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Professional Biology
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Manager of Strategic Policy and Adaptation
Ecosystems Protection and Sustainability Branch
Environmental Sustainability Division
BC Ministry of Environment
Via mitigate@gov.bc.ca

Re. Association of Professional Biology – Response to MoE's "Environmental Mitigation and Offsetting Policy for British Columbia: A Discussion Paper" November 2010

Dear Ms. Feick,

This submission is on behalf of the Association of Professional Biology (Est'd 1980): www.apbbc.bc.ca. The APB represents its members' general interests and perspectives on the topic of mitigation and offsetting and requests that this submission be reviewed as such.

1. In general, how much involvement have you had with environmental mitigation and offsetting? Please describe any experiences you have had where it worked well or did not work well.

As a professional association, members of the Association of Professional Biology likely reflect the broadest spectrum of experience to inform mitigation and offset policy in BC. Of the examples mentioned in the discussion paper, undoubtedly each one involved a member of BC's Biology Professional community, acting under the aegis of the *College of Applied Biology Act*.

The mitigation and offsetting principles proposed underlie many of the environmental impact assessments being prepared and reviewed in BC at the moment. However, the process frequently stalls if tiers 4 and 5 are components of the plan, in part because there is not a clear policy guiding these approaches. While the creation of habitat banks has been undertaken in BC, appropriate guidelines for how these banks are assessed and implemented is seriously lacking nor appropriately promoted as a transparent listing to the public.

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Many of our members, involved in numerous audits of the habitat bank issue have seen very small (low impact, boiler plate) projects with offsetting habitat compensation resulting in creation of lower quality habitat or further degradation of existing habitat, rather than enhancement or no net loss, as intended. Instead, low impact project scenarios (definable, understood, low impact or low risk activity projects) could have habitat banking or financial levies imposed which collectively could be applied to more valued restoration/rehabilitation opportunities which simply are not being done and may be considered to be high value and necessary.

Furthermore, the “Tree Group and West Bank First Nation” case study involved an offset of critical, high quality, mule deer winter range for a substitute area of mule deer winter range from impacts due to an urban development and associated golf course. The success of the offset should have been assessed by a combination of, at the very least, the following variables:

- similar use and access of the proposed substitute area by similar numbers of animals displaced from the impacted high quality habitat removed (in addition to the number of animals already using the proposed substitute area, and without impacting the substitute areas' carrying capacity); and
- increased use should not result in increased risk and/or rates of predation, other forms of mortality (e.g. disease), or intra- and inter- species specific competition.

A potential issue that could arise with the implementation of habitat banks operated under the policy as currently proposed is that the Province may represent both development and environmental interests. Typically, habitat banking agreements occur between autonomous entities, those specifically representing ‘development’, and those specifically representing the ‘environment’. As currently proposed, the policy does not represent an objective agreement.

Without knowing the use and population effects of the alternative proposed habitat, answering the question “did it or did it not work well” is objectively impossible; any other answer is really an educated guess. As such, the need for scheduled follow up assessments should be without question. Post development assessments would entail a cost and those cost details, including who would pay, must be addressed beyond what is currently addressed in the discussion paper.

APB members’ experience of auditing of compensation/mitigation projects has revealed the issues to be:

- did it comply with what was originally proposed; and,
- was the compensation effective?

Both scenarios must be demonstrated through proper long-term and repeated assessment, the latter being typically more problematic and often showing reduced success or failure when the first may not have.



With respect to Federal Fisheries Act Section 35 fisheries habitat compensation determination and approvals, there is an inconsistent collaboration between Federal and provincial staff responsible for fisheries management. A further issue that exemplifies inconsistent collaboration is the primary failure found in implementation of the No Net Loss (NNL) habitat policy of Fisheries and Oceans Canada. Often, no effective enforcement of post-construction habitat monitoring occurs to determine if they are “functioning as intended”. Post-construction monitoring of created habitat is particularly relevant for large compensation projects, where any significant failure in fulfilling design objectives can result in inadequate offset of project related impacts. Lack of enforcement occurs despite clear language in authorizations describing the obligations of the proponent to monitor created habitats to determine if they are functioning as intended. Enforcement activities by Federal staff are not consistently undertaken because they are mandated to manage anadromous species; as a result, inland fisheries can be neglected in some jurisdictions.

