

Proposal to Protect Three Wilderness Areas in the Annapolis River Watershed

Forests on the South Mountain in Annapolis County have been severely fragmented and degraded by clearcutting and anthropogenic fires. Our brooks and rivers, comprising the Annapolis River Watershed, are extremely vulnerable now to flooding and siltation. The loss of Hemlocks along watercourses as a result of the Hemlock Woolly Adelgid is making matters worse. Climate change is bringing intense rainfall as well as more wind, drought, heat and attendant wildfire risks. Periodic flooding is already affecting the many residents who live along the base of the South Mountain near Hwy 201.

The crisis threatening ecosystems across the planet is happening here too. Wildlife populations have plummeted. Recent scientific studies have established the link between the loss of old forests in the Maritimes and the devastating drop in bird populations.

It is essential that we save the remaining areas of intact older forests within this watershed. Enough areas of high conservation value, primarily mature to old Acadian/Wabanaki forest, remain on Annapolis County's portion of the South Mountain that we can protect stepping stone areas for wildlife connectivity while conserving biodiversity and restoring ecosystems. Many of these areas include extensive wetlands vital to carbon storage as well as wildlife.

The *Act Respecting Environmental Goals and Climate Change Reduction* mandates protection of 20% of Nova Scotia's lands and waters by 2030. Canada's target is aligned with the global target of protecting 25% by 2025 and 30% by 2030. Nova Scotia's lower target is acceptable because we have so little Crown land compared to other provinces. Most of our 20% will need to come from Crown land. (Of the 13% currently protected, less than 1% is on private land.) This means that areas of Crown land with high conservation value must be placed under consideration for protection right now. Final decisions about the specifics of protected areas can be made by 2030 but we cannot wait any longer to protect areas from further degradation.

Why the urgency? There is so little left, and what remains is under threat.

So little is left that the definition of 'high conservation value' must be adjusted to realities on the ground.

The 2013 Parks and Protected Area Plan outlines the conservation oriented criteria used to select areas for inclusion in the protected area system. (Page 9)

"This conservation-oriented approach relies on the six Rs' criteria:

- *Remote: large areas in a mostly natural state with few human impacts*
- *Representative: examples of the full spectrum of Nova Scotia's natural landscapes*

- *Rich: productive and diverse – where plant, lichen and animal life flourish*
- *Rare: unique or rare landscapes, plants, or animals*

- *Restoration: areas that fill important land gaps but need time to restore from past*

use • Re-connection: areas that provide important natural connections for plants and animals.”

We, as citizen scientists devoted to observing and conserving the forests of our internationally recognized Southwest Biosphere Reserve, are proposing the following areas for protection in the Annapolis County portion of the Annapolis River Watershed. We are asking that there be an immediate freeze on harvesting, road-building and development in these proposed wilderness areas until the Protected Areas branch of Nova Scotia Environment and Climate Change has had an opportunity to review them.



Goldsmith-Corbett Lakes proposed Wilderness Area

Goldsmith Lake is the largest lake in the Round Hill River watershed, a sub watershed of the Annapolis River. Unlike many area lakes, it has not been dammed for hydroelectricity or water supply. Neither Goldsmith nor Corbett Lake to the east have been developed for summer or permanent homes, being formerly Bowater lands and now Crown.

The forests surrounding these two lakes are known to biologists, ecologists and interested residents of the area as being healthy, particularly rich in biodiversity, and relatively unspoiled by roads and logging. Almost nowhere in Nova Scotia is untouched. This area is some of the very best of what we do have. It is of the highest conservation value and, as such, is essential to the preservation of Species At Risk.

As if to underscore this point, we are happy to report the identification on November 4th, 2022 of a specimen of *Sclerophora peronella*, Frosted Glass-whiskers Lichen, in mature forest just to the east of Goldsmith Lake. A second occurrence was identified on November 7th, 2022 west of the

southern tip of Goldsmith Lake. COSEWIC's Assessment and Status Report on this species points to the importance of this discovery: "The available data suggests that *S. peronella* prefers the environmental stability associated with old-growth forests. Unfortunately, such habitat has been in decline across Canada and throughout most of the world. Habitat destruction from logging of old forests is a threat in parts of the species range."

It continues under the heading "Special significance of the species: *Sclerophora peronella* is currently known from only three collections in Canada and from just a few locations in the United States, Russia and several European countries. The ecological significance is that the species is recognized as an old-growth forest indicator species. Calicioid lichens and fungi are considered our most sensitive biomonitors of forest ecosystem health."

While a few more occurrences of the species have been reported in Nova Scotia since the 2005 report, the role of *S. peronella* as an indicator of old, undisturbed forest remains. It is essential that these forests remain undisturbed.

Lichens are not the only species at risk known to depend on the preservation of the Goldsmith Corbett Lakes Area in its current state.

Round Hill River is a free flowing river known for its populations of brook trout and other fish. Historically it was regarded as one of the best salmon rivers in Nova Scotia. It still maintains a known population of Atlantic salmon. Fishermen report catching smolts far upriver. Since the Annapolis Tidal Power Plant closed down, there have been additional reports of adult salmon in the river. Protecting Goldsmith Lake would make a major contribution to the potential recovery of the Atlantic Salmon.

