, 28 December 1965; George Burt, Canadian Director, Canadian Region, UAW to Prime Minister Lester B. Pearson and Premier John Robarts, 23 February 1966. See also ibid., "Public Relations Information, 1966."

inside and outside the government:

> They pay no attention to actual figures or to verified statistics. With their pet theories, and their preconceived notions, they belong to that "*my mind is made up, don't confuse me with the facts*" group of people who are a part of any society. The result is that they have stirred up "John Q Citizen" to the point of almost hysteria. The old pollution fighters have been pushed into the background, and our task has been made more difficult.[51]

Caverly's comments echoed the disdain he and his colleagues had shown for the Wentworth County Council. His initial reaction to the new environmental values suggests a continued belief in the superiority of scientific training and expertise. Caverly and his colleagues were also reacting to the growing changes in Ontario society, which encouraged citizens to question government pronouncements rather than quietly accept them.

Detergent manufacturers remained complacent and oblivious to the societal changes occurring around them, relying on the "real spirit of cooperation" which they maintained had developed during the detergent foaming controversy.[52] At the Canadian Council of Resource Ministers conference, "Pollution and Our Environment," held in October 1966, they argued that society would be better served by more effective sewage treatment than by any alteration to their detergent formulae. This technological "fix" would provide the most efficient elimination of nutrients at the lowest cost. It would also ensure that Canadian sanitary standards would remain high, something the industry widely predicted to be in jeopardy if formulae were drastically changed.[53] Clearly the manufacturers expected this phase of the debate to play out much like the detergent foaming stage, with the domination of their agenda and public support from their government "partners." The manufacturers did not count on the changes to Ontario society, which would make the traditional business-government relationship suspect, then impossible, before the decade was over.

As the "baby boom" generation came of age in the late-1960s, the province, along with most of the Western democracies, entered a new moral, intellectual

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51 D.S. Caverly, "What Are We Doing About Pollution?" *Water and Pollution Control* 104 (September 1966): 50. Emphasised text is Caverly's. For examples, see AO, RG 84, OWRC, Central Records, "Public Relations Information, 1966," OWRC to Pierre Berton and Charles Templeton, 12 May 1966; "Public Relations – Public Speaking, D.S. Caverly," Caverly address to CCO, 16 May 1966; "Public Relations, 1966," OWRC press release, 26 May 1966; "Public Relations, 1967," OWRC press release, 20 March 1967.

52 Water Management Committee of the Canadian Manufacturers of Chemical Specialities Association, "Detergents and the Aquatic Environment," 1-11.

53 Canadian Council of Resource Ministers, *Proceedings: Pollution and Our Environment* (Ottawa, 1966), 151-72.

and political era. The U.S. civil rights movement helped raise questions about the legitimacy of a government that used force to quell peaceful demonstrations on the one hand, while proclaiming itself the protector of democracy and freedom worldwide on the other. Its actions encouraged youth across North America to assume "that if the state was recalcitrant, [peaceful] dissent was insufficient." The civil rights movement also proved the effectiveness of mass protest and gave it legitimacy in the eyes of the media and the public.[54] The protest organisations emerging in Canada during this period originated, for the most part, on university campuses. Here, a minority of radical students encouraged their more moderate cohorts to address issues of social justice, racial equality and, late in the decade, sexual equality. They reoriented political debate and presented the agendas of the new movements to both the public and the government, in the process shifting the focus of political discourse from the traditional political parties to pressure groups. These organisations were able to rally otherwise nebulous public concern and translate it into demand for government action.[55]

These issues triggered Pollution Probe, an environmental group that emerged at the University of Toronto in February 1969. Concerned with social justice, the students were motivated by a sense of outrage at their voicelessness and by the desire to force patronising politicians to hear their opinion. Pollution Probe's core came from the university's Department of Zoology and initially organised in response to the controversy surrounding the CBC documentary "The Air of Death." Pollution Probe soon broadened its scope. Its mandate grew to include investigating all environmental pollution, determining its effects on human health and mobilising public opinion on specific measures.[56] According to a Probe pamphlet, the group represented a "grassroots movement with professional expertise which gives form and strength to the

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54 Owram, *Born at the Right Time*, 167. See also A.K. McDougall, *John P. Robarts: His Life and Government* (Toronto, 1986), 205-208. Lutts, "Chemical Fallout," links the American environmental movement to increasing public cynicism and wariness of scientific experts.

55 Owram, *Born at the Right Time*, 216-47. See also A. Paul Pross, *Group Politics and Public Policy*, 2nd ed.(Toronto, 1992), 1-17.

