ALBERTA LAND INSTITUTE

IN-LIEU PAYMENTS AND FEES AS A MECHANISM OF ENVIRONMENTAL COMPENSATION

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EXECUTIVE SUMMARY

The subject of this study is in-lieu payments or fee systems for environmental compensation. In-lieu payments or fees are a mechanism for delivering conservation (biodiversity) offsets. Such offsetting is based on the proposition that the ecological loss from a development project or program of developments can be mitigated or compensated by the purposeful creation of ecological benefits of equivalent scope and (usually) kind. Formal offsetting requirements are becoming increasingly common worldwide.

Offset benefits may be delivered directly by the developer (project-specific offsetting), by offset credit banking (where ecological benefits are produced in advance of development and recognized as credits, often transferable), or by in-lieu payments or fees (ILPs). Under an ILP system, the developer's liability to offset the ecological loss is satisfied by payment into a fund, which is later used to provide the required ecological benefit. An ILP system is often attractive to developers because of its simplicity and lower transaction costs. It also allows for the pooling of resources for the strategic pursuit of high priority conservation actions. On the other hand, ILP systems may increase the delay between the ecological harm from development and the offset benefit. Not all offset systems provide for all three delivery mechanisms, and there are several jurisdictions that do not provide for ILPs. This study examines eight ILP systems which are operating or are under development in four jurisdictions: British Columbia, Alberta, New Brunswick, and the United States federal domain. The goal is to draw out the commonalities and variation among ILP systems and identify the operative and legal features that produce the best environmental outcomes. We give particular attention to British Columbia and Alberta, where development of new ILP systems is currently underway.

The starting point for considering the design elements of ILP systems is the legal authority to require and deal with such payments. It is important to distinguish between the authority to require offsetting and ILPs and the authority to receive and administer the resulting funds. Each must be found in the reasonable interpretation of relevant statutes in the jurisdiction in question. It is rare for a statute to specifically grant jurisdiction to require offsetting for impacts to biodiversity. However, many land use and natural resource regulators have a broad discretion to grant development permits upon conditions aligned with the purposes of the regulator's enabling legislation. That discretion will very often implicitly include the authority to require offsetting and ILPs. Each statute must be considered separately based on its particular wording. The authority to require an offset as a permit condition does not need to include the authority to permit the offset project itself.

In many statutes and in the U.S. constitution there is a presumption that any funds collected by government are to go into general revenues and to be allocated to government priorities through the legislative budgeting process. ILP funds must avoid that tendency if they are to serve their intended purpose of

producing ecological benefits to offset development impacts. The challenges in doing so are likely the primary reason in several of the case studies we review for using a non-government third party to collect and use in-lieu payments.

Focusing on British Columbia and Alberta, we review mechanisms under each province's respective Financial Administration Act that are likely to allow ILP funds to be directed for their intended purpose. In some cases, there are statutory restrictions on both how and when in-lieu funds are used. For example, the U.S. wetland compensation regulation dictates against the use of in-lieu funds for research or education, and requires that an offset project be commenced by the in-lieu fund agency within three growing seasons of receipt of the funds.

Setting the amount of a required ILP is important to assure that there are adequate funds to achieve the intended offset purpose and that the ILP system does not undercut other mitigation options. Typically setting the amount of an ILP for habitat offsetting will include factors of land values, cost of required restoration activities, and future costs of monitoring and management. Each of these elements may be variable by geography and over time, so estimating the ILP can be challenging. Consideration should also be given to whether an ILP system is to be financed by users, such that administrative costs should be included in the payment calculation. None of the case studies exhibited full transparency in the setting of the amount of payments required.

Given the importance of setting the ILP amount correctly, we consider what means exist to adjust the amount over time. The more formal the process for setting the initial amount, the more difficult it is to adjust if the need arises. In some of our case studies, however, the setting of the fee is deferred to a third party service provider, and the process is more informal. The adequacy of the required payment is also affected by whether or not the developer is relieved of its legal liability for offsetting upon making the initial payment. Most systems do offer such severance of liability, but two of our case studies referred to the possibility of requiring further payments if the original was not adequate to cover the actual costs of offsetting.

While both Alberta and British Columbia are looking to establish systems which would see ILPs paid to, and administered by, a designated government agency, we did not find this to be the norm in our case studies. Rather, in several cases a non-governmental third party was designated for this purpose. In some cases that third party was established by government for that purpose, while in others existing groups were used. Where a third party is used that relationship and its responsibilities are to be formalized with some form of legal agreement. The lack of such formality has been criticized in some systems.

The case studies exhibited various approaches to the segmentation of funds for particular purposes. Some aggregated funds from several sources to fund conservation programs, while others aimed to keep

funds within the same region or focused on the same environmental media where the impact occurred which gave rise to the payment. British Columbia is looking to establish a system which will use a high degree of segmentation, assuring that funds from a development project are designated for a particular corresponding offset project.

The case studies also revealed three means by which funds may be paid out to achieve the intended offset work. This bears both upon the actual work and the design of a range of projects that might achieve the intended outcomes. First, the government itself may access the funds to conceive of and carry out projects. Second, a single or designated group of service providers may be solicited for project ideas and contracted to do the work. Third, fund administrators may issue a request for proposals to draw on ideas and expertise of a more extended group of potential service providers.

Several of the case studies have either guidance or requirements respecting the timing of the use of funds, so as to avoid monies languishing unused. Alberta and the U.S. expect projects based on collected wetland funds to be commenced within three years of the first payment, while New Brunswick requires work to be commenced within 18 months.

While individual offset projects often provide for monitoring and oversight, it is also important that offset systems as a whole be subject to evaluation and oversight. This is equally true of offset systems using ILP mechanisms. Government programs which might accomplish this are internal agency reviews, the sharing of responsibility between more than one agency, and occasional reviews by an agency such as an Auditor General. As important as each of these is, an offset system can use liberal stakeholder and expert engagement to draw on a larger community of expertise and interests. This offers not only high quality input and feedback into the program but also a potential corps of ambassadors who can explain the operation of the system to external constituencies. We suggest that there is room for all ILP systems we examined to exhibit more transparency and accountability.

The third and fourth sections of this study reviews the eight ILP system case studies, our information being based upon a review of legislation and policy documents, interviews with system designers or administrators, and official and unofficial critiques.

ACKNOWLEDGEMENTS

This study was made possible by funding from Alberta Environment and Parks and the British Columbia Ministry of Environment. We wish to thank those agencies for their support and, in particular, Anish Neupane of AEP and Laura Darling of BCMOE both for handling the logistics of funding and contributing valuable ideas and insights on policy developments and challenges in their respective provinces.

Many people have offered ideas, insights and constructive feedback which have stimulated this study and made it better. We are grateful to Vic Adamowicz, Peter Boxall, Shari Clare, Shaun Fluker, Peter Joyce and Tracy Scott in that regard.

The project was supported from its inception by the excellent team at the Alberta Land Institute. Eran Kaplinsky consistently encouraged high standards of rigour, precision and clarity. Susan Martin provided first rate administrative support and Evan Menzies provided feedback and communications input in the latter stages of the project.

Finally, we owe profound gratitude to all those interviewees who gave generously of their time to explain the working of their respective in-lieu fee systems and programs to us. Many thanks to Gordon Brenner, Craig Bishop, Jocelyn Campbell, Thorsten Hebben, Ruth Ladd, Chris Manderson, Chris Schell, Brian Springinotic, and Christie Ward.

INTRODUCTION

Goals and Context for the Study

This study focuses on in-lieu payment and fee systems. These refer to arrangements whereby a developer makes a payment for its environmental impact, with those funds later be used to create compensatory environmental benefits.

There are relatively few comparative studies of in-lieu payment (ILP) systems. The vast majority of work on this topic concerns the US federal system for the mitigation of wetland losses. This report canvases a broader array of case studies including several from Canada. From these case studies, we seek to identify those aspects or "design elements" of ILP programs that are essential, those that Canadian in-lieu program designers would do well to emulate, and those which they should avoid. In this study we consider how payments are determined, collected, held and administered, and paid out, and how intended environmental benefits are produced and accounted for.

British Columbia and Alberta receive a particular focus in this report. Both of these provinces have laid their own policy groundwork that may enable the use of in-lieu fees and payments within their respective conservation offset programs, and both provinces have had practical experience with the ad hoc use of ILPs prior to the development of these policies. While the goal of this study is to tackle questions of authority to establish ILP programs and the best design elements for ILP programs in a general sense, the inquiry and resulting comments are grounded in the real prospect for formalized ILP programs in British Columbia and Alberta.

Delivering Conservation Offsets

Conservation (biodiversity) offsets have been defined as:

> [M]easurable conservation outcomes resulting from actions designed to compensate for significant residual adverse biodiversity impacts arising from project development after appropriate prevention and mitigation measures have been taken.[1]

The concept posits that the ecological loss from a single development project or program of developments can be compensated for by the intentional creation of ecological benefits of an equivalent scope and (usually) kind.

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1 Business and Biodiversity Offset Programme, *To No Net Loss and Beyond: An Overview of the Business and Biodiversity Offsets Programme* (Washington, DC: Forest Trends, 2013) at 4 [BBOP Overview], online: BBOP <http://www.forest-trends.org/documents/files/doc_3319.pdf>.

To take a simple example, if a development project results in the destruction of one hectare of wetland, that impact might be offset by the creation of a one-hectare wetland nearby. This example is based on an ideal of the equivalency of the ecological loss and gain, an ideal that is detracted from by the inevitable reality that the two sites will not be identical and there are always risks and delays in offset actions. Adjustments must be made for those factors. For the sake of simplicity of illustration, however, we shall use this hypothetical example to illustrate the different means by which offsets may be delivered.

If required in regulation or policy, offsetting links the approval of ecologically damaging development or activity to a liability to deliver the corresponding offsetting benefit. The rationale for offsetting is that it is a tool for slowing or stopping the loss of biodiversity and other aspects of ecological value while avoiding a halt to development that may be economically and socially beneficial. In terms of the economics of sustainability, offsetting is one means by which a development proponent can come to bear the environmental costs of its development, costs which would otherwise be externalized and not accounted for.

While policy development in this area continues, conservation offsetting is not a new concept. A 2011 study found that 45 jurisdictions worldwide incorporated offsets into policy, with another 27 with policies under development.[2] Those numbers have almost certainly grown in intervening years. Canada has experience in offsetting in the federal realm with Fisheries and Oceans Canada's program for offsetting for fish and fish habitat, which has operated since 1986, and federal wetlands policy. As well, several provinces have used offsets with varying degrees of rigour and formality, and others continue to explore the concept.

Offsetting, whether at a project, program or policy level is not without its challenges. Inherent to the concept are issues of how the equivalency of environmental negatives and positives is assessed, the proper scope of offset measures, how the risk of failure of offsets is assessed and allocated, and the different timeframes within which environmental loss and restoration may be effective.[3] As well, important practical considerations such as cost and the availability of land, expertise and capital often beset the use of offsets.

The management of these issues is a matter for policy and regulation. The mechanism by which offsets are delivered, however, can play an important role in determining how such issues are manifest and managed. Both experience worldwide and academic study suggest three primary

2 Becca Madsen et al, *Update: State of Biodiversity Markets* (Washington, DC: Ecosystem Marketplace, 2011) at 2-3, online: Ecosystem Marketplace <http://www.forest-trends.org/documents/files/doc_2848.pdf>.

3 For a more complete review of these and other aspects of offsetting for biodiversity in the Canadian context see David W. Poulton, *Biodiversity Offsets: A Primer for Canada* (Ottawa: Sustainable Prosperity, 2014), online: <http://www.sustainableprosperity.ca/article3857>.

means by which offset obligations may be met, and the environmental benefits provided.

1) **Project-Specific Offsetting**

The simplest and most basic form of offset delivery imposes and maintains liability on the development proponent for direct delivery of all necessary offsets. This allows that each development and offset project can be matched and directly compared. This is often referred to as bespoke offsetting or (especially in the American context) as permittee-responsible offsetting or mitigation. To return to our hypothetical wetland example, the developer responsible for the destruction of the one-hectare wetland would itself or by means of contractor create and manage the new offset wetland of one hectare.

Typically, the development proponent – which may be an urban developer, a resource extractor, or a transportation agency, to start a very long list – does not have the expertise or the organizational infrastructure to design and implement environmental restoration or enhancement. It will therefore usually contract the offset work out with the necessary knowledge and skills -- environmental consultants, biologists, and engineers. The primary liability for delivery of the offset remains, however, with the development proponent.

While a proponent may benefit from an enhanced reputation as the identified producer of the environmental benefits from an offset project, the obligation is often seen by proponents as an unwelcome open-ended burden. Because proponents deliver customized offsets one-by-one it is difficult to find cost-efficiencies. Further, having a broad class of offset providers delivering offsets on a piecemeal basis dictates against the concerted pursuit of strategic conservation objectives at a program scale. It is more likely to deliver an unplanned and sub-optimal patchwork of conservation benefits.[4]

Time lags pose another serious challenge. Usually a permittee will not commence its offset measures until it has started, and often completed, its development project. Because ecological restoration, enhancement or creation work can take many years to mature into functional ecosystems, while the ecological damage of development can occur in short order, there is often a substantial time lag during which the negative impact goes uncompensated.

2) **Offset Credit Banking**

A second delivery mechanism severs the direct link between a single development project and a single offset project. Instead, a party is empowered to proactively undertake the environmentally

4 Deborah L Mead, "History and Theory: The Origin and Evolution of Conservation Banking" in Nathaniel Carroll, Jessica Fox & Ricardo Bayon, eds, *Conservation & Biodiversity Banking: A Guide to Setting Up and Running Biodiversity Credit Trading Systems* (London: Earthscan, 2008) at 9.

beneficial work that is typical of an offset project. When the work is complete, it undergoes official review, classification, quantification, and certification, which results in the recognition of an offset credit owned by the party responsible.

The credit is a transferable asset that may be used as a form of satisfaction for a permittee's offset liability for that particular type of benefit, whereupon the credit is extinguished. Banking may be used by a development proponent to build up an inventory of offsets credits for its own later needs ("first party – " or "self banking") or a third party (not-for-profit or profit-motivated or government agency) may create credits to be sold to developers who require them (third party banking).

To return again to our hypothetical wetland example, a third party company might create a bank of new wetlands in anticipation of new developments in a region. It would have an official avenue to have the bank reviewed and approved as achieving the intended ecological value, at which point the company (now the "banker") would derive wetland credits. When a later developer destroys the original one -hectare wetland, it could go to the banker and buy a credit for one hectare of wetland. Proof to the regulator that a valid credit was purchased would satisfy the developer's offset obligation.

In this context the term "bank" is often used in two ways. On the one hand it may refer to the physical location of an offset, or group of offsets. On the other, it is often used to refer to a pool of credits available in the marketplace.

Several benefits are claimed for offset banking. From a business perspective, it is said to be conducive to the development of an entrepreneurial community with specialized expertise, dedicated to the environmentally beneficial work that is the substance of offsetting. This promotes innovation and economies of scale and invites the benefits of competition.[5] This efficiency can also be echoed with regulators, who can review offset programs systematically rather than reacting to individual piecemeal proposals.[6]

From the perspective of ecological effectiveness, banking facilitates the development of offset projects in geographic clusters, less piecemeal than that which is produced by ad hoc project-specific offsetting. Depending on the degree of planning guidance provided by government, these

5 Kerry ten Kate, Josh Bishop & Ricardo Bayon, *Biodiversity Offsets: Views, Experience, and the Business Case* (Gland, Switzerland: IUCN and Insight Investment, 2004).

6 Economics for the Environment Consultancy (eftec) & Institute for European Environmental Policy (IEEP), *The Use of Market-Based Instruments for Biodiversity Protection - The Case of Habitat Banking - Technical Report* (London: European Commission Director-General Environment, 2010) at 95-96, online: European Commission <http://ec.europa.eu/environment/enveco/pdf/eftec_habitat_technical_report.pdf>

clusters may be encouraged or directed to areas of high priority for environmental policy.

Finally, offset banking allows the development of offsets prior to the corresponding development.[7] This means that the environmental benefits of offsetting are in place before development impacts occur.

This can be an effective way of avoiding the time lag that plagues other vehicles for offsetting. Indeed, banking systems often require that offset projects reach a certain level of maturity and ecological viability before full accreditation can be received.

In a banking system environmental benefits are largely produced by private initiative, often profit-motivated. The main driver of this is the anticipated demand for offset credits, a reflection of expected development. Because of the uncertainties respecting offset credit demand, banking may not produce the conservation investment and level of beneficial activity that policy goals may desire. A banking system therefore makes ecological benefits more susceptible to market trends and conditions.

3) **In-Lieu Payments**

Finally, offsets may be delivered through a third party agency (government or not-for-profit typically) which collects payments or fees from development proponents, with those funds dedicated to later corresponding work of environmental benefit. The developer's liability is usually satisfied simply by the payment of the requisite amount. Such payments are referred to as "in-lieu" payments (ILPs) or fees (ILFs) because the payment is made in lieu of the creation of actual offset benefits.[8]

To return one final time to our hypothetical wetland example, in an ILP program the developer could make a payment to a third party of an amount calculated on the replacement cost of the one-hectare wetland. Those monies would be held by the third part and later used to create an equivalent offset wetland.

In some cases (though not all) payments from several developers might be aggregated to finance a larger program of conservation benefits equal to or greater than the impact of the development projects. The pool of monies which arises from ILPs (which we will refer to as the "in-lieu fund" or

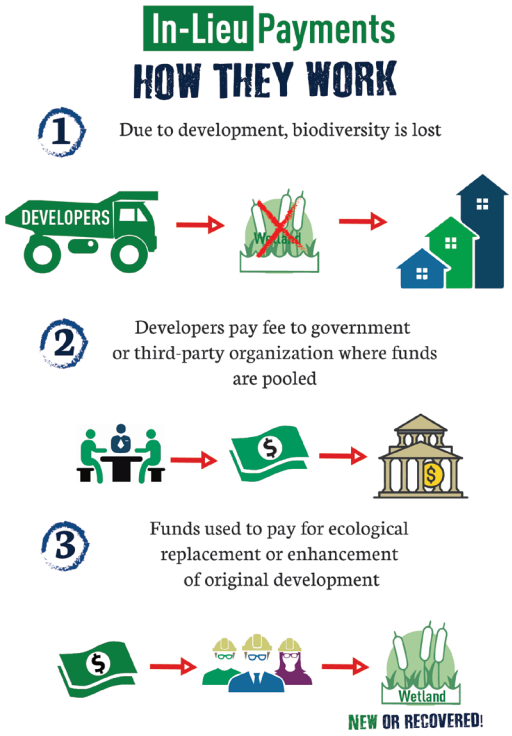
7 Mead, *supra* note 4 at 17; Simon Dyer et al, *Catching Up: Conservation and Biodiversity Offsets in Alberta`s Boreal Forest* (Ottawa: Canadian Boreal Initiative, 2008) at 10 online: Canadian Boreal Initiative <http://www.borealcanada.ca/documents/Boreal_offset_E.pdf>.

8 The terms "in-lieu payment" and "in-lieu fees" are often used interchangeably. However, a fee may suggest a legal obligation that is part of some larger system. "Payment" can be seen as the more generic term, including all payments however motivated. For that reason, in this study we will use the more generic term "in-lieu payment" (and its acronym "ILP") most commonly, using "in-lieu fee" (or "ILF") only with reference to systems that use that terminology themselves.

"IL fund") is administered to finance environmentally beneficial work similar to offsetting. We say "similar to" because in-lieu funds do not typically carefully match individual negative impacts and positive developments in keeping with a strict definition of offsetting. They may well, however, aim to achieve a similar equivalency at a program level.

One of the claimed benefits of ILP systems is that they allow for the pooling of resources, which allows the pursuit of concerted and strategic programs of environmental priority.[9] This may develop efficiencies similar to a banking system, though it may lack the competitive aspect of banking, depending on how funds are expended.

ILPs also appeal to developers because the burden of liability to offset can be immediately and permanently discharged by the simple act of payment. The transaction cost in the development and permitting process is therefore minimal.



The most common critique of ILP systems is that they do not relieve the time lag problem of offsetting.[10] Indeed, the prospect that funds will be held for some time before being expended on the

9 Phone interview with Anish Neupane, Manager, Biodiversity and Ecosystem Services, Alberta Environment and Parks, March 22, 2017 [Neupane interview]; Phone interview with Ruth Ladd, Chief, Policy and Technical Support Branch, New England District US Army Corps of Engineers, June 6, 2017 [Ladd interview].

10 Committee on Wetland Losses Under the Clean Water Act, Board on Environmental Studies and Toxicology, Water Science and Technology Board, Division on Earth and Life Studies, National Research Council, Compensating for Wetland Losses under the Clean Water Act (Washington, DC: National Academy of Sciences, 2001) online (National Academies Press): <http://www.nap.edu/catalog/10134> [NRC Report]; Royal C. Gardner, *Lawyers, Swamps, and Money: US Wetland Law, Policy and Politics,* (Washington, DC: Island Press, 2011) at 130 [Gardner 2011].

work of environmental benefit might exacerbate the problem. As we shall describe later in this report, questions have also arisen in some ILP systems as to how effectively the funds have been ultimately used.

Preceding those issues, however, is the question of whether ILPs are set at a level which adequately covers the cost of the offset work. There is no automatic link between the actual costs of producing the desired environmental benefit and the amount of the fee, and it has been noted that an ILP system lacks the open market function where competition enables the discovery of an economically efficient price.[11] If the fee is set at a level below actual costs of offset delivery, it will not only impoverish the compensation program, but will undercut the cost viability of project-specific offsetting and banking. In the same vein, regardless of whether the ILP is sufficient, it will through competition set an effective ceiling on the price that the other offset mechanisms can attract. These issues are discussed later in this study.

Any offset system may provide for any of these three delivery mechanisms. Not all are common. Third party offset banking, for example, has been pioneered in the United States, but has struggled elsewhere. There is currently no operational third party banking system in any Canadian jurisdiction.

This report is focused on ILP systems, but they are far from universally available as an offset delivery option. In Canada, the federal fisheries offset program has operated for decades without establishing an ILP system. The provinces of Saskatchewan, Ontario, and Nova Scotia all have offset systems operating or under development that do not allow the use of ILPs. Australia is often pointed to as a leader in the development and application of conservation offset policies, yet the leading states of Victoria and New South Wales do not provide for ILPs to satisfy offset obligations.[12] Therefore, while this study looks at various ILP system features within the context of offsetting generally, that does not suggest that ILPs are an inherent aspect of conservation offsetting.

