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## **The New Alberta Wetland Policy: White Area Wetlands, Just a Pawn in the Game?**

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**Policy commented on:** [Alberta Wetland Policy](#)

### **The Backdrop**

On September 10, 2013, the Alberta Government released its new [Alberta Wetland Policy](#) (“New Wetland Policy”). The release was long anticipated. It was preceded by 20 years of an “interim policy” applying to only part of the province, and by about 10 years of both lengthy and spurts and starts of consultations and processes aimed toward the province developing a comprehensive wetland policy approach applicable to the entire province. This ABlawg post presents and discusses the New Wetland Policy in a comparative, legal/political, and historical context. It describes the importance of wetlands and outlines wetland protection and conservation approaches in Alberta and elsewhere. It reviews the New Wetland Policy in this context to demonstrate how the New Wetland Policy compromises the protection of slough/marsh wetlands. A forthcoming ABlawg post by University of Calgary LLM student Dave Poulton will focus on the New Wetland Policy’s mitigation hierarchy and the offset provisions.

### **The Nature of Wetlands, Government Authority to Regulate Them, and Wetland Loss**

As defined in the New Wetland Policy “Wetlands are land saturated with water long enough to promote formation of water altered soils, growth of water tolerant vegetation, and various kinds of biological activity that are adapted to the wet environment” (at 4). Wetlands are among the most valuable natural systems on earth. They store and release surface water, re-charge groundwater, and aid in flood control. They reduce sedimentation and purify water, help control erosion, and sequester carbon. They can be hotbeds of biological diversity, and serve as important habitat for waterfowl, shorebirds, and other animals. They produce numerous ecological goods and services, have aesthetic, economic, heritage, recreational, and intrinsic values. (For general information on wetlands and wetland values see Ducks Unlimited Canada website [wetland pages](#), [Environment Canada](#), [Wetlands Alberta](#), and Alberta Environment and Sustainable Resource Development ([ESRD](#)), and links and references .

The Alberta government derives its legal authority to regulate wetlands and development that affects them under the *Public Lands Act*, RSA 2000, c P-30, as the owner of the bed and shores of all permanent and naturally occurring bodies of water (s 3), and under the *Water Act*, RSA 2000, c W-3 (and under predecessor legislation, the *Water Resources Act*, RSA 1980, c W-5), as the owner of all water in the province( *Water Act*, s 3). Under the *Water Act* and predecessor

legislation a person who wishes to divert water or carry on land uses that impact water in a natural setting (subject to certain exceptions) requires an authorization, whether or not the bed and shores of the wetland is Crown owned under the *Public Lands Act*. Municipalities derive their authority to regulate impacts on wetlands under Part 17 of the *Municipal Government Act*, RSA 2000 c M-26, which deals with subdivisions and developments within a municipality. The federal government's authority may be found primarily under the *Fisheries Act*, RSC 1985, c F-14, s 34-38, which regulates impacts and pollution to wetlands that constitute fisheries habitat (spawning grounds or nursery, rearing, food supply, or migration area for fish), and under the *Migratory Birds Convention Act, 1994*, ss 5-5.1, and *Migratory Birds Regulations*, CRC 1035, s 6, which prohibits the "taking" of migratory birds, nests, and eggs, and the deposit of harmful substances into waters frequented by migratory birds, without federal authorization. (For law related information on wetlands see A. Kwasniak, "Alberta Crown Ownership of Slough/Marsh Wetlands" (2007) 18 JELP 1, and A. Kwasniak, [Alberta Wetlands a Law and Policy Guide](#) (2001, North American Waterfowl Management Plan / Environmental Law Centre)).

Notwithstanding the significant values, functions and services of wetlands, it was not until the middle/latter 20th century that the need for wetland protection and conservation was visibly recognized. Even though efforts are now universally made to protect and conserve them (e.g. under [The Convention on Wetlands of International Importance](#) (Ramsar Convention) February 2, 1971, 11 I.L.M. 969 (1972) (in force 1975), and numerous legislative and policy frameworks and tools worldwide), losses continue. In Alberta, losses, mainly due to agricultural drainage activities and urban development, in the settled (White) area of the province (see Alberta government Land Use Framework White Area/Green Area map [here](#)) have been estimated at 70% and are growing at a rate of about 0.3%- 5% per year (Alberta ESRD, [here](#)).

