



Submission - May 07, 2009

Standing Committee on Environment and Sustainable Development

Committee Hearings on Oil Sands Development and Impacts on Water

INTRODUCTION

Just as the mighty Athabasca river flows through the mega-projects of the Athabasca oil sands, water flows through the social, technological, legal and health issues that challenge the current development of oil sands in Alberta.¹

1. Ecojustice is Canada's leading non-profit organization of lawyers and scientists devoted to protecting the environment. With lawyers in Vancouver, Calgary, Edmonton, Toronto and Ottawa, it takes on cases with the potential to set legal precedents and strengthen laws in support of three goals: fighting global warming, the protection of clean water and natural spaces (parks, wilderness and wildlife), and the promotion of healthy communities. Karin Buss is counsel to Ecojustice in Alberta. Since 1999, she has been representing clients who are advocating for better environmental performance of oil sands operators and regulators. She has represented clients at 11 hearings before federal/provincial Joint Review Panels and the Energy Resources Conservation Board involving the review of proposals for oil sands mega-projects.

¹ Z. Todd. *Water Scarcity and Degradation and the Alberta Oil Sands: Treating the Symptoms, Addressing the Cause*. (2007), online: University of Alberta <<http://www.uofaweb.ualberta.ca/see2/pdfs/Water%20Scarcity%20and%20Degradation%20-%20Todd.pdf>>

2. Ecojustice welcomes this opportunity to provide information and recommendations to the Committee. It is laudable that the Committee has undertaken an inquiry into the critical and unresolved challenges of the impact of oil sands mining and extraction on our water resources.
3. Ecojustice urges the committee to recommend that the federal government increase its role and effectiveness in regulating the oil sands industry to protect water and wetlands. There are cogent environmental, legal and economic reasons for this recommendation.
4. *Environmental Reasons.* A secure supply of fresh and clean water is fundamental to the health of human beings and the environment. Bitumen extraction has very real and significant adverse effects on water. These include: a) increasing withdrawals and declining water levels in the Athabasca River; b) the destruction of tributaries, including 60% of the Muskeg River Basin; c) the destruction of wetlands directly, through land clearing, and indirectly, by drawing down ground water levels and associated surface dewatering; d) the storage of massive amounts of contaminated water in tailings ponds and end pit lakes; and e) the impairment of surface and groundwater quality.
5. *Economic Reasons.* Fresh water is a limited resource and is a major limiting factor in further oil sands development.² Canada is perceived internationally as a lax regulator that permits environmental destruction in the production of “dirty oil”. Not only has this tarnished Canada’s international reputation, it has led to U.S. regulators taking legislative initiatives which may restrict export opportunities for Canadian oil.

² National Energy Board. *Canada’s Oil Sands: Opportunities and Challenges to 2015: An Update*. Ottawa: National Energy Board, 2006 at p. 38. (Cat No. NE23-116/2006E).

6. *Legal Reasons.* Preserving sufficient supplies of clean water for future generations and protecting the environment, including inland fisheries and interprovincial watersheds like the Mackenzie Basin (of which the Athabasca River is a major tributary), is in the national interest. In this regard, the federal government has significant roles and responsibilities which includes exercising its powers and fulfilling its responsibilities, under the *Constitution Act, 1867* and other federal legislation, at this critical time in the development of the Athabasca Oil Sands, in order to prevent further impairment of the quality and quantity of the water in the Athabasca River.

7. The purpose of this submission is to outline the opportunities within the jurisdiction of the federal government that will better protect the aquatic environment in the Athabasca Oil Sands. In our view, the federal government has fallen short in fulfilling its mandate and responsibilities, to the expense of the environment and long-term interests of all Canadians. Indeed, the federal regulators have been subservient to the provincial government and its short-term interest in maximizing the exploitation of the resource at the lowest cost. Alberta has been unwilling or unable to proactively regulate, manage and plan for development of the oil sands. This, combined with the federal reticence to exercise its powers, has resulted in a regulatory lacuna, which has, in turn, led to avoidable environmental problems and Canada's poor international reputation. In this submission, we provide two case studies to illustrate why this is a pressing and substantial concern for the Committee to address.

8. Ecojustice recommends the federal government:
 - a) lead and foster the development of dry tailings extraction processes through fiscal instruments;
 - b) impose more stringent limits on water withdrawals in *Fisheries Act* permits;

- b) set an interim precautionary base flow for the Athabasca River beyond which the water levels will not be drawn down, as recommended by DFO scientists in April 2006;
- c) prosecute operators with leaking tailings ponds;
- d) prosecute violations of the *Migratory Birds Convention Act*;
- e) set standards and control the toxic substances, such as naphthenic acids, that are released through bitumen extraction;
- f) develop recovery plans and identify and protect critical wetlands habitat for species at risk;
- g) develop a plan for the regulation, management and avoidance of cumulative impacts on water resources from oil sands extraction; and
- h) require or commission valid cumulative effects assessments and management plans and implement follow-up programs to monitor and ensure mitigation measures proposed by oil sands operators are successful.

THE KEY WATER ISSUES

9. A recent report commissioned by Alberta warns Cabinet that “over the long term the Athabasca River may not have sufficient flows to meet the needs of all the planned mining operations and maintain adequate stream flows”.³ The National Energy Board, noting that 2 to 4.5 barrels of water is used to produce every barrel of bitumen, questions the sustainability of current water withdrawals by the oil sands industry.⁴ The effect of oil sands operations on water levels is compounded by global warming.⁵

³ D. Radke. *Investing in Our Future: Responding to the Rapid Growth of Oil Sands Development* Alberta: Oil Sands Ministerial Strategy Committee, 2006. [the Radke Report]

⁴ National Energy Board. *Canada's Oil Sands: Opportunities and Challenges to 2015: An Update*. Ottawa: National Energy Board, 2006 at pp. 38 and 43. (Cat No. NE23-116/2006E).

⁵ W. Donahue. *Changing Water Supply and Climate in North-Central Alberta (Submission to Joint Panel Review Hearing of Kearl Oil Sands Mine Proposal)*. (2006); D. Schindler and W. Donahue. “Part I: Future Water Flows and Human Withdrawals in the Athabasca River” in *Running Out of Steam? Oil Sands Development and Water Use in the Athabasca River Watershed: Science and Market Based Solutions*. University of Alberta, Munk Centre for International and Environmental Studies, 2007.