Methodology

This study examines the design and operation of ILPs within eight offset systems in four North American

11 Marian Weber et al, *Experimental Economic Evaluation of Offset Design Options for Alberta: A Summary of Results and Policy Recommendations* (2011, Alberta Innovates Technology Futures). Available online: <https://www.landuse.alberta.ca/Documents/LUF_Experimental_Evaluation_of_Offset_Design_Options_Summary_Report-2011-11.pdf >.

12 Policy reforms of 2014 in New South Wales refer to the possibility of establishing an ILP-based offset fund in the future, but the policy website counsels: "Until the biodiversity reforms are finalised and the new offsets scheme commences, proponents will need to continue to seek their own offsets. The fund cannot be proposed as a way of meeting an offset requirement until it is established." New South Wales Office of Environment & Heritage, "NSW Biodiversity Offsets Policy for Major Projects" online: <http://www.environment.nsw.gov.au/biodivoffsets/bioffsetspol.htm>.

jurisdictions: British Columbia, Alberta, New Brunswick, and the United States federal domain. Our goal in doing so is to draw out the commonalities and variations in how ILP systems operate, with a view to determining those features that best provide or promote the environmental benefits that offsetting relies upon.

The case studies were based on their relevance to policy development in Alberta and British Columbia (hence the multiple case studies in those provinces) and their operational history. The United States federal wetland systems is one of the oldest and more studied offset systems in the world. It would have been foolish to ignore the lessons that it provides.

While seven of our eight case studies deal with conservation or biodiversity offsets, we have also included a review of Alberta's greenhouse gas offset system. We do this while acknowledging that offsetting for habitat and biodiversity can be quite different than that for GHGs. There are two rationales for the inclusion of Alberta's carbon offset regime. First, it is one of the Province's major experiences with the concept of offsetting and has helped to define the range of policy options. Secondly, the legislative architecture that supports the system is not found in any conservation offset program reviewed, but might offer ideas or models which might be productively drawn upon.

We acknowledge that we have not included some Canadian and American experiences with ILPs. Wetland ILP programs in Manitoba and Prince Edward Island might offer valuable potential for future study, but we did not feel confident that our understanding was sufficient to warrant their inclusion here. Likewise, British Columbia's ILP programs for Northern Spotted Owl and Oregon Spotted Frog have been left for later study, though they no doubt offer valuable information. Many American states operate their own offset and ILP systems, most frequently for state wetlands. The framework for many of those systems, however, is based upon the federal example, which we do examine.

One note on terminology. We use the word "program" to refer to a structured series of activities aimed at achieving a particular environmental outcome. Thus we refer to the Skeena Region Moose Offset program. "System" refers to the administrative structures and functions by which a program is delivered. Occasionally, especially in the part of Part II dealing with legal authority, we refer to an offset "regime" meaning the jurisdictional, legislative and policy infrastructure on which a system is based.

The description of the eight programs and their systems is found in Part III. Our brief profiles are based upon a review of legislation and policy guidance, and interviews with system designers or administrators. Where available, we have also referred to academic or official critiques of the programs.

DESIGN ELEMENTS OF IN-LIEU PAYMENT & FEE PROGRAMS

In this section we review the major elements which ILP systems ought to include if they are to produce the environmental compensation which is their raison d'etre. We begin with the foundational question of what legal authority is needed to require offsetting and ILPs and to receive and administer the resulting funds. Once the necessary legal authority has been established, the main elements or components of the system can be summarized as follows: the fee amount must be set, the fees collected, stewarded and paid out, and this process and its outcomes must be subject to monitoring and oversight.

Our review of these elements reveals one pervasive theme: the need for safeguards and accountabilities for both the money and the substantive environmental outcomes. This high need for assurances flows from the inherent nature of ILPs.

In the pursuit of environmentally beneficial offsetting, the monies that are paid in-lieu, are a temporary intermediate step between the ecological values and services lost to development and the benefits gained when the offset project is implemented and reaches its target maturity. The fidelity of the offsetting process in creating benefits equivalent to environmental values lost depends on the adequacy of the funds and the rigour of the process of converting ecological values to money and back again.

The importance of rigour and accountability is reinforced by the severance of the development proponent's liability that is a feature of most ILP systems. Usually (though not universally, as we shall see) those undertaking permitted activities are cleared of liability for compensatory mitigation by the mere act of payment. Liability for environmental outcomes passes either to the collection entity or to the system administrator. Liability may further be passed to end recipients of fund payouts: grantees and contract service providers. If these liabilities are not clear then there can be no certainty that the intended environmental benefits will actually be produced, and either the ecosystem will suffer loss or the public will have to assume responsibility to remedying any shortfall in environmental performance. An ILP system with stringent safeguards and accountabilities may never be certain to deliver the professed environmental outcomes, but it is likely that a system with lax safeguards and accountabilities will fail to do so.

Legal Authority

The following discussion considers three legal avenues to establish authority for offsetting and ILPs, in declining order of their legal weight. These are offset systems set out in detail in statute and regulation, systems specifically enabled by statute or regulation but where application is left to regulatory discretion, and those systems where the authority to require offsetting and its form is implied by the scope of regulatory discretion. Each of these avenues suggests a different level of legal obligation and entitlement,

process around policy formulation, and ease of reform and flexibility of application.

Conservation or biodiversity offsets are often compared with offsets for greenhouse gases, or "carbon offsets." The two concepts share the concept of measuring environmental negatives and positives and weighing them against each other. The legal foundations of the two types of offsetting are in practice quite different. Because of the complexity and novelty of the climate change issue and greenhouse gas management, it is not uncommon for GHG offsetting systems to be prescribed by legislation as an integral part of a larger regime of GHG control. Both Alberta and British Columbia have such legislation: respectively the Climate Change and Emissions Management Act[13] (CCEMA) and the Greenhouse Gas Industrial Reporting and Control Act.[14] The payment system established under the CCEMA is described later in the case studies section of this report as a potential model for any new ILP system.

Such broad legislation is rare with respect to conservation offsetting. One latent example exists in Alberta. The Alberta Land Stewardship Act[15] contains provisions that allow the Lieutenant Governor in Council to make regulations allowing or requiring offsets for a very broad range of natural values, including the possibility of a market exchange of offset credits or "stewardship units."[16] Such regulations have yet to be developed, however, and the offsetting which has been required within the province has been based on other legal authority.

A hybrid between this high-level statutory offset system design and more routine regulatory offset requirements is found in the current United States wetland offsetting system. That system is based on the permitting of any dredging or filling of waterways which is required by Section 404(b)(1) of the Clean Water Act.[17] As described later in this study, that Act makes no mention of offsetting or ILFs, yet a complex system of project-specific offsets, offset credit banking and ILFs grew up within it based on policy guidance, interdepartmental memoranda, and informal standards and understandings, all without legal weight. It was only in 2008 that this body of materials was consolidated into a regulation.[18]

Because such offsetting is considered in the context of the regulation of land use or other natural resource permitting, it is much more common to find its legal foundation in the details of the regulatory systems which deal with that permitting. For example, wetland offsetting is commonly derived from the regulatory system for water and waterbodies.

In considering legal authority, it is vital to draw the distinction between two separate aspects. The first is

13 SA 2003, c C-16.7.
14 SBC 2014, c 29.
15 SA 2009, c A26.8.
16 *Ibid,* s 45-47.
17 33 USC 1251.
18 *Compensatory Mitigation for Losses of Aquatic Resources; Final Rule,* 33 CFR 32 and 332; 40 CFR 230 [2008 Final Mitigation Rule].

the power of regulators to require compensation for residual environmental impacts and to prescribe the form of that compensation.

The second is the authority of government agencies to receive payments and apply the resulting funds to compensation projects. The latter authority does not need to be in place for the former to be exercised. This is one reason why the use of third party service-providers has been so prevalent in the realm of ILPs, as will be shown in our case studies.

Authority to Impose Conditions on Approvals

Offset obligations are most commonly imposed upon a development proponent through the mechanism of a condition on a development approval or permit. This may be done at the initiative of the regulator or pursuant to government policy.

There has been little legal consideration in academic literature or in jurisprudence of the specific legal authority required to require offsetting as a condition of development permitting. This also applies to the authority to require an ILP. Nevertheless, we can usefully extrapolate from the wording of specific legislation, the doctrines of administrative law, and the experience of some longstanding offset and ILP programs. Together these suggest that, while there is no blanket authority to require offsetting or ILPs, such authority can likely be found in many regulatory regimes.

In the following discussion we equate the authority to require offsetting with the authority to require a payment in lieu of direct offset action. We do this because we assume that, in the absence of some specific limitation on jurisdiction, the authority to require an offset includes the authority to dictate the means or options by which the offset obligation may be satisfied. So long as any required payment can be demonstrated to be for a properly required offset purpose, then we assume that the payment requirement itself falls within the same regulatory jurisdiction. In saying this we take some comfort from a statement from the U.S. Supreme Court that "[s]uch so-called "in-lieu of" fees [sic] are utterly commonplace, . . . and they are functionally equivalent to other types of land-use exactions."[19]

A regulatory body has no inherent jurisdiction, and must derive all of its legal authority from an enabling legislation. That is the mechanism by which the power of the government is vested in those people appointed to the body. Therefore the extent of their authority is limited by the reasonable interpretation of the language of the enabling statute. That is where we must look in any particular case for the authority to require offsetting and the option or requirement of making ILPs.

The authority to require offsetting may be expressed or implied. Most legislation that governs permitting of land or resource development does not make direct reference to authority to require offsets. There are

19 *Koontz v. St. John's River Water Management District,* (2013) No. 11-144 570 U.S. __ (2013), s III, para 3.

some notable exceptions, however, such as British Columbia's Water Sustainability Act.[20] In specifying that water is a public resource and that any diversion or use of water requires an authorization (or similar instrument) from a government decision-maker, the statute provides:

> 16(2) If the decision maker considers that the [adverse effects] cannot be addressed, or cannot fully be addressed, by mitigation measures proposed by the applicant but can be compensated for by other mitigation measures taken on a different part of the stream or aquifer than the part to which the proposal relates, the decision maker may impose . . . terms and conditions requiring the applicant to take compensatory mitigation measures that meet the prescribed criteria, in place of or supplemental to any mitigation measures proposed by the applicant, on a different part of the stream or aquifer to which the application relates.
>
> (3) With the consent of the applicant, the terms or conditions of an authorization . . . may require that the applicant take compensatory mitigation measures on a different stream or aquifer in respect of which the application is made.[21]
>
> This act, then, specifically contemplates and authorizes that adverse impacts on a stream or aquifer may be offset by a beneficial project, whether on the same waterway or elsewhere.

It is much more common that legislation respecting the permitting of land and resource development allows the decision-maker broad authority to impose conditions on an approval or permit. Any authority to require offsetting or ILPs must be found to be implicit within that larger authority. Some examples:

- Section 38 of Alberta's Water Act explicitly states that "The Director may issue an approval [for an activity that will disturb a wetland] subject to any terms and conditions that the Director considers appropriate."[22] That breadth of authority is to be read in conjunction with the purpose of the Act, which is (in part):

  > . . . to support and promote the conservation and management of water, including the wise allocation and use of water while recognizing
  >
  > (a) the need to manage and conserve water resources to sustain our environment and ensure that a healthy environment and high quality of life in the present and the future.[23]

20 SBC 2014, c 15.
21 *Ibid,* s 16(2)-(3).
22 RSA 2000, c W-3, s 38(3).
23 *Ibid*, s 2.

In light of these provisions there can be little argument that the authority which grants an approval to disturb a wetland has the authority to impose conditions to protect the environment, particularly with respect to water. It has not been contested that that authority extends to requiring offsetting. It is this authority that underlies the Alberta Wetland Policy,[24] reviewed later in this study.

- Likewise, the Alberta Energy Regulator (AER), in exercising its duty to consider and decide applications respecting energy developments and their environmental implications, may "take any action and may make any orders necessary to carry out the mandate of the AER and the purposes of [the Responsible Energy Development Act].[25] The mandate of the AER is "to provide for the efficient, safe, orderly and environmentally responsible development of energy resources"[26] and to regulate "the protection of the environment."[27] The imposition of permit conditions to protect the environment and remedy environmental impacts is therefore very likely within the AER's authority. Further, the AER is not only directed to act in accordance with a regional plan developed under the Alberta Land Stewardship Act, but has the authority to order or direct an applicant to comply with a regional plan.[28] This could well open the door to permits conditioned on measures to manage regional environmental impacts, including requirements to offset provided those objectives were prescribed by a regional plan.

- As a final Alberta example, the many environmental approvals and registrations that are required by the Environmental Protection and Enhancement Act may be issued "subject to any terms and conditions the Director consider appropriate"[29] and these may be more or less stringent than provided for in regulations.[30] In addition, cabinet may make regulations respecting such term and conditions.[31] If Alberta were to consider a more general regulatory scheme of offsets, this is one legal avenue which might be used to authorize it.

- A British Columbia example may be found in that province's Oil and Gas Activities Act,[32] which requires permitting of any and gas activity. Upon appropriate review of an application for such a permit the Oil and Gas Commission may issue the permit and may "impose

24 Alberta Government, *Alberta Wetland Policy* (np: Alberta Government, 2013) online: Alberta Environment and Parks <http://aep.alberta.ca/water/programs-and-services/wetlands/alberta-wetland-policy.aspx> [Alberta Wetland Policy].
25 *Responsible Energy Development Act,* SA 2012, c R-17, s 14(2).
26 *Ibid,* s 2(1)(a) [emphasis added].
27 *Ibid,* s 2(1)(b) [emphasis added].
28 *Ibid,* s 20.
29 RSA 2000, c E-12, s (16(2).
30 *Ibid,* s 16(3).
31 *Ibid,* s 86(1)(a).
32 SBC 2008, c 36. The requirement of a permit is found in section 21.

any conditions on the permit that the commission considers necessary."[33] In exercising its discretion the commission is to take into account "the government's environmental objectives."[34] Further, the Commission is bound by law to follow any direction given to it by the provincial cabinet.[35]

- As a final example, British Columbia's Environmental Assessment Act stipulates that an application for an environmental assessment certificate for a reviewable project is to be referred to the appropriate ministers, whereupon the ministers must either refuse the application, order further assessment, or issue a certificate "and attach any conditions to the certificate that the ministers consider necessary."[36] Further, before making this determination they "may consider any other matters that they consider relevant to the public interest . . . ."[37]

All of the above examples illustrate that decision-makers respecting development or use of natural resources typically have broad discretion to impose conditions, including those to protect the environment. This will often imply the discretion to impose a requirement for environmental compensation. Assuming this to be so, that discretion presumably includes the authority to prescribe or validate options for meeting offset obligations, including the use of ILPs. That is particularly so if there is clear policy direction to guide the use of the discretion. The precise authority for any particular decision or decision-maker, however, is to be determined by reference to that particular decision-maker's enabling statute and cannot be grounded in policy alone.

Before leaving this topic one caution is in order. Statutes often give very broad, seemingly unlimited discretion. Canadian courts, however, have clearly and repeatedly expressed that no discretion is wholly unbounded. Progressively they have articulated that any power conferred by statute must be exercised in good faith in a manner consistent with the purposes of the enabling statute, taking into consideration the effect on the person in question, the principles of administrative law, and the values of Canadian society and the Canadian Charter of Rights and Freedoms.[38] The application of these doctrines in any particular situation will depend upon the wording of the relevant enabling statute and the interests at stake in the circumstances.

In the United States the implied limitations on regulatory discretion on land use permitting take on a

33 *Ibid,* s 25(2)(b).
34 *Ibid,* s 25(1)(b).
35 *Ibid,* s 25(1.1).
36 SBC 2002, c 43, s 17(3)(c).
37 *Ibid,* s 17(3)(b).
38 *Roncarelli v Duplessis* [1959] SCR 121; *Shell Canada Products Ltd. Vancouver (City)* [1994] 1 SCR 231; *Baker v Canada (Minister for Citizenship and Immigration)* [1999] SCR 817.

constitutional dimension. In the two cases of Nollan v. California Coastal Commission[39] and Dolan v. City of Tigard[40] the U.S. Supreme Court ruled that where a condition on a land-use permit required the giving up of property (such as an easement) that the condition must both have an "essential nexus" to the impact of the putative use and must be "roughly proportionate" to the impact, if the condition is not to be viewed as an unconstitutional taking of property. In the more recent case of Koontz v. St. John River Water Management District[41] the Court extended the Nollan and Dolan doctrines to a situation where a regulator proposed a requirement that the proponent pay money for the improvement of an offsite wetland as a form of offsetting. Of direct interest is the statement of the Court in Koontz implicitly accepting the validity of offsetting: "insisting that land owners internalize the externalities of their conduct is a hallmark of responsible land-use policy, and we have sustained such regulations against constitutional attack."[42] Further, as quoted above, the Court equated the required payment of in-lieu fees with other valid types of land use exactions.

Returning to Canada, so long as the discretion to impose conditions was exercised to advance the purposes of the statute and was in keeping with the Charter and administrative common law, it is unlikely that offset conditions would be legally problematic. While they have not been challenged in the courts, there are two areas however where the limits of discretion to impose offset might be tested. One is the imposition of offset obligations greater than the impacts of development in pursuit of a net environmental gain. The other is any plan for out-of-kind offsetting, where environmental losses of one type are compensated for by gains of another. These scenarios, like more conventional like-for-like offsetting, would have to fit within the ambit of the purposes of the applicable legislation to be legitimate, but finding that fit may prove to be more challenging. For instance, if offsetting for wetland disturbance were to take the out-of-kind form of restoration of caribou habitat, it is difficult to see how that could fall within the purposes of Alberta's Water Act "to support and promote the conservation and management of water." An ILP program which used money as a mechanism to shift resources from one area of resource conservation to another might be viewed similarly askance.

Before leaving this discussion on the authority to require offsets, it is important to note that the authority to require offsetting does not need to encompass the authority to permit a particular offset project. All steps to comply with the offset requirement are the responsibility of the development proponent, including securing whatever further permits are needed for the offsetting activity. As one example of a regulator imposing an offset condition that was complied with clearly beyond the regulators jurisdiction to permit, we can look to the National Energy Board.

39 (1987) 483 U.S. 825.
40 (1994) 512 U.S. 274
41 *Supra,* note 19.
42 *Ibid* at s II A, para 4[citation omitted].

In 2010 and 2011, the NEB released decision reports on a series of pipeline developments by Nova Gas Transmission Ltd. in the Horn River and Chinchaga areas of northern British Columbia and Alberta.[43] The projects negatively impacted caribou habitat, for which the NEB required offsetting. After much discussion, the offsetting project ultimately took the form of the restoration of caribou habitat in new provincial parks in northern Alberta, far from the site of the pipeline projects. The offset work was unquestionably beyond the jurisdiction of the NEB to permit, as the land was under the administration of the Parks Division of Alberta Environment.

However, the parks authorities' acceptance of the offset work meant that the proponent could demonstrate to the NEB that it had complied with the NEB's offset conditions.[44] While this arrangement was not litigated, and so did not give rise to a legal precedent, that very lack of litigation may be an indication of its acceptability, at least in these circumstances.

Authority to Receive and Administer Funds

Constitutional Considerations

If payments are to be made to a government agency, then one should consider any constitutional constraints on the ability of the agency to receive and administer funds. Canadian provinces may need to ensure that the fee system fits under the "licensing power" provided by section 92(9) of the Constitution Act 1867.[45] Fitting under this provincial head of power will likely require that the ILF be characterized as a license fee for use of natural resources or as a "regulatory charge". A regulatory charge can generally be defined as a charge that is imposed under legislation and exists to defray costs rather than simply to raise revenue.[46] Further, as the provincial licensing power is strictly a revenue power and not a direct regulatory power, the charge will need to be ancillary to an otherwise valid regulatory scheme.[47] While there are no case authorities on ILP systems, the criteria used by the courts to characterize a payment requirement

43 National Energy Board, *Reasons for Decision: NOVA Gas Transmission Ltd. GH-2-2010* online: NEB <https://www.neb-one.gc.ca/ll-eng/Livelink.exe/fetch/2000/90464/90550/554112/590465/601085/665334/665172/A1X3T2_-_Reasons_for_Decision_GH-2-2010.pdf?nodeid=665173&vernum=0>; National Energy Board, *Reasons for Decision: NOVA Gas Transmission Ltd. GH-2-2011* online: NEB <https://www.neb-one.gc.ca/ll-eng/livelink.exe/fetch/2000/90464/90550/554112/666941/685859/793577/793570/A2Q5J5_-_Reasons_for_Decision_-_GH-2-2011.pdf?nodeid=793571&vernum=0>; National Energy Board, *Reasons for Decision: NOVA Gas Transmission Ltd. GH-004-2011* online: NEB <https://www.neb-one.gc.ca/ll-eng/livelink.exe/fetch/2000/90464/90550/554112/666941/704296/833910/833909/A2V3A0_-_Reasons_for_Decision_-_GH-004-2011.pdf?nodeid=834064&vernum=0>.

44 Both the NEB's and NGTL's perspective on this experience are discussed in two webinars presented in February 2017: Marcus Eyre, "Caribou Habitat Offsets: A Regulatory Perspective from the National Energy Board" and Jennifer Barker, "Offsetting in Caribou Range: The NGTL Experience," both online: Alberta Association for Conservation Offsets < http://www.aaco.ca/events--publications.html>.

45 Constitution Act, 1867 (U.K.), 30 & 31 Vict, c 3, s 92(9).

46 *Peter Hogg, Constitutional Law of Canada,* student ed. (Toronto: Thomson Carswell, 2005) at 5.3(a) and (b) for distinction between license fees and regulatory charges, and again at 30.10(a) and 30.6 for distinction from taxation. [Hogg].

47 *Ibid* at 30.1(c).

as a regulatory charge suggest that a formalized ILP system will qualify. Criteria include the existence of a code of regulations, a regulatory purpose, or a relationship between the regulatory scheme and the person charged whereby that person either benefits from or creates need for regulation.[48]

Canadian provinces are also limited by the Constitution in their ability to levy "indirect taxes".[49] Indirect taxes potentially include levies on resource extraction or land development, as these charges will foreseeably "cling" to the product and be passed on to consumers.[50] However, charges of this nature have still been upheld as valid regulatory charges where intended to offset costs of the regulatory scheme.[51]

A second constitutional consideration is any limits on the ability of government agencies to retain the funds for the purposes of the IL program. The main commentary on this topic concerns the US federal wetlands system, as the US Constitution explicitly states that "No money shall be drawn from the treasury, but in consequence of appropriations made by law".[52] According to Gardner, this authority of the legislature to control the purse strings of the executive, coupled with several statutory requirements that monies received by federal agencies go by default to general revenue, led to frequent reliance on third parties to receive the ILPs and administer the funds. [53] There is no equivalent commentary suggesting that the Canadian constitution limits the ability of government agencies to retain ILPs for their intended purposes. However, as discussed below, ordinary statutes governing financial administration in multiple provinces require money received by government agencies to go by default to general revenue. This poses the risk that funds collected ostensibly for the purpose of providing a particular form of environmental benefit might be diverted to other government purposes, which might undermine the environmental rationale for the ILP program.