Losses in the Green Area (boreal ecoregion) are more difficult to quantify but losses have occurred and will continue from development, such as impacts from current and planned oil sands mining and in situ operations, and forestry dispositions. It has been estimated that existing, approved, and proposed oil sands mining alone could result in the loss of up to 460,000 hectares of peatlands (Pembina Institute *Backgrounder*, [Alberta Provincial Wetland Policy](#), May 2013, at 2, referring to Peter Lee and Ryan Cheng, [Bitumen and Biocarbon Land Use Conversions and Loss of Biological Carbon Due to Bitumen Operations in the Boreal Forests of Alberta Canada](#) (Global Forest Watch, 2009).

## **Legislative and Policy Directives**

### ***The Federal No-Net Loss Policy (1991) and U.S. No-Net Loss Policy***

The federal government became manifestly involved in wetland protection and conservation by developing a wetland policy in 1991 with the [Canadian Federal Government Policy on Wetland Conservation](#). The objective of the federal policy is "to promote the conservation of Canada's wetlands to sustain their ecological and socio-economic functions, now and in the future" (p 5). The policy commits "all federal departments to the goal of no net loss of wetland functions (i) on federal lands and waters, (ii) in areas affected by the implementation of federal programs where the continuing loss or degradation of wetlands has reached critical levels, and (iii) where federal

activities affect wetlands designated as ecologically or socio-economically important to a region” (p 7).

“No net loss” policies or directives seek to balance development that impacts wetland with wetland protection and conservation so that development results with no net loss of wetland function, and ideally result with a net gain. No net loss directives or policies typically prescribe a wetland management to achieve no net loss of wetland function known as a “no net loss mitigation formula, or hierarchy” such as, in the following order of preference: avoiding impacts to wetlands, and if avoidance is not achieved, then to minimize impacts. The last preference is to compensate through wetland restoration elsewhere, or possibly through wetland creation (see Environment Canada, Canada Wildlife Service, *Implementing “No Net Loss” Goals to Conserve Wetlands in Canada*, Issue Paper No. 1992-2, [here](#)).

In the U.S. the primary legal management and protection of wetlands is derived from the *Federal Water Pollution Control Act of 1972*, commonly called the *Clean Water Act*. Section 404 of the Act requires a federal authorization for dredging or filling activities impacting the “nation's waters” including many wetlands. In exercising authority under section 404 of the *Clean Water Act* federal agencies implement no net loss of wetland function policies and directives (see *EPA Compensatory Mitigation* [here](#). “No net loss” in the U.S. may be traced to the 1987 National Wetlands Policy Forum. As reported by the University of Florida, *Florida Wetlands website* , the “forum aimed to "achieve no overall net loss of the nation's remaining wetlands base and to create and restore wetlands, where feasible, to increase the quantity and quality of the nation's wetland resource base" (National Wetlands Policy Forum, 1988)”.

### ***Alberta’s Wetland Management in the Settled Area of Alberta, An Interim Policy – a No Net Loss Policy***

Like Canada, Alberta (through the now long defunct Alberta Water Resources Commission) also developed wetland policy in the early 1990’s. In developing it, Alberta recognized that the nature of, stresses on, knowledge about, and issues relating to wetlands in the White Area (primarily slough/marsh wetlands) were not the same as the nature of, stresses on, knowledge about, and issues relating to wetlands in the Green Area (primarily peatlands, i.e. fens and bogs). Although the ultimate objective was one wetland policy and policy goal for the whole province, the Alberta Water Resources Commission proposed a different policy intent and mitigation formula for wetlands in the White Area than for wetlands in the Green Area of the province.