10. If all of the existing and approved projects withdrew at their maximum permitted rates, this would draw down the river during low flow periods, by 26 percent.⁶ This will increase to almost half of the flows during low flow periods if the oil sand leases continue to be developed as anticipated.⁷ Reduced flow in the Athabasca River in any season may impact fish habitat productivity and exacerbate the river's water quality issues. According to the Department of Fisheries and Oceans ("DFO"):

Reduced stream flow may change spawning, rearing, feeding, migration and over-wintering habitats for fish, and may aggravate adverse water quality conditions.⁸

11. While DFO has expressed concern regarding the cumulative effects on fish habitat as a result of the changes in flow conditions and the successive elimination of water bodies within the Athabasca water shed, no effective monitoring or management plans for these effects have been implemented in the region.⁹ This deficiency arises from both federal and provincial inaction; the Radke report advised Cabinet that Alberta Environment had failed "to provide timely advice and direction on water use".¹⁰
12. Ninety percent of the water withdrawn from the Athabasca River cannot be returned to the river. The water is contaminated during the oil extraction process with toxins such as naphthenic acids, residual bitumen, phenolic compounds and ammonia, which has resulted in the development of massive tailings ponds used to store and contain this polluted water.¹¹

⁶ *Ibid.* at p. 17.

⁷ D. Schindler and W. Donahue. *An Impending Crisis in Canada's Western Provinces*. Proceedings of the National Academy of Sciences (2006) 103: 19: 7210-7216 at p. 1713.

⁸ Donahue, note 5 at p. 17.

⁹ *Ibid.* at pp. 19-20.

¹⁰ Radke Report, note 2.

¹¹ D. Woynton et al. *Oil Sands Fever*. The Pembina Institute, 2005, at pp. 29-31.

13. Water quality and quantity in the Athabasca River Basin is also impacted by the mining out of tributaries, the clearing of forests, the removal of large tracts of the surface muskeg and wetlands, and the dewatering of the mine sites.¹² Both oil sands mining and steam-assisted gravity drainage (SAGD) techniques adversely affect groundwater resources. They reduce the levels of fresh water aquifers, which, in turn, decreases the water level in streams, ponds and wetlands connected to the ground water. SAGD technology uses steam to extract the deep bitumen resources. While a significant amount of the water is reused, there is a continual requirement for additional ground water.¹³
14. Water quality is also potentially affected by the release of toxins and other substances. Sulphur dioxide and nitrogen oxide gases, PAHs, metals and other pollutants are emitted into the air from the extraction and upgrading plants and mine fleets. These pollutants are deposited on both the land and water in the region – and beyond. Over time these substances acidify the soil and water and may persist and accumulate in the lakes and rivers. Leakage from tailings ponds is another source of potential contamination of groundwater and surface water.¹⁴ Spills or deposits of waste water from the mine sites into the Athabasca River also occur periodically.¹⁵

FEDERAL POWERS AND OPPORTUNITES TO PROTECT WATER

Constitution Act, 1867: The Division of Powers

15. Responsibility for the environment, including water, was not explicitly assigned to either the provincial or federal governments under the

¹² *Ibid.* at pp. 29-31.

¹³ *Ibid.* at pp. 32-33.

¹⁴ See for example: Syncrude Canada, 2007 Ground Water Monitoring Report, Aurora Mine (submitted to Alberta Environment on March 28, 2008).

¹⁵ Suncor Energy Inc, media release: "Suncor Pleads Guilty to Three Environmental Charges" (April 2, 2009), online: <www.suncor.com>.

Constitution Act, 1867. The environment is an aggregate of various subject matters, some within federal and some within provincial jurisdiction.¹⁶ In the *Old Man River* case, Justice LaForest explained that:

[T]he *Constitution Act, 1867* has not assigned the matter of “environment” *sui generis* to either the provinces or parliament. The environment, as understood in its generic sense, encompasses the physical, economic and social environment touching several of the heads of power assigned to the respective levels of government.

...

It must be recognized that the environment is not an independent matter of legislation under the *Constitution Act, 1867* and that it is a constitutionally abstruse matter which does not comfortably fit within the existing division of powers without considerable overlap and uncertainty.¹⁷

16. The increasing significance of environmental protection to Canadians and the fact that it has become a fundamental value of our society is recognized by the Supreme Court. The recognition of the importance of exercising constitutional powers to protect the environment underlies many of the Court’s recent decisions.¹⁸ It has noted the increasing impact of human activities on the environment, the ubiquitousness of the environment itself and in particular, the potential impacts of humans on water:

All physical activities have some environmental impact.

...

But environmental pollution alone is itself all-pervasive. It is a by-product of everything we do. In man’s relationship with his environment, waste is unavoidable. The problem is thus not new, although it is only recently that the vast amount of

¹⁶ P.W. Hogg. *Constitutional Law of Canada*, Loose Leaf ed., Vol. 1. Toronto: Carswell, at pp. 15-6.

¹⁷ *Friends of the Old Man River v. Canada* (1992) 88 D.L.R. (4th) (S.C.C.) at p. 42.

¹⁸ See for example, *R. v. Hydro-Quebec* (1997) 151 D.L.R. (4th) 151 (S.C.C.) at 102.

waste products emitted into the atmosphere or dumped in water have begun to exceed the ability of the atmosphere and water to absorb and assimilate it on a global scale.¹⁹

17. In terms of water, the potential impacts are also geologically diffuse, indicating the national character of water protection:

It should require no demonstration that water moves in hydrologic cycles and that effective pollution control requires regulating pollution at its source. The source may, in fact, be situated outside the waters themselves. It is significant that the provision of the *Fisheries Act* upheld by this Court in *Northwest Falling Contractors Ltd. v. The Queen* . . . as a valid means of protecting the fisheries not only prohibited the depositing of a deleterious substance in water, but *in any place* where it might enter waters frequented by fish. Given the way substances seep into the ground and the movement of surface and ground waters into rivers and ultimately into the sea, this can potentially cover a very large area.²⁰

18. While Canada shares jurisdiction with Alberta over water, the constitutional doctrine of paramountcy means that in areas of overlapping jurisdiction, federal laws will prevail over provincial laws in the event of an inconsistency.²¹ However, an express conflict is required, otherwise both the provincial and federal governments can occupy the field, and the Supreme Court is reluctant to find conflict or inconsistency.²² As LaForest J. noted, this overlapping leads to uncertainty and addressing it requires cooperation. In the Athabasca Oil Sands, we have observed that this overlap has contributed to a lack of leadership and decision-making by both sets of government regulators.

¹⁹ *R. v. Crown Zellerbach* (1988) 49 D.L.R. (4th) 166 at 200-202.

²⁰ *Ibid.* at 194.

²¹ Hogg, *supra*, at 16-2.

²² *R. v. Hydro Quebec* (1997) 151 D.L.R. (4th) 151 (S.C.C.) at 104; G. La Forest. *Water Law in Canada: the Atlantic Provinces*. Ottawa: Information Canada, 1973.

