

Submission to Professor William Lahey re Forestry Review
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Respectfully submitted by
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Introduction

We appreciate the opportunity to meet with Professor Lahey. We must be clear from the beginning that neither of us has worked in the forestry industry, nor is it the focus of our academic research. Nonetheless, we believe that as concerned citizens we have something valuable to contribute based on our experience in Nova Scotia and our academic training.

In 1995, with Susan's encouragement, Richmond co-founded the Woodens River Watershed Environmental Organization that, among other projects, built The Bluff Wilderness Hiking Trail that opened in 2005. Named in 2008 by the outdoor magazine Explore "one of the eight best urban escapes in Canada," the trail has allowed the public to experience the intrinsic value of this now protected wilderness just west of Halifax. Within easy urban reach through Metro Transit, it has introduced thousands of Nova Scotians and many tourists to the richness of Nova Scotia wilderness.

We are both trained as philosophers; as such, we are interested in uncovering the key principles and values structuring decision-making. More specifically, each of us has pursued academic research primarily in ethics: Richmond from the direction of moral/value theory and rational decision-making, and Susan from the direction of bioethics (i.e., ethical questions around life in all its manifestations, with particular attention to matters of human health and health care). Richmond also works in epistemology (theory of knowledge), philosophy of biology, and evolutionary studies. Susan pursues her research through a social justice lens that seeks to understand how different practices and policies affect different groups of people. For example, she urges us to ask who benefits and who is likely to be harmed by the various policy choices open to decision-makers. She has argued that it is important to try to choose those options that improve or, at least do not worsen, the situation of those who are already disadvantaged by current social and economic practices.

We shall try to frame our remarks to reflect our understanding of the requested scope of your Report, defined as follows:

The review will examine current practices, including strengths and weaknesses, and provide recommendations for improvement regarding how Nova Scotia balances long-term environmental, social and economic interests in managing the province's forests. In particular, the review has the mandate to examine the following components:

1. Evaluate the effectiveness and identify opportunities to improve the legislation, regulations, policies and guidelines, as well as the science-based tools that determine whether and where harvesting occurs, as well as the harvesting methods (e.g.: clear cut, partial harvest) that can or should be used.
2. Evaluate market access for private forest owners, particularly in the western region, and provide recommendations to address any identified issues.

Our comments are primarily directed at the first set of tasks. These reflect the deep interplay between values and science that have occupied the focus of our research over almost a half a century. Before we begin talking about specifics, we should make clear why we think this interdependence of values and science is unavoidable and appropriate to this review. Because science can tell us a lot about the causal structure of the natural world, it provides insight into the means to achieve our ends, but the ends themselves are not written into science. They must come from society, especially when the questions have to do with the management of public lands and the science is funded by the public. The questions and the methods of the science used for this management role must be oriented to values that reflect public interests and values and not just those of a single sector. That is why public consultation is critical in this kind of review, as is clearly recognized in the first statement of tasks.

Fortunately, this perspective on the relation of values to science is already implicit in previous reports adopted by the government of Nova Scotia. We are here to urge you to situate your report in the context of three important policy documents that are to guide practices in Nova Scotia in the twenty-first century. We know that you, Prof. Lahey, are quite familiar with the documents we cite since you played a key role in writing at least two of them. The documents that we think should be framing this review of forestry practices going forward are (1) Environmental Goals and Sustainable Prosperity Act (EGSPA, 2007, amended 2012), (2) A Natural Balance (2010), and (3) A New Regulatory Framework for Low-Impact/High-Value Aquaculture in Nova Scotia (2014). We list below key elements of each that will form a core part of our submission.

Existing Reports:

Taken together, these documents lay out a sound moral foundation for Nova Scotia to follow in developing policy for managing our natural resources in ways that are likely to benefit Nova Scotians for many decades to come. There are additional values to consider and we shall review these in the later part of our submission. Happily, the provincial government has adopted EGSPA in 2007 (amended 2012) and welcomed the other two reports.