56 Interview with Donald Chant, Toronto, 5 February 1997. Pollution Probe Foundation Library and Archives, "'Air of Death' Pollution Probe Brief to CRTC," 5 March 1969. Also see Donald Chant, "Pollution Probe: Fighting the Polluters with Their Own Weapons," *Science Forum 14* 3 (April 1970): 19-22; and AO, F1058, Pollution Probe Foundation Papers, MU 7328, "Pollution Probe History," n.d. In response to ongoing complaints about fluoride pollution in Port Maitland and Dunnville, and the CBC programme, the provincial government appointed a three-person committee to study the problem. The report criticised the producers of the CBC programme for exaggerating, even falsifying, some of the evidence of fluoride poisoning. George E. Hall, W.C. Winegard and Alex McKinney, *Report of the Committee Appointed to Inquire into and Report upon the Pollution of Air, Soil, and Water in the Townships of Dunn, Moulton, and Sherbrooke, Haldimand County* (Toronto, 1968).

public concern over environmental quality" through research, education and action. "We are fighting not for an antiseptic world, but for a healthy environment. There is a difference."[57]

Several environmental activists, widely recognised as pre-eminent in their fields, began their work with Probe. For instance, University of Toronto Zoology professor Donald Chant chaired the advisory board, which also included professors Ralph Brinkhurst, Henry Regier, John Dales, Phil Jones, and Marshall McLuhan and broadcaster Stanley Burke. These people lent Probe legitimacy and their expertise when the organisation tackled a problem falling within their purview. From the beginning, though, Probe's strength came from its student members, such as Monte Hummel, now head of the World Wildlife Fund (Canada). The students' youthful enthusiasm and idealism propelled the organisation. They orchestrated Probe's publicity events, such as the mock funeral held for the "dead" Don River. They canvassed door-to-door and took every opportunity to present their message city-wide, even nationally, through the CBC and Toronto newspapers. It was to this group of energetic and dedicated young people that Chant referred when he urged "Let us heed the voice of youth."[58]

Pollution Probe had been in existence for eight months when the IJC released the *Report to the International Joint Commission on the Pollution of Lake Erie, Lake Ontario and the International Section of the St. Lawrence River.* in October 1969.[59] The report recommended comprehensive phosphorus reduction for the lakes, to be achieved by an immediate lowering of the phosphorus content of detergents to the minimum practicable level. In addition, the IJC advocated cutting the nutrient content of municipal and industrial effluent discharged directly into Lake Erie and Lake Ontario by no less than 80 per cent. The Commission urged both federal governments to begin research to control agricultural run-off. To avoid further nutrient loading of the already taxed waters in the Great Lakes basin, the IJC also recommended the immediate regulation of all new uses of phosphorus. The report and the possibility of restricting phosphate-based detergents received wide discussion in the press.[60]

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57 AO, F1058, Pollution Probe Foundation Papers, MU 7328, "Aims, Objectives, Policies," n.d.

58 Interview with Donald Chant, Toronto, 5 February 1997. Donald Chant, *Pollution Probe* (Toronto, 1970), v; also AO, F1058, Pollution Probe Foundation Papers, MU 7328, "Advisory Board," n.d. For the Don River funeral, see *Toronto Star*, 17 and 18 November 1969; Toronto *Telegram*, 17 November 1969; *Globe and Mail*, 17 November 1969; University of Toronto *Varsity*, 19 November 1969.

59 The International Lake Erie and Lake Ontario-St. Lawrence River Water Pollution Boards, *Report to the International Joint Commission on the Pollution of Lake Erie, Lake Ontario and the International Section of the St. Lawrence River* (Ottawa, 1969).

60 Ibid., 10-11. Also see Canada. National Archives (NA), RG 89, Water Resources Branch, Vol. 509, File 7875-2, Pt. 1, "Report of the Task Force on Phosphates and Pollution from Detergents," 23 December 1969.

Just prior to the release of the IJC report, the federal Minister of Energy, Mines and Resources, J.J. Greene, appointed a departmental task force to investigate detergent pollution. When the report came out, the minister directed the task force to consider how to implement the IJC's recommendations on detergents. As part of its investigation, the members of the task force and OWRC representatives, visited the Procter & Gamble research facilities in Cincinnati, Ohio, in December 1969. At the meeting, company spokespeople reiterated the position they had taken the month before with the minister. Although they acknowledged concern about the potential for negative publicity in connection with phosphates, they were unwilling to admit that their search for a phosphate substitute had been prompted by the eutrophication problem. Instead, Procter & Gamble spokespeople insisted that their researchers were looking for a substance to enhance product performance.[61] Naturally the government representatives were disappointed with the industry's stance. No doubt the OWRC people experienced a sense of *déjà vu.* As with the issue of foaming, the detergent producers refused to acknowledge a problem until they had developed their own solution.