Peace, order and good government (“POGG”) (s. 91)

19. This head of power anchors many federal environmental statutes and initiatives. It enables the federal government to “make laws for the peace, order and good government of Canada, in relation to all matters not coming within the classes of subjects by this Act assigned exclusively to the Legislatures of the provinces”.²³ The POGG power has three aspects. First, it fills gaps in the distribution of powers between the federal and provincial governments by assigning jurisdiction over these matters to the federal government. This includes some environmental matters, an example of which is the Supreme Court’s finding that the POGG power authorizes federal assessment of all of the environmental impacts of projects which have some affect on a federal head of power, such as navigation or fisheries.²⁴
20. Secondly, the POGG power can be used by the federal government to regulate matters that affect the nation as a whole. This includes water issues that have interprovincial or international aspects.²⁵ The national concern doctrine only applies to matters that have a singleness, distinctiveness and indivisibility that distinguishes them from matters of provincial concern. Whether a matter is of national concern is also informed by a province’s ability to deal with that matter without the assistance of the federal government or other provinces. This doctrine is further limited by the principle that it cannot be used to upset the division of powers enumerated in the Constitution.²⁶

²³ Reference?

²⁴ *Friends of the Old Man River* (1992) 88 D.L.R. (4th).

²⁵ *Crown Zellerbach* (1988) 49 D.L.R. (4th) 161 (S.C.C.).

²⁶ *Crown Zellerbach*, *supra*.

21. Thirdly, the POGG power allows the federal government to make laws to address national emergencies, which presumably includes environmental emergencies.

Canada's Water Policy

22. Canada's first and only federal water policy was completed in 1987.²⁷ The reason given in 1987 for creating this policy remains valid today: "... in spite of such growing recognition of water as essential to the life and health of people and ecosystems, the resource continues to be taken for granted, undervalued and, consequently, overused and abused".²⁸ These words apply equally today, and apply with particular resonance to the Athabasca Oil Sands region.
23. The 1987 Water Policy has two goals:
- i. to protect and enhance the quality of the water resource; and
 - ii. to promote the wise and efficient management and use of water.
24. A key mechanism in accomplishing the first goal is employing economic incentives and penalties to prevent both the impairment of water resources and to implement the "polluter pays" principle. In relation to the second goal, a key feature of the policy was the implementation of realistic water pricing.
25. If the strategies identified in the 1987 Water Policy had been implemented in the Athabasca Oil Sands region, some of the problems that we see

²⁷ In March 2007, the federal government announced that it would develop a new water strategy over the next two years. This water strategy has yet to be developed. According to the Canadian Press (March 22, 2009): "Environment Canada drafted an internal report in December 2007 urging the federal government to be more hands-on in managing the country's water, which is now largely done by the provinces."

²⁸ Canada. Environment Canada. *Federal Water Policy* (1987).

today could have been avoided. Nevertheless, these strategies still remain valid and ought to be implemented forthwith.

26. With respect to matters within Alberta's jurisdiction, which includes controlling water quality and water use by industry, the federal government can encourage and work with the province to develop policies and regulations that further the goals of the federal Water Policy. This is expressly contemplated in the *Canada Water Act*²⁹, which recognizes that water is a national concern. Section 4 of the Act provides how Canada can work with the provinces to ensure the optimum use of water for the benefit of all Canadians:

4. For the purpose of facilitating the formulation of policies and programs with respect to the water resources of Canada and to ensure the optimum use of those resources for the benefit of all Canadians, having regard to the distinctive geography of Canada and the character of water as a natural resource, the Minister may, with the approval of the Governor in Council, enter into an arrangement with one or more provincial governments to establish, on a national, provincial, regional, lake or river-basin basis, intergovernmental committees or other bodies

(a) to maintain continuing consultation on water resource matters and to advise on priorities for research, planning, conservation, development and utilization relating thereto;

(b) to advise on the formulation of water policies and programs; and

(c) to facilitate the coordination and implementation of water policies and programs.

27. The above provision allows Canada to promote and undertake a joint Alberta-Canada development of a water management plan for the oil

²⁹ R.S.C. 1985, c. C-11.

sands region, and to develop tools for water conservation such as pricing, penalties and incentives.

28. Oil sands operators currently obtain their water for free. We agree with Canada (as set out in the Water Policy) that providing an inherently valuable resource for free does not encourage conservation of the resource, but does encourage misuse. If companies were required to pay for the water, it would become worthwhile for them to invest money in improving their technologies and processes to reduce water use.
29. As the province is the “owner” of the surface water and groundwater in the province, the federal government cannot directly regulate water pricing. However, it can encourage Alberta to apply pricing to fresh water. It could also increase the cost to companies of fresh water uptake by imposing annual fees as a condition of obtaining *Fisheries Act* permits for the location of intake pipes in the Athabasca or other rivers.
30. Scientific leadership is also a strategy adopted in the Water Policy. Using new technology and processes is key to increasing the efficiency of water use in bitumen extraction and upgrading processes, and decreasing the build-up of fluid tailings. While it is ultimately industry’s responsibility, Canada could play a role in leading, encouraging and supporting more water efficient technology and dry tailings processes through tax incentives or other measures.
31. Since the Athabasca River is a major tributary of the Mackenzie River, decreasing flows also have the potential to impact the Northwest Territories and Saskatchewan. Canada could use its powers under s. 4 of the *Canada Water Act* to facilitate a water sharing agreement to ensure a sufficient supply of water into the Mackenzie River. In 1997, the federal government signed the Transboundary Waters Master Agreement with the

six provinces and territories that share the Mackenzie River Basin (Alberta, Saskatchewan, British Columbia, B.C., the NWT and Yukon). The agreement created the Mackenzie River Basin Board for the purposes of promoting communication and guiding consultations on transboundary water agreements. Alberta has not yet entered into such an agreement.

Canadian Environmental Assessment Act (“CEAA”)

32. Federal environmental assessment under CEAA has been triggered for several oil sands projects because of the requirement for a HADD approval in the construction of mines. Therefore, DFO has been the “Responsible Authority” for these environmental assessments. These assessments provide an opportunity for the federal authorities to require comprehensive assessment and mitigation strategies for the cumulative effects on water in the region. Unfortunately, this opportunity has not been realized to its full potential.
33. The assessment of the cumulative impacts on water and the ecosystem has been woefully inadequate in the face of the pace and scale of the oil sands projects, both for technical and methodological reasons, and due to the lack of sufficient resources applied to the task by both levels of government.³⁰
34. The Joint Review Panels have been made up of one member appointed by the Canadian Environmental Assessment Agency and two members appointed by the Alberta Energy Resource Conservation Board. These reviews have not been informed by realistic or comprehensive

³⁰ V. Adamowicz. “Water Use in the Alberta Oil Sands – Science and Solutions: An Analysis of Options” in *Running out of Steam? Oil Sands Development and Water Use and Athabasca River Watershed – Science and Market Based Solutions*. University of Alberta, Munk Centre for International and Environmental Research, 2007; D. Schindler and W. Donahue. *An Impending Crisis in Canada’s Western Provinces*. Proceedings of the National Academy of Sciences (2006) 103:19: 7210-7216.