From EGSPA, we take seriously the statements of values, principles, and aspirations entrenched in the 2007 act. We bracket the new words added in 2012:

(2) This Act is based on the following principles:

(a) the health of the economy, the health of the environment and the health of the people of the Province are interconnected;

(b) environmentally sustainable economic development that recognizes the economic value of the Province's environmental assets is essential to the long-term prosperity of the Province;

(c) the environment and the economy of the Province are a shared responsibility of all levels of government, the private sector and all people of the Province;

[(ca) to achieve objectives that span both environmental and economic aims, government departments need to collaborate across the Province using a whole systems approach;]

(d) the environment and economy must be managed for the benefit of present and future generations, [which is in keeping with the Mi'kmaq concept of *Netukulimk*, defined by the Mi'kmaq as the use of the natural bounty provided by the Creator for the self-support and well-being of the individual and the community achieving adequate standards of community nutrition and economic well-being without jeopardizing the integrity, diversity or productivity of our environment];

(e) innovative solutions are necessary to mutually reinforce the environment and the economy;

(f) a long-term approach to planning and decision-making is necessary to harmonize the Province's goals of economic prosperity and environmental sustainability;

(g) the management of goals for sustainable prosperity, such as emission reduction , energy efficiency programs, [climate change adaptation] and increasing the amount of legally protected land will preserve and improve the Province's environment and economy for future generations.

4 (1) The long-term environmental and economic objective of the Province is to fully integrate environmental sustainability and economic prosperity and to this end to

(a) [establish clear goals that foster in an integrated approach to environmental sustainability and economic well-being]; and

(b) [work towards continuous improvement in measures of social, environmental and economic indicators of prosperity].

Although the amended ESGPA drops from 4.1a the sentence “demonstrate international leadership by having one of the cleanest and most sustainable environments in the world by the year 2020”, we will assume that this lofty goal, even if not attainable in two more years, remains a worthy aspiration.

From A Natural Balance, we draw on the vision underpinning the Report:

Healthy, diverse natural resources are nurtured and sustained for the economic, environmental, and social benefit of all Nova Scotians today and in the future.

Although the advisory group dealing with forestry could not reach agreement, we think that the recommendations from the Steering Committee constitute an excellent basis for your own deliberations. Each recommendation remains reasonable and appropriate for setting forestry practices in Nova Scotia.

Finally, although the Report recommending A New Regulatory Framework for Low Impact-High Value Aquaculture in Nova Scotia did not address questions about forestry practices, many of the questions at issue dealing with forestry are parallel to those in the sister industry of aquaculture in Nova Scotia and the same underlying values can be readily transferred from one industry to another. Although the government has been selective in adopting only some of its key recommendations, we believe that it has not challenged the guiding goal of creating a low impact/high value industry; this seems to be precisely what is needed in forestry.

The values highlighted in these three reports are important and together they are sufficient to choose between available forestry models, but they are not the only values to be considered. It is also important to attend to (1) aesthetic values, (2) matters of individual and community health broadly construed, (3) a spirit of reconciliation demonstrated through respect for the values and traditions of Mi'kmaq people of our province (partially recognized in EGSPA (2d) as amended in 2012), and (4) social justice: when choosing between competing models for forestry in Nova Scotia, consider who is most likely to benefit more from each, who is more likely to be harmed, and will the distribution of harms and benefits reduce or exacerbate existing patterns of inequality among Nova Scotians. Further, we believe it is important to attend to (5) opportunity costs that are lost when a particular path is pursued and (6) the responsibilities that come with provincial management of lands that should potentially benefit all Nova Scotians.

Two Models of Forestry for Nova Scotia

Many different options exist for forestry practice in Nova Scotia going forward. They form a continuum between maximum disturbance and none. We could seek to have our forests completely levelled as quickly as possible and start again from a (literally) bare slate. At the other extreme, we could declare a moratorium on all forestry on public lands for a few decades and allow what remains of the natural forest the opportunity to regenerate. We doubt that either of these extremes would be chosen by a majority of Nova Scotians. So, we focus our discussion on the two most plausible options at this point in our province's history: the status quo and community managed forestry.

- A. Continuing on with current practice: At present, most of the forestry in Nova Scotia is in the hands of large, international corporations who are following the aims of industrialized resource extraction. They seek to extract maximum immediate monetary value from our forests using the least expensive means available. Large scale industrial forestry favours clear cutting (or something very close to clear cutting), using heavy machinery to cut, collect, and deliver trees to the few remaining mills where much of it will be transformed into pulp for off-shore creation of paper products, and/or used simply as bio-mass.