On 23 December, the Task Force on Phosphates and Pollution from Detergents submitted its findings to the minister. It advised a multiple-stage solution to curb accelerated eutrophication. The six main recommendations echoed those of the IJC's October report, and included improved sewage treatment to be financed through amendments to the Canadian Mortgage and Housing Corporation Act. The task force also advised the government to issue a directive ordering replacements for phosphate builders and urged federal research into possible phosphate substitutes. Finally, the report recommended the development of a water quality plan for the Great Lakes basin which would require federal cooperation with the provinces, the United States and the chemical industry.[62]

Before the minister could announce federal policy, however, the IJC held public hearings on the October report between 20 January and 6 February 1970. In the Great Lakes states, the Commission met at Toledo, Erie and Rochester, while in Ontario meetings were convened in London, Hamilton and Brockville. Many people representing industry, local citizens' groups, various agencies from local, state, provincial and federal governments, as well as concerned individuals, presented briefs at the hearings.[63] Detergent manufacturers resisted the Boards' recommendation to replace phosphate builders in synthetic deter-

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61 Ibid., Memo to A.T. Davidson, ADM (Water) Department of Energy and Resources Management from A.T. Prince, Director, Inland Waters Branch, 10 December 1969. See also McGucken, "The Canadian Federal Government," 160-61.

62 NA, RG 89, Water Resources Branch, Vol. 509, File 7875-2, Pt. 1, "Report of the Task Force on Phosphates and Pollution from Detergents," 23 December 1969.

63 See IJC, Library and Archives, Docket 83-2-4: 1-6. Also see the Hamilton *Spectator,* 3 February 1970.

gents. They explained that housewives expected a certain level of cleaning performance and would only use more detergent to achieve the expected results, thereby counteracting the efficacy of the reduction. As no effective phosphate substitute then existed, the best solution was improved sewage treatment facilities.[64] In contrast, Pollution Probe argued that improvements to sewage treatment facilities would take much too long to implement. It urged instead an immediate reduction in the consumption of phosphate-based detergents by the introduction of an immediate ban on their manufacture, sale and use. To achieve this goal, Probe envisaged a two-part approach – strong consumer demand to convince industry to replace phosphates, combined with public pressure to force governments to legislate a ban on phosphate detergents. "The state of our lakes demands immediate action," Probe asserted.[65]

Probe had already begun its campaign to see both steps carried out. In the early winter, Phil Jones, a University of Toronto Civil Engineering professor, and Pollution Probe volunteers tested samples of all the major detergents and soaps for phosphorus content by weight. When Probe appeared before the IJC, the results were already complete and on 8 February it broke the story on CBC's "Weekend." Over the next few days, the list and accompanying news release were carried in most Canadian daily newspapers. Probe urged concerned citizens to write to Prime Minister Trudeau and Premier Robarts, the federal and provincial Cabinet ministers responsible for pollution control, and their MPs and MLAs.[66] Brian Kelly, one of Probe's student leaders, appeared on CBC's "Take Thirty" on 13 February and the Larry Solway show on CHUM radio soon after. By March, Probe had received over 7,000 requests for the phosphate content list and it had been reprinted and distributed across the country. John Bassett, publisher of the Toronto *Telegram*, helped Probe's campaign by supplying space for free advertisements

64 IJC, Library and Archives, Docket 83-2-4: 2, "Briefs: Erie," Dr. Frank H. Healey, 20 January 1970 and W.R. Chase, 20 January 1970; also Docket 83-2-4: 5, "Briefs: Hamilton," Alan Rae, 2 February 1970 and John Dixon, 2 February 1970. The condescending tone of these briefs angered several housewives present, who indicated that they were more interested in the future of the environment than in how white they could get their family's laundry. See the Hamilton *Spectator*, 3 February 1970. CCO noted: "Any current emphasis upon 'whiteness' appears to originate from industry-sponsored advertising campaigns, and informed housewives have left no doubt that they would be willing to sacrifice both some cost savings and some 'whiteness' to stem the deterioration of our waters." IJC, Library and Archives, Docket 83-2-4: 5, "Briefs: Hamilton," the Conservation Council of Ontario, 2 February 1970.