Legal status of the IL fund and compliance with financial legislation

This section covers two interrelated topics. One is the legal nature of the fund itself, for example, a trust fund, a legislatively-established fund, or a simply a separate account within the administering entity's general funds. The second topic is the need to comply with applicable financial legislation and procedures in the establishment and administration of IL funds, especially if the administering entity is a public agency.

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48 *Westbank First Nation v. British Columbia Hydro and Power Authority,* [1999] 3 SCR 134, 1999 CanLII 655 (SCC); followed in *620 Connaught Ltd. v. Canada* (Attorney General), [2008] 1 S.C.R. 131, 2008 SCC 7.

49 Hogg, *supra* note 46 at 5.3(a) regarding the taxation powers provided to the provinces by section 92(2) of the Constitution Act, 1867 generally disallowing indirect taxes, and again at 30.9 regarding section 92A(4) allowing some indirect taxes in relation to non-renewable resources ,forestry and electrical facilities.

50 *Allard Contractors v. Coquitlam* [1993] 4 S.C.R. 371, 398 re: resource extraction; followed in *Ontario Home Builders' Association v. York Region Board of Education,* [1996] 2 SCR 929 re: land development.

51 *Ibid.*

52 US Const. art I, § 9.

53 Gardner 2011, *supra*, note 10 at 132-133.

Notwithstanding the importance of these topics to lawfulness and accountability, they do not feature prominently in the majority of public policies and commentary on IL systems. One exception is the requirement under the U.S. wetlands system for IL program sponsors to hold an approved "instrument" that speaks to program accounting among other matters. Another significant exception, despite its relative newness, is the British Columbia Environmental Mitigation Procedures. These Procedures expressly require that government staff preparing ILP agreements obtain approval from the Finance Department.[54] They also distinguish multiple specific "financial mechanisms" into which the money will be placed, with the prescribed mechanisms differing based on whether or not the payee is a "government-reporting entity" and length of time for which funds will be held.[55] The Procedures may even imply greater concern where payments are made to non-government entities, as they prescribe the seeking of "reasonable assurance" that funds will be directed to offsets in the specific situation.[56] Beyond these limited examples, readers may wish to consider general principles and authorities on public financial administration, which are largely beyond the scope of this study.

Given the relative absence of ILF policy on financial administration and the importance of the legislation to prescribing the rules, the topic can be addressed by considering specific examples then working backwards to some general options for IL funds. We have elected to focus on Alberta and British Columbia as both provinces currently need to consider the impact of financial legislation on IL systems under development.

British Columbia and Alberta have comparable legislation, in both cases titled the Financial Administration Act ("BC FAA" and "Alberta FAA" respectively).[57] Both the Alberta and BC statutes affirm that the default rules work against ILPs being collected and retained by government agencies for the intended purposes. One such rule under both the BC FAA and Alberta FAA is that all public money collected is to be deposited into a "consolidated" or "general" revenue fund.[58] A second general rule is that appropriation of the general revenue fund for the public service is subject to statutes and votes of the legislature.[59] Furthermore, departmental spending must fit the purpose of the appropriations.[60] Similar constraints exist in further jurisdictions and likely drive the multiple examples below in which third parties collect and administer the funds.

One option is for keeping money out of general government use while still allowing some government

54 British Columbia Ministry of the Environment, *Procedures for Mitigating Impacts on Environmental Values (Environmental Mitigation Procedures),* Version 1.0, May 27, 2014, at 40 [BC Procedures].
55 *Ibid* at 40, 42.
56 *Ibid* at 41.
57 *Financial Administration Act,* RSA 2000, c F-12 [Alberta *FAA*]; *Financial Administration Act,* RSBC 1996, c 138 [BC *FAA*].
58 Alberta *FAA, Ibid, s 1(a)(b) and* s 14; BC *FAA, Ibid,* s 12(1) and s 14.
59 BC *FAA, Ibid,* s 21(1); AB *FAA, Ibid,* Part 3.
60 BC *FAA, Ibid,* s 3 and AB *FAA, Ibid,* s 38(6)(a)(ii) and s 38(6)(b).

controls is for legislation to establish a separate fund. The greatest separation from general revenue will be a fund created by an entirely different statute from the FAA. Two such examples are discussed in detail below: Alberta's Climate Change and Emissions Management (CCEM) Fund established through the Climate Change Emissions Management Act[61] and regulations, and BC's Habitat Conservation Trust Fund (HCTF) established under the Wildlife Act[62] and examined a case study below. The HCTF is further cited as an example arrangement by the BC Procedures. The similarity of these two examples is that legislation establishes the sources of money, the purposes of the fund and appoints an administrator. The administrative arrangements differ in that the Alberta legislation creates an arms-length corporation to administer the CCEM fund, while the BC legislation creates a trust and appoints an existing non-government organization as the trustee. In both cases, the legislated arrangement creates an accountability to government that would not necessarily exist where a third-party organization administers a fund.

A further example, though not reviewed in detail for this study, is the Alberta Land Stewardship Fund. The fund is established by the Public Lands Act, which prescribes some sources of money, allowable uses of the fund and administrative responsibility.[63] The Act allows Cabinet regulations to limit discretion respecting the fund, prescribe sources of money and prescribe the purposes for which the fund may be used, among other matters.[64] Currently, the Land Stewardship Fund Regulation adds to the purposes provided by the statute to allow grants to be made to purchase or administer land for conservation purposes.[65] The regulations also incentivize annual grant payouts by requiring the return of money to the general revenue fund if the fund exceeds $150,000 at year end.[66] While money for the fund currently comes from public land sales and the fund is used for a Land Trust Grant Program, the legislative framework definitely enables broader applications. With appropriate regulations, the fund could likely be used to hold ILPs in relation to terrestrial conservation offsets. Even if not used in this way, it offers a potential model for such funds.

Alternatively, a legally separate fund may be established or designated under an FAA or similar financial statute of general application. Money in such funds remains public money and will be subject to the FAA unless otherwise prescribed, however such prescriptions can provide for exemptions to the general provisions. The BC FAA allows for a "special fund" to be designated by Cabinet, while some such funds are listed in either the FAA or other provincial legislation.[67]

The Alberta FAA allows Cabinet to establish a "regulated fund" through regulations that exempt a pro-

61 *Supra* note 13.
62 RSBC 1996, c 488.
63 *Public Lands Act,* RSA 2000, c P-40, s 11.2(1) through (5).
64 *Ibid,* s 11.2(6).
65 *Land Stewardship Fund Regulation,* Alta Reg 31/2011, s 2(a) through (c).
66 *Ibid*, s 4(1) and (2).
67 BC *FAA, supra* note 57, s 1 and s 12(2); See also *Sustainable Environment Fund Act,* RSBC 1996, c 445 and *Sustainable Environment Fund Revenue Regulation,* BC Reg 142/2011 for an example of a special fund beyond this study.

vincial agency, fund administrator or revenue officer from the application of the general provisions of the Act. Similarly, the Alberta FAA defines a "regulated fund" as one containing public money that is not part of general revenue, received for general revenue or held by a provincial agency.[68] While the Act does not clearly indicate how regulated funds are established, the regulations list fund administrators for such funds and the general provisions of the Act to which these administrators are exempt. [69] At this time, most of the existing examples of "special" or "regulated" funds referenced by the BC and Alberta FAAs respectively are not directly relevant to the topic of ILFs.

Opinions on the merits of creating a legislated fund as a response to the general revenue problem appear to vary. Multiple government staff in British Columbia noted uncertainty that money in such funds will only be used as legally mandated. On the other hand, government staff in Alberta communicated concern with loss of government control over the money resulting from the establishment of legally distinct funds. [70] While potentially a best practice from a financial accountability standpoint, legislated funds were the least common model found in this study, with only the Alberta CCEM Fund having been established specifically to collect ILPs. One reason for the infrequency of this option may be that creating a new statute or amending an existing one is a more difficult endeavor than having Cabinet regulations designate a fund, or simply having non-legislated policy require keeping ILPs in a separate account. Furthermore, while legislated funds can keep money out of general government use while still providing some accountability to government, they do not eliminate debate over the purposes or activities for which funds may be used.

The BC Procedures give additional attention to a "trust" as a specific type of financial mechanism for longer term ILP arrangements in which the payee is not a government-reporting entity. [71] It further distinguishes between an "internal" trust that gives government control over decision-making and an "external trust" that does not.[72] This lack of government control has been cited as a concern by government staff.[73] While this context might imply a preference for internal trusts or trusts prescribed by statute as with the HCTF, we are of the opinion that legislation may be unnecessary if the trustee is not a government body, as that situation could be governed by the general law of trusts. Trusts are generally a triangular arrangement where money or property from one party (the settlor) is given to another party (the trustee) to hold for the benefit of yet another party or parties (the beneficiary). The terms of the trust may be set by legislation or by a negotiated trust instrument. While an "internal" trust" is subject to legislation and involves

68 Alberta *FAA, supra* note 57, s 1(1)(w).

69 *Funds and Agencies Exemption Regulation,* Alta Reg 128/2002.

70 Phone interview with Thorsten Hebben, Director, Surface Water Policy Section, Alberta Environment and Parks, March 29, 2017 [Hebben interview].

71 BC Procedures, *supra* note 54 at 42.

72 *Ibid.*

73 Phone interview with Laura Darling, Unit Head, Ecosystems Branch, British Columbia Ministry of Environment, April 7, 2017 [Darling interview]; Laura Darling and Howard Madill, British Columbia Ministry of Environment, "Policy and Regulatory Perspective, British Columbia Government" webinar presentation to Alberta Association for Conservation Offsets (March 2016), available online: http://www.aaco.ca/uploads/4/8/2/4/48245677/aaco_2.pdf.

money being held by government as trustee, the arrangement still shares features with any common law trust made between private parties without legislation. The BC FAA encodes the general rules, for example, money must not be paid from trust funds except in accordance with the legislation or instrument by which the trust funds are held, the expenditures must be authorized by the trustee or a person to whom the trustee delegates this authority, and this person must be satisfied that the expenditure in accordance with the trust.[74] Furthermore, the Act only applies "to the extent that it is not in conflict with the trust, instrument or authority by which the money is held as trust funds."[75]

To establish government-administered funds without new statutes or regulations, both Alberta and BC have conceptually similar options. Both provinces recognize a form of government account that is not legally separated from the general revenue fund but is distinct from an accounting perspective based on the concept of deferred revenue or deferred liability. Both examples appear to be considered workable by departmental staff in the respective provinces.

Under the BC Procedures, if ILPs come from government-reporting entities and are held for three years or less then the prescribed financial mechanism is a "flow through", also described by the BC FAA as "payments based on contributions".[76] If money is payable to or has been received by the government under an "act, agreement or undertaking" as a contribution towards government expenditures, then the Minister responsible for that particular instrument may "authorize payment of those government expenditures out of the consolidated revenue fund of an amount equal to the amount payable or received".[77]

In Alberta, likely the simplest mechanism for a government-administered IL fund is a "dedicated revenue program". A dedicated revenue program is an accounting tool within Alberta government procedures that, in our understanding, is under consideration for the Wetland Compensation Fund.[78] The mechanism is founded on the notion that funds received by government for a special purpose may carry a corresponding liability, being the obligation to expend them in keeping with that purpose.[79] In a dedicated revenue program, recognition of revenues may be deferred until matched with a permissible expenditure, resulting in a net-zero position. A dedicated revenue program is a line item within the general revenue fund, but, because it is a net-zero budget initiative, its revenues are applied against corresponding expenditures and are typically not available for other types of government expenditures. In order for an IL program to operate as a dedicated revenue program, the IL program must clearly establish what sources of revenue are to be directed to the initiative, and what types of expenditures from it are permissible.[80] From an accounting

74 BC *FAA, supra* note 57, s 33.1.
75 *Ibid.*
76 *Ibid,* s 25.
77 *Ibid,* s 25(1). See also BC *FAA* s.21(2)for the baseline authority to make "section 25" payments out of the consolidated revenue fund without an appropriation.
78 Hebben interview, *supra* note 70; Neupane interview, *supra* note 9.
79 Interview with Gordon Brenner, Director, Budget and Forecasts Section, Alberta Environment and Parks, July 5, 2017.
80 *Ibid.*

perspective, a dedicated revenue program can be adapted to meet these program features.

One consideration with "flow-through" accounts in BC and "dedicated revenue" programs in Alberta is that such models work on a cost-recovery basis. While this restriction on generating revenue fits the above distinction between regulatory charges and taxes, it re-emphasises the need for accurate costing of ILPs and payment of the full costs before the development proponents are severed from liability for conservation outcomes. Another consideration is that, while deferred revenue or deferred liability programs involve carry over from one year to the next, internal government policies may not favor the long-term accumulation of funds or accumulation of the costs that the ILPs are intended to cover. The pros and cons of timelines to spend funds are discussed further below.

Limits on Use of IL Funds

As in-lieu fees are usually not strict offsets in the sense that they match individual development impacts with specific offset actions, there may be circumstances where it is desirable to place limits on the discretionary use of in-lieu funds so as to assure the pursuit of policy objectives. These particular questions of authority could also be considered "design elements" of an ILP program.

The main concern exhibited in the case studies is with the use of funds is with activities that do not produce direct or measurable conservation gains. This includes research, education, training, capacity-building, communications and stakeholder engagement. This is yet another question that has produced a broad range of responses. Past concern with such spending led to the US 2008 Final Rule prohibiting an ILF project account from being used for research or education, though those expenditures may be made from other segregated sources.[81] In contrast, the legislation and practice of the Alberta CCEM regime has actively enabled spending on research and development. The Alberta Wetland Policy foresees spending on "non-restorative replacement" including research, monitoring and public education,[82] while the New Brunswick Draft Wetland Protocols and the BC Environmental Mitigation Procedures contemplate on-the-ground work. Programs such as the BC Hydro FWCP and BC HCTF that are further from the typical ILP program and which allocate funds to third parties on the basis of proposals allow a range of activities. All of these programs are reviewed in the following section.

The law may also prescribe that IL funds must be expended within a set period of time, to move them toward creating the intended environmental benefit. Thus, for example, the U.S. 2008 Final Mitigation Rule requires that the first steps of intended on-the-ground mitigation must be undertaken by the third full growing season following the first credit transaction of the approved ILF program.[83]

81 73 Fed Reg 19594 at 19657 (2008).
82 Alberta Wetland Policy, *supra* note 24 at 18.
83 33 CFR § 332.8(n)(iii)(4) (2008); 40 CFR § 230.98(n)(iii)(4) (2008).

Setting the Payment Amount

Among the most significant factors in determining the adequacy and effectiveness of an ILP system is the determination of the amount of the required payment. This not only determines the ability of IL fund administrators to carry out their mandate to provide adequate environmental compensation, but also has a ripple effective on the economic incentives for actors to avoid or mitigate impacts, or to produce on-the-ground offsets or, if available, purchase banked credits.

Adequacy of Payments for Delivery of Program Objectives

The first and most obvious criteria for setting the amount of the ILP is the need to meet the actual costs of the compensation activities that are mandated by the offset system. Typically, where habitat compensation is the goal, this will include the factors of land values, the cost of required restoration activities, and the future costs of monitoring and management. In some cases these factors are explicitly set out (as in Alberta's Wetland Policy and Mitigation Directive[84]), but are also implicit in almost all systems that we have examined. No system we examined, however, has published the actual calculation of the set fee. It is thus very difficult to determine whether these factors are sufficiently incorporated.

That these factors are commonly used does not mean that they are necessarily easy to assess or predict. Land values may vary markedly within a service area. Restoration activity costs, while usually stable, will fluctuate with labour and material costs. Monitoring and management may usually be a routine and predictable matter, but might suddenly become very expensive if major environmental changes occur or if a legal challenge is brought to the protection of the offset site. Setting the amount of the payment, therefore, requires not only the tracking of typical costs, but factoring in variation over space and time, and the probability of major disruptive events. Every business owner must do this, but in the case of an IL fund there is more at risk than the financial viability of the fund. There is the environmental promise of the program in the light of the ecosystem values lost at the development site.

In setting the amount of the fee, designers should also explicitly consider whether the operation of system itself is expected to be financed out of fee revenues. If the administrative infrastructure is provided by government as part of environmental regulation and governance, the fee can be set at level which only considers the cost of deliverable outcomes. However, if the system is expected to be self-supporting, the fee will have to be adjusted upward to cover that administrative cost component. The inclusion of administrative and other transaction costs (i.e., those which do not directly contribute to environmental outcomes)

84 Alberta Government, *Alberta Wetland Mitigation Directive*, June 2017, online: Alberta Environment and Parks <http://aep.alberta.ca/water/programs-and-services/wetlands/documents/AlbertaWetlandMitigationDirective-Jun2017.pdf> at 12 [Alberta Wetland Mitigation Directive].

will tend to act as a deterrent to participation in the offset system, to the extent that participation is voluntary.[85]

Payments as a Price Signal

The setting of an ILP has significance within a larger context of economic decision-making. The proponent who is to make the payment has other options. The first of these is with respect to the application of the mitigation hierarchy. The hierarchy of avoidance, minimization, and offsetting of negative impacts only as a last resort is an important matter of principle, but it has suffered from a lack of rigour in its application. Some commentators have suggested that avoidance is often difficult to conceptualize and enforce.[86] If the conceptual or regulatory rigour of the hierarchy is weak, the choice of its various options will be driven mainly by cost. If the cost of offsetting, including via an ILP, is comparatively low, the proponent will have less incentive to act to avoid or minimize impacts. Therefore, an ILP set at an inadequate level will tend to undermine the principled application of the hierarchy.

Where a proponent can choose between an ILP, together with permittee-responsible offsetting or banking, there will be price competition between the options. Remembering that an in-lieu payment is often preferred by a development proponent because of its low transaction cost and severance of liability, this preference will be reinforced if the ILP amount is set low. If it is set so low that it does not cover actual costs of meeting program objectives this may very well undercut the ability of the other mechanisms to do so as well. As set out in the following case study, tension arose in the U.S. between mitigation bankers and IL sponsors when standards, and therefore presumably costs, were lower for ILF programs than for banking. Likewise, in Alberta the carbon price set by the cabinet in the CCEM regime has effectively set a ceiling for the price of other GHG mitigation measures in the affected sector.

Price Setting and Adjustment

Given the centrality of the amount of the required ILP, the process by which the amount is set and adjusted is key. The case studies examined indicate that this may be done in several ways, with a varying degree of legal weight and flexibility in the result.

At the most formal and rigid end of the spectrum is Alberta CCEM system, where the amount of the fee

85 For a full discussion of the role of transaction costs in conservation offset systems, with a focus on Canada, see Warren Noga & W.L. Adamowicz, *A Study of Canadian Conservation Offset Programs: Lessons Learned from a Review of Programs, Analysis of Stakeholder Perceptions, and Investigation of Transaction Costs* (Ottawa: Sustainable Prosperity and the University of Ottawa, 2014), online: <http://institute.smartprosperity.ca/sites/default/files/publications/files/Noga%20Adamowicz%20Conservaton%20Offsets%20Oct%202014.pdf>.

86 Shari Clare et al "Where is the Avoidance in the Implementation of Wetland Law and Policy?" (2011) 19 Wetlands Ecology and Management 165.

is set by Ministerial Order.[87] Accordingly, any adjustment of the fee requires ministerial deliberation and decision, with the political ramifications that may imply.

With its new wetland policy, Alberta has chosen the somewhat more flexible approach of setting fees out in a policy implementation document, the Alberta Wetland Mitigation Directive.[88] While this is a document with little legal weight, it still prescribes set figures which will require some internal process to adjust, perhaps involving consultation with the public and stakeholders.

The most flexible systems we have examined are those which defer the setting of the payment amount to the third party that will deliver the offsets. That third party provider can adjust the fee for each transaction, allowing it to keep up to date with changing circumstances or adjust for past mistakes. In our interview, the representative of one third party provider acknowledged that its estimation of costs is sometimes too low, but that it expects that when costs are averaged over a year the fees will be sufficient to cover the required work.[89]

Beyond adaptability, the stability of the fee amount has other important implications. A fee which is set in regulation or policy is certain and predictable. This allows for business planning among proponents and regulators. A fee which is subject to adjustment on a case-by-case basis risks delay and transaction costs on both sides in determining the amount applicable to a particular project. This makes planning difficult.

Severance of Liability

The question of whether a fee can be adjusted relates to the question of whether or not a development proponent is deemed to discharge its mitigation liability upon payment of the fee. If regulators may seek further payments or actions after permitting, when the actual value of the offset work is known, that is clearly a source of uncertainty to the proponent's business planning.

Most of the programs which we examined provided for the severance of the proponent's liability upon payment of the specified amount, but this was not universal. In New Brunswick's wetland system, the payment of a negotiated amount to Ducks Unlimited Canada, as a Wetland Conservation Consultant, may be sufficient to get the proponent its Watercourse and Wetland Alteration permit (at least for those small projects for which the in-lieu option is provided), but the program administrator told us that in the unlikely event that DUC were to default on its obligations, the province reserved the right to ultimately hold developers responsible to complete the offset work.[90]

87 *Specified Gas Emitters Regulation*, AR 139/20O7, s 8(2) [*SGER*]
88 *Supra,* note 84.
89 Craig Bishop, Ducks Unlimited Canada, (with respect to Alberta's interim system) personal communication, March 28, 2017 [Bishop interview].
90 Phone interview with Christie Ward, Project Manager, Environmental Assessment, New Brunswick Department of Environment and Local Government, May 1, 2017 [Ward interview].

British Columbia's emerging approach to this question of severance is ambiguous. This ambiguity starts with the fact that the Environmental Mitigation Policy and related Procedures carry no legal authority. This means that any obligation to offset arises only from the conditions imposed by the relevant decisions-maker for the activity in question. It is that decision-maker that decides the adequacy of compensation measures, including those provided in the form of ILPs, but the Policy and Procedures provide guidance.

The guidance itself is not definitive on the severance of liability. As noted in the case study following, the British Columbia Policy and Procedures contemplates that a development proponent will make an ILP adequate to cover the actual costs of a specific and known conservation measure as an offset. It might even be required to make more than one payment as actual costs become known. Those provisions seem to imply that the proponent's liability is not fully extinguished until the offset project is complete and its full costs known. That decision would be in the hands of the relevant decision-maker, but, again, without clear guidance from the Policy and Procedures.