Alberta began with the White Area and in 1993 Cabinet approved [Wetland Management in the Settled Area of Alberta: An Interim Policy](#) (“Interim Policy”). Slough/Marsh wetlands, as defined in the Interim Policy (p 3) are “shallow, depressional areas that are permanently or periodically covered by standing or slowly moving water. Water levels fluctuate and open water may or may not be present. Vegetation may range from floating or submerged plants in the centre to cattails, rushes, sedges and grasses to willows and other shrubs along the fringes or margins. Potholes and marshes along water courses fall into this category. Slough/Marsh wetlands are most common in central and southern Alberta.” The stated goal of the Interim Policy “... is to sustain

the social, economic and environmental benefits that wetlands provide, now and in the future” (p 1).

The Policy Intent part of the Interim Policy sets out a no net loss formula/hierarchy for slough/marsh wetlands in the White Area of the province (p 3):

The intent of the policy with respect to slough/marsh wetlands in the Settled Area is, in descending order of preference:

- (a) to conserve slough/marsh wetlands in a natural state.
- (b) to mitigate degradation or loss of slough/marsh wetland benefits as near to the site of disturbance as possible.
- (c) to enhance, restore or create slough/marsh wetlands in areas where wetlands have been depleted or degraded.

To illustrate, if a developer (urban, rural, agricultural, forestry, etc.) wants to drain or deplete or degrade any slough/marsh wetland (whether permanently containing water or intermittently containing water), the developer needs authorization under provincial water legislation (prior to 1999 the *Water Resources Act*, and afterwards the *Water Act*) and, if the wetland is permanent and natural occurring, a disposition under the *Public Lands Act*. In determining whether to grant the authorization(s) and any conditions, the Interim Policy requires applying the no net loss mitigation formula/hierarchy. The Alberta Government eventually developed compensation ratios if preference (c) were utilized in the authorization process (see [Provincial Wetland Restoration Compensation Guide](#)). The Guide prescribes compensation for wetland loss on an replacement area basis. It justifies and explains this approach as follows ( p 7):

Compensation for lost wetland will be available on the basis of replacement ratios. It is almost impossible to fully replicate the complexity of a natural wetland ecosystem. For this reason, it is a generally accepted practice that a greater area (hectares) of restored wetland habitat will be required as compensation for a smaller area of destroyed natural wetland.

Wetland replacement ratios are numeric expressions of the ratio of wetland area replaced through restoration to wetland area lost. For example, a ratio of 3:1 means three hectares of equivalent wetland must be restored for each hectare of natural wetland impacted or lost. A minimum replacement ratio of 3:1 is commonly used. This ratio may change depending on site-specific circumstances as determined by a QWAES and subject to the approval of Alberta Environment.

Determination of replacement ratios is not an exact science. ... The restored wetland should be an equivalent type of wetland, located in a landscape that is equally or less impacted, and offer the same degree of permanency as the impacted wetland wherever possible.

The Interim Policy has been in effect since 1993, and will stay in effect until the New Wetland Policy comes into effect.

## **Beyond Prairie Potholes: A Draft Policy for Managing Alberta's Peatlands and Non-Settled Area Wetlands (1993)**

Concomitant with releasing the Interim Policy for the Settled Area of Alberta the Water Resources Commission released [Beyond Prairie Potholes: A Draft Policy for Managing Alberta's Peatlands and Non-Settled Area Wetlands](#) ("Draft Non-Settled Area Policy"). In 1993 there was already industrial use in the Green Area, but extensive oil sands development was still in the future. It is safe to say that Government anticipated increased oil sands development and was wise to try to get a policy in place for the Green Area. Although the Draft Non-Settled Area Policy covered both peatlands and slough/marsh wetlands in the Green Area, the lion's share of wetlands in the Green Area are peatlands. Peatlands account for 93% (12.7 million hectares) of the wetlands in Alberta, mostly located in the Green Area (Draft Non-Settled Area Policy p 5). Although the proposed (for discussion) Policy goal for the Draft Non-Settled Area Policy was the same as that for the Interim Policy for the Settled Area ("to sustain the social, economic and environmental benefits that functioning wetlands provide, now and in the future" p 9), the Draft Non-Settled Area Policy proposed (for discussion) different policy intent and mitigation approach for peatlands, in contrast to slough/marsh wetlands (p 9):

