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Alberta's New Wetland Policy as a Conservation Offset System

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The new *Alberta Wetland Policy*, released on September 10, has already been much commented upon and critiqued. Understandably, such commentary has generally come from the perspective of trends in Alberta's protection of wetlands. For example, in a recent ABlawg posting Arlene Kwasniak has provided a thorough review of the context, history and some specific features of the new policy. My orientation here is somewhat different. I wish to look at the new approach to wetlands as part of the emerging trend toward market-based conservation, and in particular the use of offset mechanisms to preserve ecosystems and biodiversity.

Before going further, let me define what I am talking about. Conservation offsets are the measurable conservation outcomes resulting from actions designed to compensate for significant residual adverse environmental impacts arising from development. The wetland policy does not use the term "offset", but rather refers to "replacement". In doing so it adds to the proliferation of synonyms in this area including "conservation offsets" (the *Alberta Land-Use Framework* and the *Alberta Land Stewardship Act*, SA 2009, c. A-26.8), "biodiversity offsets" (commonly used internationally), "habitat compensation" (the federal fish habitat program), "compensatory mitigation" (U.S.), and "conservation allowance" (a recent addition courtesy of Environment Canada). While all of these terms may not be perfectly synonymous, a close examination reveals a very high overlap in their meaning, and much cross-referencing. I think it is safe to say that Alberta with the new wetland policy is in the same camp, at least in part.

Growing Interest in Conservation Offsets

Both Canada and Alberta have some history with the use of conservation offsets. Federally, our most extensive experience with habitat offsets has been under the federal *Fisheries Act*, RSC 1985, c F-14. That Act contains a provision (s 35) prohibiting any "harmful alteration, disruption or destruction of fish habitat" unless permitted and pursuant to conditions imposed by the Department of Fisheries and Oceans (DFO). Based on that legislative foundation, in 1986 DFO released a policy which committed to a goal of no net loss of fish habitat, and a commitment to "strive to balance habitat losses with habitat replacement on a project-by-project basis." Since the release of that policy developers impacting fish habitat have routinely faced conditions requiring them to create or rehabilitate fish habitat in compensation.

As discussed by Arlene Kwasniak in her earlier post, Alberta's 1993 interim wetland policy was also largely based on the compensation concept, with developers in the settled area of the province being required to pay into a conservation fund proportionate to wetlands lost.

There is increasing interest across Canada, both federally and provincially, in making use of conservation offset mechanisms. In 2012 Environment Canada released an *Operational Framework for Use of Conservation Allowances*, which reviewed past federal experience with conservation offsets and set out guidelines and principles for their further application. At approximately the same time, as part of the controversial omnibus Bill C-38, the *Jobs, Growth and Long-term Prosperity Act*, SC 2012, c-19, the Canadian government amended the *Fisheries Act* to require the Minister to consider "whether there are measures and standards to *avoid, mitigate or offset* serious harm to fish that are part of a commercial, recreational or Aboriginal fishery, or that support such fishery"(s 135, emphasis added). This raised the status of the offset concept from policy to legislation.

In Alberta the development of regulations to enable conservation offsets is authorized by ss 45-47 of the *Alberta Land Stewardship Act* in the context of the Act's more general expression of interest in market-based stewardship tools. The approach has been endorsed by a broad range of stakeholders from the Pembina institute and the Canadian Boreal Initiative to the Alberta Conservation Association to the Oil Sands Leadership Initiative. The Province has been quietly considering options and initiated a pilot project on offsetting for grassland habitat.
Again that background, then, we might see the approach prescribed by the new wetlands policy as having a significance beyond the fens, bogs, and sloughs of the province.

International Context

For better or worse, environmental protection measures in Alberta are often framed in terms of their contribution to Alberta's international reputation, particularly as it is relevant to the marketing of our petroleum resources. If that is part of the purpose of the new policy, or a use to which the policy might be put, then it is important that we consider international thinking on conservation offsets. A 2011 international survey report found that over 45 jurisdictions worldwide have habitat compensation schemes, with another 27 in development. There is, therefore, an abundance of international experience and emerging international standards. For instance, many scholars and policy experts refer to the Standard on Biodiversity Offsets of the Business and Biodiversity Offset Programme (BBOP), an international collaboration of approximately 80 companies, financial institutions, government agencies, civil society groups, and individual experts.