Receipt and Administration of Funds

Administering Agency

Our cases studies reveal three models respecting the receipt and administration of in-lieu payment funds: government administered, third party administered, and proponent administered.

None of the programs we have examined operate through a government body, yet both Alberta and British Columbia (and New Brunswick in one official proposal) are moving toward a government-administered model. The above section on legal authority reveals the legal and logistical challenges that route entails. It is those challenges which likely account for the reliance on third parties in most of our case studies.

Nevertheless, retaining full control of the in-lieu program within government offers the advantage of assuring that all aspects of the program will align with government conservation objectives and priorities. It also means that only one agency is accountable for all aspects of the administration and use of the funds. It does not rely on the integrity or viability of other bodies.

That same direct control by government, however, was viewed negatively by community stakeholders in the ad hoc programs for caribou in northeastern British Columbia. The wish to keep local control led to the use of a third party non-profit group, Resources North, as both an administrator of the funds and a

mechanism for close involvement by communities, stakeholders and First Nations. Similarly, the involvement in Ducks Unlimited Canada in many of the wetland compensation programs across Canada can be seen as both a means of drawing on the expertise of that organization in wetland conservation and restoration, and also a means of recruiting its broad base of community support to the official conservation effort. If policy is moving to greater reliance on compensation options for conservation, how much the pursuit of conservation objectives ought to be delegated outside of government, even to groups of established competence and integrity, is an important issue.

The use of an arm's length crown corporation or agency, such as the CCEMC and BC HCTF might seem to offer a hybrid to government control or full delegation of policy implementation to an independent third party. Any advantage of this model must be balanced against the complexity of the process to establish and administer the agency. As well, the very arm's length relationship that is the goal of the arrangement entails a right of the third party to act somewhat independent of government. For example, the BC HCTF has been passive to overtures of the BC government for it to administer in-lieu payments.

The one option which stands out as anomalous of those reviewed is the holding and administration of the funds by the development proponent. While that arrangement seems to be working in the case of the British Columbia moose compensation program in the Skeena region and the BC Hydro FWCP, it should probably not become common. It places the proponent in a key role where it may have no expertise or ongoing interest. Further, it has a clearly conflicting interest in minimizing the expense of the compensation program. While the proponent may have a legitimate interest in the efficiency and effectiveness of the compensation program, that interest can better be accommodated by overall transparency of the program, or perhaps through involving the proponent in third party governance and review.

As we have seen in all the case studies, any involvement with third parties typically is formalized through the use of a Memorandum of Understanding. We have not reviewed the contents of any of these memoranda, and cannot therefore comment on their appropriateness or adequacy. As we discuss below, however, we believe that ILP programs in general would benefit from greater transparency, and that should extend to the details of contractual arrangements with third parties.

Segregation of Funds

Any IL program which aims to encompass more than one environmental feature or region will contend with the issue of whether the fund should be segregated. By this we mean that, by use of either a legal or accounting restriction, funds are restricted to a specific use or set of uses, with no discretion to redirect them. The segregation of funds by region or target value will assure the best matching between the environmental impacts that account for payments into the fund and the positive impacts resulting from ex-

penditures. This may be important on a regional basis, for example, to assure that there is equity between the communities affected by the changes, or to assure that the target resource is not redistributed on the landscape. Segregation on the basis of the target resource will tend to assure the program's fidelity to like-for-like offsetting.

As discussed in the above section on legal authority, many regulators may have a limit on their authority to require offsetting or payment into an in-lieu program. Whether such limits require a segregation of funds will be a primary consideration in this area. For example, if a regulator can only require compensation with respect to aquatics, the system will have to be set up to assure that funds for aquatic restoration are not co-mingled with funds for other purposes.

The trade-off for the benefits of segregation goes to the heart of one of the claimed advantages of ILF programs: that they facilitate the focussing of resources on priority conservation activities. Segregation inherently limits the discretion to target funds in that manner. As a practical manner segregation likely invites more administrative burden and possible expense.[91]

In our case studies we see a variety of approaches to the segregation of funds. Many, such as Alberta's interim and new wetland systems invoke a preference for use of funds in the same region or Relative Wetland Valuation Assessment Unit, but do not establish a firm restriction on transfer of funds further afield. Likewise, the BC Habitat Conservation Trust has a preference for directing funds to the same media from which they originate. In both these cases, however, the discretion is retained to direct funds to special priorities beyond the preference. In those systems which rely upon third parties to hold in-lieu monies and deliver conservation outcomes, there is an implicit segregation by delivery agent, which may have resource or geographic limitations, such as in the case of small regional ILF sponsors in the United States. In some systems, like New Brunswick or Alberta's interim policy, the delivery agent may be involved in many projects and may or may not segregate the funds itself.

British Columbia has set a particularly striking goal for itself with respect to segregation of funds. The

91 The question of segregation of funds touches upon an issue debated in economics of whether the earmarking of public revenues for particular purposes dictates against economic efficiency. One argument is that earmarking detracts from the ability of policy-makers to respond to changes in taxpayers' revealed preferences (or to pursue high-value strategic goals) thus detracting from overall social welfare: William McCleary, "The Earmarking of Government Revenue: A Review of Some World Bank Experience" (1991) 6:1 World Bank Research Observer 81. We suggest that ILPs are an exception to this concern, one which McCleary labels as "strong earmarking," which he describes as follows, ". . . the beneficiaries clearly pay for the goods or services provided. These goods or services have the characteristics of private goods—few or no external benefits or costs that affect persons other than the users, no claim by recipients for special treatment on grounds of income distribution, and no significant inefficiency resulting from implementing a charge. Transactions involving these goods give off signals to the market about the amount desired-and the willingness to pay." We suggest that, despite the strong public interest in maintaining biodiversity, the mechanics of an ILP system place a development proponent in the position of paying for the private benefit of the opportunity to pursue its desired development, even in a society (and public regulatory system) which values the environmental values it intends to degrade. Put another way, the proponent is paying to compensate the public ultimately in the currency of the environmental values at stake.

discussion of ILPs in the British Columbia Environmental Mitigation Procedures[92] contemplates that an in-lieu payment may be made to finance a particular conservation offset project corresponding to the impact of the particular development. If the program is to be faithful to that intent, it is likely necessary to have a fine segregation of the funds project-by-project. In this regard the administration of the program would be analogous to that of a lawyer's trust account that keep separate accounting for each client and project.

Agreements with the administering entity

Where payments are collected and administered by a non-government entity, there is rationale to formalize the relationships between the various interested parties: the third party recipient and administrator, the regulator, the proponent payor, and ultimate payees. Review of the content of specific agreements is beyond the scope of this study, but we can note the main forms of agreement and some key matters to address.

The least formal arrangement is probably where the government agency simply approves direct payment by a permittee to a third party. While the third party and their proposed project must be satisfactory to government, there need not be any formal agreement between the government and the third party. There are few examples of policy endorsing this system, but it may be assumed to exist with ad hoc ILPs. Indeed, as described below, one of the early criticisms of the US wetlands compensation system was that the involvement of third parties was insufficiently formalized.

One of the most common models is a Memorandum of Understanding or similarly styled agreement between government and the main third-party service provider(s). Memorandum of Understanding are a form of contract that usually serve more to clarify the relationship between the parties than to create enforceable rights. Examples include Memorandum of Understanding between DUC and the provinces of Alberta and New Brunswick. While DUC is framed as a restoration "agent" of the Crown in Alberta and a "consultant" to the permittee in New Brunswick, the model is conceptually similar. Use of Memorandum of Understanding may be apt to change as programs become larger. In Alberta, where there is intention to engage a larger suite of delivery agents, the traditional Memorandum of Understanding may need to be replaced by more standardized and project-specific grants, contracts, and contribution agreements. Similarly in New Brunswick, a 2014 departmental communication states that standards for agreements with third party service providers will be developed in a long-term wetland strategy.[93]

The most formal model is the U.S. wetlands system where an IL program sponsor is required to hold an approved "in-lieu fee instrument" under the 2008 Final Mitigation Rule. The ILF program instrument is

92 BC Procedures, *supra* note 54 at 39.

93 Christie Ward, "The New Brunswick Experience: 13 Years After Policy Adoption" PowerPoint presentation, October 2015 (unpublished, copy on file with the authors) [New Brunswick Experience].

defined as the legal document for the establishment, operation and use of an ILF program.[94] The instrument must be signed by both the US Army Corps of Engineers (USACE) and the program sponsor. However, an ILF instrument has elements of a regulatory approval as well, as the 2008 Final Mitigation Rule prescribes numerous eligibility requirements that applicants must submit in a prospectus.[95] The ILF instrument requirement replaces prior practice of having the program sponsor enter a "memorandum of cooperation" with USACE, an arrangement that may not have held the program sponsor legally responsible for delivery of the mitigation.[96]

Even so, the use of such agreements could be considered a response to the prevalence of ad hoc practices. A 2001 report of the U.S. General Accounting Office in particular noted that USACE often did not secure firm arrangements with in-lieu fee sponsors and failed to collect reports on mitigation success.[97] While the 2000 In-Lieu Fee Guidance recommended use of formal agreements, the 2006 Environmental Law Institute study suggested inconsistent interpretation of this guidance as the practice of allowing payments outside of approved in-lieu fee agreements continued.[98]

As of 2008, the requirement for ILF instruments "effectively prohibits ad hoc in-lieu fee payments outside of established programs".[99]

Another situation where formal agreements may further be warranted where multiple government entities are involved in delivery of an ILP system. The main example in this report is the B.C. Hydro Fish and Wildlife Compensation Program, which has an Administrative Agreement between the government agencies that are partners in the program. In this circumstance specific contractual duties and obligations between the service provider and the permittee.

Multiple sources, mostly from the U.S., have proposed content for agreements. Some recurring prescriptions include:

- The fund administrator's qualifications;
- The responsibilities of the parties, including assignment of responsibility for offset success;
- The geographic area to be served and the potential offset sites;

94 33 CFR § 332.2 (2008); 40 CFR § 230.92 (2008).
95 33 CFR § 332.8(d)(2) (2008); 40 CFR § 230.98(d)(2) (2008).
96 Gardner 2011, *supra* note 10 at 136.
97 United States General Accounting Office, *Wetlands Protection: Assessments Needed to Determine Effectiveness of In-Lieu-Fee Mitigation* (GAO-01-325) (Washington, DC: United States General Accounting Office, 2001), online: GAO <http://www.gao.gov/products/GAO-01-325>.
98 Jessica Wilkinson, Roxanne Thomas & Jared Thompson, *The Status and Character of In-Lieu Fee Mitigation in the United States* (Washington, DC: Environmental Law Institute, 2006), online Environmental Law Institute: <https://www.eli.org/sites/default/files/eli-pubs/d16_04.pdf> [ELI Report].
99 Jessica Wilkinson, "In-lieu fee mitigation: coming into compliance with the new Compensatory Mitigation Rule", (2009) 17 Wetlands Ecol Manage 53.

- Performance standards or expectations;Monitoring, long term management and remedial actions; and,
- Reporting requirements. (both financial and with respect to the offset projects).

We suggest that the legal arrangements with service providers be publicly available as one aspect of the transparency of offset and IL system operations.

Paying Out the Funds

If we assume that legal and governance arrangements for an in-lieu system are followed, and that the matter of who has authority to release funds is clear, then the next question is how funds might best be used to produce the desired conservation outcomes. In this regard, our case studies suggest a few variations.

On the one hand, government itself may access the funds to carry out the offset work. An example is British Columbia's Skeena Region Moose program where the government is able to invoice the IL fund held by the mining companies for work the government did to conserve the local moose population.

The Alberta interim wetland system and the New Brunswick wetland system have effectively relied on a single delivery agent (Ducks Unlimited Canada) for the bulk of the delivery of conservation outcomes from in-lieu fees. While reliance on a single means of delivery can allow government more direct control, and provide recognized expertise for the program, it does mitigate against the creativity and innovation that competition might foster. For that reason, allowing multiple parties to make proposals to undertake work within the parameters of a broader strategy has aspects to commend it. Indeed, in Alberta the representative of Ducks Unlimited Canada indicated that he and DUC welcomed the prospect of more Wetland Restoration Agents because of the competitive aspects it would bring.[100] He also suggested that as more people became involved in the practicalities of delivering program outcomes, the more appreciation would grow for those who can do it well.

This latter comment invites the question of whether the potential pool of service providers should be open – that anybody may apply to for IL monies to undertake work. Certainly an open competitive proposal or bid process would optimize opportunities for innovation and cost-efficiency. This must be weighed, however, against the increased risk of work being assigned to those who may not have the background, expertise, or commitment to reliably produce the intended results. Setting in place some review mechanism to review the qualifications and capabilities of each potential supplier might significantly add to the cost (in both time and money) of the administrative process.

100 Bishop interview, *supra* note 89.

Middle ground between a sole or small number of service providers and wide-open process is a system to pre-screen potential providers with a view to establishing a list of service-providers qualified to bid or make proposals. Alberta has moved in that direction with establishing a category of qualified professionals to oversee and sign off on wetland restoration.[101] Likewise, New Brunswick's recognition of Wetland Compensation Consultants fits this model. Where such a system is established, there should be an ongoing application process for those seeking to qualify, so that the qualified list does not become an effective cartel against competition.

Finally, if the ILF program is to be administered by government and conservation funds distributed through a grant process, it is important that any general legislation or guidelines with respect to government funding be referred to and complied with.

Timing of spending the funds

There is a risk that IL funds may sit and accumulate, unused. In some cases, this may be intentional, particularly if the fees from numerous routine permits must be consolidated in order to fund larger restoration projects. Delay in spending may also be justified by the time needed to identify and deliver appropriate projects. However, delay in spending aggravates the temporal ecological loss and risks to successful mitigation caused by the inherent nature of in-lieu fees being for future mitigation. Legitimate pressure to spend funds on the intended purposes within a reasonable time may also come from the payees, the recipients of payouts and the public.

There are multiple examples of regulations or agreements providing for timely spending and the prescribed timeframes are fairly consistent. The New Brunswick Wetland Protocols require starting work within 18 months of the activity permit, while Alberta's practice is to provide three years. As above, the US wetlands system was subject to criticism for ILF not being spent in a timely manner, and the 2008 Mitigation Rule responds in multiple ways, including a requirement to start mitigation work by the third growing season and limits on sale of credits in advance of work.

Program monitoring and oversight

It is common for conservation offset programs to require some monitoring process for offset projects. This is typically done for two purposes: compliance monitoring, which verifies that the offset project has actually been carried out in the manner prescribed, and effectiveness monitoring, a subsequent review

101 Alberta Government, "Qualification Requirements for Authenticating Professionals under the Transition Period Directive for Professional Responsibilities in Completion and Assurance of Wetland Science, Design and Engineering Work in Alberta," online: <http://aep.alberta.ca/water/programs-and-services/wetlands/documents/QualificationReqWetland-Science-Jun20-2017.pdf>.

(or series of reviews) to determine if the offset project is on track to deliver the ecological benefits expected. Though these safeguards may seem obvious, past studies have found that some major offset programs have failed to do either type of monitoring on a regular basis.[102]

As critical as project monitoring is, we must not lose sight of the fact that most offset programs aim to maintain or enhance certain ecological conditions at a system-wide, regional, provincial, or national level. It is therefore necessary to review the effectiveness of offset systems at the program level as well as at the project level. The potential of an ILP mechanism to distort the offsetting process means that such programmatic review is particularly important.

Accountability Mechanisms Within Government

We assume that any offset and ILF system designed and operated by government will be subject to periodic reviews for effectiveness and cost-efficiency within the responsible department or larger government operations, and therefore do not dwell on that here. Our purpose is to examine some mechanisms that might assist in making programmatic reviews as useful as possible.

One important aspect that is exemplified in the American wetlands system is the involvement of multiple government agencies, and even governments, in the operation and evaluation of the system. This guards against a single agency, consciously or unconsciously, operating in a manner that serves the agency's interest but may not serve the priorities of the larger government or the public interest, including the public interest in conservation. It also guards against that agency reviewing its own performance, where there may be temptation to see things in an excessively positive light. At the project approval level in the U.S. system this safeguard is providedby the use of Interagency Review Teams to review and approve all mitigation proposals, whether in the form of permittee-responsible mitigation, banking, or ILF programs. This means that each agency involved performs its function under of form of peer-review from other agencies.

At the program level, the U.S. allocates the administration of its wetland compensation system to the

102
With respect to Fisheries and Oceans Canada's fish habitat offset program see DJ Harper & JT Quigley, "No Net Loss of Fish Habitat: A Review and Analysis of Habitat Compensation in Canada" (2005) 36:3 Environmental Management 343. With respect to the U.S. wetlands system as it operated prior to the 2008 mitigation rule see NRC Report, *supra* note 10. On a slightly different note, Alberta's Auditor General was highly critical for several years running of the CCEM systems lack of any mechanism to track and report on progress on program goals: Auditor General of Alberta, *Report of the Auditor General of Alberta,* October 2008, online: <https://www.oag.ab.ca/webfiles/reports/Oct_2008_Report.pdf>; Original – *2009,* online: <https://www.oag.ab.ca/webfiles/reports/OAGOct2009report.pdf> [Auditor General 2009]; *Follow-up Audit - November 2011,* online: <https://www.oag.ab.ca/webfiles/reports/OAGNov2011report.pdf>; *First follow up – Oct 2012, online:* <https://www.oag.ab.ca/webfiles/reports/OAGOct2012report.pdf>; *Further Follow up – climate change – July* 2014, online: <https://www.oag.ab.ca/webfiles/reports/AGJuly2014Report.pdf>; *Follow up re. SGER - July 2015,* online: <https://www.oag.ab.ca/webfiles/reports/OAG%20Report%20July%202015.pdf> [Auditor General 2015 re. SGER].

US Army Corp of Engineers, but the policy guidance and evaluation is primarily the responsibility of the Environmental Protection Agency. The usefulness of this division of responsibilities was exhibited in 2001, when the EPA commissioned the review of the program by the National Research Council, yielding a very important critique of the program's operations to that time.

The Canadian programs show less division of function. The Alberta and New Brunswick wetlands models make the environment ministry responsible for policy development as well as issuance of the regulatory permits on which ILF will be paid within the environment ministry. The emerging BC model is similar, although permits could be issued by a broader range of regulators. If any of these models move to a government-administered fund then this may further consolidate functions. The CCEM regime and BC HCTF and the BC Hydro FWCP all involve some division between the industry regulator and the fund administrator, though in each case the same government department is responsible for policy and permitting. The BC Hydro FWCP further involves the proponent payor in administration of the program.

Governments themselves frequently provide for high-level independent oversight of program operations. We have seen that examinations of offset and fee systems by auditors-general or its U.S. counterpart, the Government Accountability Office, have played a valuable role in identifying program strengths and weaknesses on a periodic basis. The Alberta Auditor-General has provided important critiques of the CCEM regime. The US Government Accountability Office (formerly known as the General Accounting Office) has done likewise for that country's wetland compensation system.

These general oversight agencies, however, suffer from two important limitations. Firstly, they have a mandate that covers the whole of government and do not necessarily review any one program regularly. This means that the review may be very useful for catching major systemic problems that exist at a point in time, but not for tracking incremental changes or trends in performance. Secondly, a general agency may not have the expertise or interest to examine the more technical or specialized aspects of a conservation program.

One answer to the latter matter is the use in some jurisdictions (though none of our case studies) of a review agency with a particular focus on environmental matters, such as the federal Commissioner of the Environment and Sustainable Development (which is housed within the Auditor-General's office) or the Environment Commissioner of Ontario.[103] The value of the federal CESD with respect to one offsetting system has been established through her numerous critiques of the federal fish habitat compensation system.[104]

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103 For a review and discussion of options for such agencies at the provincial level in Canada see D.V. Wright, "Options for Oversight in the Provincial Environmental Realm: Examples and Functions of Independent Oversight Offices" (2016) 29 JELP 203.

104 A review of the several reports from the Commissioner on the program may be found in David W. Poulton, "Offsetting for 'Serious Harm': The Recent Evolution of Section 35 of the *Fisheries Act, 1985*" (2016) 29 JELP 19.

Accountability and Transparency Beyond Government

We were motivated in part to undertake this study by casual conversations revealing a widespread skepticism on the direction and cost-efficiency of IL programs. Development proponents had questioned where their money was going and what it was accomplishing. Environmental professionals questioned if fees were adequate for the needed work. Municipal officials felt that resources were being inappropriately directed afar.

While our research was not specifically intended to investigate those claims, we uncovered no evidence that would tend to support them. Rather, we found that in all of our case studies there was a stated intention to make the best use of IL funds collected and provide appropriate environmental benefits. All of our interviewees understood the potential for problems and exhibited concern that those problems be avoided as much as possible. While we have found weaknesses, we have seen no scandals or major dysfunction. What we have found, however, is a poor record for transparency of operation and this may be a source of the noted skepticism. This suggests that more active mechanisms for transparency are needed.

Regular Reporting

We suggest that in any conservation offset program an interested member of the public should be able to readily determine how much habitat is lost and how much restored, enhanced, created or protected in any given time period. Where the offset system uses an IL mechanism, that basic information should be expanded to include how the ILP is calculated, and the flow of funds into and out of the responsible agency.

In our case studies only the CCEMC publishes annual reports which attempt to link financial expenditures to quantifiable (if estimated) environmental impacts.[105] We learn, for example, from the 2015/2016 Annual Report that a reduction of 7.7 megatonnes of GHGs by 2020 is the projected outcome of $312.8 million cumulative investment.[106] No comparable level of detail is available from any of the government programs reviewed herein. Also, those habitat based programs we reviewed reported outcomes only in the most basic metrics such as area or even number of projects sponsored, which reveal little specific about environmental improvements. A significant factor in the disparity of the CCEMC approach to reporting and that of habitat based programs is the likely existence of sophisticated and commonly accepted metrics and accounting protocols for GHG, things which are still very much in early development for the many aspects of landscape and biodiversity.

Where third party organizations are responsible for the administration of the fund, they may publicly report on the whole of their operations, aggregating funds and activities so it is difficult to get a clear

105 Annual copies of the CCEMC are available online at <http://eralberta.ca/about-era/annual-reports/>.

106 From the online version of *Breaking Through: Climate Change and Emissions Management (CCEMC) Corporation Annual Report 2015/2016 at* CCEMC <http://annual-report-2016.eralberta.ca/achievements>.

picture of the effectiveness of those activities specifically supported through an ILP program. This is certainly the case with Ducks Unlimited Canada, which has played a key role in the wetland ILP systems in Alberta and New Brunswick, and which is deeply involved in many other wetland offset systems across Canada. Its 2017 Annual Report indicates that $80.1 million in conservation program spending resulted in the conservation of 48,606 hectares conserved and 9.2 million hectares "positively influenced".[107] While these figures sound impressive, it is difficult to determine from them the actual environmental gain achieved. Further, neither the annual report nor the accompanying financial statements what portion of these accomplishments was covered by the organizations role in delivering government compensation programs. We are thus left uncertain as to how the environmental gains and losses of those government compensation programs might balance out.