In addition, Goldsmith Lake, with its irregular shoreline and islands, provides lake and riparian habitat for reptiles, amphibians, and many other aquatic dependent species known to be challenged or at risk. There are currently no conservation areas of any type within the Round Hill River Watershed. DNRR identifies Goldsmith Lake as habitat for species of concern (AP42).

On the west side of the lake are two areas currently classified as Old Growth. In contiguous areas there are stands with many ancient trees, notably substantial Yellow Birch as well as some Hemlock and Red Spruce. Yellow Birch of 70 - 82 cm DBH can be found throughout this area. A number of these specimens have been recorded on iNaturalist. The forest floor is rich with shrubby and herbaceous species including *Ostrya virginiana* and *Viburnum lantanoides*.

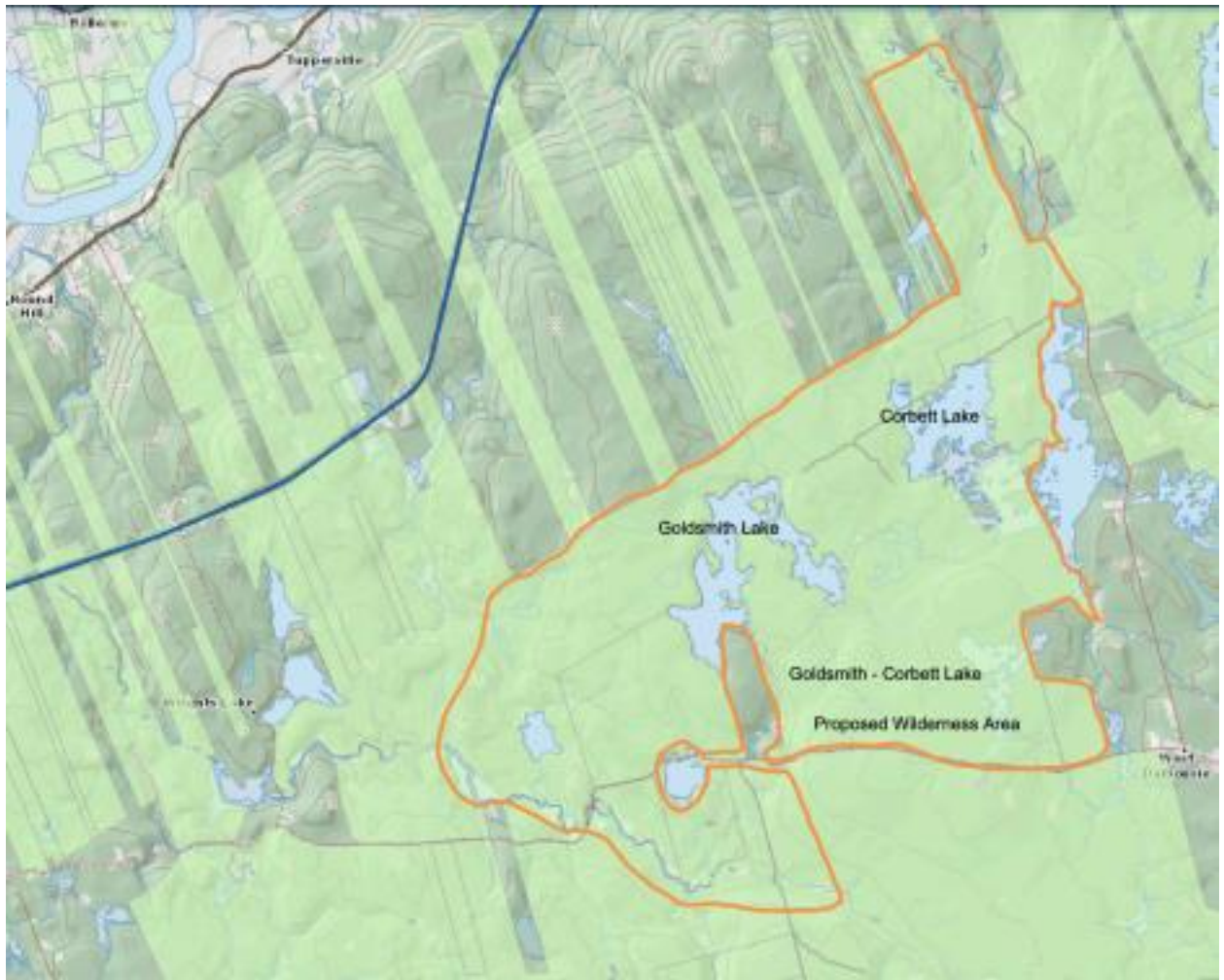
Along the north east side of the lake there is another area of old diverse natural forest. Several species of lichen known to occur only in undisturbed old forest have been identified, one of them the Table 2 SAR *Sclerophora peronella*. An active beaver dam can be found just to the north of the existing logging road here.