Among those with the most experience in habitat offsets is our largest trading partner, and the focus of a large part of Alberta's reputational concern: the United States. Since 1990 the Americans have had a federal regime of required offsets for wetlands (see here for the 1990 policy memorandum and here for the 2008 rule encompassing and reforming the policy, and elevating its legal status). As well, their *Endangered Species Act* contains provisions which enable the regulated offsetting of the habitat of listed species. It might serve Alberta well, therefore, to be cognizant of American experience and direction.

Offsetting Provisions in the New Alberta Wetland Policy

1) Goal

A goal of "no net loss" or "net gain" of the target resource is explicit in almost all offset policies in other jurisdictions. Indeed, BBOP uses it as an element of the definition of the concept. As Arlene Kwasniak has pointed out, the wording of Alberta's 1993 interim wetland policy objectives, while not adopting the term "no net loss" implies something very like it.

The new policy deviates substantially from this norm with its goal "to *conserve, restore, protect and manage* Alberta's wetlands to sustain the benefits they provide to the environment, society, and economy" (p 2, emphasis in original). The vagueness of this commitment is heightened by the statement which immediately precedes it: "This policy will minimize the loss and degradation of wetlands, while allowing for continued growth and economic development" (p 2).

The lack of commitment to the no net loss goal has both symbolic and operational importance. Symbolically, Alberta has departed from an emerging international norm, one which our largest trading partner, among many others, has embraced for more than two decades. The optics of this cannot be good.

Secondly, the commitment to no net loss provides a concrete benchmark by which the adequacy of conservation measures, including offsets, can be measured. Whether at the level of the individual project or program-wide, those responsible for the policy, or concerned with it, may determine the adequacy of their actions by reference to the goal. As well, administrators, auditors and concerned citizens may gauge a program's success against the no net loss standard. Indeed, one of the most common critiques of offset systems is that they fail to meet the standard, or fail to collect sufficient data to make such an evaluation possible. (For a critique of this nature of the federal fish habitat compensation program see here; for a thorough critique of the U.S. wetlands compensation program as it existed in 2001, with a similar type of finding, see here.) In contrast, it is hard to imagine anyone being held to account for failure to meet the uncertain goals of Alberta's new policy.

2) Scope of Application

One of the reasons why offset schemes often have serious difficulties in meeting their no net loss goals is that they do not encompass all of the activities which lead to loss. As Alberta's new policy is quite limited in its scope of application, this may be one of the reasons why it was felt inadvisable to strive for no net loss.

The scope of the policy is limited in several ways. First, it is a "go-forward policy" (p 7), such that it does not apply to activities for which application was made prior to its approval. That grandfathering is not unusual, and can be seen as a reasonable measure, but it means that a great deal of development activity, much of its controversial, is not covered by the new policy. Further, it is not at all clear when the new policy is actually to be approved, coming into effect. The policy makes repeated reference to further guidance, tools, systems and programs which are necessary to its full implementation, but gives no indication of when those may be ready. Indeed, it lists a timeline for implementation as one of its key components yet to come (p 23). If these elements are necessary to the implementation of the policy, then does the grandfathering apply to all those applications which will come forth between the policy's release and the completion of the needed components?

Finally, the provisions respecting wetland replacement, which are discussed in detail below, and which are the more innovative of the policy's aspects, are limited still more in their application. First, they do not apply to ephemeral water bodies, such as seasonal creeks and ponds (p 7). This is certainly a matter for the policy-makers to delineate, but it does ignore that fact that such bodies may play an important ecological role during their wet periods, and may carry forward valuable wetland components (such as soils and plant materials) from one wet period to another. They may also capture pollutants during dry periods which then adversely affect downstream waters come wet season. It is for these reasons that the U.S. wetlands regime assumes

jurisdiction over certain ephemeral waters providing they have a "significant nexus" to downstream navigable waters (broadly defined). (For a discussion of the upstream jurisdiction of the U.S. *Clean Water Act* regime by the U.S. Environmental Protection Agency and U.S. Army Corps of Engineers see here.)

Finally, and perhaps most importantly, the replacement provisions of the new Alberta policy only apply to permanent, not temporary loss of wetlands (pp 17, 18). These terms are not clearly defined, however, with a temporary impact described in the policy's glossary as: "A negative effect . . . that can be restored to pre-disturbance conditions *within a reasonable time frame*, as established through regulatory mechanisms" (p 24, emphasis added). Those regulatory mechanisms are under development one hopes, and one hopes that they do not give too wide berth to the definition of "temporary".

