The Voice of the Nature and Outdoor Tourism Industry Since 1929.

January 28, 2026

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Re: Comments related to ERO# 025-0847; Revisions to Forest Management Guide for Boreal Landscapes (2014) and Forest Management Guide for Great Lakes-St. Lawrence Landscapes (2010), ERO# 019-9217 - Revisions to the Forest Management Guide for Conserving Biodiversity at the Stand and Site Scales (Stand and Site Guide) , and ERO# 025-1134 - Natural Resources Regulatory and Permit Reform Initiative: Improving forest legislation, regulations, processes and forest management policy

Hello Peter and David:

On behalf of our Board of Directors and members, thank you for the opportunity to bring forward comments reflecting the resource-based tourism sector on the proposed revisions to the above-mentioned forest management guides and the regulatory and permit reform initiative.

Our membership consists primarily of lodges, resorts, and outfitters offering hunting, fishing, and outdoor experiences, predominantly in Northern Ontario. Our province has been home to a vibrant, world class resource-based tourism industry for generations. Our standing on the world stage is driven largely by a single defining strength: an outdoor environment and natural resources that are nearly unmatched. For tourists who are interested in activities such as angling, hunting and back-country canoeing, Ontario has traditionally offered extremely high-quality experiences and has done so at very attractive travel costs compared to other destinations, such as Alaska.

Sense of wilderness or “perception of remoteness” has been identified as a major determinant of value in resource-based tourism experiences. MNR research indicates that clientele visiting non-road accessible facilities are motivated by the wilderness experience and that remote establishments command about double the price of a similar package that is road accessible (Browne *et al.* 2003). Although challenges around roads created for resource development have and will continue to cause significant concern, Ontario is well positioned in relation to other jurisdictions in terms of the availability of remote tourism destinations.

As human development continues to reach the world’s remaining remote regions, Ontario’s vast wilderness is becoming increasingly valuable as a tourism destination. Although we have done a reasonable job overall of maintaining a level of environmental quality that appears to satisfy the perceptions of tourists, it is important that we carefully manage the remaining remote areas that drive the tourism industry’s highest valued and yield experiences.

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We applaud the Province's efforts to ensure that regulations support and protect businesses that are involved in and affected by the management of Ontario's natural resources. NOTO's membership comprises a broad spectrum of businesses that depend on the availability and access to public (Crown) land, and who are concerned about, and committed to preserving the ecological integrity and sustainability of the landscape and who strive to operate economically and environmentally sustainable businesses. We appreciate your commitment to review the guides as per the Forest Operations as Silviculture Manual.

Following a review of the proposed changes to the above noted guides, we offer the following comments:

ERO# 025-0847 – Revisions to the Forest Management Guide for Boreal Landscapes (2014) and Forest Management Guide for Great Lakes-St. Lawrence Landscape (2010)

General

- In broad scope, the socio-economic analysis carried out through the forest management planning process does not adequately address the impact of forestry operations on tourism establishments. NOTO and its members should be more closely consulted and involved in this aspect of the planning process.

- Road strategies continue to be a significant concern to many of NOTO's members. New access near tourism lakes has the potential to severely impact the viability of tourism businesses.

- The comments in the Landscape guides that suggest that FMPs are easy to read which is not reality for many tourism business owners. The development of resources that allow non-forestry stakeholders to navigate the FMP and guides more easily is needed.

  NOTO is well positioned to work with MNR on such an initiative. In fact, we have a history of developing similar resources. Between 2001 and 2003, NOTO, with support from the Province developed the Resource Stewardship Agreement (RSA) Toolkit that through its support of the tourism sector, also provided support to the forestry sector. The toolkit included handbooks that provided an overview of the FMP and forestry guidelines as well as templates for the development of RSAs. RSAs are business to business agreements between tourism operators and forestry companies that can facilitate cooperation on the land base during forestry processes.

  As you can appreciate those resources are now outdated and need to be updated in order to provide service at this point. We would be eager to discuss any opportunity to work with MNRA to refresh these tools.

- We support the inclusion of the Spanish Forest into the Boreal Landscape Guide Region.

- We look forward to discussing the comments and concerns that are provided by the forestry sector. In the case where the Landscape guides constrain their forestry operations, it will be important to ensure that when considering their recommendations, consideration is given to potential impacts that may put more pressure on areas that affect sensitive tourism areas.