While the issue of enforcement is one aspect, monitoring effectiveness is another. Monitoring entails suitable auditing of projects for compliance and effectiveness. Effectiveness often requires assessment or monitoring before, during, and after, which, in many cases can require multiple assessment years to be meaningful. Often pre-assessments are inadequate to truly assess if the benefit or loss is real (and the true magnitude and extent of the problem) or are simply a reflection of inadequate pre-study (size, time, design) or understanding of “ambient” factors and associated natural or confounding influences and variability.

The typical monitoring period for DFO authorizations is 5 years, with little consideration of flood periodicity, bank-full storm conditions, or potential contributions of cumulative upstream effects. Experts with substantial experience in this area have indicated that for habitats less than 1 ha, 5 years can be an adequate monitoring period (e.g. if invasive species are not an issue). However, for habitats greater than 1 ha, a 5 year monitoring period may be inadequate. Sites larger than 5 ha can be particularly dynamic in their physical and biological attributes, with the ultimate product, an offset of project related impacts, being defined potentially at >10 years post-construction. Failures in the functional attributes of the created habitat can occur after 5 years and proponents need to post a deposit bond maintained for restoration with joint Federal/Provincial endorsement for their utilization. Remedial measures for such failures, if they occur within the 5 year monitoring period, are the responsibility of the proponent; beyond this period the proponent is not responsible for implementing remedial measures and often there is no clear requirement for accountability or responsibility, should the works fail.

Proponents should pay for monitoring of implemented environmental mitigation and offsetting. The effort and tenure of monitoring must be undertaken by registered professionals and be sufficient to demonstrate, both qualitatively and quantitatively, that



implemented mitigation and offsetting is functioning as intended. The Province must enforce obligations of the proponent as they relate to the monitoring requirements of approved environmental mitigation and offsetting measures. The Province should adopt the Federal government's practice of requiring projects to be guaranteed by monies up front in the event that the work is incomplete or incorrect.

2. What do you think would be the major benefits of having this policy?

The policy has the potential to provide tangible non-anthropocentric benefits from land use activities through reducing overall impacts to biodiversity and ecological processes. However, the key to the policy's success ultimately relies on ensuring involvement of appropriately qualified, registered professionals (i.e. Biology Professionals), including local expertise (where appropriate); as well, impacts and offsets should be transparent and readily available.

3. Do you think there are any potential barriers in implementing a policy on environmental mitigation and offsetting?

The largest current barriers to the successful implementation of the proposed policy are the information gaps regarding Species At Risk (SAR). Without this component, necessary and informed strategic decisions cannot be effective (see attached APB SAR Task Force Review, November 2010). Critical information gaps for some SAR include, but are not limited to:

- range,
- distribution,
- key habitat requirements, and
- habitat supply, including use and availability of variable habitat quality and context within landscapes.

Other potential barriers to implementation include:

- lack of a clear strategy and long-term budgetary commitments for monitoring and follow up to better understand measures of success that can be applied to Adaptive Management strategies;
- no consistent requirement for involvement and use of Qualified Registered Professionals;
- no clear guidance about thresholds for each regulatory process;
- influence by or interference from conflict of interest private sector parties, such as corporations, in government policy effectiveness and implementation; and
- potential conflicts with existing federal legislation/jurisdiction.



4. The Discussion Paper contains a number of principles (pg 15) for establishing and implementing a policy on environmental mitigation and offsetting. Do you have any comments or suggestions about these proposed principles?