The distinction between temporary and permanent impacts is important because many of the most common and most significant impacts in Alberta come from resource extraction activities (including oilsands mining) which are intended to last for up to several decades, but eventually to be reclaimed. If the policy exempts a major development of 70 or 80 years duration from any replacement obligations, that is unlikely to impress.

3) Assessing Relative Wetland Value

One of the enduring challenges of habitat offsetting is how to classify landscapes. While in fact each piece of land, each wetland, is unique in its particular combination of location, hydrology, species mix and other factors, if a comparison is to be drawn for purposes of prescribing offsets actions, then commonalities must be focussed upon. Further, it is not uncommon to rank the ecological value of sites as a means of prioritizing and guiding actions.

The new policy prescribes the assessing of a "relative wetland value" for each wetland site. The relative value will be expressed in a "high, moderate, moderately low, and low" ranking (p 13), which will be assessed on five variables (p 12):

- Biodiversity and Ecological Health
- Water Quality Improvement
- Hydrological Function
- Human Uses
- Relative Abundance (i.e., of wetlands within region).

While all of these factors are no doubt important, there is a need for elaboration on how some of them might be applied. For example, with respect to biodiversity and ecological health, how is a site with an abundant mix of common species to stack up against a more sparse site with a few members of a species at risk?

It is commendable that the policy prescribes evaluating individual wetlands within their larger landscape and social context. Many key considerations, such as the contribution of a wetland to a migration route, or its contribution to watershed level water flows and quality, may only be determined in the context of the larger landscape. The value which a regional human community puts on a site for any number of reasons is also critically important.

The assessment of relative wetland value is important in that it guides how the mitigation hierarchy is applied, the next matter to which I turn.

4) The Mitigation Hierarchy

The mitigation hierarchy is a key component of any offset scheme. It prescribes a simple sequence of consideration of means of environmental protection. First, environmental impacts are to be avoided. Secondly, where they cannot be reasonably avoided, then they should be minimized by all practicable means. Thirdly, only a last resort, those residual impacts which remain after steps one and two are to be offset. Strict application of the hierarchy is essential if the availability of offsetting is not to be used as a justification of unnecessary primary impacts. It is that fear that has occasionally led offsets being referred to as a "license to trash," a label which all policy-makers administrators would no doubt like to avoid.

The new policy expresses the mitigation hierarchy well, and in keeping with international standards. Its administrators may find, however, as others have, that application of the hierarchy is not as easy as it appears.

a) Avoidance

Avoidance of impacts is the first and most critical step in the hierarchy, but it is also one of the most difficult to apply. A 2010 study found that the concept is often given short shrift in the context of Canadian wetland compensation systems. It has also been identified as one of the enduring challenges in the U.S. wetlands compensation scheme (see here).

This difficulty is not surprising, as the concept is difficult to pin down. It is safe to assume that a developer has reasons for selecting a particular location or using a particular development method. Those reasons may be seen as dictating a need for the location and method or, in other words, for not being able to avoid their impacts. As well, the developer can point to many other impacts which are not being produced and so, in a sense, avoided. To assess avoidance is to consider what the developer is *not* doing, an exercise fraught with intangibles. It is difficult to see how it can ever be done with any certainty or precision.

The intersection of avoidance and relative wetland value in the new policy is instructive. While impacts are to be avoided "regardless of wetland value", where that is deemed impractical, "stronger evidence of effort to avoid" is required for wetlands of high value than of low value (p 16). The suggestion here seems to be that avoidance is a looser requirement for low value wetlands. This casts some doubt on the rigour of application of the mitigation hierarchy.

b) Minimization

Minimization, combined with avoidance, is the process we think of as conventional environmental assessment and management. Precisely because it is (fortunately) largely routine, it is neither remarkable nor controversial.

The wetland policy enunciates several helpful principles respecting minimization (p 17): that it ought to apply to both direct and indirect effects, that it should be based on sound science and proven measures, that experimentation and continuous improvement are to be encouraged, and that monitoring may (may?) be required.