### **Policy Intent**

**Peatlands:** The Intent of the draft policy with respect to **peatlands** located throughout the province is:

- to ensure that representative, rare, and unique peatland ecosystems are set aside to protect identified values;
- to allow use of peatlands where the social and economic benefits of development are considered to be greater than the loss of wetland functions and values; and,
- to minimize, and mitigate where necessary, the adverse effects of developments in the watershed which impact peatlands, as well as the effects of peatlands on the watershed.

**Slough/Marsh Wetlands:** The intent of the draft policy with respect to slough/marsh wetlands located throughout the province is:

- to conserve slough/marsh wetlands in a natural state;
- to mitigate degradation or loss of slough/marsh wetland benefits as near to the site of disturbance as possible; and
- to enhance, restore, or create wetlands in areas where slough/marsh wetlands have been depleted or degraded.

Accordingly, a no net loss approach and mitigation formula/hierarchy would apply for slough/marsh wetlands, wherever they occur in the Province, Green Area or White Area, and something less than a no-net loss approach would apply to peatlands. The Draft Non-Settled Area Policy anticipated losses of peatlands, though the Policy intent was to protect significant peatlands, and to require, "where necessary," minimization and mitigation of peat land loss.

The Non-Settled Area Policy never saw the light of day and until the New Wetland Policy comes into effect there is no wetland policy that applies to the Green Area.

## **The Consultation Years**

The enactment of the *Water Act* in 1999, subsequent *Water for Life* policy (2003), and the development of the multi-stakeholder Alberta Water Council (2004) “to champion the achievement of the [Water for Life] strategy’s three goals” (safe, secure drinking water supply; healthy aquatic ecosystems; reliable, quality water supplies for a sustainable economy) (see Water Council website [here](#)), all lead to the development of a Water Council wetland subcommittee, the multi-stakeholder Wetland Policy Project Team (which I was on) (the “Project Team”). The mandate of the Project Team was to make recommendations for a wetland policy that would apply to the whole province. In 2005-2006 the Project Team drafted a policy and implementation plan and the Water Council approved the key outcomes. In 2007 the Project Team held 7 workshops throughout the province, and developed a public consultation workbook which was put to public consultation. The draft goal set out in the workbook was to maintain or increase wetland area and hence wetland function. The public and special interest sectors all endorsed this goal (though sector percentages differed), and in 2008 the Project Team engaged in tense, final negotiations. In the end a non-consensus report was made to the Water Council in September 2008. The dissenters to consensus were the Alberta Chamber of Resources, and the Canadian Association of Petroleum Producers who, among other matters, objected to no net loss claiming that this was an unreasonable and infeasible expectation for the oil sands industry (see Pembina Institute Alberta provincial wetland policy Backgrounder [here](#)). In 2008 the Water Council presented the Project Team’s recommendations to the Minister of the Environment (see *Alberta Water Council recommendations for a New Alberta Wetlands Policy* [here](#)), and included the two non-consensus letters. The recommendations included a no-net loss of wetlands goal (p 2 “the goal ... is to maintain wetland area in Alberta such that the ecological, social, and economic benefits that wetlands provide are maintained”) with increase to wetland area as a voluntary and aspirational goal (p 3). The proposed mitigation formula/hierarchy, like the Interim Policy, was to avoid, minimize, and compensate as a last preference. Compensation was to be area based. The document stated ( p 2) “ ... until such time as a practical and scientifically sound function-based approach is available, the objective of compensation under the current Wetland Mitigation Decision Framework is to replace the area of wetland lost and the associated wetland functions.” After two years, the Minister of Environment announced that it would not be accepting the Alberta Water Council Project Team recommendations. Then Minister Renner was reported to have said "Not all wetlands are alike," ... "A one-size-fits-all policy isn't going to work" (see Kelly Cryderman, “Alberta dilutes wetland defence - Lost habitat won't always be replaced” Calgary Herald October 30, 2010, [here](#)).