assessments of cumulative impacts, as the assessments are prepared by the proponents who focus as narrowly as possible on their own interests (getting their own projects approved). The federal regulators and Joint Review Panels have been content with repeated recommendations to carry out further research and conceptual mitigation strategies – or promises to develop such strategies. Typically, the mitigation proposed (and accepted) has been for the proponent to participate in multi-stakeholder committees, such as the Cumulative Environmental Management Association (CEMA), to carry out monitoring, studies and, someday, make recommendations for management. The Responsible Authorities and Joint Review Panels continue to approve projects, despite mounting evidence of the lack of progress on cumulative effects management. The Joint Review Panels have expressed increasing concern about CEMA's lack of progress in developing management frameworks to address "most of the critical cumulative effects challenges in the oil sands".³¹

35. Another underutilized tool for regulating oil sands arising from CEAA is the provision for follow-up programs. The Act allows Responsible Authorities and Joint Review Panels to take into account the implementation of proposed mitigation measures in making their central and critical determination: whether the project will have any significant adverse environmental effects.³² It is clear that oil sands development has significant adverse effects; however, the project proponents rely on their proposed mitigation, such as participation in CEMA, to assert that these effects will be rendered 'less than significant'. Since the successful implementation of these mitigation programs is critical, follow-up is required to ensure they are, in fact, successful.

³¹ See for example, EUB/CEAA Joint Review Panel Report (EUB Decision 2007-013) (February 27, 2007).

³² *Canadian Environmental Assessment Act*, S.C. 1992, c. 37, s. 20(1)(a).

36. This is implicitly recognized in s. 38 of CEEA, which requires a Responsible Authority to consider whether a follow-up program for a project is appropriate and if so, to design that follow-up program and ensure its implementation. The scope of the follow-up program is not limited to matters within the legislation of the governing authority.³³ That is, for example, DFO is not limited to designing follow-up programs for impacts to fisheries. Nevertheless, there appears to be very limited activity towards implementing s. 38, and certainly no publicized reports have been made by the Responsible Authorities in relation to these follow-up programs; that is, there has been no reporting of the success, failure or progress of proposed mitigation strategies. Ecojustice has been following up on some of the mitigation strategies proposed with respect to the Kearl Oil Sands Project, and preliminary results suggest a lack of diligence by the regulators in ensuring the mitigation strategies related to cumulative effects are implemented. Much has been documented regarding CEMA's failures in relation to the most ubiquitous mitigation proposed and relied upon³⁴; yet no oil sands operator has had their approvals or permits reviewed or reconsidered due to the lack of success of this mitigation measure.

The Canadian Environmental Protection Act S.C. 1999, c.33

37. The purpose of this legislation is to prevent pollution and protect the environment and human health. Its central feature is the listing and assessment of substances that are potentially harmful to people and the environment, based on risk assessments, and involves designating

³³ CEEA, *supra*, s. 38(3).

³⁴ PriceWaterhouse. *Strategic and Program Evaluation of CEMA*. Draft report (March 2008); S. Kennett. *Next Steps for Cumulative Effects Management in Alberta's Athabasca Oil Sands*. (2007) Canadian Institute of Resources Law: 96 Resources 1.

substances as toxic. The Act provides a wide range of tools for managing, controlling or eliminating toxic substances.

38. Water quality guidelines do not exist for some of the substances discharged or potentially discharged into the environment by bitumen extraction and processing. The federal government has the opportunity under this legislation to assess the toxicity of various substances being emitted from bitumen extraction operations and to implement control measures, as required. For example, there are no guidelines or standards for the release of naphthenic acids, which are a naturally occurring family of compounds found in bitumen that are released during the extraction process. They become concentrated and are eventually discharged into tailings ponds. Naphthenic acids primarily enter surface water systems through effluent discharge, but also potentially through the migration of oil sands tailings into the ground or surface water. Naphthenic acids in northern Alberta rivers are generally below 1 mg litre⁻¹. Tailings ponds, however, contain concentrations as high as 110 mg litre⁻¹.³⁵
39. Naphthenic acids are not specifically regulated under the *Canadian Environmental Protection Act*. They are a complex of acid chemicals, not all of which have been identified or tested for toxicity, although Environment Canada appears to be testing some of them.³⁶ A variety of naphthenic petroleum distillates are listed as toxic substances in Ontario's *Code of Toxic Substances*.³⁷ In the United States, they are listed as a hazardous substance pursuant to s. 101 of the *Comprehensive Environmental Response, Compensation and Liability Act*.

³⁵ J.B. Headley and D. W. McMartin. *A Review of the Occurrence and Fate of Naphthenic Acids in Aquatic Environments*. *Journal of Environmental Science and Health*: Vol. 39, Issue 8, 2004, pp. 1989-2010.

³⁶ Canada Gazette Part I, Vol. 142 No. 1. *Notice with Respect to Certain High Priority Petroleum Substances* (2008).

³⁷ <http://www.ene.gov.on.ca/en/about/penalties/ToxicSubstances.pdf>.

40. In light of the leakage of tailings ponds fluids into the surrounding environment, it would be prudent for the federal government to conduct a timely assessment of all potentially toxic substances released by oil sands operations and ensure appropriate control measures are implemented.

Migratory Birds Convention Act S.C. 1994, c.22

41. Canada recently utilized this legislation to prosecute Syncrude Canada in relation to the several hundred migratory birds that were killed after landing on one of Syncrude's tailings ponds, indicating one of the dangers created by tailings ponds.³⁸ This prosecution was originally initiated by Ecojustice and Jeh Custer of the Sierra Club of Canada as a private prosecution. This prosecution was superseded by Canada's subsequent charges for the same offence; namely a violation of s. 5.1:

No person or vessel shall deposit a substance that is harmful to migratory birds, or permit such a substance to be deposited, in waters or an area frequented by migratory birds or in a place from which the substance may enter such waters or such an area.

42. It appears that migratory birds are routinely killed because of their interaction with tailings ponds. According to Alberta Sustainable Resource Development, the annual environmental reports of each company operating in the oil sands show an average of "fewer than one hundred bird mortalities per year due to oiling from tailings ponds".³⁹ This indicates that some operations are responsible for more than a hundred migratory bird deaths per year, and some for less than a hundred. This also

³⁸ Environment Canada, media release: "Syncrude Canada Ltd Charged for Migratory Bird Deaths" (February 9, 2009).

³⁹ Alberta Sustainable Resource Development, *Facts About Alberta's Oil Sands* www.oilsands.alberta.ca (December 19, 2008)

indicates that the federal government is implicitly sanctioning repeated violations of the *Migratory Birds Convention Act*.