- B. Development of locally driven, sustainable forestry management practices, such as those proposed by the Healthy Forest Coalition. On this model, the forests would be selectively cut, using only stem wood, for high quality wood products. The forests also would be managed to enhance other values, such as biodiversity, preservation of forested wildlife corridors, protection of endangered species and species at risk, human health, eco-tourism, climate change mitigation, aesthetics, and non-industrial uses of the forest.

Compatibility of Models A and B with the Values Framework in ESGPA (2007, 2012) and the 2010 and 2014 policy documents.

ESGPA Principles and objectives focus on a few key elements. They stress the importance of three distinct but interconnected goals: the health of the economy, the health of the environment, and the health of the people of the province. All are important and are mutually supportive. Similar principles are at the core of “A Natural Balance” which stresses that “healthy, diverse natural resources are nurtured and sustained for the economic, environmental, and social benefit of all Nova Scotians today and in the future”.

Model A seems entirely focused on only the first of these three values: the **health of the economy**. It does not speak to the health of the environment or the health of the people, and this is a serious problem. EGSPA has it right; we should not pursue economic health at the expense of the environment or the health of the people.

Moreover, even in economic terms alone there are reasons to question the success of Model A. Much of the economic benefits in Model A do not even stay within Nova Scotia. The big winners are the foreign owned corporations driving this practice, the foreign-based manufacturers of the heavy equipment used, and banks who lend the money. It is true that many Nova Scotians are employed in forestry-related activities, but it is important to note that the number of Nova Scotians employed in forestry is steadily dropping. Provincial

figures show a steady decrease of numbers of people employed in forestry over the past 20 years when Model A has determined forestry practices.

As well, the numbers employed must be compared to how many might find employment (or income from their own small businesses) in the alternative model. Further, we must evaluate the economic benefits through the lens of opportunity costs lost elsewhere. We must consider not only the harvesting jobs and income available through Model B, but also jobs in other, important industries. For example, we need to factor in ways in which the practices of Model A affect tourism, Nova Scotia's largest and fastest growing industry. Tourists come to Nova Scotia for its wilderness, not devastated fields left behind by clear cutting, such as clear cutting across the Wentworth ski area.

As the proposal for A New Regulatory Framework for Aquaculture recommended, we should be seeking low-impact, high value practices for Nova Scotia's natural resources. Model A seems to offer high-impact, low value – just the reverse of the economic goals we should demand. Model B is built on forestry practices that reduce impact while adding value for Nova Scotians.

Model A is a clear failure in terms of the other two kinds of health identified. It devastates local environments by leaving behind exposed soil that is unable to regenerate nutrients necessary for regrowth of healthy forests, damages waterways critical to aquatic life (e.g., by increasing acidity according to recent NSDNR research), and harms biodiversity by accelerating loss of endangered species. Whereas living trees reduce pollutants in the atmosphere, the forestry practices of Model A feed industrial scale mills that spew air and water pollutants (e.g., the Pictou mill). Moreover, these practices increase Nova Scotia's carbon footprint, by adding carbon to the atmosphere in terms of the machinery of clear-cutting and the use of the fibre harvested (generating pulp or bio-mass) that also removes huge swaths of the natural carbon sinks represented by healthy forests where carbon is safely sequestered. One energy analyst estimates that since 1990 about two million tonnes of sequestered CO₂ are removed each year from Nova Scotia's forests through clear cutting (Chronicle Herald 29/12/17).

Finally, Model A's impact on the health of the people is also problematic. The devastation to the environment is harmful to human health. Also, it reduces opportunities for people to act in ways that can improve their personal health: it is now well documented that a major factor in human health is a life long commitment to being active. People go to forests to explore, hike, hunt, forage, camp, photograph, bird-watch and so on. They do not go to clear-cut areas for any of these activities. See below for other impacts on human health.