65 Ibid., "Briefs: Hamilton," Pollution Probe, 2 February 1970. Other environmental groups that presented briefs at Hamilton included: Bryan Kingdon for CHOP – Clear Hamilton of Pollution; Stewart Hilts for Pollution Probe, London; Committee of a Thousand; and the CCO. These dealt with pollution more broadly.

66 *Toronto Daily Star*, the Toronto *Telegram*, and the Hamilton *Spectator*, 9 February 1970; *Globe & Mail*, 10 February 1970.

created by Vickers and Benson, a Toronto advertising agency.[67] Probe's campaign, coinciding with action on the part of both the provincial and federal governments, helped to educate the public and keep enthusiasm high.

On 6 February, the federal Minister of Energy, Mines and Resources, J.J. Greene, announced in the House of Commons that the Canada Water Bill, then being considered by a parliamentary committee, would be amended to allow the federal government to regulate the phosphate content of laundry detergents.[68] On 24 March, the coordinators of both the Ottawa and Toronto Probe branches, Phil Reilly and Peter Middleton, along with ecologist Ralph Brinkhurst and limnologist Michael Dickman, appeared before the Commons Committee on National Resources and Public Works. Probe's brief on the Canada Water Bill reflected the organisation's belief that its demand for action must be supported by scientific evidence, and thus Reilly, Brinkhurst and Dickman stressed their expertise as biologists. They emphasised the need for swift federal action on phosphates. Although admitting that more research needed to be done, Dickman and Brinkhurst insisted that the government already possessed enough information to act. They explained that advanced sewage treatment technology existed and should be installed in the Great Lakes basin as soon as possible. Brinkhurst countered industry claims that there was no viable alternative to phosphate builders by reminding the committee that similar objections had been raised over the issue of foam, and it had been resolved responsibly. "I think nothing will work faster than requiring somebody to use their ingenuity," he declared.[69]

On 9 February, the Ontario Department of Energy and Resources Management had announced that the province would introduce legislation to restrict detergent formulations gradually over five years.[70] Concerned that phosphate builders would not be reduced quickly enough, Probe submitted a 10-point brief to Premier Robarts in April. The brief called for provincial legislation limiting the maximum level of phosphorus in detergents to less than 1 per cent by January 1971, rather than the graduated plan announced by the province in February.[71] Probe's worry was addressed when, after intense negotiations with

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67 AO, F1058, Pollution Probe Foundation Papers, MU 7346, "Probe Newsletter 1969-1972," *Probe Newsletter* 2 (31 March 1970). See Chant, "Pollution Probe," 20-21, and *Business Week*, 8 August 1970. For the press release, see Pollution Probe Foundation Papers, MU 7346, "Press Releases, 1970," Probe press release, 9 February 1970. It is probably no coincidence that Probe's tactics closely mirrored those of the Algonquin Wildlands League, whose leader, Douglas Pimlott was also a Biology professor in the Department of Zoology at the University of Toronto. See Killan, *Protected Places*, 155-204.

68 Canada. House of Commons. *Debates*, 6 February 1970, 3293-95.

69 Canada. House of Commons, Committee on National Resources and Public Works, *Standing Committee on National Resources and Public Works, Minutes of Proceedings and Evidence* (Ottawa, 1970), 14:1-14:47.

70 The Toronto *Telegram*, 10 February 1970.

71 AO, F1058, Pollution Probe Foundation Papers, MU 7346, "Probe Newsletter 1969-1972," *Probe Newsletter* 2 (31 March 1970): n. 3, 3-5.

the federal government, the provinces agreed that the best approach to the problem would be national phosphate restrictions listed under the Canada Water Act.[72] Greene acknowledged the intense federal-provincial consultation that had taken place when he introduced the nutrient loading amendment in the House of Commons. With the difficult aspect of the process over, the Canada Water Act quickly passed its third reading and received royal assent by the end of June. The minister announced the phosphate regulations under the Act a month later. As of 1 August 1970, the phosphate content of detergents was limited to 20 per cent by weight and further reduced to only 5 per cent by the end of 1972.[73]

Probe cannot be given sole credit for the new provisions included in the Canada Water Act and the first regulations listed under its auspices. As is clear from internal Water Resources Branch memoranda, the minister's advisors had already determined that the federal government should act on the IJC report, and the provincial government had also considered action. Nevertheless, Probe helped to concentrate public concern and kept the issue before the government while the parliamentary committee considered the legislation. Probe's effective use of the news media was perhaps its greatest strength. Certainly the detergent industry felt the impact of Probe's activity. During the first five months of 1970, national sales of synthetic detergent declined by 5 per cent while soap flakes and chips rose by 50 per cent over the same period of 1969.[74]