We saw no such transparency from governments. Under Alberta's interim wetland policy the government and DUC have maintained a record of the amount of habitat lot and gained each year, and the flow of funds. That record is nominally publicly available, but no mechanism exists to actually publish the information.[108]

Presumably freedom of information legislation might be used to assist. In New Brunswick, a similar record is decidedly not available to the public and is treated as confidential.[109]

Stakeholder and Expert Involvement

Few of our case studies had active mechanisms to engage stakeholders and experts in either decision-making or regular consultation. The BC HCTF, the BC Hydro FWCP, and the BC North Peace Caribou programs all had committee or board structures which allowed a variety of non-governmental voices to be heard regularly. The other programs examined did not.

The value of active stakeholder and expert engagement goes beyond making those people "feel heard." It is a genuine opportunity to draw on the insights and knowledge of those beyond government, often at little cost. Further, those who are closely engaged in the operation and evaluation of a program form a corps of ambassadors to explain the program to external communities and give assurances of its legitimacy.

In an important article in 2000 American legal scholars James Salzman and J.B. Ruhl referred to a third, more subtle but very important benefit of offset programs engaging externally.[110] Their article dealt primarily with the challenges of developing offset currencies that are both ecologically coherent and simple to administer, looking at the U.S. wetland compensation system. They noted that more complex metrics

107 Ducks Unlimited Canada, *Hallowed Ground, Conserving Canada's Natural History: Annual Report 2017*, online: Ducks Unlimited Canada < http://www.ducks.ca/assets/2015/08/FY17-Annual-Report-web.pdf> at 20-21.
108 Hebben interview, *supra* note 70.
109 Ward interview, *supra* note 90.
110 James Salzman & JB Ruhl, "Currencies and the Commodification of Environmental Law" (2000) 53:3 Stan L Rev 607.

enhanced the ecological fidelity of programs, but could add substantially to transaction costs. They then carried out an analysis

of the interests of the actors in the offset system. Both system administrators and development proponents had a direct immediate interest in simplification in order to reduce transaction costs and demonstrate that the system was working, in the sense that offset transactions were regularly and promptly taking place. Salzman and Ruhl therefore hypothesized that those most directly in involved in the day-to-day operation of the system would have a motivation to simplify the system at the expense of scientific rigour and environmental credibility. The scientists and stakeholders who might represent those scientific and environmental interests did not have a role in the day-to-day operation of the system and therefore would not have the same opportunities to present their perspectives to decision-makers.

Salzman and Ruhl recommended for that reason that offset systems should have a mechanism to allow external stakeholders and experts to regularly review the operation and outcomes of the system and to make public recommendations for its improvement. While none of our case studies show such an approach, and we are unaware of any others that do, we share the opinion that such a process would be beneficial in any offset system, including those using ILPs.

ILP PROGRAM DESIGN ELEMENTS: COMPARISON BY JURISDICTION

AEP = Alberta Environment and Parks BC FNRO = British Columbia Ministry of Forets, Lands and Natural Resource Operations DUC = Ducks Unlimited Canada IRT = Interagency Review Team (U.S.)

	Alberta Interim Wetland Policy	Alberta Wetland Policy (2013)	Alberta GHG (CCEM)	British Columbia Skeena Region Moose	British Columbia North Peace Caribou	BC Hydro Fish and Wildlife Compensation Program	New Brunswick Wetlands Draft Protocols	U.S. Wetlands
Who sets fee?	Wetland restoration agent (DUC)	AEP by policy	Cabinet by regulation	Environmental Assessment Office with input from BCFLNRO	Environmental Assessment Office with input from BCFLNRO	BC Hydro following protocol manuals	Negotiated between proponent and DUC	IL sponsor with approval of IRT
Factors within fee	Securement, restoration , and long-term monitoring and maintenance	Set for each RWVAU based on average land value within RWVAU, cost of restoration, cost of monitoring, and admin fee		Est. cost for program to offset loss	Est. cost for program to offset loss			Determined by sponsor
Can fee be re-opened for actual costs?	No, risks and surpluses are WRA's responsibility	No	No	Yes, by EAO	Yes, by EAO	No	No	No
Who holds the funds?	Wetland restoration agent (DUC)	GOA agency, terms TBD	CCEMC	Proponent – in notional reserve account	Third Party (Resources North)	BC Hydro notional account	DUC	IL sponsor
Collection	Wetland restoration agent (DUC)	GOA agency	CCEMC	Government invoices for work done on agreed offset program	Proponent to third party	BC Hydro transfers on books to notional account	DUC	IL sponsor
Severance of proponent's liability	Upon payment of required amount	Yes	Yes		Yes, once funds spent.	Yes, per MOU between BC Hydro and Province	No, liable if DUC defaults	Upon proof of payment
Obligations of collecting agency	Agreement with government; Annual report to govt on performance	Disburse on restorative or non-restorative replacement.	GHG Abatement and Research	Set out in contribution agreement	Tripartite agreement RN-BC FLNRO-Proponent	MOU between BC Hydro and Province	MOU with Province	Set out in approved mitigation plan
Timing of collection	Prior to issue of approval	Prior to issue of approval.	Annually	Upon government invoice	Within 60 days of EA certificate		Prior to issue of permit	Prior to s. 404 Clean Water Act approval.
Segregation of funds	Single fund but restoration in same watershed (default)	By watershed.	No	Yes, separate arrangement for each project	Yes, separate program	Into three regions	No	Fees aggregated toward approved IL mitigation program.
How disbursed	DUC used itself	TBD	Solicitation and approval of proposals	Proponent to reimburse government	Grant program, direct contracting for services, reimbursement of government	By regional Boards; Solicitation of proposals and long-term funding agreements with Province and various operators	Used by DUC	Some for projects by IL sponsor; some by RFP
Restrictions on expenditures	Within 3 years	TBD, likely no more than 10 % on research and education.	Only scope of mandate		Informal	Terms of MOU and protocols	Terms of MOU	Within 3 years No education programs.
Monitoring	Provided by terms of agreement	Yes, terms TBD.				Terms of MOU and protocols	Provided by MOU	As per terms of approved mitigation plan
Transparency and Oversight	Annual report on performance, nominally public but no mechanism to release.	TBD	Annual Report			Oversight by Policy Committee (consistency and compliance)	DUC reports annually to province on performance, but reports not public.	Oversight by USACE and IRT. Policy oversight from EPA. Detailed records of each mitigation program, but no compilation publicly reported.

CASE STUDIES

The case studies selected for this report are relevant in different ways. The British Columbia Environmental Management Policy receives significant attention as do several ad hoc programs in British Columbia that have informed development of this policy. The Alberta Wetlands Policy receives a similarly high degree of attention. Both the British Columbia and Alberta policies bring potential to formalize ILP systems based on practical experience in these provinces. The New Brunswick wetlands regime and the United States wetlands regime provide comparative models for this environmental medium. Alberta's Climate Change and Emissions Management regime displays a strong legal foundation and brings lessons from greenhouse gas offsetting to other environmental media where offsetting may be used.

British Columbia Environmental Mitigation Policy

In British Columbia, ILPs receive official consideration under the 2014 Policy for Mitigation Impacts on Environmental Values ("BC Environmental Mitigation Policy").[111] The policy is framed as a "working document" subject to change, and it is, legally speaking, for voluntary use by proponents and statutory decision-makers. However, it has been approved by the provincial government for use in the natural resource context and its application is anticipated to become standard practice for provincial regulators. While a relatively new policy, in some ways the BC Environmental Mitigation Policy is already leading on the identification of issues with ILP systems and some potential responses.

As with most cases in this report, the BC Environmental Mitigation Policy relies on general statutory authority to put conditions on approvals. It is notable, however, for the potentially broad range of regulated activities to which it may apply. It states an initial focus on large projects that require environmental impact assessments and mitigation plans, but it foresees the potential use of ILPs to mitigate minor or routine projects as well. The policy does not consider mitigation banking, meaning that ILPs are the only alternative to project-specific offsets. (In the language of the Procedures that elaborate on the Policy, the two offset options are conservation mechanisms and financial mechanisms.[112])

Like many conservation offset policies, the BC Environmental Mitigation Policy proposes a mitigation hierarchy whereby offsets should be considered only after having considered and applied all feasible measures to avoid, minimize and restore impacts on-site. At this stage, the policy states that an ILP "to fund implementation of offsets by the Province or a third party in accordance with provincial financial

111 British Columbia *Policy for Mitigation Impacts on Environmental Values,* Working Document, May 13, 2014. , online: <http://www.env.gov.bc.ca/emop/docs/EM_Policy_May13_2014.pdf>. [BC Environmental Mitigation Policy]

112 BC Procedures, *supra* note 54 at 30-43.

procedures, may be appropriate under certain circumstances."[113] These brief statements foreshadow multiple issues discussed below. These include need to comply with applicable financial procedures, potential limits on where ILPs are appropriate, and choices regarding who should administer the funds and do the conservation work.

Under the BC Environmental Mitigation Policy, the Procedures for Mitigation Impacts on Environmental Values[114] ("BC Environmental Mitigation Procedures" or simply "Procedures") provide most of the details concerning IL payments. The Procedures clearly suggest parity between offsets via conservation mechanisms and those via financial mechanisms, stating that: "[the] proponent is responsible for offsetting, either directly or indirectly, by an in-lieu payment to address the costs associated with offsetting."[115]

The Procedures advise that ILPs are allowed when it has been determined that proponents cannot themselves physically carry out the offset measures, and so must rely on the Province or a third party to do so.[116] The decision to allow ILPs is otherwise situation specific, and in the hands of the relevant statutory decision-maker.[117] To guide such decisions, the Procedures provide "factors" and "principles". This include the prospect for best conservation outcomes, the legal authority to implement the proposed offset measures, payment of the full costs of offset implementation, and intention for the payment to achieve ecological equivalency.

In contrast to most other ILP programs, including the others reviewed in this study, the British Columbia Policy and Procedures set out a system whereby an ILP is simply a step in the matching of a specific development proposal and permit with a specific known offset proposal. Most other ILP programs estimate the replacement cost of the lost ecosystem values and collect a fee with the intention of later identifying an appropriate offset project. In this manner it is common to aggregate numerous ILPs from similar environmental losses, and then use those funds to finance a program of conservation measures intended to yield similar environmental values. Under most systems it is not intended that a specific offset project, financed from an IL fund, will be attributable to a specific development project.

There are several aspects of the British Columbia Procedures that set out the province's distinct approach. The Procedures recognize that if money is collected before knowing which offset projects to which it will be applied that "this situation may not equate to environmental "offsetting.'"[118] Secondly, as quoted above, the proponent is expected to pay the costs of offsetting, whether it is undertaken by direct conservation action or via an ILP. The Procedures repeatedly stress that ILPs are to cover all costs of the

113 BC Environmental Mitigation Policy, *supra* note 111 at 4.
114 BC Procedures, *supra* note 54.
115 *Ibid* at 29.
116 *Ibid* at 39.
117 *Ibid* at 40.
118 *Ibid* at 40.

proposed offset measures:

- In-lieu payments are calculated based on actually carrying out a proposed offset measure (i.e., costing) and not evaluating ecological services.
- The in-lieu payment will include the full costs of implementation of the proposed measure for the duration of the offset.[119]

  . . .

- In-lieu payments will cover all costs of implementing (locating, securing, managing, and monitoring) the offset, for the duration of the offset.[120]

  . . .

- In-lieu payments are intended to result in adequate funds being received to achieve an offset outcome that is ecologically equivalent to the extent of the residual impact before offset on the environmental value or associated component.[121]

These provisions seem to contemplate that if an initial payment is found to be inadequate when the actual costs of offsetting are known, that the proponent might be asked to make up the difference, even if that is subsequent to the granting of its required permit. The use of the plural "payments" in three of the four passages above also suggest the possibility that a proponent may be asked to make more than one payment.

Mitigation plans required of proponents must include any proposed ILPs and how the proposed amounts were arrived at.[122] Despite these prescribed considerations and the general expectation that proponents bear full costs, the Procedures appear to contemplate payments being "negotiated" and submitted by departmental staff for internal financial (Procurement Policy and Compliance) approvals.[123]

The Procedures (Section 14) advise that ILPs from large projects or arrangements involving multiple contributors are subject to additional procedures.[124] Such ILPs must provide sufficient funds (perhaps in the form of an endowment) for a long-term approach to achieving the offsetting outcomes, and to generate interest to fund monitoring and adaptation. Funds from large projects or multiple contributors must further have a governance structure established up front. As an example, the Procedures cite the BC Hydro Fish and Wildlife Compensation Program discussed below. While the Procedures are not entirely clear,

119 *Ibid* at 30.
120 *Ibid* at 39.
121 *Ibid* at 39.
122 *Ibid* at 56.
123 *Ibid* at 40.
124 *Ibid* at 43-44.

they suggest potential for liability to remain with proponents and for ongoing payments, particularly in the case of large projects.

The Procedures allow payments to be received by either the province or a third party. Without clearly favoring either government or non-government fund administrators, the Procedures frame the considerations differently in each case. Where government or other public entities will administer funds, the Procedures give attention to specific financial legislation and procedures. Where non-government reporting entities will administer funds, the Procedures recommend assurance that the funds will be directed to implementation of offsetting for the specific situation.[125]

Guidance on monitoring and reporting in the Procedures seeks to ensure that mitigation measures are implemented, to hold the proponent responsible and to see a commitment to monitoring in the proponent's mitigation plans.[126] The Procedures, however, do not provide for monitoring and oversight of the ILP system itself.

British Columbia's Prior Experience with In-Lieu Payments

Prior to the finalization of British Columbia's Environmental Mitigation Policy and Procedures the Province had experience with a number of ILP arrangements developed to fit specific circumstances or proponents. A review of these programs is instructive for their variety and innovation, and because they form the experiential foundation for the continued development of the new policy.

BC Habitat Conservation Trust

British Columbia's Wildlife Act establishes the Habitat Conservation Trust (HCT) to be the recipient of funds raised by surcharges on hunting and fishing licenses and various other sources such as revenues from government conservation lands, proceeds of court orders, and donations.[127] The HCT is established as a trust fund administered independent of government by the Habitat Conservation Trust Foundation (HCTF), as trustee. The Foundation is a society and registered charity with its own Board of Directors. While the government is required to remit all hunting and fishing surcharges to the HCTF, both the Foundation and the Minister are required to report annually on the status and use of those funds.[128]

The legislation enumerates the purposes (in addition to the administrative expenses of the Foundation itself[129]) for which trust property may be used:

125 *Ibid* at 41.
126 *Ibid* at 45-46.
127 *Supra* note 62, s 119. The establishment of the HCTF as an independent body dates from 2007. Prior to that, the fund was administered by the government.
128 *Ibid*, s 123, 124.
129 *Ibid*, s 122(2).

(a) the conservation or enhancement of biological diversity, fish, fish habitat, wildlife or wildlife habitat;

(b) the acquisition and management of land for the conservation or enhancement of a population of a species of fish or wildlife and its habitat;

(c) the furthering, stimulation and encouragement of knowledge and awareness of fish or wildlife and their habitat, or of the existence and purpose of the society, by way of promotional, educational or other materials, goods, programs or services; and,

(d) any other related charitable purpose prescribed under the regulations made under section 125 [allowing ministerial prescriptions for this, a provision which has not been used to date].[130]

Within these purposes the Board of the HCTF sets direction, priorities and limits on how funds are used.

The HCTF disburses monies for those purposes by means of a grant process based on requests for proposals. Any party, private or public, for-profit or not, may put forward a proposal for consideration by the HCTF.[131] The Foundation employs a peer review process to determine the most cost-effective projects respecting conservation goals.

In many cases the HCTF attempts to match funding to the ecological value corresponding to the source of the revenues, so that, for example, funds from surcharges on angling licenses tend to go to aquatic projects.[132] In some rare cases, particular funds carry a legal obligation to be spent on particular programs, such as penalties for illegal hunting of grizzly bears being dedicated to grizzly conservation.[133]

The only exception to the granting model set out above is the HCTF's support of educational programs to connect children with nature. The Foundation has a staff person dedicated to such programs. The goal is make grants and develop programs which align with curriculum requirements, in order to support to delivery of environmental programs through schools.[134]

To date, the Board of the HCTF has taken a passive approach to involvement with in-lieu program revenues, accepting such payments in several cases, but only when approached directly to do so. This passive approach is due to the organization's view that government's policy framework is still in early stage

130 *Ibid*, s 122(1).
131 Interview with Brian Springinotic, Chief Executive Officer, Habitat Conservation Trust Foundation, April 7, 2017 [Springinotic interview].
132 *Ibid*.
133 *Ibid*. The establishment of a government administered Grizzly Bear Trust Fund is contemplated by the *Wildlife Act*, *supra* note 62, s 84.1.
134 Springinotic interview, *supra* note 131.

development.[135] The organization has developed draft Guiding Principles in preparation for a potentially expanded future role once the policy framework has matured.

BC Hydro Fish and Wildlife Compensation Program

BC Hydro Fish and Wildlife Compensation Program (BC Hydro FWCP) is an important precedent for the financial offsetting of large projects in BC given its mention in the BC Environmental Mitigation Policy.[136]

The FWCP is mainly a single-source ILP program, with the stated mandate of "compensat[ing] for the impacts to fish, wildlife and their supporting habitats affected by the BC Hydro owned and operated generation facilities."[137] BC Hydro is therefore the source of the great majority of funds paid into the Program.[138] It does involve a larger community, however, describing itself as "a partnership between BC Hydro, the Province of B.C., Fisheries and Oceans Canada (DFO), First Nations and Public Stakeholders to conserve and enhance fish and wildlife impacted by existing BC Hydro dams."[139] The three main public agency partners each have their own regulatory accountabilities in participating in the program.[140] BC Hydro has Water Act license obligations for conservation and enhancement of fish and wildlife, the Province has regulatory responsibility for fish and wildlife as well as ecological and water resources, and DFO has regulatory responsibility for tidal fisheries and fish and fish habitat covered by the Fisheries Act. The provincial agency responsible for fish and wildlife conservation (Forests, Lands, Natural Resource Operations & Rural Development) also has a role in periodically advising the provincial Comptroller of Water Rights (who is responsible for issuance of licenses to BC Hydro) regarding the effectiveness of the FWCP.[141]

The FWCP is one of few cases where the permittee holds the money rather than making payments to a legally separate entity. The fund is described as "notional", meaning that it accounted for in BC Hydro's books but "no actual pool of capital has, or will be, set aside" for the program.[142] This notional fund is segregated into regional funds for each of three program regions. Transfer of funds between regions is prohibited as two of these three regional programs (Columbia and Peace) exist to meet BC Hydro's license conditions in these specific regions.[143] The third regional program (Coastal) is a voluntary initiative on the part of BC Hydro.[144]

135 *Ibid.*
136 BC Procedures, *supra* note 54 at 39.
137 *Ibid* at 8.
138 Some other corporations contribute occasionally to partially meet their own offset obligations, but this is rare and largely insignificant to the FWCP's operations: Fish and Wildlife Compensation Program, *Fish and Wildlife Compensation Program Governance Manual*, March 2014," at 7, online (FWCP): <http://fwcp.ca/app/uploads/2017/09/FWCP-Governance-Manual-Final-June-2014.pdf> [Governance Manual].
139 BC Hydro Fish and Wildlife Compensation Program website, <https://www.bchydro.com/about/sustainability/environmental_responsibility/compensation_programs.html?WT.mc_id=rd_bcrp>
140 Governance Manual, *supra* note 138 at 1.
141 *Ibid* at 6.
142 *Ibid* at 10.
143 *Ibid* at 10.
144 *Ibid* at 1.

Beyond holding the funds, or perhaps because of that the FWCP provides BC Hydro with a role in program policy and operations. While this involvement fits with the partnership model and the voluntary nature of one regional program, BC Hydro is a Crown Corporation and the model may not be entirely transferable to a context involving private industry.

Another distinctive feature of the FWCP is its ongoing and adaptive nature. This is in response to an expressed premise that large projects including dams and reservoirs create significant changes to the environment that are not immediately apparent but rather evolve over time. Liability is essentially kept with BC Hydro so long as its water licenses apply, a feature which may assist with adjusting payments in relation to cost changes over time. Clarification letters from the Comptroller of Water Rights to BC Hydro state that it is in compliance with license conditions "as long as the FWCP is in place, adequately funded, and fulfilling its needs and obligations".[145]

Like many ILP systems, the FWCP is based on minimal legal foundation other than general statutory authority to put conditions on regulatory approvals. The FWCP can be considered an ad hoc response to such regulatory conditions that gave rise to need for formalization through agreements and guidance documents.

The most significant document is a non-legislated Governance Manual produced by the program itself.[146] This manual sets out the program objectives, structure and terms of reference for the program's key branches and personnel. A Policy Committee consisting of the three agency partners sets the overall policy, structure and strategic plans, and ensures compliance and consistency between regions.[147] The regions are governed by Regional Boards responsible for regional strategic planning, approving annual operating plans developed by the regional Program Manager and making expenditure decisions.[148] Employees of the three agency partners dedicated full time to the FWCP fill the roles of regional Program Managers responsible for operational matters.[149] Each region also has a Technical Committee to advise the Regional Board and Program Manager and to assist with reviewing project proposals.[150] One region (Peace) further has First Nations Working Group established by Memorandum of Understanding whose role is to advise the Regional Board, the Technical Committee and Program Manager.[151]

This arrangement with First Nations is described as unique within the FWCP and it is probably unique within the case studies in this report. In general, the FWCP provides more attention to roles and functions than most ILP systems.

145 *Ibid* at 26.
146 *Ibid* at 3.
147 *Ibid* at 11-12 and Appendix A: Policy Committee.
148 *Ibid* at 12 and Appendix B: Regional Boards.
149 *Ibid* at Appendix I – Regional Program Manager's Roles and Responsibilities.
150 *Ibid* at Appendix G: Technical Committee, and Appendix H: Technical Review Criteria and Process.
151 *Ibid* at 12-13 and Appendix F: First Nations Working Group.

The Governance Manual provides for the allowable use of funds and expenditure decisions in broad terms. Funds may be used for a broad range of activity types provided that they be used in pursuit of objectives and priorities, including a conservation objective, a "sustainable use" objective concerning wildlife harvesting and recreational use, and a "community engagement" objective.[152] The Governance Manual provides some prioritization of "on-the-ground work", but it also endorses a flexible approach to such work and a "combination of approaches". [153] Program administrative costs are shared between the partnering agencies and voluntary contributions.