Model B speaks to all three of these values and maintains their inter-relationships in the holistic way that EGSPA recommends. It is based on a model of the economic prosperity of local forestry workers on the ground, the

communities in which they live, the workers and local businesses that craft high value wood and other forest products, and the diverse locally situated tourism industry. It envisions forests managed and worked by Nova Scotia communities with profits retained locally, with the goal of producing and preserving unevenly aged forest stands. Selective cutting facilitates retention of soil nutrients, protection of waterways, creation and retention of biodiversity, carbon sequestration to help off-set climate change, promotion of our fast-growing tourism industry, and maximum opportunity for ordinary citizens to enjoy the peace and beauty of the natural landscape in the wild.

Recommendation 2b of EGSPA speaks about the importance of *long-term* prosperity and sustainability. Here, too, Model B seems much more likely to deliver long-term benefits. Model A seeks to exploit Nova Scotia forests as quickly as possible. Similarly, Model B is already innovative (2c) and it provides many opportunities for further innovation in locally managed forestry. Model A supports only increased mechanization, an approach that results in an ever decreasing work force. If “whole systems approach” (2ca) is not unhelpfully ambiguous, Model B, but not A, exemplifies such an approach.

EGSPA (2007 under 4(1)(a)) spells out the aspirational goal that surely instils pride in every Nova Scotian: to demonstrate our international leadership by having one of the cleanest and most sustainable environments in the world by 2020. The amended act implicitly recognizes that the goal is out of reach in the near future. But the aspiration is still worthwhile. It is just not possible for Nova Scotia ever to “have one of the cleanest and most sustainable environments in the world” under Model A. It is possible to get there, probably a number of years behind schedule, but to get there, under Model B.

If we follow the values and principles at the core of the three previous provincial policies, it is clear that Model B is preferable to Model A. Moreover, if we add in consideration of the additional values we endorse, the case becomes even clearer.

Let us briefly consider how each of these values enters in.

(1) *Aesthetic values.* People disagree about aesthetics and in many cases it is difficult to adjudicate between different preferences. But, surely, there is no contest between the aesthetic evaluation of the barrenness of a clear cut swath of land and a mature, diverse forest. Moreover, this condition is not frivolous. Beauty feeds our souls. It makes us happier (and thereby healthier), more cooperative, and more attentive to detail. It makes us, if not better persons, at least saner persons (on the evidence provided in the links given below under individual and community health). And, again, beautiful landscapes attract tourists and young professionals where clear cutting repels them.

(2) *Matters of individual and community health.* Social policy must reflect the fact that health involves much more than an absence of disease. Health

promotion is an important component of individual and public health. Many studies demonstrate that walking through wooded land has medicinal benefits. It affects mood, even for those with serious mental illness, and has an impact on various physical concerns. Communities that work together to sustain shared resources work more cooperatively and are more likely to retain and attract residents. Here are three relevant links citing the evidence:

<https://link.springer.com/article/10.1007/s12199-008-0069-2>

<https://www.nature.com/articles/srep11610>

<https://www.theatlantic.com/health/archive/2014/07/trees-good/375129/>

Human health also suffers from the industries that demand heavy clear cutting in the province. In particular, the half-century old Pictou Pulp Mill is clearly responsible for unacceptable levels of air and water pollution that threaten human health. In reviewing forestry practices, it is important also to consider the legitimacy of use of wood fibre to feed out of date machinery, delaying the province's effort to move to environmentally friendly fuel sources.

(3) *Reconciliation through respect for the values and traditions of Mi'kmaq people of our province.* Model A is a painful violation of the ideals and commitments of the Mi'kmaq people whose unceded territory we have been exploiting with minimal benefits to them. Model B seeks to incorporate their vision, experience, and expertise into its policies and practices.

(4) *Social justice.* When comparing Models A and B (and other available options), we must ask who is (or will be) benefiting from each and who is (or may be) harmed by each. The principal benefits of Model A go to the multi-national corporations who purchase access to Nova Scotia Crown Lands for clear cutting. A significant number of Nova Scotians are employed by these corporations and by those who run the large mills in the province, but the numbers employed are steadily declining and must be compared to the possible numbers who might find employment under Model B. Since most of the profits go off shore, the benefits to the majority of Nova Scotians are limited. Yet, the costs are felt by all: the damage to the environment, the impact on global climate change, and the limited opportunity for most rural Nova Scotians to find meaningful work. Moreover, as noted just above, the practices of clear cutting are particularly harmful to our Mi'kmaq population who are offended by the insult done to our forests and who find their opportunities to live off the land seriously decreased by the damage to soil, waterways, and biodiversity.