Specific Comments Boreal Landscape

- Section 1.4.2 and 2.2 -- The MNR and SFL holders need to practice a cautious approach when testing new approaches near tourist operations as the results have the potential to inadvertently have a negative impact on tourism businesses

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- Section 2.2.-- Forestry operations and planning need to address a balance with the needs for other users of the forest landscape (e.g. tourism operations)

- Section 3.1.1.3 Red and White Pine – We support revisions that will increase the presence of white and red pine on the boreal landscape as it often contributes to the aesthetic value of viewscapes and the overall enjoyment of the guests of our members

- Section 3.1.2.1 Texture of the mature and old forest. – The creation of large disturbance areas to emulate natural fire ecology may have a very immediate and negative impact on an individual tourist operation. Decisions to create such patches need to be balanced with the recognition of the impact of other users.

- Section 3.3 (Standard and Guideline 25) -- Planning Foresters, Planning Teams and LCCs need to understand that they have the latitude to favour non-Landscape Guide objectives in the case where it conflicts with other objectives (such as the recognition of tourism values on the landscape)

- Section 3.4.2.2 (Standards and Guideline 37) – in order to create large, continuous tracts of conifer forests, chemical herbicides are likely to be used. NOTO is strongly opposed to this silvicultural practice. You can find NOTO's position this practice in Appendix 1.

Specific Comments Great Lakes-St. Lawrence Forest

NOTO is pleased to see the completion of the review of the guides as per the commitment in the Forest Operations and Silviculture Manual

- We support the inclusion of the Spanish Forest into the Boreal Guidelines recognizing that the planning team may have to accommodate site specific approaches in the southern-portion of the forest where the conditions are more appropriate to the Great-Lakes St. Lawrence Forest

- Section 4.2 – Identifying effects on other values – The value of a level of remoteness is of utmost importance to many of our members who provide remote or semi-remote experiences to clients. As such, the construction, location, duration and management strategies of forestry roads is of critical importance. We continue to stress that tourism operators need to be in consultation with the planning team during the development of FMPs and its implementation. NOTO continues to support the consultation process by including reminders of notices through our newsletters. We are interested in discussing other ways we can help build engagement from the tourism sector.

ERO# 019-9217 - Revisions to the Forest Management Guide for Conserving Biodiversity at the Stand and Site Scales (Stand and Site Guide)

We have provided our comments on the next several pages embedded in the changes chart that was provided in the posting.

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Current Section	Current Stand and Site Guide direction or content	Proposed revision to direction or content and rationale	New Section
1.2.2	Numerous guidelines stipulate that "reasonable efforts" will be made to undertake a specific course of action (e.g., avoid new constructing new roads in an AOC).	Replaced "reasonable efforts" with either "with Ministry notification" or "with Ministry approval" based on activity risk. Procedures for Ministry notification and approval defined in new Appendix 1b. Provides flexibility to address local variation/uncertainty while making direction enforceable from a compliance perspective. We appreciate the flexibility these changes can provide to deal with local issues. We are also pleased to see the addition of an advanced notification and/or approval process for unexpected courses of action decisions by forest licensees. The increased communication with MNR in these instances could prove helpful. We are, however, concerned that the MNR may not have sufficient staff available for approvals or enough compliance enforcement staff to ensure compliance standards are met.	N/A
1.5	Pilot testing section summarizes testing of direction by FMP planning teams undertaken on relevant portions of the entire guide including wildlife tree, moose, and shoreline harvesting.	Pilot testing section updated to reflect activities undertaken to assess effectiveness of new/revised direction including reclassifying the potential sensitivity of water features and rutting coverage in partial harvest systems. We support the continuation of pilot testing. It makes good sense. In cases where pilot testing is being carried out in close proximity to tourism operations, our members should be advised and have an opportunity for input into the testing	1.5
1.6	Socio-economic impact analysis section summarizes modelling exercise undertaken to assess potential impact of guide direction (compared to status quo) on wood supply, wood costs, and operational efficiency.	Socio-economic impact analysis section updated to reflect GIS-based spatial analysis on five forest management unit to assess the potential impact of new/revised direction on wood supply and wood costs. Changes to AOC dimensions for flowing water features, bird nest sites, and species at risk were the focus of the analysis. Socio-economic analysis carried out in FMPs tend to have a very narrow focus and have not addressed impacts (positive or negative) on non-timber activities (e.g. tourist operators). The scope of this analysis should be broadened and include more impact from the tourism sector	1.6