To the east of Goldsmith and south of Corbett Lake there are major wetlands and areas of mature forest. The peninsula between Corbett and Dalhousie Lake is particularly noted for its old climax forest and importance to wildlife. Though there has been some harvesting in the conifer dominated stands, most of the peninsula is intact thanks to vigorous citizen engagement with the

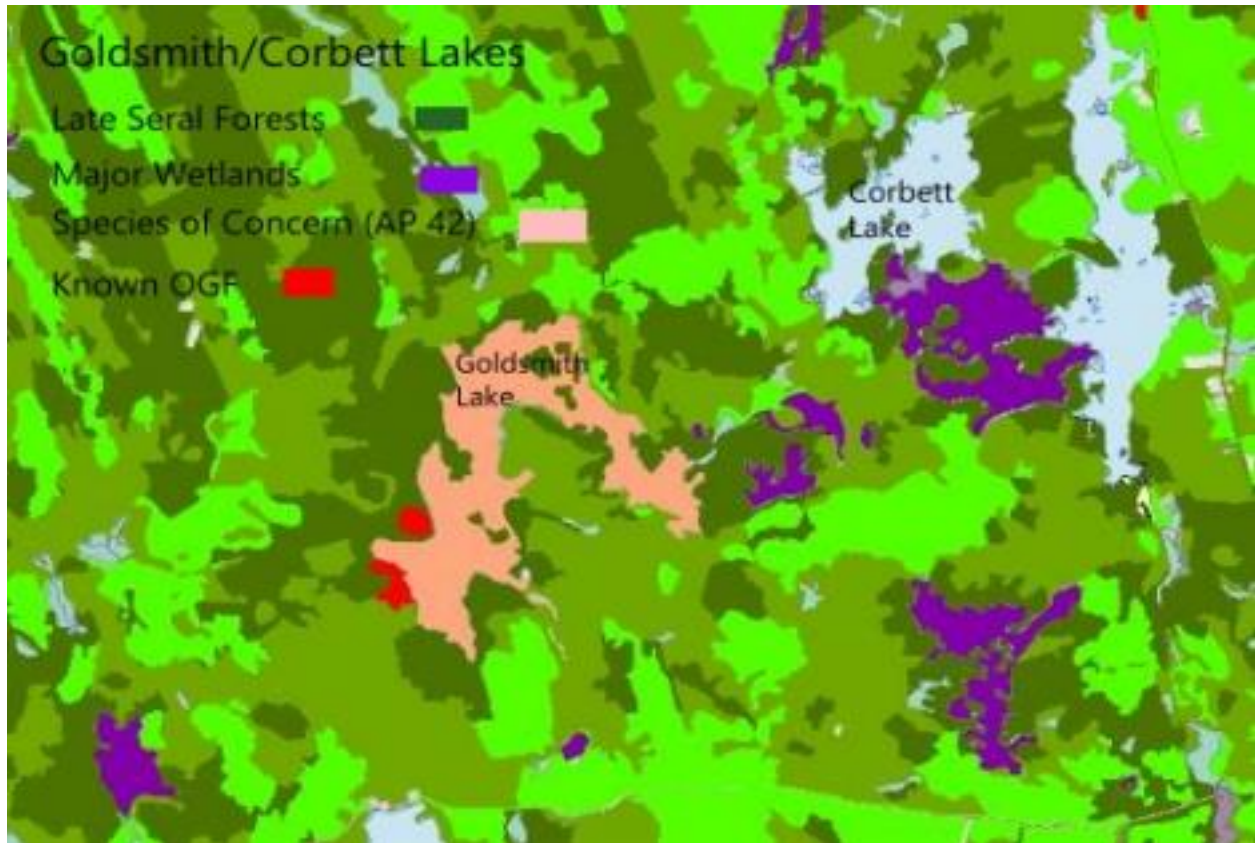
area dating back several years. There are numerous observations of this area as well as the area around Goldsmith Lake on iNaturalist, the current total being 1900 observations with 275 species to date.

In addition to its vital importance to biodiversity and the ecosystem services it provides, protecting the Goldsmith-Corbett Lake area would also create health benefits. It is already well loved by local people for its unspoiled lakes and forests. Anyone walking into the mature forests around these two lakes sighs with relief. Here at last is an intact natural forest on soil healthy and rich enough to grow big old yellow birch. For people who have had to witness the degradation of so many of the forests in the area through clearcutting, and the faltering regrowth of many of those forests due to poor, damaged, acidic soil, this is balm to the soul.

This area is close to Bridgetown and Annapolis Royal and easily accessed by car, particularly the Corbett Lake end. Examples of intact old Acadian-Wabanaki forest are rarely as accessible as the peninsula east of Corbett Lake. Educational opportunities abound, as do tourism possibilities. We have learned in conversations with visitors to the Annapolis Valley region that they are puzzled by the absence of day and multi-day hiking trails that would allow them to experience our forests and lakes. For this area to attract ecotourism, we need more than the rails to trails network. Corbett Lake is already on a canoe route promoted by Annapolis County and Canoe Nova Scotia. Hiking trails and the possibility of wilderness camping would benefit both residents and visitors. The area by Walker Lake just west of Morse Rd and north of Neaves Rd offers both mature forest and proximity to blacktop for the less adventurous or physically able.