Since then the government took on the task of developing a policy and consulted in various forms, e.g. in 2010 it distributed to key stakeholders a Wetland Policy Intent, and in 2011/12 engaged in other consultation such as an expert consultation on wetland valuation and mitigation.



## The New Wetland Policy

### *Overview- goal, outcomes, mitigation formula*

The New Wetland Policy covers both the White Area and the Green Area of the province with one set of goals, outcomes, and methods to reach the outcomes. The New Wetland Policy has been subject of considerable commentary, including by the Pembina Institute (September 10<sup>th</sup>) Jennifer Grant, “Pembina reacts to the release of the new Alberta Wetland Policy [here](#) , the Alberta Wilderness Association (September 10<sup>th</sup>) ” Alberta Wetland Policy Exempts Oilsands Industry, Abandons No-Net-Loss in Prairies” (contact, Carolyn Campbell) [here](#); the Environmental Law Centre (September 11<sup>th</sup>) Jason Unger, “Alberta’s new wetland policy: baby steps in an adult world” [here](#); the Calgary Herald, numerous articles, including (September 10<sup>th</sup>) Canadian Press, “Alberta has released a wetland policy seven years in the making” [here](#), (September 11<sup>th</sup>) Stephen Ewart , “Ewart: McQueen reveals ‘watered down’ wetland policy [here](#), and (September 13<sup>th</sup>) Graham Thompson, “Alberta’s wetlands policy turns out to be all wet” [here](#) ; and the Edmonton Journal, (September 11<sup>th</sup>) Sheila Pratt, “Environmental Groups slam wetland plan” [here](#), and (September 14<sup>th</sup>) Graham Thompson, “Bogged down by Alberta’s Wetland Policy” [here](#) . The New Wetland Policy states that it is a “go-forward” policy, that it will be “effective from date of approval” (p 7) and anticipates an implementation phase in and timeline (p 23). To my knowledge, neither the proposed date of approval nor implementation phase in or timeline have been provided by government. Regarding it being a go-forward policy, Sheila Pratt, *Ibid*, reported that “Environment Department ecologist Thorsten Hebben confirmed that all currently operating, approved and approval in-waiting projects are exempt.”

The goal of the New Wetland Policy, like the Interim Policy is to “conserve, restore, protect, and manage Alberta’s wetland to sustain the benefits they provide to the environment, society, and economy.” But as the following discussion shows, from there on there are significant departures. To demonstrate, this post will comment on the goal in conjunction with the outcomes.

The “outcomes” for achieving the New Wetland Policy goal are (p 2):

1. Wetlands of the highest value are protected for the long-term benefit of all Albertans.
2. Wetlands and their benefits are conserved and restored in areas where losses have been high.
3. Wetlands are managed by avoiding, minimizing, and if necessary, replacing lost wetland value.
4. Wetland management considers regional context.

### ***Re Outcome 1: Saving wetlands on the basis of “value” and “relative value”***

In the Interim Policy, if a wetland is a slough/marsh wetland in the White Area, then the policy applies, and the mitigation formula/hierarchy applies so that the preferred course of action is to conserve the wetland in a natural state, and to avoid impacts. This is not so with the New Wetland Policy. The New Wetland Policy will protect wetlands of the “highest value.” Although the New Wetland Policy states that “avoidance of impacts” is the preferred course of action

“regardless of wetland value” (p 16), it continues by stating that in “cases where avoidance is deemed impracticable and a negative wetland impact is likely to occur, wetlands of higher relative value should require stronger evidence of effort to avoid than lower value wetlands” (p 16). “Relative value” in the New Wetland Policy means the “importance of a wetland from an ecological and human perspective. Using this approach, wetlands are compared across a common list of meaningful metrics and assigned a relative value category” (p 25, New Wetlands Policy). “Deemed impracticable” is not clear (deemed by whom, the developer who wants to drain a wetland, deemed by the decision maker?) but assuming impracticable is deemed, value or relative value will play a critical role in government deciding whether to authorize a wetland loss.