N/A	N/A	Added new section on climate change (as per recommendation in guide review) including impacts on Ontario's forests (Section 1.7.1), how guide direction addresses climate change (Section 1.7.2) and direction flexibility that enables forest managers to adapt to climate change (Section 1.7.3). We applaud more robust consideration of the impact of climate change on our forests. The resource-based tourism (RBT) sector relies on the health of the forest for their commercial viability and are vulnerable to the impacts of a warming climate (notably more frequent and severe wildfires)	1.7
2.2	Guide enables planning teams to amend new or revised guide direction into currently approved FMPs should they choose to do so.	Enabled all or only portions of the new or revised direction be amended into a currently approved FMP to acknowledge that the workload/resources required to amend all the new or revised direction may not be practical or feasible. Provided that the suggested amendments into currently approved plans do not have a negative impact on the tourism sector, we support this revision. Appropriate notification and consultation may need to take place with NOTO and/or the RBT operators in the FMP.	2.2
3.2.3.1	Requires the retention of an average of 10 large (>25 cm dbh) wildlife trees per hectare for the clearcut silviculture system.	Specified for the 10 large wildlife trees per hectare, that 1 supercanopy (>60 cm dbh) tree per 2 hectares and all living, hollow 'chimney' trees be retained for the (where available) due to high wildlife habitat value (including species at risk). This revision should be beneficial to the tourism sector. The RBT sector offerings include, consumptive and non-consumptive activities like hunting, fishing, wildlife photography, and mushroom picking to name a few.	3.2.3.1
3.2.3.1	Includes a best management practice to retain large, hollow trees in selection and shelterwood silviculture systems.	Requiring mandatory retention of reasonably identifiable large living (≥50 cm dbh) hollow 'chimney' trees and living trees with pileated woodpecker nest or roost cavities due to wildlife habitat value, especially to some species at risk (e.g., bats and chimney swift). See previous comment.	3.2.3.1
3.2.3.1	Requires the retention of an average of ≥1 supercanopy tree/4 ha (when available).	Increasing quantity of supercanopy trees retained to ≥1 supercanopy tree/ha (when available) as they provide wildlife habitat and vertical canopy structure diversity and are culturally and spiritually important to Indigenous communities. We support the retention of additional supercanopy trees when available. Supercanopy trees are of great importance to tourism as they provide a range of ecological and experiential benefits. They offer shade and habitat, provide	3.2.3.1

		an area for animals like black bear cubs to climb up as refuge, and also act as nesting, roosting of perching sites for many large birds such as eagles, ospreys and hawks. They provide a very high aesthetic value for outdoor adventurers. They also act as a protective layer for the next generation of trees.	
3.3.3	Addresses deficiencies in the amount of critical thermal cover for white-tailed deer through a long-term silvicultural objective to increase the amount of thermal cover over time.	Maintenance of habitat within winter deer emphasis areas addressed through long-term strategic targets for both a consistent supply of browse and winter cover habitat. The RBT sector provides deer hunting opportunities across the Province. We support this revision and other efforts to ensure that the deer population remains healthy without negatively impacting moose populations.	3.3.1
3.3.4	Requires habitat within moose emphasis areas (MEA) to be maintained within specific ranges for 3 separate habitat categories (young forest, mature conifer, and hardwood/mixedwood forest). A single set of habitat ranges is prescribed for all forest management units.	Requires habitat within moose emphasis areas be maintained within specific ranges for 5 separate habitat categories (young forest, hardwood forest, mixedwood forest, upland conifer forest, and lowland conifer forest). Habitat ranges are specific to either Boreal or Great Lakes St.-Lawrence forest region management units. We have seen steady declines in moose populations over the last decade. NOTO supports efforts to support the revitalization of the moose population. NOTO has recommended that MNR look beyond hunter activities to increase moose populations ie. predation, climate change and forestry practices. We are pleased to see these changes; however, we would like to know more about how this might work. We are also interested in understanding how these ranges may impact the RBT sector. Will the forest industry lose the ability to accommodate particular tourism values?	3.3.2
3.3.4	N/A – current guide section does not include direction relating to security cover.	New direction related to the mapping of security cover is added to enhance access to browse within clearcut harvest areas with any point within planned clearcuts to be within 200 m of a mapped patch of security cover. We support this revision. Leaving small patches of trees and shrubs will encourage animals, particularly deer, elk, and moose, to feel safe enough to venture into the clear cut to feed on new vegetation.	3.3.2