(5) *Opportunity costs.* Thus, we must also consider opportunity costs, or potential benefits that are lost when we sell our collective wilderness for short-term gain. Many of the points already made regarding damage to forest environment and failure to mitigate climate change by leaving some 56 million tonnes of sequestered CO₂ in the forest over the last 28 years (see reference

p.6 above) represent serious opportunity costs. Nova Scotia fisheries are threatened by increased acidity in our waters and by toxic effluent from Northern Pulp mill. Certainly, the risks to a healthy and growing tourism industry represent significant opportunity costs if clear cutting continues at its current pace. (Imagine the impact on tourism if people start to post photos of clear cut areas in Nova Scotia on Instagram, Facebook, or Trip Advisor or if an enterprising journalist takes up this story.)

In addition, there are many young professionals and entrepreneurs that have an interest in settling in Nova Scotia. Their willingness to stay or move here will depend upon having access to wilderness and a sense that the province values its forests for their own sake, and not just for the board-feet that might be taken from them.

Nova Scotia stands at a cross road now in its western district. The western forests of Nova Scotia are still home to significant stands of unevenly aged, diverse species. If Model A is chosen for these lands and we allow them to be levelled, the opportunities to avoid the harmful consequences we have been detailing will be lost for the foreseeable future. The soil, water, and air quality of the province will continue to deteriorate; Nova Scotia's contribution to climate change will worsen. The present opportunity to create jobs in tourism and community forest activities there will be lost and the health of the people in that part of the province will be negatively affected. The Independent Forestry Review can now take advantage of the opportunity to recommend avoiding the costs of such damage by insisting that this important asset be preserved and limiting any forestry in this area to projects compatible with the values and practices of Model B.

(6) *Benefits to all Nova Scotians.* We need, more generally, to reflect deeply on the question of what is the significance of Crown Lands. We recognize that even the terminology is problematic, since "the Crown" has claimed these lands despite the fact that the original people, the Mi'kmaq, never ceded ownership. Insofar as the province exercises authority over these lands, the province must provide stewardship that protects them for the ultimate benefit of all Nova Scotians, and it is important to consider how choices should be made as to their current and future use. Surely, it is the responsibility of the provincial government to try to ensure that all Nova Scotians will directly or indirectly derive some benefit from these lands and the principal beneficiaries are not foreign investors or a small minority within the Province who are well placed to profit from large-scale industrial resource extraction. A relevant example is the previous government's buying back the Bowater-Mersey lands. When Bowater decided to sell these lands, many Nova Scotians rallied to persuade the government to buy them back for the benefit of the people of Nova Scotia. The government spent some 200 million dollars of public money to purchase this land with the idea that Nova Scotians would manage much of it as community forests. Instead, only one community forest was approved

with less territory than is viable and most of the rest has been given to a consortium of mills, Westfor, that serve Model A rather than for the general benefit of Nova Scotians. This is not what Nova Scotians expected for their \$200,000,000.

How Can Nova Scotia Move Further Toward Model B?

Both models are currently at work in Nova Scotia, but the balance is very much in favour of Model A. We advocate shifting that balance much more heavily in the direction of Model B, and hope that this review will lead to revised regulations that make Model A the exception, rather than the rule. Further, insofar as Model A is still practiced in parts of the province, some of the harms can be mitigated if principles for landscape level planning are adopted and rigorously applied rather than allowing private companies to determine when and where harvesting occurs.

We offer seven general suggestions that have been spelled out in considerable detail in other proposals that have Model B as the most promising vision for improved forestry practices in Nova Scotia.