The notion of wetland “value” and “relative value” in the New Policy is, in my view, problematic, based on questionable criteria, and likely will place an unfortunate social and economic burden on the public, heritage, Aboriginal, community, and other interests who may strive to protect a given wetland from loss or impact. The New Wetland Policy states that “wetland value will be assessed based on relative abundance on the landscape, supported biodiversity, ability to improve water quality, importance to flood reduction, and human uses” (p 2). Why these factors amount to “value” or “relative value” is a mystery, and it is not obvious why some particular accumulation of the presence of these factors make any given wetland more “valuable” in an ordinary parlance sense than another wetland. Although some wetland functions and benefits may be measurable (e.g. wetland function in assimilating pollution and benefits to water utilities or users by reducing water treatment costs) factually ascertainable functions and quantifiable benefits do not equate to normative value. A wetland with significant heritage value in an area where wetlands are abundant with little, e.g. flood protection, exceptional improvement of water quality, etc. might be as valuable, in a normative sense, in the real world, and to real people, and as worthy of saving, as a wetland in a non-abundant area, that scores highly under each of the criteria.

And why should abundance detract from value? Are the children in an elementary school with 1000 students less valuable than the children in an elementary school with 100 students (and the latter children more valuable than the more abundant ones)? What does “supported biodiversity” mean? Directly, indirectly supported? Is more better here, and if so, why should that be? Isn’t desert ecology as valuable as a rainforest ecology?

What will happen if a developer applies to drain a wetland and a local neighborhood community wishes that it stay natural and intact? Do both the developer and the neighborhood have to hire scientists and consultants to determine the various value components and argue them to decision makers? The New Wetland Policy anticipates wetland relative value mapping, to be used along with other tools and approaches to determine relative value, but how will this value mapping be established, and will the mapped values be set in stone? (See New Wetland Policy p 17). What if a wetland is up for drainage and there is no concerned person or group with deep enough pockets to hire the appropriate experts and consultants to argue for a high enough value to save the wetland?



### ***Re Outcome 3: mitigation formula***

Outcome 3 sets out the mitigation formula in the New Wetland Policy as “avoid, minimization, replacement.” This sounds similar to earlier policy iterations, but “replacement” in Orwellian doublespeak style includes options, such as cash payments, that could be used for education and other purposes that will not actually replace wetland area or function on the ground (New Wetland Policy, pp 14, 15 and 18-20). Dave Poulton’s forthcoming ABlawg post will provide more detailed discussion on the mitigation formula, and offsets relating to wetland loss.

### ***Re Outcomes 2 and 4: Conservation where there are high losses, and Regional considerations***

Outcome 2, that “Wetlands and their benefits are conserved and restored in areas where losses have been high” suggests that there may be more emphasis on avoidance and minimization in the White Area where there have been high losses. This might fall out of the wetland valuation scheme in applying the non-abundance criterion as well. But this outcome is still a far cry from the Interim Policy that directs that *all* slough marsh wetlands are conserved in a natural state as a first preference.

Outcome 4 is that “Wetland management consider a regional context.” Although not explicit in the New Wetland Plan, this outcome may eventually tie into regional planning under the *Alberta Land Stewardship Act*, SA 2009, c 26-8, Alberta’s legislative foundation for regional planning and implementation. Outcome 4 also implicitly supports the potential for more wetland loss in some areas, e.g. where wetlands are abundant, and less loss in other areas, e.g. where wetlands are not abundant.

### ***Not No-Net Loss***

The New Wetland Policy, unlike the Interim Policy, the Federal Wetland Policy, the U.S. Wetland Policy, and the Water Council/Wetland Project Team (non-consensus) recommendations, is not a no-net loss policy. Absent are the words “sustain” or “maintain” wetlands area or function. The New Wetland Policy anticipates loss, and loss will inevitably especially occur in abundant wetland areas (e.g. the Green Area) where wetlands will score lower under the relative wetland value criteria, and where replacement will occur by mechanisms that will not add wetlands or wetland function on the ground (like paying cash).