Beals Brook Proposed Wilderness Area

Part of the proposed area, west of Highway 10 and north and west of Trout Lake, stands out on Global Forest Watch maps showing forest cover loss between 2000 and 2020 as an island of green in a sea of pink patches. The pink patches reveal just how extensive clearcutting has been along the northern edge of the South Mountain in Annapolis County. Some clearcut areas are included in this proposed wilderness area, notably around Eel Weir and Paradise Lakes, in order to increase wildlife connectivity and in recognition of the probable cultural importance of these particular lakes to the Mi'kmaq. A narrow strip of Crown land that reaches east across Highway 10, would connect this area to the existing Cloud Lake Wilderness Area, improving ecological function.

The surviving intact mature to old forests provide connectivity between extensive stretches of wetland. These wetlands – Crisp Bog, McEwan Meadow, Beals Meadow, the Wet Meadow – are fed by and feed into a complex array of streams and lakes, all eventually emptying into the Annapolis River. The central area of the proposed protected area, to the north of Snowshoe Lake, can only be accessed by canoe (and that involves a fair amount of portaging).

7

A rare area of old forest unbroken by logging roads exists between Beals Brook and McEwan Lake. This includes a magnificent stand of Sugar Maple approximately 120 years in age. Another band of larger, older trees exists to the west of Beals Brook and the old stagecoach road that now leads north to Inglisville Road. These include many large Red Oak, the biggest being 91cm

DBH, as well as large Red Spruce and Beech. Old trees, notably Red Maple, persist in some of the many wooded wetlands. Much of the rest of the intact forest in the proposed area is mature at best and less than magnificent, as a result of a wildfire that came through the area 80 years ago as well as the generally poor, acidic soil.

As one of the last Master Guides, Perry Munro, has said of the area, “This isn’t lumber country, it’s moose country.” Twenty years ago, when Bowater Mersey owned the area and was clearcutting extensively, a local farmer and trapper persuaded them to spare the 24 hectare forest just to the west of Beals Brook because the trees weren’t worth much as lumber but they were essential to wildlife. Bowater agreed.

The area’s importance as wildlife habitat has been recognised for much longer than that. A century ago, when game was already scarce elsewhere, this area was known to have a good population of moose still. Hence the name of the Last Hope hunting camp, built in 1923. Although the area falls just outside the Core Habitat areas identified in the province’s Mainland Moose Recovery Plan, a trail cam photo shows a young Moose grazing in Beals Meadow in September 2020. A local resident has furnished a map showing numerous locations of moose scat and tracks he has observed in the proposed protected area over the last two decades.

Wildlife species dependent on old forests have been in sharp decline in the Maritimes as clearcutting has reduced the average age of our forests dramatically. Where in 1958 a quarter of our forests – 25% -- were over 80 years old, that figure now sits at less than 5%. This comes as no surprise to anyone who knows this part of the South Mountain. The combination of wetlands and surviving forests 80 years old and older in the proposed protected area is critical to the survival of all species dependent on old forests. The American Marten is a case in point. Already declared a Species at Risk in Cape Breton, this Marten is apparently about to be declared at risk in the whole province. It is known to be present in the area around Beals Brook. In addition to reports of tracks from 2021 and 2022, an American Marten was sighted by two different witnesses crossing one of the bridges over Beals Brook in April of 2022.

Similarly, the area is vital for endangered bird populations including the Rusty Blackbird, heard but not seen in Beals Meadow in April and May 2022. During migratory bird nesting season in 2022, half a day’s birdwatching yielded observations of four species at risk in the proposed area: Canada Warbler; Olive-sided Flycatcher; Chimney Swift and Eastern Wood Peewee.

In addition to the large wetland areas, glaciation has sculpted the area into a mix of dry, rocky ridges and swampy hollows. As it turns out, these swampy hollows are also critically important to biodiversity in this area, so long as the forest around them remains undisturbed.

In 2021, Annapolis county residents learned that DNRR had approved plans to log the 24 hectare forest by Beals Brook spared by Bowater Mersey 20 years earlier. Efforts to persuade DNRR to again spare the area fell on deaf ears. Residents were informed that DNRR biologists had now

reviewed the harvest area twice and there were no Species At Risk concerns. In December cutting was imminent. Protestors set up camp on the site of the historic Last Hope camp. This turned out to be just as well for the three different SAR lichens that were subsequently identified in the planned harvest area (AP068499).

Common name	Scientific name	NSESA status	SAR A status	COSEWIC review status	S-Rank */ Other notes
Wrinkled Shingle Lichen	<i>Pannaria lurida</i>	Threatened (2017)	Not listed	Threatened (2016)	S1S2; Known from 56 occurrences in Canada of which 49 in NS. Rate of decline 32% since 1986. A primary threat is harvesting of hardwood forest.
Frosted Glass whiskers (NS pop'n)	<i>Sclerophora peronella</i>	Not listed	Special Concern	Special Concern (2014)	S1S2; Tiny stubble lichen that is difficult to locate; Restricted to mature or old-growth hardwood forest; Is very habitat specific, associated with very old forest. Habitat conditions for its occurrence are very rare on the landscape. Like other stubble lichens, it likely takes a long time to develop and once disturbed will take a very long time to re-establish.