43. Canada is empowered by this legislation to pass regulations prescribing protected areas for migratory birds and nests and for the control and management of these areas, which it has not done to date. Tar sands mining is causing significant loss of bird habitat both directly, through the clearing of forests, and indirectly, through fragmentation of bird habitat. Water withdrawals, including the drawing down and destruction of wetlands and other water habitats, is also having a significant effect.⁴⁰ Presumably, as naturally occurring wetlands decrease, tailings ponds will correspondingly increase in their attractiveness to migrating birds. Regulations aimed at preserving a certain amount of wetlands and other habitat for migratory birds would also assist in protecting the aquatic environment.

Species at Risk Act, S.C. 2002, c.29 (SARA)

44. SARA is designed to prevent wildlife species from becoming extinct and to enable action to be taken for the recovery of threatened species. This includes aquatic species. The Act provides a legislative base for a scientific council to assess the status of species at risk in Canada, prohibits the killing of species at risk or the destruction of their “residences or critical habitat”, requires the development of recovery planning and action plans for species listed as extirpated, endangered or threatened, and if recovery plans are called for, critical habitat for the species must be identified and protected.

⁴⁰ J. Wells. *Danger in the Nursery: Impact on Birds of Tar Sands Oil Development in Canada's Boreal Forest* (2008), online: <www.nrdc.org/wildlife/borealbirds>.

45. Ecojustice's research indicates that this legislation has been underutilized to the extent that very little has been done to protect the 449 species already listed under the Act.⁴¹
46. Yellow Rail is an example of a species at risk in the oil sands region that has been listed under SARA. The Yellow Rail requires wetlands to breed. Pursuant to SARA, a recovery plan was required for this species by June 2008, which should have included the identification of critical habitat. This has not yet been done.
47. The identification and protection of critical wetland habitat is clearly within federal jurisdiction. In addition to providing a habitat for species at risk, wetlands also play a crucial role in maintaining the health of the surrounding ecosystem, recharging water tables, filtering and storing water and reducing flooding and sedimentation. Thus, there are many benefits to Canada taking action.

National Parks s. 91(1A)

48. The federal Parliament has exclusive power to make laws in relation to federally owned property, pursuant to subsection 91(1A) of the *Constitution Act, 1867*, which includes federally owned parks such as the Wood Buffalo National Park. The Athabasca River and the Slave River, of which the Athabasca is a tributary, form the eastern boundary of the Park. When Canada negotiated the Natural Resources Transfer Agreement with Alberta in 1929, it reserved to itself certain rights, including the land comprising the National Parks. It also secured an agreement from Alberta to provide sufficient flow of water in rivers that flow into the Parks,

⁴¹ Ecojustice, David Suzuki Foundation, Environmental Defence, and Nature Canada. *Canada's Species at Risk Act: Implementation at a Snail's Pace* (2009).

including Wood Buffalo National Park, to preserve “the scenic beauties of the said parks”⁴²:

16. . . . [T]he province agrees . . . it will not, by works outside the boundaries of any of the said Parks, reduce the flow of water in any of the rivers or streams within the same to less than that which the Minister of the Interior may deem necessary adequately to preserve the scenic beauties of the said Parks.⁴³

49. Section 16 does not appear to have been considered by any court. On the face of the provision, it confers discretion upon the federal government to determine how much water must be maintained in the Athabasca River to preserve the “scenic beauty” of Wood Buffalo National Park. The interpretive principles applicable to the constitution indicate that the precise phraseology would be interpreted in modern terms. Presumably, the “beauty of the Park” would include its natural river ecology. This provides a basis for Canada to enter into an agreement to jointly manage the flows in the Athabasca River or to specify minimum flow requirements to sustain Wood Buffalo National Park.

Sea Coast and Inland Fisheries (s. 91 (12))

50. The relevant legislation under this constitutional power is the *Fisheries Act*⁴⁴, which gives the federal government the most direct regulatory power to protect water. The Department of Fisheries and Oceans (“DFO”) is responsible for the management, protection and conservation of fish and their habitats. The relevant provisions are:

⁴² *Constitution Act, 1930*.

⁴³ Natural Resources Transfer Agreement, *Constitution Act, 1930*, s. 16.

⁴⁴ *Fisheries Act*, R.S. 1985 C. F-14.

35(1) No person shall carry on any work or undertaking that results in the harmful alteration, disruption or destruction of fish habitat.

36(3) Subject to subsection (4), no person shall deposit or permit the deposit of a deleterious substance of any type in water frequented by fish or in any place under any conditions where the deleterious substance or any other deleterious substance that results from the deposit of a deleterious substance may enter any such water.

51. DFO has been most active in the oil sands region in issuing permits allowing the harmful alteration, disruption or destruction of fish habitat (HADD) in relation to the mining out of creeks, streams and portions of rivers (such as the Muskeg River) in the Athabasca River Basin. This includes, for example, Imperial Oil's Kearl Oil Sands Project, which will adversely affect almost 1.3 million cubic meters of fish habitat.⁴⁵ To date, DFO has applied its *Policy for the Management of Fish Habitat* to require the creation of compensation habitat, which has always taken the form of lakes. It does not appear that DFO's policy or practice has taken into account the cumulative impacts of such dramatic loss of river habitat in one basin or whether the downstream Aboriginal communities view a replacement fishery in remote lakes to be a substitute for the fishery in the more accessible tributaries of the Athabasca River.
52. DFO has also utilized its powers under s. 35 to limit the amount of water that can be withdrawn from the Athabasca River, with respect to the two most recent mining projects which have received permits to place water in the river. For example, the Albian Sands permit for water intake for the Muskeg River Mine was conditional upon the withdrawal rate not exceeding 1.8 percent of the daily flow of the Athabasca River.⁴⁶

⁴⁵ Canada. Submissions of Fisheries and Oceans Canada. "Kearl Oil Sands Project – Imperial Oil Resources Ventures Limited." (2006).

⁴⁶ Albian Sands Energy Inc., Fisheries Permit for Intake Structure, File No. AB99297.

Unfortunately, this limit allows a continuous withdrawal of water, even during drought conditions, and therefore does not prevent potential harm to the fishery.

53. DFO could impose conditions on these permits which restrict all withdrawals when the river reaches critical low flow conditions. Such conditions would require the operator to construct sufficient off-site storage to supply its needs during the low flow winter months. Without the availability of such storage, it is likely, given the historical fluctuations in river water levels, the long-term decline in flow, and the increasing withdrawals of water by industry, that a crisis situation will occur in the future which will require difficult choices to be made, between shutting down oil sands plants at great cost or allowing significant destruction of fish habitat and risking the collapse of the fishery.
54. The federal government also has an unutilized power under the *Fisheries Act* to make regulations specific to the oil sands industry. The Governor in Council may make regulations prescribing substances to be deleterious for the purpose of subsection 36(3) and specifying the quantities or concentrations of deleterious substances that may be deposited. At present, airborne substances that may have a harmful effect on the receiving waters are not controlled, nor is the seepage of toxins from the tailings ponds into the surface water and groundwater (and which may eventually migrate into waters frequented by fish) controlled by the federal government.