Principle 1 – “Seek no net loss of environmental resources” requires clarification in at least 3 places:

1. ‘Seeking’ cannot be measured. **Principle One should be modified to read: ‘Achieve No Net Loss of Environmental Resources’.**
2. ‘...achieve measurable conservation outcomes...’ **Measures should be developed into clear matrices to ensure success and appropriate implementation.**

Measures should include but not be limited to:

- a) habitat areas that include key habitat features,
 - b) clearly defined levels of habitat quality,
 - c) habitat contiguity, and
 - d) ecosystem function
3. ‘An environmental offset should achieve conservation outcomes above and beyond results that would have occurred if the offset had not taken place.’ This sentence should end with ‘in the event of the development occurring’ or it does not necessarily result in no net loss. Furthermore, it should read as: **‘An environmental offset should achieve conservation outcomes above and beyond that of no net loss, such that a net gain in targeted environmental resources is realized in the event of the development occurring’.** Semantics in such a policy are critical to convey clear meaning on behalf of government, and thereby maintain program credibility.

For example, a measured **net gain** of habitat quality must be defined by a certain set of criteria. Although developing such definitions can be problematic, involvement of Biology Professionals and transparent evolution of processes further lends credibility and opportunity for improvement in process definitions, measured endpoints, and overall identification, design and application of the appropriate science.

As well, measured net gains in habitat quality in terms of compliance can be interpreted as large quantities of “new” or “enhanced” habitat; however, unless scientifically proven to be functioning, stable (over the long-term) and of qualitative value, substitute or replacement habitat can actually represent considerable amounts of poorly functioning or ultimately lower value habitat (suitability) than that removed or affected. Substituting high quality habitats for



larger amounts of poor quality and/or non-suitably functioning habitats is estimated by some APB members to be more common than government and the public may realize.

Principle 3: Current practice includes use of all five of the proposed tiers in the hierarchical approach, but the latter two (tiers 4 and 5), could be used much more effectively. If used well, these tiers can be an important part of managing the risk to public resources and create long-term environmental benefits. Clear direction around criteria for high value use of all the tiers would be valuable, a task that the APB can provide input to.

Principle 6: It appears that low risk projects may get little review from provincial regulators, yet the province still has a duty to First Nations, so the direction to proponents to deal with First Nations needs to be clear. As such, in a time of very limited government staff and resources the intent would be (as soon will be with DFO) to identify accepted best management practices (BMP's) or regional operational statements (ROS's) toward recognized activities that are well understood such that if the proponent follows these accepted and known practices, further issue can be avoided. Following standard procedures would increase government and public confidence about those activities being low risk. For example, if a proponent can clearly indicate that the proposed project will not cause harm to habitat through careful design, practices, and location selection, they can receive an approval. If the proponent retains a Qualified Registered Professional that makes an assessment, and in their opinion the project will not cause an impact or application of BMP's/ROS's will prevent that impact, no approval would be required and the project could proceed. An audit process would identify and penalize proponents circumventing or avoiding the standard process for low risk projects.

Critical to low risk projects would be the requirement for "notification" to ensure agencies are aware the work is at least occurring and when for audit purposes. DFO is again moving to a similar system for ROS and low/no impact projects. As such, government agency resources are not used to follow projects which, according to the Qualified Registered Professional, will not incur impact; alternatively, resources are freed up to focus on projects with higher potential impacts or impact uncertainty. Again, **the efficacy of the proposed prioritization of government resources is inherent in a functional audit process.**

Principle 11: Creation of environmental value through offsets requires clear guidance and principles. A market for offsets has been developed in other jurisdictions, but it requires leadership from regulators to ensure it is measurable and credible and ensure that it provides the 'promised' mitigation benefits.

5. One part (pg 19) of the Discussion Paper contains a number of proposed goals that a policy on environmental mitigation and offsetting would intend to accomplish. Do you think this list



of goals should be expanded or modified? Are there any goals you would delete? Please describe your suggested changes.