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4.0	Section 4.0 provides a preamble on interpreting and implementing fine filter AOCs for site-specific values in the subsequent sub-sections 4.1, 4.2, and 4.3.	Section 4.0 has been revised to provide additional context and clarification for when AOCs overlap and the most restrictive direction is not intended to be followed, that it will be considered an exception to the guide. Preamble provides advice to be considerate of areas with high densities of values when making strategic landscape decisions to avoid potential conflicts between landscape level objectives and application of AOC prescriptions. AOC prescriptions for Tourism and Remote Tourism operations will need to be maintained and strengthened where possible. We must ensure that tourism values are protected through buffer zones and with strong road and access management, Visitors are willing to pay a premium for remote experiences, and it is essential that the value of tourism businesses, especially fly-in outpost camps, are not undermined by new road development or nearby clear-cutting.	4.0
4.1.1 & 4.1.2	Requires the retention of at least 10 living trees/100 m of shoreline spaced about 10 m apart as a potential source of future aquatic coarse woody material.	Revised direction requires the retention of at least 2 living trees/10 m (i.e., 20 living trees/100m) to address Indigenous community concerns about adequate woody material inputs for fish habitat/structure and based on research showing 20 trees/100 m of shoreline provides a more reasonable expectation that a range of 10-15 trees/100 m will actually enter the water. We support the implementation of this revision. Healthy fisheries are a key component of many businesses. Operators will often implement measures above and beyond the provincial regulations to ensure the fisheries thrive for generations.	4.1
4.1.2	Current direction requires that all high and moderate potential sensitivity streams have 15 m of mature forest retained on both sides for shading. Shading is not required on low potential sensitivity streams.	Revised direction requires the maintenance of 15 m of mature forest on streams that support fish that are sensitive to changes in water temperature or streams that are identified as cold from local knowledge or from thermal classification tools. We support this revision as it will be beneficial for trout and salmon populations and will support healthier cold freshwater ecosystems.	4.1.2
4.1.3	Includes a standard AOC to be applied to all provincially significant wetlands in managed forest (i.e., prescriptions/conditions including an environmental impact study (EIS) to conduct harvest operations within a PSW).	Removing standard PSW AOC (hence also removing requirement for EIS to conduct harvest operations within a PSW) and requiring FMP planning teams to develop individual AOC prescriptions/conditions for each PSW that results in no or an acceptable loss of natural features or ecological functions that make wetland significant. New Appendix 4.1a provides considerations for planning teams developing AOCs for individual PSWs.	4.1.3

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		We are concerned that the production schedule for the development of an FMP may not allow for the thorough consideration and creation of an individual AOC. We suggest that the requirement for an environmental impact study to be completed prior to harvest in a PSW be maintained.	
N/A	N/A	Including new mandatory direction for constructing roads in wetlands to maintain wetland hydrological flow. Any construction of roads through or in wetlands should be subject to heightened direction to ensure their ecological, social and economic importance is considered.	4.1.3
4.1.3	Description of mapped non-forested wetlands does not integrate standard wetland classification.	Revising description for non-forested wetlands to integrate standard wetland classification as defined by the Ontario Wetland Evaluation System. Wetland type-specific direction provided based on hydrological sensitivity; marshes and fens receive more protection than bogs and swamps. We support this revision.	4.1.3
N/A	N/A	New section providing fine filter direction for high-risk, self-sustaining lake and brook trout lakes/ponds that restricts new or improved road access to minimize potential adverse effects of unsustainable harvest and/or introduction of alien aquatic species. Providing new appendix to assess risk of self-sustaining lake and brook trout lakes/ponds. We support this revision and applaud efforts that restrict new road access that might provide introduction of alien aquatic species. This is particularly important in areas with extensive road management strategies in place. We encourage the Ministry to consider using existing roads when possible.	4.1.5
4.3.1	Current direction for American ginseng large patches focuses on avoidance of impacts on the patches of ginseng comprised of ≥20 plants (within 40 m of each other) and the area within 120m of the patch periphery.	Revised direction defines large patches as ≥30 plants, a science based 'extinction threshold', and plants within 10 m of each other. Revised direction focuses on literature addressing 'distance of edge influence'. Revised direction provides more flexibility for operations and access. We support this revision. This will provide operators in southern and central Ontario and timber operators the flexibility to address tourist-related concerns more effectively.	4.3.1

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ERO# 025-1134 - Natural Resources Regulatory and Permit Reform Initiative: Improving forest legislation, regulations, processes and forest management policy

For this ERO posting, we offer the following comments and concerns:

Revisions to the Forest Management Planning Manual:

To enable opportunities to preparate a single Forest Management Plan for multiple units.
We recognize that the preparation of a single management plan for multiple Forest Management Units (FMU) may provide cost and administrative savings to the forest industry, however, we are concerned that a larger planning area under a single process may result in less attention being paid to individual ecological values, landscape concerns and more importantly less attention to tourism values in each FMU.