Lands Reserved for Indians (s. 91(24))

55. Some First Nations in northern Alberta have reserves located on the shores of the Athabasca River or other rivers potentially impacted by bitumen extraction, such as the Fort McKay First Nation and the

Athabasca Chipewyan First Nation. The lower reaches of the Athabasca River and the Peace Athabasca Delta have historically supported traditional land use, including fishing by Aboriginal communities. Canada has yet to assess the potential impacts of oil sands development on the reserve lands of these First Nations or on their health and traditional land use.

Navigation and Shipping (s. 91(10))

56. The Athabasca River, along with some of the other rivers in the Athabasca Oil Sands region, are navigable. Therefore, the federal government can regulate activities impacting the navigation of these rivers, such as enacting legislation to protect flow levels for navigation. Declining water levels in the lower reaches of the Athabasca River, and particularly in the Peace Athabasca Delta, have created navigation problems for the downstream Aboriginal communities in accessing their reserves, some of which are accessible only by water.
57. The existing applicable legislation under this power is the *Navigable Waters Protection Act*⁴⁷. This legislation is designed to protect the public right to navigation by requiring approvals for works built on, under or across navigable waters (such as dams and bridges). The legislation and its regulations also control or prohibit obstructions to navigation. There are no provisions directly related to the issue of maintaining water levels sufficient to support navigation.

Taxation (s. 91(3)), "Trade and Commerce" (s. 91(2)) and "Public Debt and Property" (The Spending Power, s. 91(A))

⁴⁷ R.S. 1985, c.N-22.

58. The federal government uses this head of power to provide tax incentives and other forms of subsidies to the industry.⁴⁸ The federal government also receives the largest share of government revenues generated by the industry: it receives 41 percent, while the Alberta government receives 36 percent.⁴⁹
59. This revenue, and the tax incentives used to spur development, could also be used to play a leading role in pollution control and water conservation, and to improve technology and devote more resources to planning, compliance and enforcement of existing regulations. For example, the federal government could ensure water conservation and protect water quality by making tax benefits or corporate loans conditional upon achieving better environmental performance.

Criminal Law (s. 97(27))

60. The criminal law power enables the federal government to criminalize activities that impair water quality. It supports the existing provisions in the *Fisheries Act* and the *Migratory Birds Act*, which create quasi-criminal offences for the contamination of fish and bird habitat.
61. The Supreme Court of Canada has confirmed that the criminal law empowers the federal government to criminalize environmental pollution. In *R. v. Hydro-Quebec*⁵⁰ it held that:

The purpose of criminal law is to underline and protect our fundamental values. While many environmental issues could be criminally sanctioned in terms of protection of human life or health, I cannot accept that the criminal law is limited to that because “certain forms and degrees of

⁴⁸ Ecojustice, media release: “Industry Receives 1.4 Billion in Tax Breaks Annually While Greenhouse Gas Emissions Skyrocket” (June 14, 2006).

⁴⁹ Canadian Association of Petroleum Producers. *Oil Sands Economic Impacts Across Canada*. (2008).

⁵⁰ *R. v. Hydro-Quebec* (1997) 151 D.L.R. (4th) 151 (S.C.C.) at 102.

environmental pollution can directly or indirectly, sooner or later, seriously harm or endanger human life and human health” . . . but the stage at which this may be discovered is not easy to discern, and I agree . . . that Parliament may use its criminal powers to underline that value. The criminal law must help to keep pace with and protect our emerging values.

62. The Criminal Code⁵¹ creates a specific environmental offense that could be used to protect water resources. The Code prohibits “common nuisance”:

180(1) Everyone who commits a common nuisance and thereby:

- (a) endangers the lives, safety or health of the public, or
- (b) causes physical injury to any person,

is guilty of an indictable offence and is liable for imprisonment for a term not exceeding two years.

(2) For the purposes of this section, everyone commits a common nuisance who does an unlawful act or fails to discharge a legal duty and thereby

- (1) endangers the lives, safety, health, property or comfort of the public, or
- (2) obstructs the public in the exercise or enjoyment of any right that is common to all subjects of her Majesty the Queen.

Accordingly, the offence of common nuisance may capture the polluting of waters if done (a) unlawfully or (b) in a way that endangers the health of the public or causes injury. Criminal offences impose a higher burden of proof on the Crown than quasi-criminal offences such as those under the *Fisheries Act*.

⁵¹ R.S.C. 1985, c. C-46.

Case Study #1: Federal Involvement in Establishing a Minimum Water Flow for the Athabasca River

63. The Federal government has clear constitutional jurisdiction to protect the integrity of the Athabasca River under the *Fisheries Act*. Because of the doctrine of federal paramountcy, it can take a lead role as regulator of water withdrawals. Although the federal government has made special arrangements for the day-to-day management of certain inland fisheries to be administered by the provincial government, the Minister of Fisheries and Oceans remains responsible to Parliament for all provisions of the *Fisheries Act*. Fisheries habitat protection is key to the issue of water withdrawal from the Athabasca River because the reduction in water flows potentially destroys or harms fish habitat, which in turn risks extirpation of the fishery. As flows decrease, the risk increases.
64. In addition to this regulatory authority, the federal government also has obligations pursuant to s. 35 of the *Constitution Act, 1982* which protect the rights guaranteed to the downstream Aboriginal peoples through the terms of Treaty No. 8. The Athabasca River supports significant fish populations that are used by Aboriginal communities for commercial and subsistence fisheries.⁵² Some of the downstream First Nation communities have reserve lands adjacent to the river, which arguably gives rise to rights implied in Treaty No. 8 or through the *Indian Act* to adequate levels of flow in the river. There is a strong case to be made that the federal government has a fiduciary duty, at minimum, to secure sufficient flow in the river for the needs of the downstream First Nation communities.⁵³

⁵² Canada. Department of Fisheries and Oceans. *Lower Athabasca River In-Stream Flow Needs (IFN) Science Review* (2006).

⁵³ R.H Bartlett. *Aboriginal Water Rights in Canada: A Study of Aboriginal Title to Water and Indian Water Rights*. Canadian Institute of Resources Law, 1998; G R Statt. *Tapping Into Water*

Has DFO exercised its authority to protect the river?