Although several goals address proponent needs, there is no single goal that clearly states the importance of maintaining and conserving biodiversity or Species at Risk in BC, which the policy is intended to protect while permitting continued economic development. While biodiversity values are referred to through other documents (e.g. “*Taking Nature’s Pulse*”), to demonstrate consistent commitment to BC’s natural capital, **the first goal should be to maintain BC’s biodiversity and protect SAR for the people of BC, both now and for future generations.**

The last goal “fostering a Qualified Registered Professional workforce to permit responsible decision making” becomes one of the most important in order to meet all the other goals. The APB supports involvement of Qualified **Registered** Professionals because of the direct accountability established to the public through legislated Codes of Ethics, standards of qualification, and disciplinary mechanisms of professional bodies.

There should be a goal to address information gaps regarding SAR, ecosystem function, and other components needed to support informed decision making and Adaptive Management approaches. To support Adaptive Management strategies, there should be a goal that addresses post-development monitoring and associated costs.

There are no goals that address any form of independent review panel or auditing mechanism which are necessary for credibility and policy effectiveness, respectively. Further, there is no appeal process for either a proponent or a concerned citizen questioning a particular development. Perhaps this is contemplated to go through the Environmental Appeals Board?

Finally, there is no recognition in goals or any other part of the document of the simple fact that nature is dynamic and ever-changing and that that needs to be considered in any mitigation or offsetting equation. The effects of time that move ecosystems through seral stages should be addressed as a habitat currency requirement in the set of goals.

6. Another part of the Discussion paper (pg2) focuses on possible situations where discretion could or could not be used in applying the policy. Should it be completely discretionary for statutory decision-makers to consider this policy in authorization decisions, or are there situations where they would have less discretion and more closely follow the policy? (ie: when a decision would affect a species at risk or legal objective in a land use plan). Please identify situations where you think decision-makers should have considerable discretion, some discretion, or little or no discretion in considering the policy when they make authorization decisions.



Situations Where Considerable Discretion Should be Used (decision-makers should have complete freedom):

A standardized hazard/consequence/risk matrix should be developed for decision-makers. There may already be similar matrices used by senior agencies, for which sample scenarios could be developed. **Considerable Discretion** may be appropriate for estimating low risk impacts to some species or populations (e.g. Yellow-listed species). Alternatively, where a particular development could have a significant impact on the sustainability of a particular species or population, and application of the policy would not support sustainability of those populations, little or no discretion to curtail impact should be the selected option.

Situations Where Some Discretion Should be Used (decision-makers should be encouraged to consider policy):

As mentioned above, the standardized hazard/consequence/risk matrix developed for decision-makers could be applied. **Some Discretion** may then be appropriate for Moderate risk, **but only where adequate supporting species and habitat information is available such that a prudent, informed decision can be made with a quantifiable, estimated low-risk result to a given species and or population and biodiversity overall.**

Situations Where Little or No Discretion Should be Used (the policy should be strictly followed)

As mentioned above, the standardized hazard/consequence/risk matrix developed for decision-makers could be applied. **Little or no Discretion** may then be appropriate for High risk species or local populations of a given species likely to become extirpated by the proposed activities (e.g. CDC Red-listed or Species At Risk Act: Endangered/Threatened). **Any risk assessment must be supported by an inventory, research, and monitoring program that is linked to an Adaptive Management strategy. Without appropriate supporting information and resources, strict implementation of a mitigation and offsetting policy would be flawed** and likely result in erosion of BC's biodiversity legacy over time.

However, it is the experience of some APB members that generic application of schematics, risk/hazard matrices are typically ineffective unless employed in a scientifically robust fashion. These are usually developed to enable an expedited review or assessment which essentially strips most of the science out of the equation (essentially removing the value of the assessment in the process). Once again, it is recommended that APB membership be consulted in the development of matrices and processes to ensure science and scientific methods are applied and included in the final process.



7. Overall, do you think the establishment of a new provincial policy on environmental mitigation and offsetting is a good idea or not a good idea?