Another principle is that the minimization measures should remain functional for the potential life of the impact. This principle ought not to be remarkable, but it stands in contrast to the way duration is dealt with, or rather not dealt with, respecting replacement measures. This point will be taken up below.

c) Replacement

Wetland replacement is the third step in the mitigation hierarchy, to be invoked only when avoidance and minimization have been maximized. It is defined in the new policy as "compensation for wetland value that has been permanently lost, due to human activity on the landscape" (p 25). It is here that the policy contends with the essence of offsetting, though, I will suggest, it deviates significantly from much offset thinking.

The policy offers a prospective developer seeking a permit to impact a wetland two options to satisfy the replacement obligation. The developer may undertake "restorative replacement" itself, or it may pay a prescribed in-lieu fee.

Under the first option, called "permittee-responsible replacement", the developer itself will take responsibility for "restorative replacement." This is one of the aspects of the new policy most in keeping with conventional offset schemes. Interestingly, it is one of the changes in the new policy, as it is an option not allowed under the old interim policy. (For compensation options under the old policy, see the 2007 provincial guide.)

Restorative replacement is defined as "replacement activities that attempt to make up for the permanent loss of a wetland through restoration, enhancement, or construction of another wetland" (p 18). This definition is notable in that its focus on activities and intention contrasts with the notion of offsets as measurable conservation outcomes.

Many have pointed out that our ability to restore or construct wetlands or other natural ecosystems is significantly flawed and inadequate (on the general point see here and here and, with respect to wetlands, here and here). The new policy deals with the potential gap between intended and actual outcomes not by holding the actor responsible for the particular outcomes of its restorative replacement activities, but by taking the risk of failure into account through the application of multiplier ratios at the front end of the replacement requirement. Multiplier ratios prescribe that a restoration of an area multiple times larger than the impact area is required to compensate for various risks of failure. It is a very common risk management tool in offset schemes, but one which is never precise. (For an excellent discussion of the factors behind multiplier ratios, and the variation in their application see here.)

Some regimes assess multiplier ratios on a case-by-case basis, but that is cumbersome and usually contentious. This was a feature of the compensation component of the old interim wetland policy. In the new policy Alberta adopts a fixed set of ratios, based upon the relative wetland values of the impact and replacement sites (pp 18-19). The highest ratio is 8:1, where the loss of one hectare of high value wetland is to be replaced with eight hectares of low value wetland. This maximum ratio is said to be set so as to incent developers to avoid high value wetland sites (p 19).

An examination of the chart of prescribed ratios reveals something curious, however. Like-for-like replacements (i.e. high value for high value, moderate for moderate) are subject only to a 1:1 ratio (p 19). How does that take into account any risk of failure, or the inevitable time lag in the

provision of ecological functions? It seems to rather assume that we can perfectly and immediately replicate wetlands, a proposition which the policy itself rejects earlier on the same page. This important detail requires revisiting.

The second option for prospective developers is payment of an in-lieu fee. This fee is to be set taking into account the costs of land, restoration work, monitoring and an administrative fee (p 20) but no specific fee is actually set. The funds are to be paid into an unspecified agency, which I will call simply the "wetland agency", where they will be "allocated toward specified restorative or non-restorative measures, as determined by established guidance documents" (p 18). It is not clear what guidance documents are referred to or when they might be established and available.

At this point I should say that I do not consider in-lieu fee arrangements to be a strict offset system. This is because they typically do not require habitat compensation to match impacts. This seems to be particularly so under the new policy in the absence of even a loose commitment to no net loss. The credibility of the compensation scheme, therefore, relies on the credibility and resourcing of the wetland agency. In the absence of any details on its identity, nature, governance or direction, that is impossible to currently judge. As a caution, those designing the operation of the new agency may wish to review the U.S. General Accounting Office's 2001 report on the in-lieu fee program for U.S. wetlands, which found thoroughly inadequate systems for seeing that such fees were actually expended on effective habitat compensation.

The application of multiplier ratios to the in-lieu fee program is not clear. While the policy specifies that the highest multiplier ratios are to be applied as a matter of routine to in-lieu fee (p 20), it does not say how one converts hectares lost to fees assessed. This puzzle is compounded by the fact that many of the uses to which the fees may put cannot be measured in area.

As quoted above, the wetland agency may use in-lieu funds to undertake restorative or "non-restorative" replacement. Non-restorative replacement is of interest for more than its novel semantics. It includes the securement of wetlands for long-term conservation. Such protection, usually by means of conservation easement or outright land acquisition, is a common means of offsetting under most systems, often referred to as "averted loss". The conservation value of averted losses is usually measured by reference to the seriousness and imminence of the threat the land is under, a factor which is not mentioned in the new policy. That measure, of course, is not critical in the absence of a no net loss or other specific conservation objective.