The decision to allow for multiple Forests to be managed under a single FMP should be made with input from affected stakeholders such as NOTO and its members, in a timely, transparent manner. The Ministry should also encourage for the establishment of Resource Stewardship Agreements between operators and forestry companies to ensure extra protections for their perspective businesses.

The Evolution to Continuous Forest Management Plans: A continuous Forest Management Plan (FMP) may provide greater flexibility to respond to unexpected natural events (e.g., blowdown, forest fires) and emerging economic opportunities. However, this approach also raises significant concerns for the tourism sector.

Tourism operators may experience a loss of long-term certainty regarding new timber harvest operations and the development of new access routes in areas that are central to the viability, market appeal, and economic sustainability of their businesses. In addition, a continuous FMP may reduce meaningful opportunities for industry consultation and engagement, limiting the ability of tourism operators to anticipate, plan for, and respond to potential impacts.

There are also concerns that a continuous FMPs could undermine existing agreements between tourism operators and forestry companies, including commitments established through Resource Stewardship Agreements (RSAs). Changes introduced through ongoing planning processes may create uncertainty around how these agreements are interpreted, respected, or implemented over time.

Permit to Remove: We recommend that the MNR proceed with caution in its efforts to simplify the “Permit to Remove” process. We are concerned that removal of this process may lead to unintended access to tourism lakes that are critical to the tourism sector.

In some areas, tourism operators have expressed concerns to the MNR that there appears to be a gap in the oversight on the permitting and construction of trails for exploration and mining purposes. Removal or streamlining the Permit to Remove process may exacerbate this issue.

Harvest Approvals: The suggested additional terms for the Forest Resource Licence may address the needs of the MNR. We do not anticipate the removal of the harvest approval process will affect the tourism sector.

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Compliance and Enforcements: We applaud the Ministry's efforts to update the Forest Compliance Handbook and to increase Inspector Training. These initiatives highlight the Ministry's commitment towards strengthening forest management and compliance oversight.

However, we are concerned that MNR may face significant challenges when implementing these changes effectively due to labour shortages and a lack of operations resources such as vehicles, ATVs and drones. The availability of human resources is a challenge for many northern sectors. Tourism and MNR are not exempt from these challenges. We are worried that MNR may not be able to attract, train and retain the number of qualified personnel required to fulfill expanded compliance and enforcement initiatives.

In the absence of a strong enforcement and compliance program, supported by meaningful penalties and effective remedies, the tourism sector may be increasingly exposed to resource and/or access-related infractions, with potential implications for environmental integrity and the long-term viability of tourism operations.

Forest Resource Licenses (FRLs): The conditions to quality for license renewal will need to be rigorous and must address issues or concerns related to forest compliance and adherence to the provisions in the Forest Management Plan.

Forest Resource Processing Facility Licences & Scaler's Licences: We do not have concerns with these proposals.

Trees Reserved to the Crown on Private Land: The original intention of the provision of trees reserved on Crown Land has long been outdated. We support this initiative and suggest that it may take pressure off the landbase and may allow timber licensees to avoid areas in close proximity to tourist operations.

Forestry Workers Lien for Wages Act: We support updating this Act.

Personal Use Harvesting Authorizations: We support the changes proposed if they apply to tourist operations using timber for building, firewood or other purposes. Tourist operators with outpost cabins and/or main basecamps in remote areas will benefit from this revision.

Manufacture in Canada Exemptions: NOTO supports businesses in Ontario whenever possible. Exemptions to Manufacture in Canada should consider local economies prior to approval.

Forest Renewal Trust: We support the Ministry's effort to make annual approval of renewal rates more efficient.

Thank you for the opportunity to comment on the above proposals. We look for to being involved in further discussions and consultation opportunities as they arise. If you have any questions regarding our submission, do not hesitate to contact me at your convenience.