Black foam Lichen	<i>Anzia colpodes</i>	Threatened (2017)	Not listed	Threatened (2015)	S3; Known from ON, PQ, NB and NS; NS population appears to be only remaining occurrences; Lichen is widespread, but uncommon; Deforestation is main threat. Declining in northeast US, research indicates it may be associated with old growth forest
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Thanks to the 100m buffer each occurrence of these lichens received, DNRR agreed eventually that 60% of the proposed harvest area could no longer be cut or otherwise disturbed. A DNRR spokesperson also acknowledged that their process for identifying likely habitats for SAR lichens needed improvement and that there was a role for citizen scientists. All but two of the 17 confirmed occurrences were identified by citizen scientists.

In February 2022, Journalist Linda Pannozzo interviewed Brad Toms of the Mersey-Tobeatic Research Institute about these lichen discoveries. She writes, “According to Toms, lichenologists and ecologists are often able to “read the forest.” He says an important common characteristic

among the habitat of the three lichen species identified at Beals Brook is what he calls “site permanence.”

“Whether upland or forested wetland these sites consistently seem to be sites that have not had any major disturbance in a long time in the area around the lichen host tree. So while not 'old growth' by provincial definition these are forests that have been allowed to be in a natural climax state for an extended period of time possibly even longer than 'old growth' forest with longer lived species.”

Toms says that when forests have a major disturbance (natural or anthropogenic) the lichen diversity usually takes a hit and is “often altered for a long time and takes likely on the scale of a hundred years (or more) to be restored.”

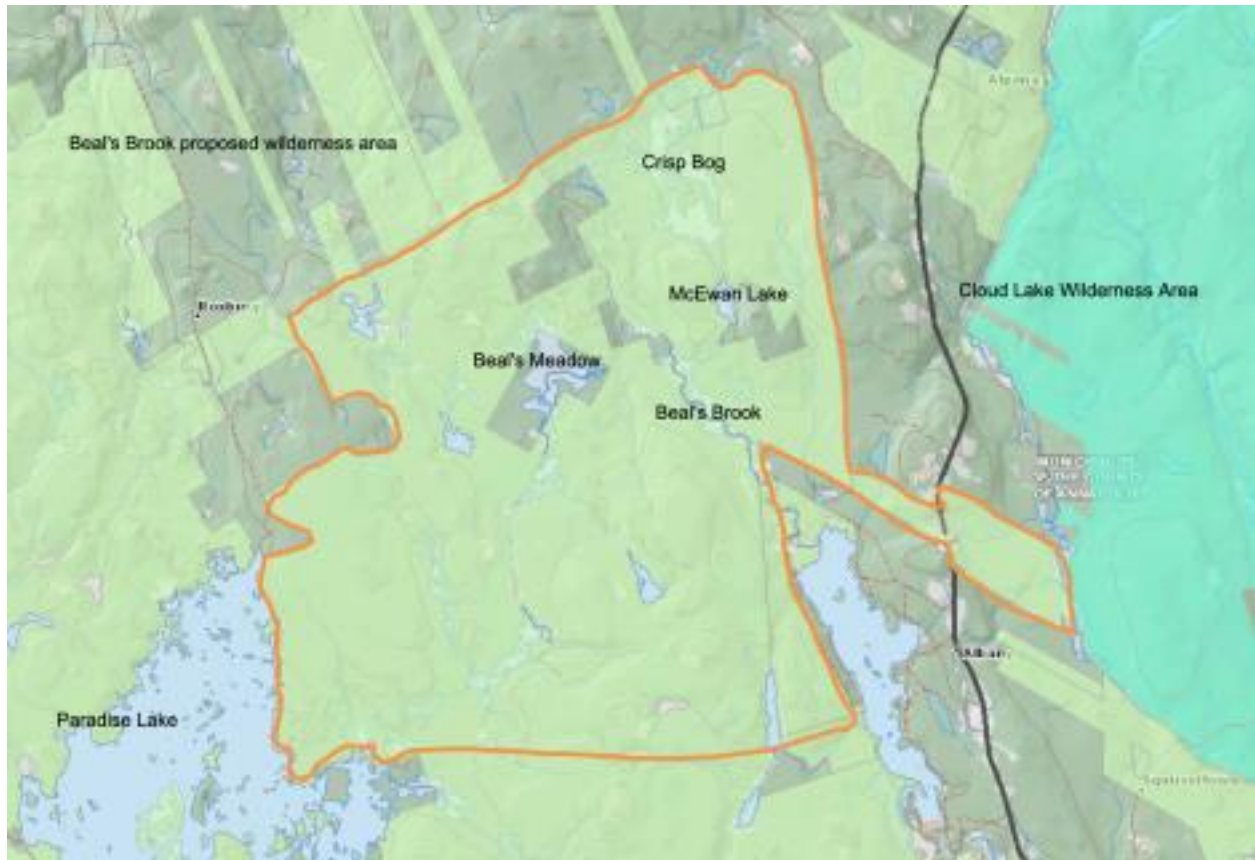
<https://lindapannocho.substack.com/p/the-last-hope-moose-camp?s=r>

There can be few clearer arguments for the critical importance of setting aside for protection areas of forest 80 years old or older on Crown land. The harvest prescription originally approved for this forest was a Shelterwood cut in which 30% of the forest would have been removed. Although an improvement on Variable Retention cuts removing 70-90%, removing 30% would still have caused a major disturbance, endangering Species At Risk.

