

Without an over-arching biodiversity protection act, what protections exist for biodiversity in British Columbia? A case study of Oldgrowth Specklebelly Lichen (*Pseudocyphellaria rainierensis*)

As scientists with backgrounds in monitoring and assessment of plant and animal populations in Canada, we are concerned with the biodiversity implications of declines in old-growth forests on Vancouver Island. Our experience recounted here illustrates the practical roadblocks that scientists and the public interested in protecting biodiversity in British Columbia (BC) face, and the lack of effective mechanisms for protection of at-risk species through legislation, regulatory bodies, “ecolabel” certification, or public pressure. We conclude with some thoughts on how conservation objectives can be better met, as Canada moves towards new models for land stewardship and reconciliation.

When considering the highly-publicized potential cut of old-growth forests in the upper Fairy Creek

watershed and immediately adjacent areas (Tree Farm License [TFL] 46; Figure 1), we assumed that there must have been careful biological inventories made prior to harvesting, and the results of those surveys would be freely available. Tree Farm License 46 was created in 1983 and includes Pacheedaht and Ditidaht First Nations Territories. The tenure has been under the control of Teal Cedar working with the Pacheedaht First Nation. After conducting a literature search and contacting many of our professional colleagues, we concluded that we were mistaken in our assumption that comprehensive biological surveys were made. As we document later, the Minister responsible has confirmed that comprehensive biodiversity and species surveys are not required prior to clearcutting, road-building, and other forestry operations.

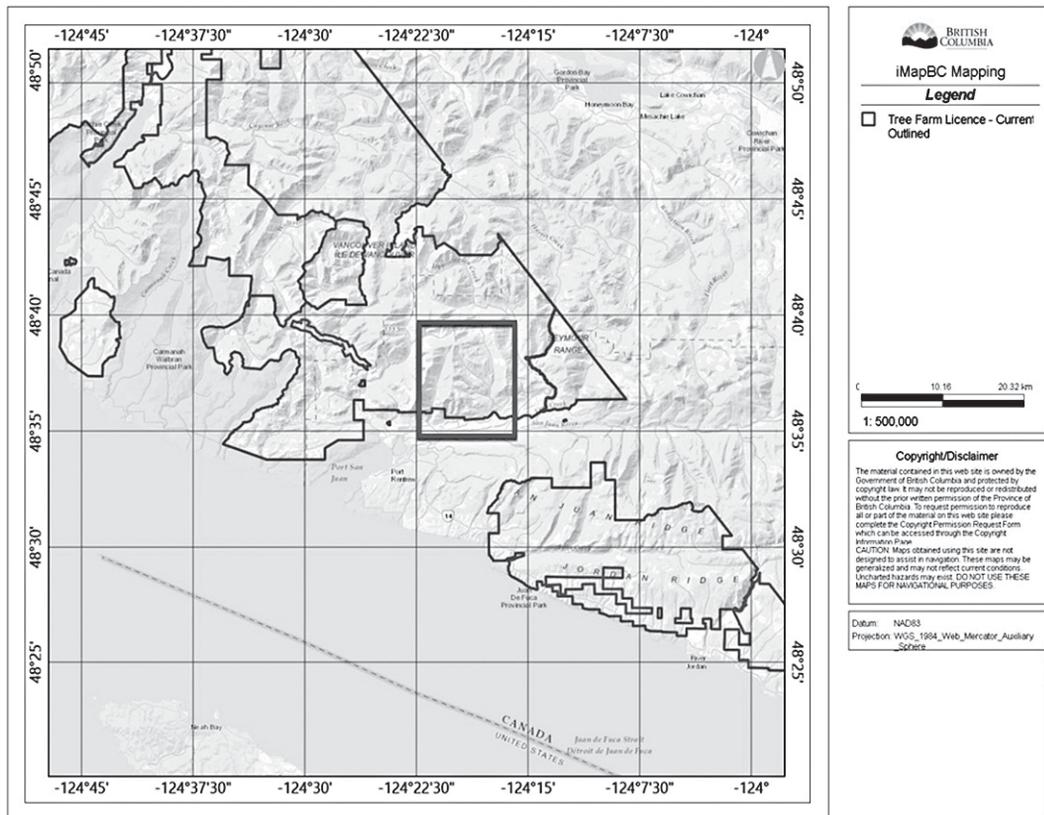


FIGURE 1. South-west Vancouver Island, British Columbia, Canada. The irregular boundaries show Tree Farm License Administrative Boundaries, and the rectangle encompasses the Fairy/Granite Creeks watersheds. Created using publicly available mapping tool: Imap BC, <https://maps.gov.bc.ca/ess/hm/imap4m/>.