1. Stop clear-cutting the forests of Nova Scotia, to (a) prevent the continued destruction of soil, water, wildlife habitat, and biodiversity, (b) reduce pollution, (c) help combat climate change, (d) promote health for Nova Scotians, and (e) create the opportunity for ordinary citizens to gain better employment in tourism and creating high value forestry products and be able to take pride and satisfaction in the health and beauty of our natural landscape.
2. Introduce an absolute ban on clear cutting in the western forest region of Nova Scotia, not only for these reasons, but also to avoid opportunity costs as explained in (5) above.
3. Where harvesting is allowed, make sure that it is done according to principles adopted at the long-term, landscape planning level to avoid the extreme fragmentation of forest stands that now exists even in the least disturbed western region.
4. Create a new Department of Forestry to manage the forests of Nova Scotia -- or put the management of forests under the Department of Environment. Either way, it is essential that the designated department be adequately funded and staffed to properly research and implement the steps needed to bring Model B into reality. It cannot remain the sole preserve of DNR where ties to industry and Model A are much stronger than ties to ordinary citizens.

5. Change the Forestry Act, since it is based on Model A and sees the forest only as an industrial resource to be exploited for profit—to the benefit, as it turns out, of only a small fraction of Nova Scotians and ignores other ways that they can benefit from preserving healthy forests.
6. Make clear to Nova Scotians exactly what changes are being made and why and then engage them in carrying out the changes with ample opportunities for input. Right now many, perhaps a majority, have no idea that this review of forestry practices is being carried out and if they do know, many believe it is being done only for show and under advice by those already committed to Model A.
7. Acknowledge our debt to the Mi'kmaq people for their vision of the forest, and try to honour that vision through practices of Model B, and ask for their support and guidance as a step toward reconciliation.

In closing we contemplate the following **economic objection**: “All the tree hugging stuff in Model B is well and good, but what’s its worth in straight dollars and cents? With Model A the monetary payoff from resource extraction is not hard to calculate. And when you do that, the economic superiority of Model A is obvious.” However, is Model A really economically superior? We offer three philosophical points in reply.

- (1) For a comparison relevant to the economic benefit of ordinary folk we need to think about the money that would go into the pockets of ordinary forestry workers now and decades from now if Model A continues to dominate and compare that sum with money that would go into the pockets of workers with jobs in various sectors affected by forestry management if Model B were to dominate. According to Stats Canada employment in forestry has gradually gone down since its peak in the late nineties and is now about half of what it was. It is apt to continue to decline if Model A dominates. To fill in the B half of the ledger, suppose we pick just employment in tourism. Over the same period tourism has increased substantially and now has a GDP greater than mining, agriculture, and forestry put together. It is hard to say how much tourism would gain if Model B comes to dominate, but we don’t need much on side B of the ledger to bring into doubt the claim that Model A is *obviously* economically superior. That is even before we add gains in other sectors if B dominates or subtract on side A the monetary costs to the health system if B does not dominate.
- (2) Some of the benefits on side B may seem not quantifiable, like aesthetics or the shared knowledge that we in Nova Scotia care about wildlife corridors and forests that are wild, not fragmented, full of biodiversity, and mature even when some of us do not venture into the wild. But, in fact, many mobile, young, dynamic, well-educated professionals are looking for places to live and raise families where these hard to quantify, intangible assets abound.

These persons can, if drawn here, play an important part in revitalizing the economy. They aren't the young people who leave Nova Scotia for higher paying jobs in the oil fields, but they can be the young people who bring such energy to the economy that others, who would otherwise leave, can find good jobs and stay. Indirect monetary benefits are not less real.

- (3) Of course, money in the pocket now can seem preferable to more money that is likely to be there tomorrow if the latter is not certain. This tendency of humans to prefer the certain to the likely, even if the latter has greater expected utility, is commonplace and figures in many debates, including those about climate change. Even when we are pretty sure that life on earth is going to be hell if we don't change, if we don't know exactly when it will be hell and by exactly how much, we tend to postpone doing anything. It strikes us that the logical structure of the decision problem to change from forestry model A to model B is similar. We believe that it would be irrational to reject making model B dominant, when it has better expected benefits and fewer predicted harms, on the ground that making B dominant would be new for Nova Scotia.

In sum, making B primary is likely the better choice on economic grounds alone. When combined with considerations of environmental and human health, that are central to EGSPA, we believe that the case for making Model B primary is decisive.

Respectfully submitted by:

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Susan Sherwin