Given the admitted flaws in DNR's process for identifying SAR lichen habitats as well as the relative accessibility of the lichen-rich site (6km of reasonable dirt road from Hwy 10) it would make sense to make this part of the Beals Brook Wilderness Area a study area, both for improving DNR modelling but also for DNR to train citizen scientists to identify SAR habitats (as DNR spokesperson Ryan McIntyre proposed.)

In addition to educational opportunities, ecotourism is an obvious fit for this area. Access is easy from both the Valley and Halifax and the South Shore. The beach at Trout Lake is on Crown land. One notable attribute of this area is its cultural importance to local residents. This is a storied landscape, from the African-Canadian history of Mary Brown and her husband who abandoned Shelburne to homestead near the headwaters of Beals Brook to the Last Hope hunting camp to the local men who ensured that the forests around McEwan Lake remained uncut by destroying bridges put in to access the area in the 1970s and again less than ten years ago. Add to that the 6 months citizens camped out through the brutal winter of 2021-2022 to protect the forest by Beals Brook and you have a story to tell about this area and why people care about it. Map Annapolis and the Municipality of Annapolis could work with COGS in Lawrencetown to create interactive maps of the area that visitors could explore, clicking on specific sites to hear local voices telling some of the many stories about this place.

Given the rich history of this area, local people's passionate attachment to it, its historical and current value for biodiversity and its important role in ecosystems that affect the larger Annapolis Valley watershed, the remaining forests in this area are far more valuable protected than harvested.



Big LaHave Lake Proposed Wilderness Area

Landscape fragmentation is recognized as one of the primary causes of biodiversity loss across the planet. Here in Nova Scotia our forested landscape is highly fragmented, in part because of the relatively low proportion that is Crown land. This fragmentation has had devastating consequences for the Mainland Moose in particular. The area of Crown land surrounding the Big LaHave Lake is of high conservation value in itself simply because it has not been broken up by recent clearcutting. Even more importantly, though, protecting this area offers a unique chance to connect two major existing wilderness areas: Medway Lake and Cloud Lake. By so doing it

effectively creates (with one small gap north of Keji) a continuous network of protected areas from the Annapolis Valley just south of Greenwood to Shelburne and Yarmouth counties via Keji and the Tobeatic wilderness.

The entire proposed area falls within the Core Habitat area identified by Nova Scotia's long awaited Mainland Moose Recovery Plan (2021). It is essential that road building and logging is halted in Core Recovery Areas if the moose populations are to have a chance of recovering. Conversely, if the moose are given what they need to recover – extensive areas of unfragmented land with intact mature forests as well as access to wetlands and small areas of natural disturbance – the health of the entire ecosystem will improve and with it outcomes for other Species At Risk. The Recovery Plan emphasizes the importance of corridors allowing movement between the three main remaining populations of Mainland moose. Protecting the Big LaHave Lake Wilderness Area would significantly increase opportunities for the Tobeatic population to interact and breed with the other populations.