In contrast to the issue of foam, the detergent industry was unable to set its own agenda when phosphates became a concern in the late-1960s. This was due, in part, to public receptiveness to the issues, reflecting a dawning wariness of big business and its influence on government, as well as a growing concern about pollution.[75] Probe focused the public debate and suggested actions that the average citizens could undertake, from writing to their MP to buying soap

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72 OWRC disquiet over the initial provisions of the Canada Water Bill stemmed from concern about duplication of programmes, the fight for a limited number of trained water resource personnel and the federal proposal to adopt river basin organisation rather than the regional approach favoured by Ontario. These concerns were addressed during the amending process. See AO, RG 84, OWRC, Central Records, "Legal Acts, Canada Water Act, 1969," OWRC memo, 20 August 196,9 and ibid., "Legal Acts, Canada Water Act, Jan-June, 1970," Minutes of meeting held in Quebec City, 27 January 1970; OWRC memo, 28 January 1970; and OWRC memo, 30 April 1970.

73 NA, RG 89, Water Resources Branch, Vol.52, File 7709-1-2, "Canadian Initiatives Concerning the Eutrophication of the Lower Great Lakes," n.d., 1-2. See also ibid., ACC 88-89/059, Box 24, File 7354-1, Pt. 5, "Phosphorus Concentration Control Regulations"; and AO, F1058, Pollution Probe Foundation Papers, MU 7346, "Probe Newsletter, 1969-1972," *Probe Newsletter* 2, No. 3. See also McGucken, "The Canadian Federal Government," 163.

74 NA, RG 89, Water Resources Branch, ACC 88-89/059, Box 24, File 7354-1, Vol. 6, Memo to J.P. Bruce, Dir. Canadian Centre for Inland Waters, from T.R. Lee, 3 September 1970.

75 By March 1970, 91 per cent of Ontarians polled had heard about pollution; 78 per cent believed the situation was "very serious," while a further 19 per cent believed it "fairly serious." Cana-

instead of synthetic detergent. Because of its scientific expertise, Probe's recommendations to government were reliable and allowed it to be more than just "another alarmist group." The phosphate issue captured attention in the House of Commons and the provincial legislature so that support, indeed pressure, for government initiatives emanated from that direction as well. Although they did not like criticism levelled by environmental activists, civil servants were less certain that the industry would police itself at this phase of the debate. They joined with citizen groups and urged their political bosses to take coercive, legislative action. In contrast to the detergent foaming phase, the phosphate debate was marked by a convergence of public interest, press and government pressure, reflecting the new environmental values.

When the Wentworth County Council circulated its resolution urging the provincial government to ban foaming detergents, the issue did not engender substantial public or political support beyond the level of municipal governments. This failure can be attributed partly to the council's lack of scientific credibility, but also to the fact that societal attitudes had not yet shifted to favour environmental issues. The press accepted the assessment of OWRC personnel, which paid little regard to either the resolution or the council. Without significant media promotion, the Wentworth resolution did not garner the public support necessary to influence the provincial government.

In comparison, Pollution Probe's phosphate campaign proved to be much more effective. The group piqued public interest and support by challenging the problem-solving style of the traditional wise-use conservation experts. Pollution Probe's strength lay in its use of scientific expertise to educate the public and offer well-considered alternative solutions to those suggested by the government scientists and manufacturers. This enabled the group to mobilise the public, drawing on emerging environmental concern and focusing on specific issues. Clearly, Probe was more effective than the Wentworth County Council – so much so that the *Financial Post* concluded: "But for the most part, Probe's aims and achievements have become almost as respectable as motherhood, so drastically has public opinion changed [regarding] the need to curb pollution."[76] In fact, it was the OWRC that found itself disconnected from public opinion and unable to adjust to the emerging environmental attitudes. In response to these new values, the provincial government created a Ministry of the Environment which, in turn, absorbed the Commission in 1972.

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dian Institute of Public Opinion, *The Gallup Report: Canada's Only National Opinion Poll with Publicly Recorded Accuracy* (Toronto, 25 March 1970). In December 1970, 65 per cent of Canadians polled wished to see the government devote resources to reducing air and water pollution, while the second-place option, reducing unemployment, received the support of 59 per cent. Canadian Institute of Public Opinion, *The Gallup Report* (2 December 1970).

76 *Financial Post*, 16 October 1971.