Expenditure decisions are made at the regional level and are guided by Annual Operating Plans that serve to implement Strategic Plans developed by the region.[154] Procedural options include the intake of proposals to be evaluated against Strategic Plans, advertising a specific request for proposal and entering longer-term funding agreements for long-term operational projects.[155] The most common expenditures are "community engagement grants" to local groups and organizations made on an annual cycle. [156] Two of the more unique arrangements have included: a long-term agreement with the Provincial Ministry of Forests, Land and Natural Resources to deliver core projects, and a partnership with the Columbia Basin Trust.

The FWCP is notable for its attention to program monitoring and reporting, again provided by the Governance Manual. Where the FWCP serves BC Hydro's compliance purposes, annual reports are to demonstrate that the program is "in place, adequately funded and fulfilling its needs and obligations".[157] As above, this language is used by the Comptroller of Water Rights for determining that BC Hydro is in compliance with its license conditions. Annual Reports by the regional program managers must include the work done, the results accomplished, and a financial statement.[158] These reports are publicly posted on the FWCP website, indicating the money spent, the recipients and types of projects.[159] Information generated by the projects is to be made publicly available unless data is deemed "secured" under provincial policy, and the Governance Manual provides guidelines for data sharing and submission of information to websites.[160]

As with monitoring, the FWCP is notable for promotion of program evaluation. The Policy Committee must direct an independent program evaluation and audit every five years, as well as a response statement containing corrective actions to address areas for improvement.[161] It is important to note, however, that this provision focuses on program operations, not on ecological outcomes. The evaluation and response

152 *Ibid* at Appendix J.
153 *Ibid* at 14 and Appendix J: Program Delivery Guidelines
154 *Ibid* at 14-15.
155 *Ibid* at 4.1 and Appendix J: Program Delivery Guidelines.
156 Fish and Wildlife Compensation Program website for funding guidelines: <http://fwcp.ca/apply-for-fundin/>
157 Governance Manual, *supra* note 138 at 16-17.
158 *Ibid* at 16-17.
159 Fish and Wildlife Compensation Program website for annual reports, <http://fwcp.ca>.
160 Governance Manual, *supra* note 138 at 15.
161 *Ibid* at 17.

will be forwarded to the Comptroller of Water Rights to demonstrate BC Hydro's progress on its water license conditions. [162] BC Hydro may conduct an internal financial and compliance audit of the FWCP. [163] Regional Boards supported by Technical committees may initiate project-level reviews.[164] One past recommendation from prior evaluation that has not clearly been implemented is for the program to establish clear and measurable objectives where possible.[165]

Skeena Region Moose Offset Program

This offset program was established as a condition on the permitting of two open-pit mines in the Skeena region of northwestern British Columbia.[166] The mines were proposed for development at about the same time by two separate companies. The environmental assessment of each of the mines showed that moose population in the region was vulnerable, and that traffic on the proposed mine roads posed a threat of moose-vehicle collisions. Having considered all feasible options to avoid and minimize the impact on the population, a residual impact on the population was predicted. Accordingly, the mine regulator (at the time, the Ministry of Energy and Mines) and the BC government's Environmental Assessment Office (BCEAO) required the establishment of offset funds to compensate for residual losses to the moose population from the combined impact of the two mines. It was agreed that the Ministry of Forests, Lands, and Natural Resource Operations (FLNRO, as it then was named) would undertake the activities to offset the anticipated moose population losses.

FLNRO provided input on the amount to be paid in compensation. It based its advice on the concept of ecological equivalency and the estimated value of a moose lost, considering loss of amenities, hunting and guiding fees, etc. FLNRO's suggested figure was adjusted by the BCEAO, which recommended the final figure to the mine regulator.

Once a final total figure was arrived at and included in the mine permit conditions, an offset fund was established as a notional account on the proponents' books. The account receives credits annually from company revenues, and the BCEAO has authority to review the sufficiency of the account and require adjustments. In other words, the proponents were not required to actually pay out the amount at the time permits were issued. Rather, pursuant to a contribution agreement between the government and the proponents, as FLNRO undertakes activities to conserve the regional moose population, the costs of those activities are invoiced to the proponent and paid out of the notional account.

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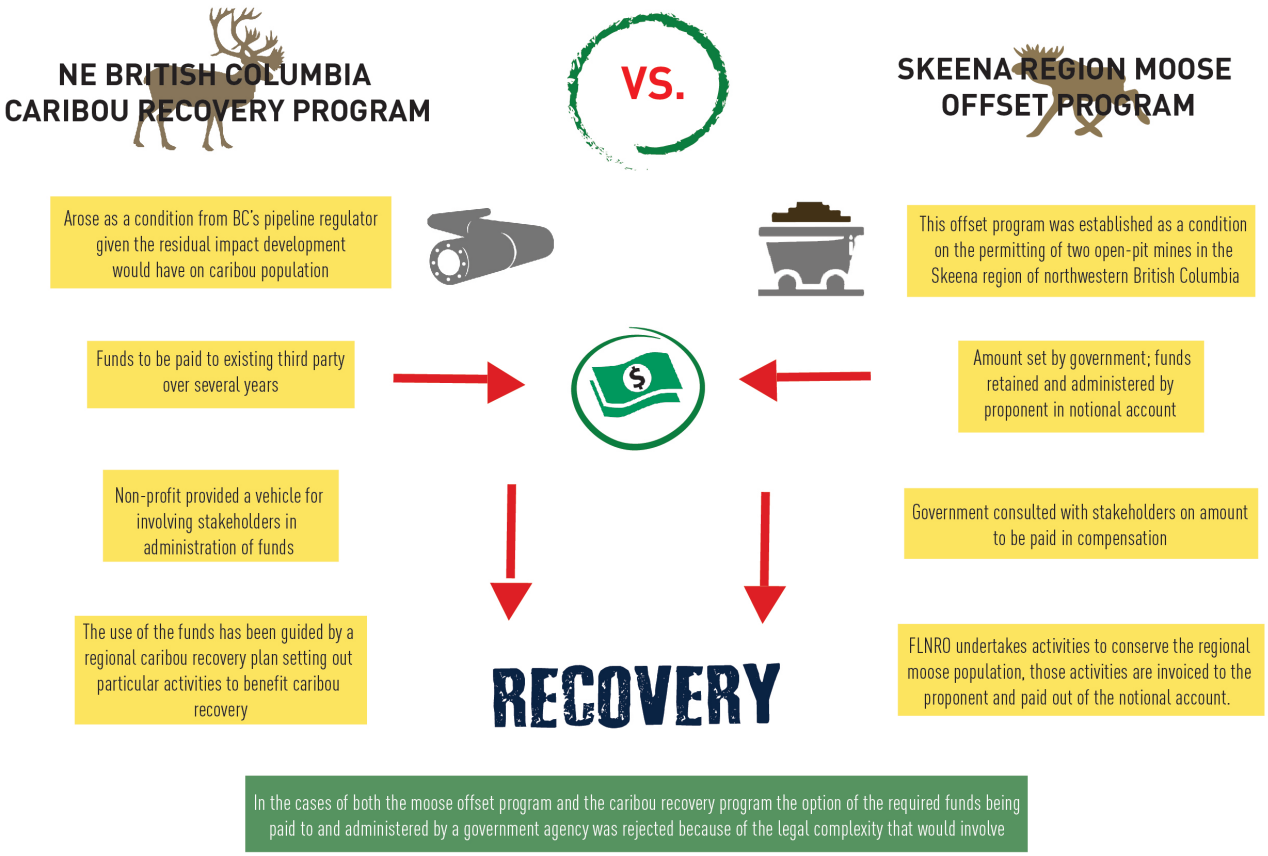
162 *Ibid* at 17.
163 *Ibid* at 17.
164 *Ibid* at 17.
165 *Ibid* at 7-8..
166 The description of this program is based entirely on a phone interview with Chris Schell, Senior Biologist for Ecosystem Services, and Jocelyn Campbell, Ecosystem Services Head, both for the Skeena region, Ministry of Forests, Lands, and Natural Resource Operations, April 21, 2017.

Upon the depletion of the notional account, the offset condition will be deemed to have been fully satisfied. So long as the account remains open, however, the annual payment required may be adjusted by the BCEAO. One proponent has completed these arrangements, and the other is required to do likewise before commencing its approved project.



Northeastern British Columbia Caribou Recovery Program

Similar in its genesis to the moose offset program, the caribou recovery program for northeastern British Columbia arose as an offset condition on the development of new pipelines.[167] The pipeline regulator, the British Columbia Oil and Gas Commission, imposed the condition after the environmental review process identified residual impacts on caribou.

The BCEAO, with input from FLNRO, recommended an amount to the Commission to fund caribou recovery as a form of ecological compensation.

167 *Ibid.*

In contrast to the moose offset program, the caribou recovery funds were to be paid to a third party over several years. The third party was an existing non-profit conservation group called Resources North. This arrangement was preferred because of skepticism on the part of stakeholders and First Nations of the sincerity of intention of a fund administered by the provincial government. The non-profit provided a vehicle for involving those groups in the administration and use of the funds.

The use of the funds has been guided by a regional caribou recovery plan setting out particular activities to benefit caribou recovery. The costs of those activities, whether carried out by government or by private parties, could be invoiced against the account held by Resources North. In addition, the organization solicited for proposals aligning with the recovery plan.

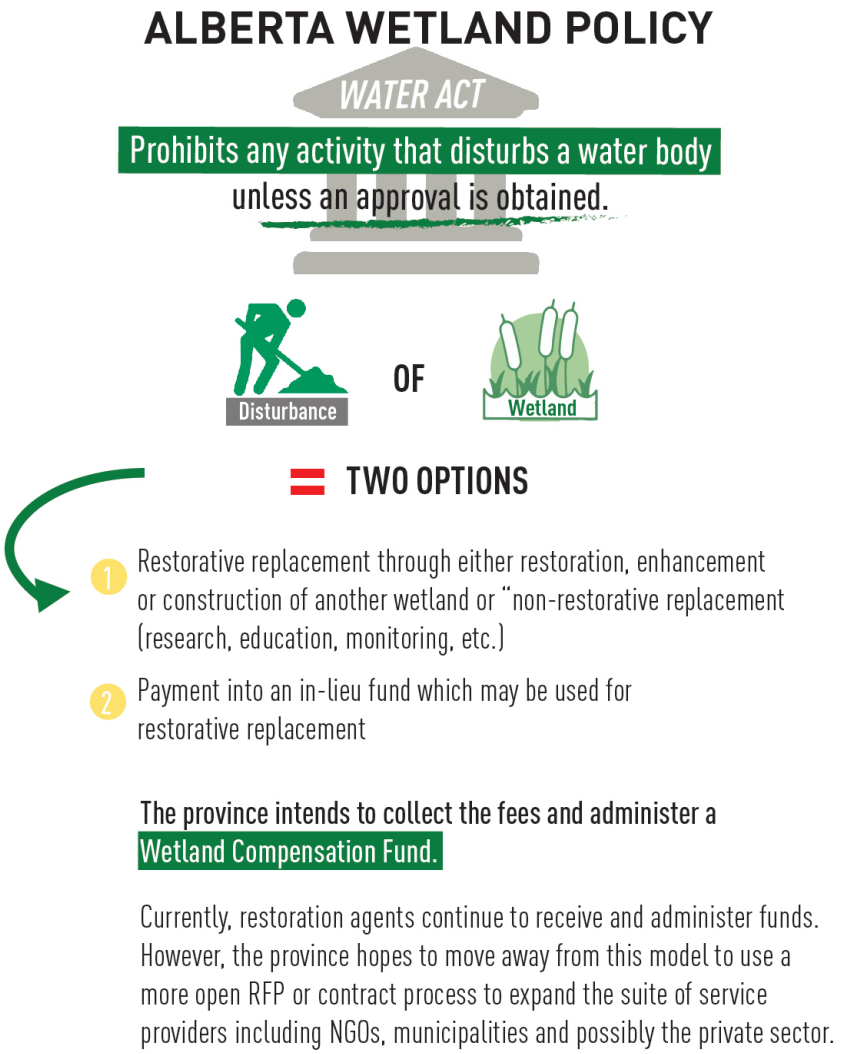
In the cases of both the moose offset program and the caribou recovery program the option of the required funds being paid to and administered by a government agency was rejected because of the legal complexity that would involve (as discussed above in the Part II) and community, First Nations, and stakeholder wishes to keep the funds out of government hands.

Alberta Wetland Policy

The only provincially-regulated conservation offset program currently operating in Alberta applies to wetlands. The Alberta Wetland Policy,[168] released in 2013, gives guidance for the application of section 38 of the Province's Water Act,[169] which prohibits any activity that disturbs a water body unless an approval is obtained. The policy sets out the conditions that can be expected for an approval to disturb a wetland.

The stated goal of the policy is to "to conserve, restore, protect and manage Alberta's wetlands to sustain the benefits they provide to the environment, society, and economy," with the intended outcome of "minimiz[ing] the loss and degradation of wetlands, while allowing for continued growth and economic development."[170] Toward this goal the policy prescribes that anyone seeking an approval to permanently disturb a wetland must, after complying with the mitigation hierarchy, provide a replacement. This can take one of two forms. The first is "restorative replacement," which includes "restoration, enhancement, or construction of another wetland."[171] Permittee-responsible replacement is limited to restorative replacement under provincial guidance and standards.

168 *Supra* note 24.
169 *Supra* note 22.
170 Alberta Wetland Policy, *supra* note 24.
171 *Ibid* at 18.



The other option available is to pay into an in-lieu fund, which may be used for restorative replacement or for "non-restorative replacement." The latter term refers to a variety of activities "that must support the maintenance of wetland value, by advancing the state of wetland science and wetland management."[172] This includes the long-term securement of wetlands for conservation, but also research into wetland restoration measures, provincial-level monitoring, wetland inventory and data acquisition, landscape-level

172 *Ibid* at 18.

wetland health assessments and modelling, and public education and outreach programs.[173] The IL fund is to be administered by the provincial government, which will establish a process to determine use of the fund to meet policy direction.

The policy differentiates among wetlands on the basis of their relative contribution to water quality, hydrology, biodiversity, and human uses.[174] They are also evaluated based on their relative scarcity on the regional landscape.[175] Combined, these factors give rise to a "relative wetland value" for each wetland.[176] The extent of an activity proponent's offset obligation is governed by a table of multipliers (ranging from 8:1 to 1:8) based upon the relative wetland value of the wetland lost and the replacement wetland.[177] The resulting multiplier is applied on the basis of area (hectares). The assessment of ILFs is based upon the ratios for the lowest quality replacement wetlands, resulting in the highest set of ratios.[178]

In the case of the in-lieu fee, the area-based offset obligation is converted to money based on rates prescribed for each "relative wetland value assessment unit" (RWVAU: the 21 delineated geographic regions), which currently range from $10,300 to $19,400 per hectare.[179]

The fees are not segregated in the sense that fees from individual developments or RWVAUs are not held separately to apply to offsets that directly correspond. The policy direction, however, is that wetland replacement, whether through permittee-responsible action or through the IL fund is to be prioritized as follows, based on availability of opportunities:

1. Within the same municipal boundary as the wetland loss;
2. Within the same watershed upstream of that municipality;
3. Within the same RWVAU;
4. Within the same natural region; and,
5. In areas of historical wetland loss within the province.[180]

The Alberta Interim Wetland Policy

The 2013 Wetland Policy alters a less formal in-lieu fee system which existed in Alberta for several years

173 *Ibid* at 18.
174 *Ibid* at 11.
175 The delineation of the regions, known as "relative wetland value assessment units" (RWVAUs) can be in the Alberta Wetland Mitigation Directive, *supra* note 84.
176 Alberta Wetland Policy, *supra* note 24 at 11-13.
177 *Ibid* at 19.
178 *Ibid* at 20.
179 Alberta Wetland Mitigation Directive, *supra* note 84 at 11.
180 *Ibid* at 7.

prior. Under the interim policy of 1993[181] and the Provincial Wetland Restoration/Compensation Guide of 2007[182] development proponents were required to make payments to a third party "wetland restoration agent" sufficient to fund restoration work on at least a 3:1 ratio. Under that system the restoration agent estimated the cost of restoration, sets the amount of the payment required of the development proponent, collects the payment from the proponent, and reports to the province on work done. The wetland restoration agent held a memorandum of understanding with the Province setting out its obligations to carry out the restoration and accounting therefor, including providing a detailed report annually to Alberta Environment and Parks.[183]

The wetland restoration agent in the vast majority of cases has been Ducks Unlimited Canada. The other agents have been the County of Vermillion River and the City of Calgary. Calgary has found the role to be particularly challenging as it has been faced with using IL funds in a situation where there is a moratorium on new water licenses and there are legal restriction on its ability to acquire an interest in land outside the municipal boundary.[184]

Policy Transition

The transition from the interim policy arrangements to the implementation of the 2013 policy is now well underway but not entirely complete. Going forward, the province intends to collect the fees and administer a Wetland Compensation Fund. Until that process is complete, however, the restoration agents continue to receive and administer funds. The Province's intention is to move away the use of a small number of designated restoration agents to a more open process to receive proposals for grants and contracts that could engage a larger suite of service providers including non-government organizations, municipalities, and possibly the private sector.[185]

While the Alberta government is looking forward, the experience to date has produced challenges that should be recognized by system designers. Like several cases in this report and perhaps all of those concerning wetlands, Alberta's ILF system began as informal practice with little legislative foundation other than general statutory authority to put conditions on approvals. The policy that has followed in Alberta's case is one of the least prescriptive examples given its non-measurable goals for wetland conservation and allowable spending of funds on "non-restorative replacement". Multiple Alberta government staff

181 Alberta Water Resources Commission, *Wetland Management in the Settled Area of Alberta: An Interim Policy* (Edmonton: Alberta Water Resources Commission 1993), online (Alberta Environmental Protection): <http://aep.alberta.ca/water/education-guidelines/documents/WetlandManagementSettled-InterimPolicy.pdf>.

182 Alberta Environment, *Provincial Wetland Restoration/Compensation Guide* (Edmonton: Alberta Environment, 2007), online (Alberta Environmental Protection): <http://aep.alberta.ca/water/education-guidelines/documents/WetlandRestorationCompensation-Guide.pdf>.

183 Bishop interview, *supra* note 89.

184 Interview with Chris Manderson, Urban Conservation Lead, City of Calgary, April 28, 2017.

185 Neupane interview, *supra* note 9.

have stated that spending on activities such as education, research and monitoring will be limited to 10% of the money, that figure based on the tolerance expressed by stakeholders.[186] However, as discussed below, there are barriers to spending on restoration to date that have allowed funds to accumulate.

Some questions in Alberta around the pricing of fees, expectations on the delivery agents and the resulting outcomes resemble those faced by the U.S. wetlands system in its early years prior to the imposition of binding regulations.

Despite the categories of wetlands and relative replacement values outlined in the Wetland Policy and the amount of fee per hectare for each region in the subsequent Mitigation Directive, it is not clear from the documents how these amounts are arrived at. According to government staff, the approximate breakdown of the fees is 40-50% land costs, 30-35% actual restoration, 10% monitoring and 10% administration.[187] Government staff further communicate that the most variable of these factors is land costs.[188]

Spatial variation in land costs are known to favor a relocation of wetlands on the landscape from urban to rural areas.[189] In the City of Calgary example, land costs are such that the fees are inadequate for acquiring an equivalent area of land to the wetland destroyed. For example, the Wetlands Living Laboratory Project conducted by the Alberta Land Institute estimated the costs of restorations to offset impacts near the City to be in the range of $31,000 as compared to a fee of $19,000 prescribed in the Mitigation Directive.[190] Any inadequacy of fees will be aggravated if there are delays in payments out of the fund and land costs rise over that time.

Once the province takes over administration of the fund, there will be an additional need to establish a decision-making structure and identify eligible recipients for payments from the fund.

Other tensions around the appropriate fund administrators and the legal status of the pot of money resemble those faced by British Columbia today. None of the policy documents to date provide any prescriptions on the keeping of separate accounts and reporting by the in-lieu fund administrators. The small number of wetland restoration agents has allowed such aspects of this relationship to be dealt with by memoranda of understanding, administrative practice, and the internal policies of the province and the agent. Government staff and Ducks Unlimited Canada have consistently communicated that the money is kept in separate accounts, and that the agent must report on the finances and work done.[191] Nonetheless, persons without direct involvement in this system maintain concern around transparency and

186 *Ibid*; Hebben interview, *supra* note 70.
187 Neupane interview, *supra* note 9.
188 *Ibid.*
189 The tendency of differential land values influencing offset systems to move ecosystem features away from urban areas has been noted in Dennis King & Luke Herbert, "The Fungibility of Wetlands" (1997) 19 National Wetlands Newsletter 10.
190 Peter Boxall and Shari Clare, personal communication, October 26, 2017.
191 Bishop interview, *supra* note 89; Hebben interview, *supra* note 70.

accountability.

Going forward, the challenge will be to keep the provincial Wetland Compensation Fund from being deemed general revenue and vulnerable to appropriation for other purposes. Government staff have communicated the existence of internal resistance to a legislated "fund" and have expressed preference for a form of departmentally administered "dedicated revenue account" within the General Revenue Fund.[192] There are also a number of existing funds that may be more available for administering in-lieu fees than is realized and which may warrant further exploration. These various options are discussed further below.

Alberta Climate Change and Emissions Management Regime

While Alberta has seen the evolution of its wetland conservation system toward the use of ILPs, it has also had to experience of a highly structured ILP system in the field of greenhouse gas (GHG) management. The Alberta climate change and emissions management (CCEM) regime provides one of the clearest examples of in-lieu fee systems within the subject jurisdictions. In the early years of the 2013 wetland policy, the GHG regime was considered to be a design precedent in Alberta[193] and the past ten years of experience with the model shows evidence of pros and cons.

The model of offsetting, including in-lieu fees, is expressly prescribed by the Climate Change and Emissions Management Act[194] (CCEMA) and regulations thereunder. That regime prescribes a ceiling on per-unit GHG emissions for those enterprises to which it applies, and sets up offsets and ILF options as a means of compliance.