Sincerely,

L. Marcil

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APPENDIX 1

Resource-Based Tourism Industry's Concerns About Aerial Spraying

March 2021

About NOTO:

Nature and Outdoor Tourism Ontario (NOTO) is a membership-based, advocacy organization which represents the resource-based tourism (RBT) industry in Ontario. NOTO's membership primarily consists of lodges, resorts, and outfitters who offer hunting, fishing and other outdoor experiences. There are approximately 1300 RBT businesses in Ontario, with approximately 1050 RBT businesses located specifically in Northern Ontario.

NOTO was founded by a group of tourism operators in March 1929 to create an organized voice for the resource-based tourism (RBT) industry in Northern Ontario. Our organization's purpose is the represent the interests of the RBT industry by impressing upon Government the need to protect our pristine Northern wilderness which offer world-class outdoor experiences. Over 90 years latter, Government relations remains in the center of NOTO's focus. NOTO maintains ongoing communication with political leaders and senior civil servants and lobbies all levels of Government to ensure their policies and regulations help the outdoor tourism industry in Ontario grow and prosper.

Background

Resource-Based Tourism Operations on the Landscape

Over 95% of Northern Ontario's land mass is considered Crown Land. There are many industries that exist in Ontario's publicly owned forest. This includes forestry, prospecting and mining, trapping, baitfish harvesting and the resource-based tourism industry (RBT). The RBT industry includes businesses such lodges, camps and outposts which offer a vast array of products and services. These products include world-class hunting and fishing experiences, canoeing, wildlife viewing, cycling, horseback riding, snowmobiling, ATV riding, winter activities such as ice fishing, skating, cross-country skiing, ice climbing and more. RBT operators provide these unique experiences on a commercial basis to both residents of Ontario and guests from outside the province, including the US market.

This means all of the industries and activities listed above all occur on the same land base and consideration for each of these industries must be taken while developing policies and regulations.

Value of the Resource-Based Tourism Industry

Prior to the onset of the pandemic, the RBT tourism industry in Northern Ontario generated $400 million annually in tourism spending and supported 8,000 jobs. All indicators at the beginning of 2020 showed the industry was poised to surpass these numbers. As we look to recover from the pandemic, we must ensure that Ontario's RBT industry is poised to offer unique products located in Northern Ontario's pristine wilderness. This includes world-class hunting and fishing experience, which can be negatively impacted by aerial spraying.

Changes on the Land

The forestry industry is by far one of the largest contributing factors to changes on the land base. The processes of harvesting, renewing, and maintaining Ontario's forests substantially change vast areas during the life cycle of a working forest. Depending on the location of the harvest blocks, access roads, and aerial spraying events, our RBT operators can be substantially impacted as well.

Many RBT businesses are impacted by forestry activities and many are concerned about the impacts of aerial spraying on our valuable natural resources. As forestry activities disrupt nearby wildlife habitats, operators can see the changes that occur on the land base. Some smaller species become more prevalent while big game species such as deer, moose and bear tend to disappear. Operators have also noted that big game (moose, deer, bear), tend to disappear for up to five years following an aerial spraying event, which impacts their guests hunting success rates. All of this has a long-term impact of the future environmental, social and economic value of the site.

MNRF's Pest Management Strategy

MNRF's Pest Management Strategy focuses on a risk-based proactive approach which involves evaluating the risk of an outbreak of forest pests, establishing a response plan, and allocating resources appropriately through the removal of infested trees and through spray programs. This is meant to increase the focus on integrating and coordinating forest pest management across all jurisdictions will support more timely and targeted action during a pest outbreak.

Based on what our industry has been seeing on the ground, it appears that MNRF continues to spray forests in a proactive manner, even without the threat of a severe pest outbreak in some Forest Management Units. NOTO would like to highlight the importance for collaboration and communication between MNRF, municipalities and individual/private owners of forests when it comes to pest management initiatives.

It is important to note that not all pest outbreaks negatively impact forests. Our industry would like to know how MNRF will apply a risk-based proactive approach in the next round of Forest Management Plans. We are worried that being too proactive may lead to unwanted consequences. Native pest outbreaks have a role in keeping forests healthy and resilient. Moderate outbreaks when combined with natural forest disturbances (weather, wind, fires, etc.) help create ideal conditions for new growth. Increasing proactive spraying programs may cause our forests to become less resilient to natural disturbances and pests (including invasive species) thus increasing the need for intervention and increasing costs.