Non-restorative replacement contains many other elements, however, and it is here that we stray from what is generally considered to be acceptable offset measures. Other measures allowed by the policy include specified restoration research, provincial-level monitoring, wetland inventory and data gathering, specified wetland health assessments or modelling, and public education and outreach programs (p 18). I will refer to this amalgam of programs as capacity-building programs, in that they build the structure of wetland conservation, but do not actually deliver it. There is no doubt that all of these activities are important and valuable, but it is precisely this lack of a direct contribution to on-the-ground environmental protection which leads to such measures frequently being discounted or dismissed as valid offsets. A landmark 2004 paper by Kerry ten Kate et al. considered just this point in interviews with a wide variety of participants in offset schemes worldwide (p 70):

> Several referred to the "cynicism" stakeholders and observers would feel if companies presented training and scientific research in lieu of damaged

> ecosystems. As one interviewee put it, "local people would not be willing to trade habitat for education. Education is not always a conservation benefit."

It is worth noting in this regard that the U.S. policy guidance on its in-lieu fee program for wetlands specifically excludes educational programs as a valid use of fees collected (p 19657).

These points of criticism would be more severe if the new policy anticipated developers paying directly for research and education programs. If, however, these are only to be elements of a well-rounded, thoughtful and strategic effort to restore and protect wetlands, as may be contemplated by the new in-lieu fee program, then these elements may be more understandable. Again, however, the credibility of that effort and of the wetland agency itself depends on guidance and direction which we have yet to see.

As noted above, the duration of minimization measures is prescribed by the policy to match the life of the impact. There is no such prescription, or one of any kind, respecting the duration of either restorative or non-restorative replacement measures. One would expect that they should also match the duration of the primary impacts, but the policy is silent on this. Typically in other jurisdictions (U.S., Australia, BBOP Standard) offset measures are to be designed, both technically and legally, to last in perpetuity, or at least for the life of the primary impact.

5) Where are the bankers?

One replacement option which the new policy does not provide to our prospective developer is that of buying offset credits from a third party. This is notable because third party production and "banking" of offset credits is the preferred method of offsetting under the U.S. wetlands compensation regime, and a market in such credits is envisioned by the *Alberta Land Stewardship Act* (s 45). Banking is often presented as a means of bringing economic efficiency and market discipline to habitat restoration and protection. It also holds the not insignificant promise of producing offsets *in advance of* negative impacts, thus overcoming the time lag in habitat conditions which is unavoidable when restoration is only commenced at the same time or after the destruction following on development.

Conclusion: Is Conservation Offsetting the Right Frame for the New Policy?

Throughout this post I have compared the new Alberta wetlands policy with concepts and doctrines developed through the experience of Canada and other jurisdictions with forms of conservation offsets. As we have seen, the policy is in the mainstream in some details, and quite far out of it in others. That in itself is not a weakness; there is nothing wrong with innovation.

The new policy might best be seen as a hybrid between a developer-led ("permittee-responsible") offsets system and a developer-financed government-run broad based wetland conservation program. The latter is not based on offsetting impacts one by one, and of course is not oriented to a no net loss goal. It will have its own direction, strategies and governance, all of which have yet to be developed.

It will also have its own source of finance from the in-lieu fees. The adequacy of its finances will no doubt depend on the relationship between the level of the fee set and the cost of permittee-responsible restorative replacement. Just as with the specified emitters program for carbon pricing, if the in-lieu fee is substantially lower than actual restoration costs, then an influx of development dollars may be expected to the new wetland agency. Unfortunately, that will also mean a great deal of wetlands are being lost, and even the ample revenues may not be adequate to keep up.

In fact the specified emitters program may be the best comparator for the new wetland policy. There, as here, the theme is "lower your impact or pay a fee". The fee is based on performance, but is not necessarily destined to address the particular impacts of that performance. In wetlands, as in carbon management, we may end up with an agency which pursues its own priorities and strategies quite apart from industry performance day to day. The designers and administrators of the wetland agency could do worse than to study the strengths and weaknesses of their carbon management colleagues. They might also have close look at the international expectation respecting offset systems.