The CCEMA defers the definition of "offset" to regulations to Cabinet regulations.[195] The provisions authorizing Cabinet to make regulations clearly contemplate financial payments as such regulations may provide for:

- The description and nature of offsets;
- The maximum prices and penalty prices;
- Compliance options at the maximum or penalty prices; and,
- Payment into the CCEM Fund of any amounts payable to the Government under the regulations.[196]

The CCEMA further allows regulations under the Act to incorporate guidance documents, standards and

192 See *ibid* and Neupane interview, *supra* note 9 re resistance.
193 David W Poulton, *Biodiversity and Conservation Offsets: A Guide for Albertans* (Calgary: Canadian Institute of Resources Law, May 2015) CIRL Occasional Paper #48, online: CIRL <http://prism.ucalgary.ca/retrieve/44155/BiodiversityOP48x.pdf>.
194 *Supra* note 61.
195 *Ibid*, s 1(a.3) and s 5.
196 *Ibid*, s 5(a) through (g).

codes developed by the Minister.[197]

Pursuant to that legislation, the Specified Gas Emitters Regulation (SGER) creates three distinct compliance

mechanisms available to regulated GHG emitters that exceed their GHG targets: "offsets", "performance credits", and "fund credits".[198]

An emitter can come into compliance by one of:

- Purchasing an offset credit produced by the actions of non-regulated sectors to reduce GHG outputs;
- Purchasing emissions performance credits from other regulated emitters who have exceeded their own required GHG reduction; or,
- Make a payment at a prescribed rate into the CCEM fund (see description below).

Separate provisions on the three compliance options establish that payment to the CCEM fund is truly a fee "in-lieu" of offsets, while the other two options are means of acquiring credit for GHG reductions from beneficial work already done.

"Fund credits" are credits obtained by contributing money to the Climate Change and Emissions Management Fund (CCEMF).[199] Fund credits may only be used by one party to meet targets within a year and must be used according to ministerial guidelines issued under the Act. It is fund credits which are most analogous to ILPs for other environmental media.

Ministerial orders may establish what contribution to the fund is equal to one tonne of CO_2 reduction. The fee price was $15 from the beginning of the regime until 2015. The price was raised in 2016 to$20,[200] and the intention of the Province is to raise is further to $30 in 2018.[201] This increase in price came after a change in the governing political party and a new Climate Change Policy.[202]

The regulation includes a disclaimer that it does not guarantee the availability of emission offsets or emission performance credits.[203] However, payment of the fee is always available. This certainty of availability of funds credits may be another factor why such an ILF arrangement is attractive to proponents.

197 *Ibid*, s 61(1).
198 *Supra* note 87, s 7, 8, 9.
199 *Ibid*, s 1(1) (l); s 8(k).
200 Alta Reg 12/2017.
201 Government of Alberta, *Fiscal Plan 2017-20* (Edmonton: Government of Alberta, 2017) at 59.
202 An overview of the Alberta Government "Climate Leadership Plan" can be found online *ibid* and at <https://www.alberta.ca/climate-leadership-plan.aspx>.
203 *SGER*, *supra* note 87, s 10(2).

CCEMA establishes the CCEM Fund, sets the allowable purposes of the fund and provides for payments out of the fund.[204] The Act assigns administration of the fund to the Minister, however it allows for the delegation of authority. The Climate Change and Emissions Management Fund Administration Regulation delegates the Minister's duties and powers respecting the holding and administration of the fund to the Climate Change and Emissions Management Corporation (CCEMC).[205] The regulations authorize the Minister to enter agreements with CCEMC respecting any matter delegated to it, including how the CCEMC administers money paid out of the fund to itself.[206]

The CCEM Corporation has recently changed its trade name to Emissions Reduction Alberta (though we will continue to use the former acronym for purposes of this report).[207] The regulations anticipate name changes of the corporation and continue to apply in the same manner.[208]

The regulations establish several features of the CCEMC as a non-government entity subject to Ministerial oversight. For example:

- the CCEMC is not an agent of the Crown.[209]
- the Alberta FAA does not apply to the CCEMC respecting a delegated duty, function or power.[210]
- If the CCEM C proposes to change its objects or bylaws then it must give notice to the Minister.[211]

Further provisions of the regulations discussed below make the CCEM Corporation subject to auditing, reporting, access to information and record keeping requirements.

The performance of the CCEM regime has been subject to multiple reviews and follow-ups by Alberta's Auditor General since 2008.[212] The Auditor General has articulated concerns with the offset system under the SGER in general and some of its concerns should be considered in the design of any ILP program. Recommendations include:

- Clarify guidance to facilities and to verifiers of emissions intensity measurement;
- Ensure that facilities follow departmental requirements in estimating emissions levels;

204 *Supra* note 13, s 10(1)
205 Alta Reg 120/2009, s 2(1). [Fund Admin Regulation]
206 *Ibid*, s 8
207 "About ERA" online: <http://www.eralberta.ca/about-era/>.
208 Fund Admin Regulation, *supra* note 205, s 2(2)
209 *Ibid*, s 10
210 *Ibid*, s 7
211 *Ibid*, s. 9
212 See the collective reports cited at *supra* note 102.

- Improve approach to ensure legitimacy of offsets;
- Make sure protocols for offsets follow department's standards; and,
- Assess whether regulatory process was cost effective.

As of 2015 the Auditor General continued to express concern with insufficient measures to address risks in the offset system. This included lack of assurance the specific types of offsets were real and that offsets were only used once for compliance purposes. [213]

The Auditor General also originally recommended assessing the cost effectiveness of the Specified Gas Emitters Regulation. In 2015, the Auditor General found that the department has assessed the cost effectiveness of SGER from 2009 to 2013 and concluded that it was cost effective and provided a net benefit, yet continued to express concerns with the department's assessment. One such concern was that the cost-benefit analysis did not include the money granted to projects through the CCEM Fund.

The Auditor General's recommendation to include the dollar impact of the Fund has been implemented. However, he found no clear public reporting of results of the regulatory regime in relation to targets and total costs. Another ongoing concern of the Auditor General in relation to the cost-benefit assessment of the regulatory system has been with lack of data around the compliance costs on industry.

Most of the Auditor General's reviews have not focused on the option or mechanisms for IL payments into the CCEMC. In one of the few direct references, the Auditor General in its 2009 report found that there was good reliability in the tracking of payments into the CCEMC and that it could give an unqualified audit opinion on the financial statements of the Corporation.[214] Beyond the particulars of the CCEMC operation, there are several aspects to this regime that hold relevance to the design of ILP schemes generally.

Most significantly for the purposes of this study, one of the persistent critiques of the Auditor General pointed to the lack of a system (over several years) to track and publicly report on the progress toward the GHG program goals. This alludes to a key factor in evaluating offset and ILP schemes and conferring credibility upon them.

Further, the mandate of the CCEMC is an example of allowing the use of fees on activities like technological research and development that are not likely to produce direct or measurable emissions reductions. This is analogous to the question that has arisen in other system (including the new Alberta wetland policy) of whether research and education is an appropriate use of IL funds.

The performance of the CCEM regime is not subject to independent third party oversight other than

213 Auditor General 2015 re SGER, *supra* note at 102.
214 Auditor General 2009, *supra* note 102 at 36.

general mechanisms such as the Auditor General, and, as we have just seen, the Auditor General has been repeatedly critical of the regime.

There is no limit on when operators may pay fees in-lieu of offsets. The fee amount is often less than the cost of offset credits or performance credit, so fees are the most frequently used option. Predictably, this means that the prescribed price of fund credits through the CCEMC have operated as a ceiling on the price of all other offset mechanisms, limiting the development of those potential markets.

Consideration of the CCEM regime as a precedent for in-lieu fee systems must also recognize its uniqueness. To begin, GHG is a more uniform and fungible commodity than wetlands, wildlife habitat or other ecosystem components. This is an inherently easier context in which to price and direct the use of fees.

Finally, the CCEM regime is the only model in this study where payments into a fund are a compliance option for current operators rather than a condition on new project approvals. The closest other example is the BC Hydro FWCP program where funding by the proponent is ongoing, but even then this funding activity is tied to conditions on approvals rather than to an entirely separate regulatory obligation.

The CCEM regime is distinctive among our case studies in that it is highly formalized through statute, regulations and executive orders. These instruments provide clear legal authority to require offsets and allow ILPs. It establishes a mechanism for setting fees, a legally distinct fund and an arms-length management corporation. Failings of the CCEM regime cannot be blamed on ad hoc practice in the absence of policy guidance, and the statute expressly enables any necessary improvements.

New Brunswick Wetlands Policy

The New Brunswick wetlands system offers proponents both project-specific offsetting and an ILP option for projects the impacts of which cannot be avoided or negated through minimization. The ILP component resembles the Alberta interim wetland system. The general model is one where non-legislated wetland policy goals are supported by broad regulatory authority to put conditions on approvals backed by guidance documents on permissible compensation activities. There is an established practice of direct payments to third parties and a proposal for a government-administered IL fund.

New Brunswick's wetland policy is framed in the language of no net loss, but on the policy's face contains no offset mechanism to produce the environmental positives that would yield that result.[215] That mechanism is provided, however, in draft operational protocols (the "Draft Protocols").[216]

215 New Brunswick Natural Resources and Energy & New Brunswick Environment and Local Government, *New Brunswick Wetlands Conservation Policy* (July 2002), online: <http://www2.gnb.ca/content/dam/gnb/Departments/env/pdf/Report-Rapport/WetlandsTerresHumides.pdf> [NB Wetland Policy].

216 New Brunswick Department of the Environment, *Wetland Mitigation Operational Protocols*, (Draft) June 19, 2009 at 3-4. (unpublished, copy on file with the author) [NB Draft Protocols].

The policy has two broad objectives: 1) the maintenance of wetland function, 2) securement, stewardship, education, and awareness of wetlands. The first objective is distilled into two more detailed objectives and policy lines: no loss of Provincially Significant Wetland habitat, and no net loss of wetland function for all other wetlands.[217]

No development activity is permitted in Provincial Significant Wetlands (PSWs) (or within 30 metres) unless its purpose is restoration or it is deemed to provide a "necessary public function." The Draft Protocols clarify that no private development will be allowed in PSWs, and public development (such as highways) will be subject to a high standard of avoidance requiring a public proponent to demonstrate "that practicable alternatives to wetland alteration have been adequately considered."[218]

Offsetting comes into play in the pursuit of no net loss of all other wetlands. According to New Brunswick law, any alteration within 30 metres of a wetland requires a Watercourse and Wetland Alteration (WAWA) permit, which may be granted "upon such terms and conditions as the Minister may impose."[219] This involves a review process, based on a truncated form of the mitigation hierarchy: avoidance in the planning stage, activity minimization, and specific mitigation techniques during construction. This sequence is expanded by the Draft Protocols to include compensation for residual impacts.

The discussion of compensation in the Draft Protocols is significant, and is complemented by a published Fact Sheet on the subject.[220] The Draft Protocols make clear that compensation is only to be considered as the final step in the mitigation hierarchy:

> Compensation is not an option routinely available, and is not considered an alternative to project design that avoids and/or minimizes impacts on wetland area and function. This option will not be made available unless DENV [now DELG: Department of Environment and Local Government] is satisfied that all reasonable and practicable alternatives have been explored and exhausted.[221]

The Draft Protocols, a government Fact Sheet and statements of departmental staff imply some challenges in characterizing financial compensation options, as these options are described differently by these different sources.

The Draft Protocols articulate the three potential forms of compensation. [222] Type 1 is "permittee-responsible" compensation, stated to be the "existing approach". Type 2 is the "in- lieu fee", stated to be

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217 NB Wetlands Policy, *supra* note 215.

218 NB Draft Protocols, *supra* note 216. The term "practical alternatives" is defined in the protocols as "[a]vailable and feasible options considering cost, existing technology and logistics based on the overall purpose of the project" (at 2).

219 *Clean Water Act,* SNB 1989, c C-6.1, s 15; *Watercourse and Wetland Alternation Regulation,* NB Reg 90-80 *s* 8,9.

220 New Brunswick, *Fact Sheet: Wetland Compensation in New Brunswick* (n.d., unpublished, copy on file with the authors] [NB Fact Sheet].

221 NB Draft Protocols, *supra* note 216 at 4-5 [underlining in original].

222 *Ibid.*

the "proposed approach". In-lieu fees are defined by the Draft Protocols as fees "paid into a government-managed Wetland Restoration Fund". [223] This option would allow permittees to transfer a criteria-based fee to the fund, and third parties would apply to the fund with proposals for restoration projects. The permittee's compensation requirements would be satisfied by the fee transfer and the designated third party would become responsible for success of compensation activity. This approach was "not available" as of the date of the Protocols in 2009, and remains an undeveloped proposal.[224] Type 3 is mitigation banking, deemed a "potential future option for discussion".

In contrast to the Draft Protocols, departmental staff (and a published Fact Sheet) describe the current practice as providing two options: permittee-responsible or third party compensation.[225] .

Proponents can locate a compensation site and complete their own compensation projects. In such cases proponents may be required to prepare a Wetland Compensation Plan and submit it for approval to the Wetland Mitigation Technical Review Committee (WMTRC), a multi-agency committee chaired by the Provincial Wetland Specialist.[226] In this process a proponent may employ the services of a Wetland Compensation Consultant (WCC). The Fact Sheet describes WCCs as "individuals with a combination of education in wetland restoration, delineation, hydrology, wetland soils and botany, and have a minimum of 5 years field and/or demonstrated experience in providing successful wetland compensation projects." [227]

Alternatively, proponents can contract with a WCC, the proponent paying for (and receiving credit for) a wetland compensation project that has been pre-arranged and pre-approved for the WCC.[228] In the Fact Sheet, WCCs are invited to create an inventory of potential projects and submit these projects to the WMTRC for pre-approval to assist in matching projects to the requirements of proponents.[229] The most prominent WCC is Ducks Unlimited Canada, which does maintain such an inventory.[230] Note that while this arrangement with WCCs resembles mitigation banking in the projects are identified, designed and approved in advance of the triggering development, it departs from the banking model in that the projects are not actually carried out until contracted for by a development proponent as required by the WAWA permitting process. The use of a WCC inventory, therefore, is still a form of permittee-responsible mitigation, though an innovative and commendable one.

A third, less formal arrangement is available for smaller projects which may not be subject to environmental assessment or for which specific offset planning may not be cost-effective. In these cases,

223 *Ibid* at 8-9.
224 Ward interview, *supra* note 90.
225 New Brunswick Experience, *supra* note 93; NB Fact Sheet, *supra* note 220.
226 NB Draft Protocols, *supra* note 216 at 8.
227 NB Fact Sheet, *supra* note 220 at 5.
228 NB Fact Sheet, *supra* note 220 at 2.
229 *Ibid* at 2.
230 Ward interview, *supra* note 90.

regulators invite the proponent to contact Ducks Unlimited Canada and negotiate a payment that is, in the opinion of DUC, sufficient to provide a comparable compensation wetland. This is the only current ILP aspect of the New Brunswick system, and must be clearly distinguished from the proposed ILP system set out in the Draft Protocols.

In such cases the Province plays no role in setting the amount of the payment. Payments are pooled by DUC, so there is no direct one-to-one correspondence between a development and an offset project. DUC takes on the liability of establishing the compensation wetland, and accounts for funds and activities annually to the Province, an arrangement formalized by a memorandum of understanding between the Province and DUC.[231] The proponent is not, however, entirely relieved of its liability, as it would continue to be held responsible in the unlikely event that DUC defaulted on its obligations.[232]

In practice the great majority of compensation obligations are met by direct payments to Ducks Unlimited Canada.[233] This is likely because of quick turn-around time and administrative simplicity. To repeat, DUC plays two roles: one as WCC with an inventory of pre-approved projects and the other as the recipient of less formal ILPs for smaller projects.

The Draft Protocols dictate that proponents bear the minimum cost of replacing or restoring lost wetland function on a per hectare basis and that all in-lieu fees (here referring to the potential payment into the provincial fund that does not yet exist) should be multiplied by a ratio of 2:1 applied to the area disturbed.[234] In practice, the payment amounts are arranged with DUC without involvement of provincial authorities.[235] As with permittee-responsible mitigation, DUC is required to submit all Wetland Compensation plans to the WMTRC. DUC is required to deliver on prescribed timelines. In the New Brunswick model compensation projects must be completed no later than 18 months from the issuance of the specific permit in which the need has been determined.[236]

The key difference between the practice of direct payments and the proposal for in-lieu fees in New Brunswick may be transfer of liability. The Fact Sheet states that where payments are made to a WCC, the liability for compensation remains with the proponent.[237] The Draft Protocols propose that if the provincial fund is established then payment of the fee to that fund will relieve the proponent of liability.[238] To repeat, however, that fund is currently only a proposal, and liability stays with the proponent under the current ILP system.

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231 *Ibid.*
232 *Ibid.*
233 Interviews with Christie Ward, September 9 & 16, 2016 [Ward 2016].
234 NB Draft Protocols, *supra* note 216 at 7.
235 *Ibid.*
236 Ward 2016, *supra* note 233.
237 NB Fact Sheet, *supra* note 220.
238 NB Draft Protocols, *supra* note 216 at 5.

Some recent developments in New Brunswick suggest a perpetuation of current practice while also recognizing challenges with the same. A provincial Long Term Wetland Management Strategy document produced in 2012 does not mention the proposed provincial fund and implicitly endorses direct payments to third parties, stating that: "The Department will work with Stakeholders to develop a process that allows proponents the option to meet wetland compensation requirements, necessary to counteract wetland loss, through a third party partnering organization(s)."[239]

The challenges with wetlands compensation to date are set out in 2014 presentation by New Brunswick government staff.[240] Several of these challenges resemble those experienced in other jurisdictions. The New Brunswick list includes:

- Restoration is preferred over enhancement, creation and lastly preservation;
- Timelines for proposed alteration and compensation;
- Written guidance on compensation is currently minimal;
- Long term monitoring of compensation projects is required to ensure success;
- Land ownership and applicability of environmental regulations to compensation projects; and,
- Difficult to measure success of no net loss of function.[241]

The 2014 presentation further suggests that standards for agreements with compensation service providers will be developed.

United States Federal Wetlands System

The United States federal system of "compensatory mitigation" for impacts on wetlands is one of the most established examples of a conservation offset system. One of its distinctive features is the robust involvement of private third parties to assume offset obligations from developers. This involvement takes the form of both wetland credit banking and the private sponsorship of in-lieu fee programs. Much of the responsibility for ILF design and administration is allocated to private third party "in-lieu sponsors." Sponsors are subject to close government oversight, but also have the opportunity to customize program features to particular ecological, economic, or social conditions.

One pillar of the system is statutory authority to put conditions on permits for dredging and filling activ-

239 Government of New Brunswick, Long-Term Wetland Management Strategy (2012) Department of Environment, online: <http://www2.gnb.ca/content/dam/gnb/Departments/env/pdf/WetlandStrategyStrategieTerresHumides.pdf>.

240 New Brunswick Experience, *supra* note 93.

241 *Ibid.*

ities that would otherwise be subject to general prohibitions under the federal Clean Water Act.[242] Another pillar is a history of non-legislated policy goals of no net loss of wetland area and function.[243] The statute provides that permitting is to apply guidelines.[244] The guidelines in turn are made in the form of regulations that define "compensatory mitigation" as "offsetting" that is to occur after impacts have been avoided and minimized.[245]

Responsibility for the wetlands mitigation regime is split between two agencies. The program is administered by the US Army Corps of Engineers (USACE) through a network of regional offices which hold substantial discretion in considering permits. Policy and regulatory guidance, however, is provided by the EPA.

Compensatory mitigation practice including the use of ILFs began in in the 1980's in an ad hoc manner and became increasing formalized over time. Historic policy developments with implications for ILFs included:

- A Mitigation Memorandum of Agreement between the US Army Corps of Engineers (USACE) and the Environmental Protection Agency (EPA) in 1990 (the "1990 Mitigation MOA");[246]
- The Federal Guidance for the Establishment, Use and Operation of Mitigation Banks in 1995 (the "1995 Banking Guidance");[247] and,
- The Guidance on the Use of In-Lieu-Fee Arrangements in 2000 (the "2000 In-Lieu Fee Guidance").[248]

None of the above documents were legislated and therefore were not binding on regulators, development proponents or mitigation providers. Furthermore, their status has been altered by significant regulatory reforms in 2008, discussed below. Nonetheless, these documents remain important for having provided policy guidance that enabled, formalized, and constrained the use of ILFs in response to the issues discussed in this study.

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242 *Clean Water Act*, 33 USC § 1251, § 301(a), regarding general prohibition on discharge of pollutants; § 404(a) regarding exceptions for permitted dredging and filling. [*Clean Water Act*].

243 NRC Report, *supra* note 10.

244 *Clean Water Act*, 33 USC § 1251, § 404 b) regarding application of guidelines.

245 2008 Final Mitigation Rule, *supra* note 18.

246 *Memorandum of Agreement between Department of the Army and the Environmental Protection Agency, The Determination of Mitigation under the Clean Water Act Section 404(b)(1) guidelines,* 55 Fed Reg 9210, online: <https://www.epa.gov/cwa-404/memorandum-agreement> [1990 Mitigation MOA,] [further citations to EPA document online].

247 *Federal Guidance for the Establishment, Use and Operation of Mitigation Banks*, 60 Fed Reg 58605 at 58613. Available online: <https://www.epa.gov/cwa-404/federal-guidance-establishment-use-and-operation-mitigation-banks> [1995 Banking Guidance].

248 Department of the Army, et al, *Federal Guidance on the Use of In-Lieu-Fee Arrangements for Compensatory Mitigation under Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act*, online: <https://www.epa.gov/cwa-404/2000-lieu-fee-mitigation-guidance> [2000 In-Lieu Fee Guidance].

The 1990 Mitigation MOA provided recognition by the system administrators that "off-site" compensatory mitigation was permissible if "on-site" compensatory mitigation was not practicable.[249] It thus laid the policy groundwork for offsetting. It expressly considered mitigation banking and was silent on ILFs apart from suggesting caution around mere payment for preservation measures as a form of compensation.[250]

Formal policy on ILFs first appeared in the 1995 Banking Guidance. It presented the possibility of ILF arrangements as an acceptable means of delivering compensatory mitigation only under certain circumstances where:

> [USACE finds that] they meet the requirements that would otherwise apply to an offsite, prospective mitigation effort and provides adequate assurances of success and timely implementation. In such cases, a formal agreement between the sponsor and the agencies, similar to a banking instrument, is necessary to define the conditions under which its use is considered appropriate.[251]

The 2000 In-Lieu Fee Guidance further defined ILFs as mitigation that occurs where "a permittee provides funds to an in-lieu-fee 'sponsor' instead of completing project-specific mitigation or purchasing credits from a mitigation bank".[252]

The 2000 In-Lieu Fee Guidance was a response to the growth in ad hoc ILF use since 1990. In the absence of any explicit legal authority for the USACE to charge a fee to cover mitigation costs, USACE personnel in the field were informally recommending developers make payments or donations to third party conservation groups, often with little oversight or accountability.[253] Gradually regional offices developed their own guidelines on this practice, such that there was a growing need for formalization and uniformity.[254]

The 2000 In-Lieu Fee Guidance reiterated and expanded upon several of the themes and principles from the earlier Banking Guidance, including the importance of the mitigation hierarchy, and the preference for on-site mitigation and in-kind mitigation over their alternatives. It also clearly expressed a preference for the satisfaction of compensatory mitigation obligations through use of banked mitigation credits over the use of ILFs.[255] Where ILF arrangements were to be established, the following considerations were prescribed:

1. The competency and reliability of any proposed ILF sponsor was to be demonstrated to USACE and federal resource agencies;

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249 1990 Mitigation MOA, *supra* note 246.
250 *Ibid* at 4.
251 1995 Banking Guidance, *supra* note 247 at 58613.
252 2000 In-Lieu Fee Guidance, *supra* note 248 at 1.
253 Gardner 2011, *supra* note 10 at 132-133.
254 2000 In-Lieu Fee Guidance, *supra* note 248 at 3.
255 *Ibid* at 4.