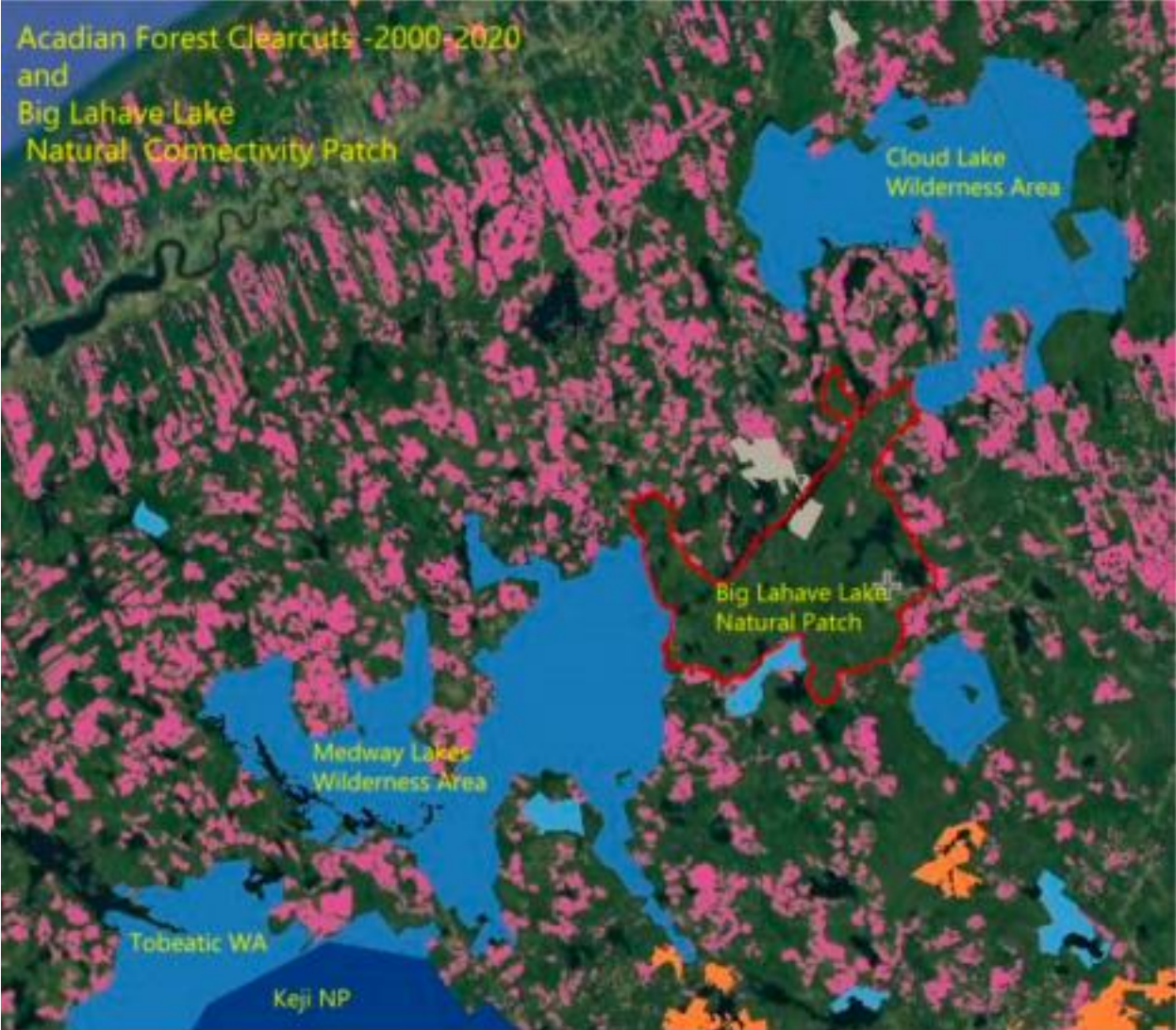
The forests in this area are primarily between 80 and 100 years old, the area having been heavily harvested then burned in the early part of the twentieth century. Much of the soil is poor, rocky and acidic. After repeated removals and fires since colonization, areas of the South Mountain like this need to be left to recover. It is unlikely that these soils can continue to regrow forests following yet more removals. Add to this the impact of climate change and invasive pests and it becomes clear that if we wish to restore ecosystem health to Nova Scotia's forests, we need to leave large areas of mature Crown land forests alone to heal.

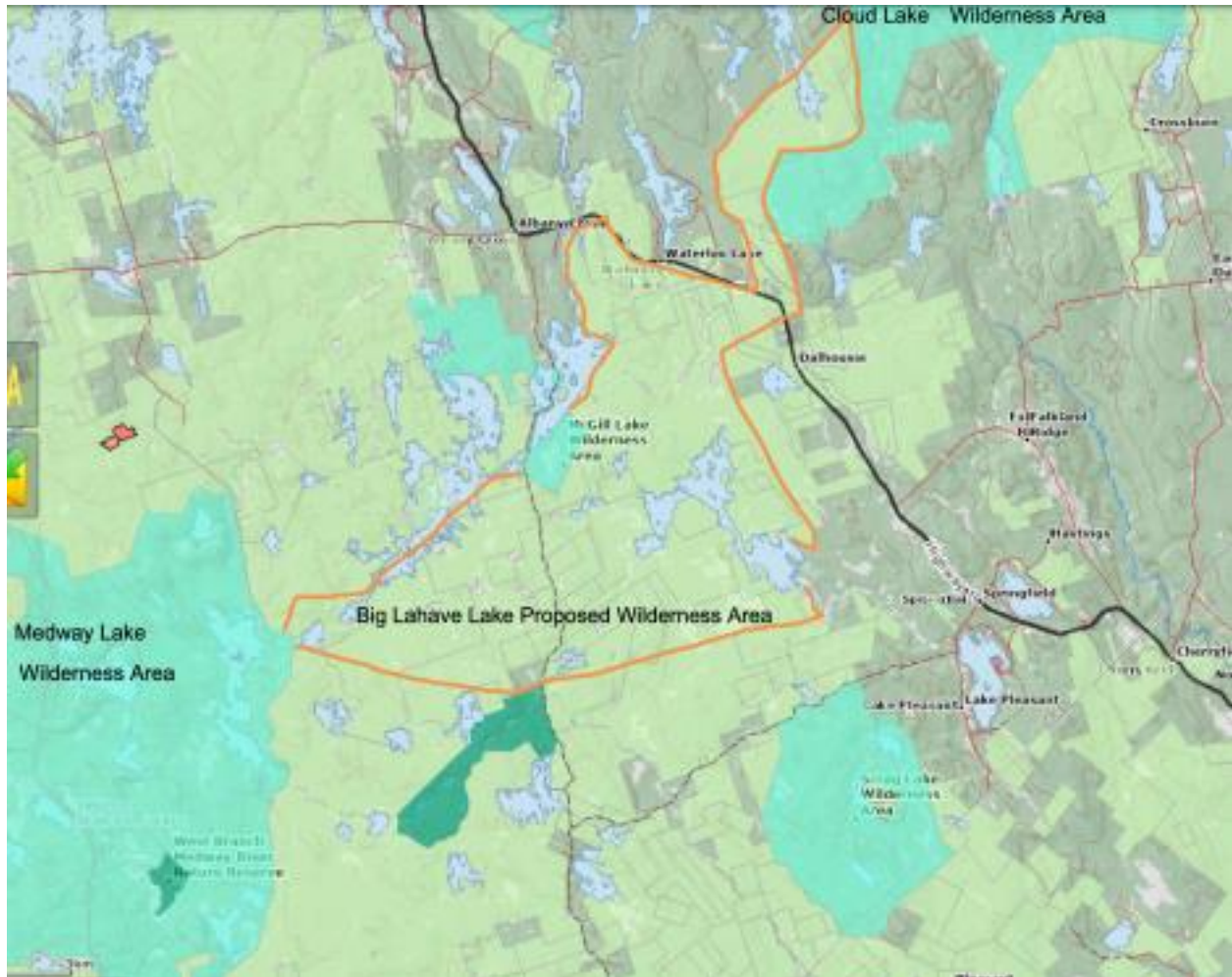
The forests in this proposed area include patches of old forests and scattered ancient trees. The mature and old forest areas here are relatively undisturbed, exhibiting interior forest conditions of the sort favoured by several Species At Risk lichens. There are significant numbers of wetlands as well as twelve lakes within the proposed boundaries of this wilderness area. Humidity levels are likely to be to the liking of lichens, in particular the cyanolichens. It would be valuable for DNRR's biologists to sponsor an on-the-ground survey of lichens in promising areas in order to improve their ability to identify SAR lichen habitat. The Big LaHave Lake is identified by DNRR as habitat for species of concern.