RBT Operators Sentiment on Aerial Spraying and Impacts They Are Seeing

The resource-based tourism industry has mixed feelings on the use of pesticides in Ontario's forests. While we understand the need for pesticides to prevent the establishment/outbreaks of invasive species, we do not approve of the forestry industry proactively spraying the forests as a method to guarantee future wood harvests to control/kill other vegetation to allow newly planted trees to prosper. These pesticides, while effective against pests, eliminate species found in the understory of the forest on which several animals feed on such as deer, moose and bears. These pesticides also impact fish. Some specific

observations shared by both outfitters and by First Nations include moose and deer being absent from areas that have been sprayed with herbicides, as well as a lack of understory growth (which is the primary food source for these species). Several First Nations in Northeastern Ontario also reported that these pesticides have harmed many plants commonly used in traditional medicines.

Various Studies on Glyphosate

In the paper Ecotoxicology or Glyphosate and Glyphosate-Based Herbicides-Toxicity to Wildlife and Humans, there are several studies listed that reveal that glyphosate and its formulations are considered to have genotoxic, cytotoxic, and endocrine disruption properties and may also be the causative agents of reproduction abnormalities in both wildlife and humans. Glyphosate have been shown to interfere with CYP enzymes involved in digestion and disrupts the biosynthesis of amino acids by gut bacteria in humans and wildlife. This adversely affects the body over time and the impact manifests over that time as inflammation that damages cellular systems leading to gastrointestinal disorders, diabetes, heart disease, obesity and infertility to name a few.

The average half-life of glyphosate in soil is anywhere between two months to years. Glyphosate in freshwater ecosystems has an average half-life of two to ten weeks. When glyphosate undergoes degradation, it produces aminomethylphosphonic acid (AMPA) and carbon dioxide, both of which reduce pH when dissolved in water.

A study conducted on rainbow trout showed that glyphosate was more toxic at higher test temperatures and at different pH ranges. Toxicity increased remarkedly as young fish entered the early swim-up stages. Applications in lentic situations, where dissolved oxygen levels are low or temperatures are elevated could be hazardous to young rainbow trout.

These are just some examples of studies that highlight the negative impacts of glyphosate on fish and wildlife.

NOTO's Recommendation – Phasing-Out Aerial Spraying

NOTO recommends MNRF consider a phase-out approach and use alternative methods for pest management. Looking to other provinces, there are several examples on how other provinces have started phasing out glyphosate and moved to other methods for the prevention and control of pest outbreaks:

- In British Columbia, pest control methods are determined on a case-by-case basis. Glyphosate, biological control (sheep and insects) and prescribed burns are the primary methods of pest control. The impact on human safety & the environment (recreational resources, fish & wildlife) as well as the economics of the treatment are considered before selecting the treatment method to meet required reforestation requirements.
- In Manitoba, municipalities, industrial vegetation management (including forestry), golf courses, etc. must apply for permits to spray. Public consultation occurs when someone applies for a

permit to allow individuals to ask questions, express concerns and/or file for a spray exclusion zone (buffer zone).

- In Newfoundland and Labrador, licensed individuals/businesses primarily use biocontrol by using bacillus thuringiensis serotype kurstaki (Btk) bacteria. Btk is regarded as environmentally safe as its toxicity is essentially limited to its target pest. Humans, wildlife and beneficial insects are unaffected by this pesticide.
- In Saskatchewan, they use non-toxic pesticides. Some areas are prepared and planted with seedlings, while others may be disturbed with equipment to encourage regrowth or left to regrow naturally.
- Since 2001, the province of Quebec has banned the use of pesticides in their forests. They now use intensive silviculture and ecosystem-based management. Early reforestation (tree planting), use of tall planting stock and intensive mechanical release brings crop trees to the free-to-grow stage without use of herbicides. While these methods are a little more expensive, they also created more jobs in the forest industry and cause less harm to the forest ecosystem.

Summary

The resource-based tourism industry would like MNRF to consider other methods of pest management that would eliminate the need for the aerial spraying of pesticides. These pesticides harm the ecosystem on which our industry depend on (i.e. bear, moose, deer, bird habitat and subsistence, fish health, forest understory health and growth). We encourage the Ontario Government to look at other provinces and implement other methods of pest control such as intensive silviculture and ecosystem-based management, biocontrol, or even a permit system to ensure pesticides are only used in response to invasive species or severe outbreaks which pose a significant threat to the overall health of the forest ecosystem.

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