2. The prospective ILF sponsor was to provide USACE with a detailed plan setting out potential restoration sites, a schedule for implementation, the type of restoration proposed, and the financial, technical and legal mechanisms to be used to accomplish the intended outcome;

3. Proposed ILF mitigation projects were to address any objectives set by watershed planning processes;

4. The proposed location of the ILF project was to be assessed for its ecological suitability relative to other ecological features, hydrological functions and surrounding land uses;

5. The technical feasibility of the project to meet its intended goals and to be self-sustaining over time was to be assessed by reference to the success record of proposed techniques;

6. Preservation alone (of an existing wetland) was to be used as a mitigation technique "only in exceptional circumstances;"

7. ILF funds collected were to be used only for replacing wetland functions and not for educational projects or research, with funds being set at a level adequate to accomplish the required mitigation including any application of multipliers;

8. Monitoring and management were to be the responsibility of the ILF sponsor and all legal and financial arrangements necessary for that were to be demonstrated.[256]

In order to satisfy these considerations the 2000 ILF Guidance set out a process whereby a prospective ILF sponsor was to apply to USACE with a detailed mitigation and operation plan, which, if accepted after negotiation, would form the basis for a formal ILF agreement.[257] Then, as now, any private party or government agency (including municipal or state agencies) could apply to be an in-lieu sponsor.

These principles were helpful, for the ILF program as it existed prior to 2000 came under stinging critique from official sources.

A 2001 review by the U.S. General Accounting Office looked at the in-lieu fee program as it existed prior to the 2000 guidance.[258] The GAO found that it was impossible to assess progress to the no net loss goal because many regional USACE offices did not secure firm arrangements with in-lieu sponsors, and failed to collect reports on the ecological success of mitigation measures.[259] Further, the GAO found that in 24 of the 38 USACE districts developers were occasionally allowed to make payments to organizations that

256 *Ibid* at 4-7.
257 *Ibid* at 7-8.
258 United States General Accounting Office, *Wetlands Protection: Assessments Needed to Determine Effectiveness of In-Lieu-Fee Mitigation* (GAO-01-325) (Washington, DC: United States General Accounting Office, 2001), online: GAO <http://www.gao.gov/products/GAO-01-325>.
259 *Ibid* at 11.

were neither authorized banks nor in-lieu sponsors, and that these arrangements were not routinely tracked.[260] The review took notice of the development of the 2000 In-lieu Guidance and expressed hope that close adherence to that guidance would improve the situation.[261] A second GAO report in 2005 reviewed the compensatory mitigation system for wetlands overall and found pervasive problems with lack of accountability, record-keeping and follow up, indicating that the ILF aspects of the program were not alone in these shortcomings.[262]

Similar findings were the result of a review carried out by a special expert committee of the National Research Council (NRC) at the request of the EPA, released in 2001.[263] The review was based primarily on previously published studies and selected case studies. The first part of the NRC report was a review of the adequacy of techniques for wetland restoration and creation. The second part focused on administration of the wetland compensatory system, and was highly critical. After reviewing a large number of regional and local case studies in wetland mitigation, the committee found that in some cases even the most basic requisite functions of compensation scheme were not being carried out.[264] In some cases no mitigation was required at all, while in others no mitigation plan was required or the performance standards were too vague or unrelated to the values at stake to be useful.[265] Where there was a clear mitigation prescription, in some regions the prescribed measures were never taken in as much as fifty percent of cases reviewed.[266] This happened because inspections for compliance were rarely carried out.[267] Given these problems, the committee expressed skepticism as to whether the goal of "no net loss" was being met:

> [T]he literature on compensatory mitigation suggests that required mitigation projects often are not undertaken or fail to meet permit conditions. Therefore, the committee is not convinced that the goal of no net loss for permitted wetlands is being met for wetland functions. The magnitude of the shortfall is not precisely known and cannot be determined from current data.[268]

The NRC report did not identify problems specific to the ILF aspect of the wetland mitigation program, but its findings are consistent with the deficiencies in the ILF program identified by the GAO. Again, however, it is important to note that both these studies were looking at the situation as it existed prior to the 2000 In-Lieu Fee Guidance.

260 *Ibid* at 14.
261 *Ibid* at 12-13.
262 United States Government Accountability Office, *Wetlands Protection: Corps of Engineers Does Not Have Effective Oversight Approach to Ensure That Compensatory Mitigation is Occurring* (GAO-05-898) (Washington, DC: United States Government Accountability Office, 2005), online: GAO <http://www.gao.gov/cgi-bin/getrpt?GAO-05-898>.
263 NRC Report, *supra* note 10.
264 *Ibid* at 95-101.
265 *Ibid* at 95.
266 *Ibid* at 101.
267 *Ibid* at 101, 110-112.
268 *Ibid* at 3.

A report published in 2006 by the Environmental Law Institute (ELI) sought, in part, to examine the degree of uptake on 2000 In-Lieu Fee Guidance and the critiques and recommendation from the NRC committee, the GAO, and other sources.[269] The authors examined the 38 active, approved ILF programs identified across the U.S. in October 2005, of which 16 had been approved since the 2001 In-Lieu Fee Guidance. They found that "in vast majority of cases, in-lieu fee mitigation is not being carried out in a manner that fully addresses the recommendations offered by existing studies and guidance."[270]

One lasting contribution of ELI report was the identification of twenty-three criteria ("recommended standards") for an effective ILF program, drawn from the 2000 In-Lieu Fee Guidance, the NRC and GAO reports, and other academic studies. The listed criteria include some which are specific to the third party ILF sponsor model used by the U.S., but others which are more broadly applicable. We have reproduced the ELI's recommended standards in Appendix I to this report.

To summarize, by the early years of the 21st century three forms of compensatory mitigation were potentially available to a developer: undertaking compensatory work on its own ("permittee-responsible mitigation"), purchasing credits form an approved mitigation bank, or paying an in-lieu fee to an "in-lieu fee sponsor." Each of these delivery options had grown up with its own norms and expectations, either as guidance from regulators or developed informally in the regional offices of USACE. This ad hoc and decentralized development of policies and procedures led to significant disparities in implementation and the performance problems identified in the official reviews discussed above.

In addition, the differential treatment of the mitigation options gave rise to concerns with fairness. In particular the emerging community of commercial wetland bankers claimed that they were disadvantaged in the marketplace because banking was subject to more stringent processes and performance standards than applied to the other mitigation vehicles. They thus lobbied for a levelling of the playing field.[271] Eventually this brought a legislated direction from Congress to develop equivalent standards "to the maximum extent practicable" for all three forms of mitigation.[272]

The prescribed reforms came in 2008 in the form of a regulation entitled Compensatory Mitigation for Losses of Aquatic Resources ("2008 Final Mitigation Rule").[273] The 2008 Final Mitigation Rule consolidates and expands on the previous guidance documents as well as introducing new requirements on compensatory mitigation measures. Most significantly, the 2008 Final Mitigation Rule provides the new direction to regulators in the form of a legally binding and enforceable regulation.

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269 ELI Report, *supra* note 97.
270 *Ibid* at 5.
271 Gardner 2011, *supra* note 10 at 129. Reference to this concern is found in the commentary to the 2008 Final Mitigation Rule: 73 Fed Reg 19594 at 19600, 19612 (2008).
272 *Defense Authorization Act*, Pub L No 108-136, Sec 3144, 117 Stat 1392.
273 2008 Final Mitigation Rule, *supra* note 18.

Some of the main reforms include:

- A hierarchy of compensatory mitigation options whereby banked credits are most preferred, followed by ILFs, followed by permittee responsible mitigation;[274]
- The establishment of equivalent standards and criteria for permittee-responsible mitigation, mitigation banking, in-lieu fees;[275]
- The requirement of an Interagency Review Team (IRT) comprised of representatives of all federal resource conservation agencies and, optionally, further state, local or tribal agencies with similar mandates to oversee the establishment and operation of banking and in-lieu fee programs;[276]
- Requirements for mitigation plans for all mitigation projects;[277]
- Increased emphasis on wetland functions and services, rather than simply area, as key metrics;[278]
- Promotion of a "watershed approach" to the types and locations of mitigation projects.[279]

The regulations further announced development of an online information tracking system for banking and ILF programs.[280]

While the 2008 Final Mitigation Rule applies to all mitigation options, its opening summary notes that it "significantly revises the requirements for in-lieu fee programs to address concerns regarding their past performance and equivalency (to mitigation banks and permittee-responsible mitigation)".[281] The background provided by the 2008 Final Mitigation Rule recounts the debate over keeping or killing ILFs as a mitigation option.[282] The original proposal for regulatory reform was to phase out the use of ILFs. However, many commentators including state officials opposed the same, noting that in certain areas ILFs are the best (or only) option for compensatory mitigation due to lack of mitigation banks and the impracticality of permittee-responsible mitigation. Commentators further touted the (above mentioned) environmental benefits of ILFs and the harm to IL programs that would occur if held to the same standards as mitigation banks. While these commentators acknowledge problems with ILF administration and performance, these were blamed on policy, or lack thereof, rather than the concept of ILFs. Political realities dictated the regulators keeping all three mitigation options, and preference for mitigation banks was the next best

274 33 CFR § 332.3(b) (2008); 40 CFR § 230.93(b) (2009).
275 33 CFR §332.1(a), 230.93-230-98 (2008); 40 CFR § 332.3-332.8 (2008).
276 33 CFR § 332.8(b), (2008); 40 CFR § 230.98 (2008).
277 33 CFR § 332.4-332.6 (2008); 40 CFR § 230.94 – 230.96 (2008).
278 33 CFR § 332.3(b)(1) (2008); 40 CFR § 230.93(b)(1) (2008).
279 33 CFR § 332.3(c)(2)(i), (2008); 40 CFR § 230.93(c)(2)(1) (2008).
280 This system became known as the Regulatory In-lieu Fee and Bank Information Tracking System "RIBITS", and can be found online at <https://ribits.usace.army.mil/ribits_apex/f?p=107:2>.
281 73 Fed Reg 19594 at 19594.
282 *Ibid* at 19599-19600.

thing to applying banking standards to all options.[283] It is important to note that the 2008 Mitigation Rule retained and elaborated upon the process whereby any private party or government agency could apply to establish and run an ILF program.

Most critical studies of the US system are from prior to the 2008 reforms, and this allows speculation and divergent views on the impact of those reforms. Some commentary views the reforms as improvements and suggests that the legal status of the 2008 Mitigation Rule is "likely to bring far more accountability to the entire compensatory mitigation program".[284] In particular: "the new requirements for in-lieu fee programs will likely contribute significantly to addressing lingering concerns over the mechanism's ability to replace lost aquatic resources in a timely and efficient fashion".[285] However, the ILF reforms were also said to require "significant adjustments" for USACE, the IL sponsors, and the permittees.[286] Other commentary is more guarded, suggesting in 2011 that it was "too soon to tell" and much depends on implementation at the USACE district level.[287] That in turn will depend in largely on what the agency headquarters choose to emphasize as between the regulator's traditional focus on processing permits and the need to uphold rigorous mitigation standards in order to see better results.[288] Agency personnel have suggested that now better records are kept this will allow for thorough study, however that it may be ten to fifteen years before substantive conclusions may be drawn.[289]

CONCLUSIONS

ILPs are by their very nature an alternative to the direct physical delivery of an offset project. As discussed throughout this study, an ILP system effectively converts the ecological values lost to a development to the fungible currency of money, and then reverses the process by using that money to create equivalent ecological values. The risks of this approach are that the full actual cost of replacing the values will be underestimated, the money will be diluted by tangential or unrelated expenditures, or that monies will not be expended to ecological benefit in a timely manner. These risks are increasingly understood, yet ILPs are a common practice that is becoming increasingly recognized by public policy. Perhaps the best summary of this trend comes from commentary on the 2008 regulatory reforms to the US wetlands system. Like multiple invasive species in US wetlands, "in-lieu fees are a hardy species, difficult to keep in check

283 Gardner 2011, *supra* note 10 at 147.
284 Jessica Wilkinson, "In-lieu fee mitigation: coming into compliance with the new Compensatory Mitigation Rule", (2009) 17 Wetlands Ecol Manage 53 at 59.
285 *Ibid* at 59
286 *Ibid.*
287 Gardner 2011, *supra* note 10 at 156.
288 *Ibid at 256.*
289 David Poulton interview with Palmer F. Hough, Environmental Scientist, Wetlands Division, and Jenny Thomas, Environmental Protection Specialist, Office of Wetlands, Oceans, and Watersheds, Wetland Division, United Stated Environmental Protection Agency, April 26,2013; David Poulton interview with David B. Olson, Regulatory Program Manager, United Stated Corps of Engineers, April 25, 2013.

and almost impossible to eliminate."[290] If offsetting is to occur at all then consideration of ILPs is hard to avoid, as is skepticism about their use.

Challenges around establishing a robust ILP system may begin with defining the tool. The common hallmarks of an ILP are that it does not produce a direct offset of a specific development, the compensatory activity for which the money is used occurs in the future, and the development permittee is relieved from liability for the outcomes of this compensatory activity by having made the payment. Yet none of these individual features are universal to all cases studies in this report.

The majority of ILP systems have begun with ad hoc practice that has become formalized at a later date. Such formalization most often occurs through non-legislated policy and guidance documents. Encoding of ILP policy into legally enforceable regulations has occurred only in the most established offset systems. Use of regulations should probably be more common, given the recognized risks of ILPs as a mitigation option, lingering questions of authority, and the potential for the practice of industry regulators to diverge from policy.

On the other hand, ILP systems prescribed by statute from the outset are the least common model and may face barriers to adaptation. The highly formalized ILP systems which exist for GHG offsets, such as Alberta's CCEM regime and that prescribed by British Columbia's Greenhouse Gas Industrial Reporting and Control Act have the benefit of dealing with a set of substances (GHGs) for which there is a well-established and commonly accepted metric and means of measurement. Offsetting for aspects of biodiversity does not have this advantage, and requires a greater degree of flexibility to apply to broad range of targets and circumstances.

Questions of authority to implement ILP systems have received comparatively little attention despite their tangible impact on practice and policy. As with conservation offsetting in general, ILP systems rely on statutory authority to impose conditions on approvals. While the specific statute is always central to this analysis, broad discretion to put conditions on approvals is commonplace, and the existence of sufficient authority appears largely settled in the cases reviewed here. Nonetheless, there is value to policy directing regulators on where offsetting is required, where payments in lieu of strict offsets are not allowed, and where ILPs are a preferred mechanism. As with all regulatory decision-making, any discretion must be exercised according to principles of administrative and constitutional law.

The largest questions of authority concern the receipt and administration of funds by government entities. Canadian jurisdictions and the US federal system share a default rule of public money going into general revenue, from which it may be appropriated by the legislature. Public administration of IL funds invariably creates need to establish a trust, a legislated fund, or at least a designated account within the gen-

290 Gardner 2011, *supra* note 10 at 147.

eral revenue fund. It is hard to identify a single best practice as choice depends on context and purpose. These include which options exist under the applicable financial statutes, which financial mechanisms are already operating and available, the relative administrative costs and internal preferences. The need to administer the money for its intended use and the challenges of doing so within government has driven a practice of allowing direct payments from permittees to third parties in multiple jurisdictions. That said, under this system of direct payments, there still exists a need to establish trusts, distinct funds designated accounts exists where third parties administer the money.

Two further matters warranting direction to IL fund administrators could be considered questions of authority as well as design elements of a particular IL system. One is the allowable use of funds. Most cases showed preference for on-the-ground activities, sometimes with restoration being preferred over preservation and enhancement activities. Education and research activities were allowed in some systems and prohibited in others, but rarely articulated as a first choice. The second matter is timelines within which fund administrators must spend the payments. Multiple jurisdictions imposed timelines ranging from one to three years with varying degrees of firmness. The appropriate timelines will depend on contextual factors including a need for sufficient funds to match the nature of the compensatory activities. However, IL funds should not be allowed to accumulate indefinitely.

Once questions of authority to implement an ILP system are sufficiently settled, the case studies suggest that there is no one universal gold standard for the remaining design elements. A case study that shows strength in one area may be weak in another. Nonetheless, there are several beneficial practices that increase potential for successful outcomes from ILP systems. There are also some practices that have repeatedly shown to create challenges and might best be avoided. It is further possible to suggest what elements are best prescribed by statutes, regulations or executive orders as compared to non-legislated policy and guidance documents.

Setting the payment amounts warrants guidance from policy or regulations. Not only must these amounts be adequate for the purposes of the IL program, but they must not be so low as to undercut other offsetting activity. Policy should likely strike a balance between prescribing fixed dollar amounts and allowing "black box" price setting in private deals. It will ideally provide a full range of cost factors and a transparent calculation method, which was lacking in most cases reviewed. Policy makers may further expect demand for clarity on when a permittee's liability for offsetting is severed by the act of payment.

The question of who should receive the payments and administer the funds may generate multiple reasonable answers, provided that the choice is based on accountability, outcomes and stakeholder support rather than to avoid questions of authority. Either a government agency, third party or a hybrid organization may be suitable, but retention and administration of funds by the development proponent should be avoided.

Whether or not the funds should be segregated or pooled is another question where the case studies suggest no single right answer. Pooled funds may foster administrative efficiency, spending power and discretion to target conservation priorities. Yet segregated funds fit better with the authority of a given regulator and more closely resemble direct offsets, thus enhancing program credibility.

There is a consistent need for a formal agreement between the fund administrator and the department responsible for the IL system. Use of agreements existed even in some cases where the administering entities were prescribed by statute or included government agencies. One question is whether or not the widespread use of Memorandum of Understanding in Canada should be replaced by regulatory instruments or binding contracts given the US experience with lack of accountability for performance. Another question is what records concerning fund administration should be public. As with many aspects, we suggest that the default position should be one of openness and transparency.

Practices for paying out the funds show a limited range of variations. One common model was for a single delivery agent or small group of agents to collect payment, administer the funds and do the work. This is the historic wetlands model involving DUC in Alberta and New Brunswick. The other common model was a grant-making model, as exemplified by the BC Hydro FWCP, BC HCTF and Alberta CCEM regime. The grant-making model creates increased need for a governance structure and to identify eligible recipients. As to those eligible recipients, these are typically non-profit organizations, municipalities or public-sector institutions. A third model, though it only appeared in the ad hoc case of British Columbia's Skeena Region Moose Offset Program, was for government or the third party to invoice a developer-held fund for conservation work done.

While our case studies have exhibited many varying characteristics and options for ILP system designers, the ultimate validity will be in its performance in cost-effectively delivering conservation benefits. We suggest that any new ILP system build in robust mechanisms to assure transparency and accountability, including the use of general government accountability tools, and public reporting. Further, program design should include extensive stakeholder and expert involvement, and not simply in the design stages. Any person, whether in government or in the general public, ought to be able to determine, with small degree of effort, whether an offset program, including an ILP program, is delivering on its objectives, and how it is doing so. Such transparency will either foster confidence in the program and its underlying systems or it will stimulate reform as warranted.

The purpose of this study has been to review some of the experiences throughout North America in the design and operation of ILP systems. We have examined several case studies, finding some key themes, variations and options for those contemplating implementing such a system. It is our hope that the lessons which might be extracted from these experiences might pave the way for the effective use of ILPs

where the policy choice is made to use them.

APPENDIX I - ENVIRONMENTAL LAW INSTITUTE RECOMMENDED STANDARDS FOR IN-LIEU FEE PROGRAMS

From the ELI 2006, supra note 97 (summarized at 7-11)

1. Programs should provide mitigation in advance of project impacts.
2. Agreement should specify potential sites.
3. Program sponsors should supply the Corps [US Army Corps of Engineers] with information in advance on the schedule for implementation of mitigation projects.
4. Program sponsors should plan and develop in-lieu fee mitigation projects to address the specific resource needs of the watershed; In-lieu fee programs should provide "watershed integration."
5. Program sponsors should give careful consideration to the ecological suitability of sites for achieving the goal and objectives of compensatory mitigation.
6. Programs should use preservation of existing wetlands only in exceptional circumstances.
7. Programs should use funds collected for replacing wetland functions and values and not to finance non-mitigation programs and priorities, such as upland preservation, research, or education.
8. Funds collected should ensure a minimum of one-for-one acreage replacement.
9. In-lieu fee programs should provide "timely ... compensation for all permitted activities."
    a. Agreement should specify a schedule for conducting the activities that will provide compensatory mitigation or a requirement that projects will be started within a specified time after impacts occur.
    b. Land acquisition and initial physical and biological improvements should be completed by the first full growing season and no later than the second full growing season following collection of the initial funds.
10. Agreements should require mitigation sites to be protected in perpetuity.
11. Site protection should be accomplished using an appropriate real estate arrangement (e.g., conservation easement, transfer of title to a Federal or State resource agency or non-profit conserva-

tion agency).

12. Agreement should include a schedule for a regular monitoring report to document funds received, impacts permitted, how funds are disbursed, types of projects funded, etc.
13. Agreement should specify requirements for monitoring (i.e., specific parameters to be monitored).
14. Agreement should specify the geographic service area.
15. Agreement should outline method for determining fees.
16. Agreement should outline method for determining credits.
17. Agreement should specify performance standards for determining ecological success of mitigation sites, or require inclusion in individual project plan.
18. Agreement should "contain distinct provisions that clearly state that the legal responsibility for ensuring mitigation terms are satisfied fully rests with the organization accepting the in-lieu-fee."
19. Agreement should include "provisions for remedial actions and responsibilities (e.g., contingency fund)"
20. Agreement should include financial, technical and legal provisions for long-term management and maintenance.
21. Agreement should specify the long-term management provisions to provide "assurances of long-term sustainability and stewardship…", or require inclusion in individual project plan.
22. Agreement should specify financial and legal provisions for long-term management and maintenance (e.g., trust).
23. Program sponsors should utilize accounting procedures to track payments received from permittees.

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