12

The combination of extensive wetlands and mature forests means this area stores substantial amounts of carbon as well as supporting many different species. The ecosystems services provided by an area like this include protecting water quality and quantity. By virtue of its geographical location, protecting this wilderness area would help protect not one but three watersheds. The headwaters of three of the province's major watersheds can be found here: the Annapolis, LaHave and Medway River systems. Why not to take this opportunity to protect all of them?

On top of its high conservation value and its potential to improve the ecological functioning of an entire network of wilderness areas spanning the length of UNESCO's Southwest Nova Biosphere Reserve, protecting this area helps protect two important historical Mi'kmaw canoe routes, one from Shannon Lake through McGill Lakes to the Medway Wilderness Area, the other from McGill Lakes through the Keyhole Lakes into Big LaHave Lake. Paddlers, fishers, birders and others will continue to enjoy a rare area that has gone relatively untouched in the last 80 years. Please, let's keep it that way.





Summary

In this proposal we are requesting protection for three of the best areas left on crown land on the South Mountain in Annapolis County, the best that is for protecting and restoring biodiversity, protecting watersheds, mitigating climate change as well as bringing health, recreational and economic benefits to our province. The new Crown Land Act recognizes that forests on public land have multiple values. They are no longer to be valued only as a source of timber.

This government has pledged to follow the recommendations made by William Lahey in his Independent Review of Forest Practices in Nova Scotia. In his executive summary Lahey states that the protection and enhancement of ecosystem health must be from now on the "overarching priority" in how this province manages its forests. Protecting the areas around Goldsmith-Corbett Lakes, Beal's Brook and Big Lahave Lake from all forestry activities is an essential step toward this goal.

15

Unfortunately, all three areas are threatened by harvest plans currently proposed or (in the case of Beals Brook) approved. For example, plans whose comment period ended in April and June of this year propose harvesting 549ha /1355 acres in the Goldsmith-Corbett Lakes area alone. Strong opposition was expressed to the extent possible using the HPMV and directly in letters to Ministers Halman and Rushton. Citizens are not informed of the status of approvals so we do not

know if these proposed cuts have been given the go-ahead by DNRR. It would be an absolute travesty for cutting at this scale to be visited on this area whose high conservation value rests in part on the fact that it has escaped this sort of large scale disturbance.

In his Forest Progress Report, Mr. Lahey draws attention to DNRR having difficulty “*not only in adjusting mindset and culture from business as usual to increased protection of ecosystems but also to even understanding that a fundamental change in mindset and culture is required.*” He notes that “*This department is seriously degrading the very forests that implementation of the triad on Crown land would be protecting.*”

In Annapolis county, DNRR appears to be on course to ruin the very areas of crown land most deserving of protection, all the while claiming to be doing ‘ecological forestry. It will be a tragedy as well as a travesty if they are allowed to do so.

If the government’s legislated commitment to protecting 20% of our lands and waters by 2030 is to have any meaningful impact, logging and road-building on high conservation value areas of crown land must be put on hold now. Please place the three areas outlined in this proposal under consideration for protection by Nova Scotia Environment and Climate Change’s Protected Areas branch immediately. Final decisions can be made more slowly but without immediate action, there will be little of ecological value left to protect.

Effective, timely action is something most Nova Scotians are longing for, in addressing both the climate and the biodiversity crisis. Saving the best of what’s left on crown land would be a significant step in the right direction. There is no time left to waste.

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