65. To the federal government's credit, it was Environment Canada that sounded the first warning bell of the nature and scope of the potential cumulative effects from oil sands development in the Athabasca Oil Sands region. It brought these concerns to the attention of the Alberta Energy and Utilities Board in connection with the application by Syncrude Canada for approval of its Aurora Mine. As a result of Environment Canada's submissions, the EUB concluded that the significant environmental implications of oil sands development would be best dealt with on a regional basis. It envisioned the participation of government agencies, as well as the public and industry, at the critical early, defining state of regional development.⁵⁴ Industry responded by organizing a cumulative effects management organization, which eventually evolved into the Cumulative Effects Management Association (CEMA). While the regulators and the Energy & Utilities Board contemplated that cumulative effects and environmental issues would be dealt with in a "timely and effective fashion" through CEMA, this did not occur.⁵⁵ The shortcomings of CEMA are well-documented elsewhere and will not be reviewed in this submission except as they relate to DFO's role in regulating the water flow in the Athabasca River.⁵⁶
66. In 2003, DFO gave evidence to the Joint Review Panel considering CNRL's proposal for the Horizon Mine. At that time, DFO stated that

Rights: An Exploration of Native Entitlement in the Treaty 8 Area of Northern Alberta. (2003) Canadian Journal of Law and Society, Vol. 18, No. 1, pp. 103-129.

⁵⁴ Energy & Utilities Board, Decision 1997-13: Application by Syncrude Canada for the Aurora Mine.

⁵⁵ Energy & Utilities Board, Decision 1999-02: Application by Shell Canada Limited to Construct and Operate the Muskeg River Mine Project, at p. 6.

⁵⁶ N. Vlavianos. *Key Shortcomings in the Current Regulatory Framework for Oil Sands Development in Alberta* (2007) 100 Resources 1 (Canadian Institute of Resource Law); S. A. Kennett. *Closing the Performance Gap: The Challenge for Cumulative Effects Management in Alberta's Athabasca Oil Sands Region*. University of Calgary, 2007; PriceWaterhouse. *Strategic and Program Evaluation of the Cumulative Environmental Management Association* (2008).

regional fish habitat would be affected as a consequence of successive elimination of water courses and water withdrawals from the Athabasca River. Changes as a result of the decreased Athabasca River flows would include the reduction of benthic invertebrates as well as reduced habitat for fish. DFO recommended a regional approach be taken to assessing incremental change predictions and advised that new initiatives were required to detect and mitigate cumulative effects on the aquatic environment.⁵⁷ DFO, along with Alberta Environment and the Oil Sands Environmental Coalition (“OSEC”), raised concerns about the effect of the project’s water withdrawals, and DFO recommended that an In-stream Flow Needs (IFN) be established prior to CNRL being issued a license for permanent water intake from the River.⁵⁸ An IFN would include an assessment of the amount of water that was required to protect the ecology of the river, as well as a regulatory framework for ensuring that water withdrawals did not adversely impact the river.

67. As a result of these submissions, the Joint Review Panel concluded that the “timely development of the IFN for the Athabasca River is needed to preserve the future integrity of the river.” Both Alberta Environment and DFO advised the board that they were actively participating in a committee of CEMA tasked with setting an IFN for the River, and that this would be done by the end of 2005. The Board encouraged DFO and Alberta Environment to take appropriate action to ensure that the IFN was in place by the end of 2005.⁵⁹
68. With respect to Shell Canada’s application for its Jackpine Mine, the Joint Review Panel reviewing the application also recommended that Alberta

⁵⁷ Energy & Utilities Board and Canadian Environmental Assessment Agency Joint Panel Report (EUB Decision 2004-005) at p. 51.

⁵⁸ *Supra* at p. 40.

⁵⁹ *Supra* at p. 42.

Environment and DFO jointly establish an IFN for the River if CEMA failed to do so by 2005.

69. By the end of 2005, CEMA had failed to make a recommendation for an IFN for the river. In the meantime, the CNRL Horizon Project, the Shell Jackpine Mine Project, and the Steepback Mine and Voyageur Upgrader Projects were all approved. In January of 2006, Alberta Environment unilaterally released an interim draft IFN Management Framework for the lower reaches of the river. This included a “black zone” which indicated that if water levels were reduced to certain levels, water withdrawals from the oil sands plants would be stopped. However, the water levels that would trigger the “black zone” were unspecified.⁶⁰
70. In early April 2006, Alberta Environment and DFO made a presentation to the CEMA IFN Subgroup, in which they advised that the IFN Framework for the river would include an ecological base flow (EBF). An EBF is “a flow at which further human induced reductions in-flow would result in unacceptable levels of risk to the health of the aquatic resources”.
71. DFO conducted a science review dated March 31, 2006 in which it stated “the development of in-stream flow needs (IFN) for the lower Athabasca River is critically important to mitigate cumulative environmental effects to fish and fish habitat associated with water withdrawals necessary for oil sands operations”. It also recognized that the lower Athabasca River supports significant fish populations, which are used by Aboriginal communities.⁶¹ In this document, the DFO scientists recommended an EBF set at the 80% exceedence flow, meaning that if water levels are below 20 percent of the normal range of variation (taken over a 50 year

⁶⁰ Alberta. *Submission of Her Majesty the Queen in Right of Alberta in Relation to Imperial Oil Resources Ventures Limited: Proposed Kearl Oil Sands Project* (2006).

⁶¹ Canada Department of Fisheries and Oceans. *Lower Athabasca River In-stream Flow Needs (IFN): Ad Hoc Science Review and Advice Meeting*, Winnipeg: Freshwater Institute, 2006.

period), water withdrawals will cease. This is the level at which harmful alteration or destruction of fish habitat is likely, according to the DFO science panel. This recommendation was endorsed by D.V. Gillman, Acting Regional Director, Science, Central and Arctic Region and Robert Lamb, Regional Director General, Central and Arctic Region.

72. DFO's recommendation for an EBF was accepted by the Mikisew Cree, Fort McKay and Athabasca Chipewyan First Nations as well as the Oil Sands Environmental Coalition.⁶²
73. To the surprise of these stakeholders, Alberta Environment and DFO released an Interim Water Management Framework in July 2006, shortly before the commencement of the Joint Review Panel hearings with respect to Imperial Oil's application for its Kearl Oil Sands Mine.⁶³ This Framework contains no EBF and did not commit to setting an EBF. Rather, it sets out interim guidelines which permit water withdrawals to continue, at all flow levels, for all approved oil sands mines, as well as those that had applied for approvals and those who were anticipated to apply for an approval. It does not set any level at which withdrawals will cease. Rather, it states that if the river flow is reduced to certain levels (the "red zone") harmful impacts are likely to occur to fish habitat, and a *Fisheries Act* authorization "may be required". However, withdrawals by the oil sands companies will continue, albeit at a reduced level.
74. The Framework contemplates further research, consultation and review. Section 3.3 of the draft Framework recognizes that some loss of fish habitat is expected under this draft Framework. The Framework

⁶² Joint Panel Review Hearings, Proposed Kearl Oil Sands Mine, Transcripts Vol. 4, p.779 per Pat Marcel; Vol.6, p. 987 per Ron Bothe; Vol.7 pp. 1325 -1326, 1330 per Dan Woyntillowicz; Vol. 9 pp. 1763-64 per Sherman Shih.