A good idea	Dependent on: a) measures of habitat quality being clearly quantified and defined for all policy users; b) development of a transparent Monitoring Program and mechanism to measure success of results and ensure compliance and enforcement; c) the Monitoring Program results being linked directly to an Adaptive Management Program that provide direct feedback and necessary modifications to the Environmental Mitigation and Offsetting Policy Program; and d) a clear audit and review process in place that also provides ongoing feedback for practice and policy improvement. In order to support both a) and b), a suitable Habitat Research and Inventory Program would be required to be re-established in BC.
Not a good idea	If the supporting infrastructure, including research, inventory, and post-development monitoring linked to adaptive management and public accountability and reporting was not part of the policy.
Not sure	Not applicable.

Any Comments?

- Only MoE and MNRO are involved in this policy. Lack of involvement by other relevant government ministries, agencies, and levels of government runs counter to the goal(s) of harmonizing and standardizing agency decision making as the stated application of this proposed policy. Moreover,
- Only Crown land is really contemplated even though much development occurs on private land.
- How does this relate or effect BC Crown-constrained land on private land, such as riparian buffers required through the Riparian Areas Regulation?
- Why should this policy not be a standard to the whole of BC's land base?
- Given the preceding comments, the APB sees a significant inability to achieve success with the policy as currently proposed because different interpretations by different levels of government or different arms of government on different land types could result in significantly variable and inconsistent results – a patchwork effect.



Environmental mitigation should be used as a last resort. It should always be developed with the expertise of appropriately Qualified Registered Professionals and local experts familiar with local ecological dynamics. Local knowledge of an area is vital for any mitigation or offsetting practices to work. Even if the mitigation and offsetting design, planning, and implementation are being conducted through large-scale professional services (e.g. a large consulting firm), local knowledge and expertise should be incorporated whenever practicable to ensure the best local information is applied to any final decisions.

The APB recognizes that the policy is still being developed and has yet to be assessed in the context of its effectiveness. To expand it to all situations under all regulatory scenarios would be premature. The efficacy of the mitigation and offsetting policy in practice must be demonstrated "*as a work in progress*" for other regulatory bodies. Standardization should remain a provincial long-term goal, requiring involvement of all relevant levels of government, their ministries and agencies.

Furthermore, be clear that any mitigation and offset policy does not include nor condone development that would destroy sensitive habitat simply because restoration or translocation/relocation of a species is an option. And finally, ensure that succession is part of the mitigation and offsetting equation so that productive habitats are not lost over time.

The start of critical discussions on an environmental mitigation and offsetting policy have been initiated with this proposed draft, and should provide a working framework toward a much needed foundation that, when fully developed through a transparent process, will truly conserve provincial biodiversity and provide a model for success.

Thank you for the opportunity to provide input to the process. We look forward to any future consultation that you feel may assist the process. Registered Biology Professionals will be an integral part of implementing any type of environmental mitigation and offsetting policy and program. Our professions' input is critical at the start of policy development in order to ensure the most up to date science and expertise is applied to inform all levels of decision-makers. If properly implemented with an adaptive management approach, the proposed policy will potentially have considerable influence over our member's professional activities. As such, involving our members' input at the start of development will impart credibility to the environmental mitigation and offsetting policy.

Pamela Zevit, R.P. Bio., President
Association of Professional Biology



8. Did you attend any of the following about the Environmental Mitigation and Offsetting Policy? No – The APB was not informed or aware of these sessions.

9. Did you happen to read the Discussion Paper on Environmental Mitigation and Offsetting Policy or not? Yes, the APB has reviewed it.

10. (In or near) which town or city is your home located? Head office in Victoria

11. How many years have you lived in British Columbia? N/A

12. How many years have you worked or conducted business in British Columbia? 31

13. Which of the following best describes your current employment situation?

The APB is comprised of Registered Biology Professionals employed by government, the public and private sectors, including self-employed and not-for-profit.

14. What is your usual occupation or what type of work do you do (or before retirement)?
N/A

15. Do you currently belong to an organized group or professional association? (Check all that apply) Association of Professional Biology

16. Are you a First Nations or an Aboriginal person? APB membership is open to all registered members with the College of Applied Biology.

17. May we ask your age? N/A