### **Final comment – 20 years ago, and we were so much older then**

As earlier mentioned, back in 1993 government anticipated one wetland policy for the province with a single goal “... to sustain the social, economic and environmental benefits that wetlands provide, now and in the future” but proposed different mitigation approaches to reach that goal. The Interim Policy for the White Area intent and implementation required no net loss of slough/marsh wetlands, and the Draft Policy for the Green Area anticipated loss, but required protection of significant or representative wetlands, and mitigation measures as necessary. Although the Draft Policy certainly could and should have been stronger, I believe, and have personally maintained throughout the post Interim Policy wetland policy development, that in principle the government’s 1993 approach was correct. The stresses on, knowledge about, and issues relating to wetlands in the White Area (primarily slough/marsh wetlands) are different from those relating to the Green Area. The New Wetland policy suffers from the lowest

common denominator effect to make the policy workable, in the perspective and views of the oil and gas industry, with respect to mitigation of peatland impacts. Reclamation in the oil sands under the *Environmental Protection and Enhancement Act*, RSA 2000, c E-12, and the *Conservation and Reclamation Regulation*, Alta Reg 115/1993 is to “equivalent land capability,” which does not mean necessarily what it was before. Scientists have claimed that “Contrary to claims made in the media, peatland destroyed by open-pit mining will not be restored. Current plans dictate its replacement with upland forest and tailings storage lakes, amounting to the destruction of over 29,500 ha of peatland” (see Rebecca C. Rooney, Suzanne E. Bayley, and David W. Schindler, “Oil sands mining and reclamation cause massive loss of peatland and stored carbon,” [109 PNAS 13, 4933–4937 \(2011\)](#) (quote from Abstract)). Given that in the past the industry has not gone the route of replacing peatland landscapes with peatland landscapes in reclamation processes and plans, it is not surprising that the industry balked at the proposal for a no net loss policy applying to peatland losses, even on a go-forward basis. Mitigating peatland loss with peatland restoration or creation poses challenges to the industry (see Lee Foote “Threshold Considerations and Wetland Reclamation in Alberta’s Mineable Oil Sands” (2012) *17 Ecology and Society* 1, art. 35, [here](#)). Peatland restoration and construction science and practices, though progressing, are not as developed as the science and practices of slough/marsh wetland restoration and construction. (Generally see Carolyn Campbell, “Compensation for Disturbed Wetlands – A Leap of Faith?” WLA June 2008 • Vol. 16, No 3, pp 13-14, [here](#), and lecture by Dr. Susan Bayley, 2013, “Ecological Resilience of Alberta Wetlands”, [here](#)). Nevertheless, peatlands may take millennia to develop and have vast ecological, economic, heritage, aesthetic and other values (see, for example APEX: Introduction to Peatlands, University of Guelph [here](#) and Lee Foote, *supra*) and it is vital that peatland losses be mitigated in the oil sands development processes, even if, in the end, not on a strictly no net loss basis.

This comment should not be seen as support for oil and gas industry preventing Wetland Project Team consensus. Instead it should be seen as a reality check, and a pondering as to what would have happened if the comprehensive wetland policy had, as proposed in 1993, one policy goal, but two mitigation formulae: a no net loss approach for slough/marsh wetlands, and an ecologically sound, based on current and developing science, but different peatland loss mitigation approach. Perhaps, as a result of the policy development process we would now have a strong no net loss and ideally net gain policy for slough/marsh wetlands in Alberta that was built by focussing on the nature of, stresses on, knowledge about, and issues relating to slough/marsh wetlands, rather than a watered down, lowest common denominator policy that is weaker than the Interim Policy, the Federal Policy, and the U.S. policy. Perhaps we also would have a separate mitigation approach for peatlands that is appropriate for peatland loss and restoration (which may or may not, at the end of policy development, be no net loss) that was established in light of the unique and substantial current and future stresses on these critically important wetland landscapes.

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