⁶³ Alberta Environment and Fisheries and Oceans Canada. *Water Management Framework: In-stream Flow Needs and Water Management System for the Lower Athabasca River* (Draft, July 2006).

anticipates that further research will be collected by July 2011 and a Phase 2 (final) Framework will be created. At some further unspecified date, it will be implemented. The regulators anticipate that five years will be required by industry to prepare for implementation (approximately 2016).

75. There was no cogent explanation given by Alberta or DFO as to what occurred between April and July 2006 that resulted in DFO's recommendation being discarded, or the abandonment of Alberta Environment's initial January 2006 proposal for a "black zone". Private meetings were held between the regulators and industry regarding the IFN between April and July 2006.⁶⁴ As at today's date, Alberta Environment and DFO are engaging stakeholders in a consultation process as part of the development of the Phase 2 framework, attempting to engage all of the First Nations in consultation regarding further development of the IFN.
76. Extensive evidence was prepared and given by experts on establishing EBF's and Instream Flow Needs assessment at the Kearl Oil Sands Hearing. Experts testifying on behalf of the First Nations and the Oil Sands Environmental Coalition agreed that it was imperative that an EBF be established. The risk or odds of exceeding the EBF initially recommended by the DFO scientists as necessary to protect the river is about 60 percent by the year 2011 (prior to the implementation of the yet to be developed Phase 2 of the IFN Framework).⁶⁵
77. The calculation of this risk did not take into account the effects of global warming, which appear to be gradually reducing the water levels in the

⁶⁴ Joint Panel Review Hearings, Proposed Kearl Oil Sands Mine, Transcripts Vol. 4, p.779 per Pat Marcel.

⁶⁵ Joint Panel Review Hearings, Proposed Kearl Oil Sands Mine, Vol. 6, p. 972 per Ron Bothe.

Athabasca River, increasing the potential magnitude of the impacts of oil sands water withdrawals from the river.⁶⁶

Case Study No. 2: Leaking Tailings Ponds

78. The leakage of contaminated process waters from oil sands tailings ponds is not being regulated by Environment Canada. Evidence given by the Acting Assistant Deputy Minister to this Committee suggests that Environment Canada may not even be aware that such leakage is occurring.⁶⁷ The evidence of this leakage comes from the operator's own environmental reports. For example, the 2007 Ground Water Monitoring Report filed by Syncrude Canada in relation to its Mildred Lake tailings pond indicates that the Mildred Lake east toe berm had been leaking for some time. Apparently Syncrude has stopped putting process water into this structure and as a result "the flux of water moving beyond the perimeter ditch is expected to decrease, and invariably the potential for influence on this surrounding environment provided that the current ditch system is maintained, the flux of contaminated [. . .] seepage water reaching the ditch, moving past the ditch and entering Beaver Creek are all expected to decline".⁶⁸ This indicates that a containment ditch system was put into place because there was a problem with tailings water migrating into Beaver Creek. It also implies that there will be a continued movement of this contaminated water for some unspecified time.

⁶⁶ W. Donahue. *Changing Water Supply and Climate in North-Central Alberta*. (October 9, 2009) Submission to Joint Panel Review Hearing of Kearsy Oil Sands Mine Proposal.

⁶⁷ Canada. Parliament. Standing Committee on the Environment and Sustainable Development. "Evidence, March 12, 2009". Testimony of Cynthia Wright at 4, 8, 14.

⁶⁸ Syncrude Canada. *2007 Ground Water Monitoring Report, Mildred Lake Site*. (Submitted to Alberta Environment on March 15, 2008).

79. In the same report, Syncrude also reported reduced concentrations of naphthenic acids and other compounds detected by their ground water monitoring wells, which it attributed to lower flow from the Mildred Lake tailings pond. Syncrude also reported decreasing levels of sodium chloride at monitoring wells located in Bridge Creek, which it also attributed to reducing the outflow of leakage from the tailings dyke. Again, this report indicates the tailings pond has been leaking and contaminants are moving into the groundwater.
80. In the letter responding to Syncrude's 2007 Report, Alberta Environment noted that chloride concentrations were increasing in three of the ground water monitoring wells, indicating an advancing plume of process affected water migrating from the tailings pond.⁶⁹
81. Both Bridge Creek and Beaver Creek are tributaries of the Athabasca River. While it is unknown whether Bridge Creek and Beaver Creek provide fish habitat, this is irrelevant for the purpose of the *Fisheries Act*. Both creeks flow into the Athabasca River, which is important fish habitat. It is an offence under the *Fisheries Act* to release deleterious substances, such as sulfates, chlorides and naphthenic acids, that enter or may enter waters frequented by fish. It is clear from court decisions that leakage or seepage of a deleterious substance is sufficient to find a contravention of subsection 36(3) of the *Fisheries Act* and that DFO is not required to wait until the seepage reaches the receiving water prior to prosecuting. In other words, it can prosecute on a proactive basis while the deleterious substance is in the process of migrating to the river.⁷⁰

⁶⁹ Kem Sing (Alberta Environment) to Nathalie Berube. Letter dated June 9, 2008.

⁷⁰ *R. v. Kingston* (2005) D.L.R. (4th) 734 (Ont. C.A.); *R. v. MacMillan Bloedel Ltd.* 2002 B.C.C.A. 510; *R v. Rivtow Straits Limited* (1993) Can LII 1769.

82. In summary there is evidence that at least one tailings pond is leaking deleterious substances into water which may carry the substances into fish habitat. A systematic review of the performance of all of the tailings ponds would likely reveal other examples of leakage (because the tailings ponds are not constructed with geotechnical or other liners that would prevent the outflow of water). Given the amount of contaminated water contained in the tailings ponds, their gradual leakage into the ground water may over time create significant environmental problems. This is clearly within DFO's jurisdiction to remedy.

CONCLUSION

83. The federal government has constitutional powers and regulatory responsibilities in relation to oil sands and water. It has the primary responsibility for assessing potential impacts on the rivers that provide fish habitat and for transboundary waters, and for ensuring the avoidance of adverse effects. The intensive and environmentally destructive nature of bitumen extraction requires much more planning, monitoring and enforcement by existing federal authorities and responsibilities. We have provided two case studies that illustrate that federal regulators know, or should know, of the immediate measures that are necessary to protect water, such as setting and enforcing minimum flow levels for the Athabasca River and controlling groundwater contamination from tailings ponds. Much more can and should be done by the federal government to tackle the serious environmental problems being created in the Athabasca Oil Sands, such as increasing impounding of contaminated process waters in tailings ponds and loss of wetlands. Properly assessing the cumulative effects on water resources in the region and developing a plan for managing these effects is needed. Without these measures, the risks to the environment and economic benefits of oil sands development will

continue to increase and Canada's international reputation for producing "dirty oil" at the expense of the environment will continue to deteriorate.