In the absence of government or industry surveys, we initiated our own surveys with colleagues in the Fairy Creek area using iNaturalist. In May 2021, we established a project page (Fairy Creek iNaturalist). Despite access issues, 326 species have been documented by the end of 2021, including 70 observations of 16 species that are considered vulnerable using the iNaturalist convention (listed in the International Union for the Conservation of Nature Red lists or national/regional at-risk species lists).

Of those rare species that were documented, Oldgrowth Specklebelly Lichen (*Pseudocyphellaria rainierensis*) was of particular interest. Considered rare by lichenologists, it is highly correlated with host trees within conifer stands older than about 200 to 300 years old (COSEWIC 2010). Coastal forests that contain host trees have existed in BC for about 4000–7000 years (Hebda 2007). In Canada, Oldgrowth Specklebelly Lichen was assessed as Special Concern by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC; COSEWIC 2010) and is listed as Special Concern under the Canadian *Species at Risk Act* (SARA; SARA Registry 2021a). Canada and BC have prepared a joint management plan for Oldgrowth Specklebelly Lichen that is publicly

available (BC Ministry of Environment 2015). The key threat identified in the joint management plan was forest harvesting operations. Through our surveys conducted in 2021 and 2022, numerous occurrences of this unusual lichen (identifications confirmed by lichenologists) were documented in the upper Granite Creek area (immediately adjacent to Fairy Creek; Figure 2), making this newly-discovered population the largest in Canada, based on thalli counts of 670+ compared with a maximum of 524 reported in COSEWIC (2010).

During our site visits in the summer of 2021, we noted that some host trees in upper Granite Creek had been felled and damaged by new logging roads and the remaining host trees were in a planned cut block. We filed a complaint to the designated regulatory body for forestry operations in BC, the Forest Practices Board (FPB), in late July. We were informed that because the species in question was not one of a short list of documented species of interest that the FPB recognizes in southern Vancouver Island, the Board had no basis for intervention. We also received an acknowledgement of our complaint from the company doing the logging, Teal Cedar, which noted in an email communication to us dated 5 August 2021 that:



FIGURE 2. Oldgrowth Specklebelly Lichen (*Pseudocyphellaria rainierensis*) on a host tree in the Granite Creek area, southern Vancouver Island, British Columbia. Felled trees in the background were associated with logging road construction. Photo: T. Lavdovsky.

It has been brought to our attention by the Forest Practices Board (FPB) that you have reported sightings of Specklbelly (sic) Lichen *Pseudocyphellaria rainierensis* in TFL 46. The information you provided to the FPB, including locations of the sightings has been forwarded to us and we would like to thank you for providing this important information.

We wrote to Teal Cedar requesting clarification of what their plans were now that they knew of the location of the rare lichens, but received no response. Based on photographs of felled host trees in the Upper Granite Creek area obtained after the logging company was notified of the presence of the lichen, operations were unabated (Figure 3). We also informed Pacheedaht Nation Council of the concern for a listed species and have to date received no acknowledgement.

During the late summer and fall of 2021, we continued to highlight the concerns with habitat loss and impacts on previously undocumented animal and plant populations with politicians and the public at large. For example, in September 2021, we worked with the Wilderness Committee to place at our expense a half page advertisement in *The Province* illustrating the issues of logging without having prior knowledge of the species occurring there (Figure 4). In that example, we highlighted our iNaturalist findings as well as the occurrence of the SARA Threatened Western Screech Owl (*Megascops kennicottii*; SARA Registry 2021b). However, it is

difficult to determine if this approach had an impact with decision-makers and the general public and we are unaware of any positive response to protect the owl or its habitat.

Teal Cedar's products carry an "ecolabel" that is meant to certify that the production of their products is compliant with the Canadian Standards Association (CSA SFM Z809; <https://www.csasfmforests.ca>). We obtained a copy of the CSA Standard, and challenged the upcoming recertification of Teal Cedar's products from TFL-46 on the grounds that Teal Cedar was not respecting the SFM Criterion 1 (Biodiversity) by not conserving biological diversity (Element 1.2) and failing to respect areas of special biological interest within the area of certification (Element 1.4). The response by the certifying body was in an email (S. Ellsworth, Director, Risk Assurance Services, PricewaterhouseCoopers LLP pers. comm. 28 January 2021) which stated:

Based on the current B.C. Conservation Data Centre listing status of the Oldgrowth Specklebelly Lichen and the requirements under the CAN/CSA Z809-16 Sustainable Forest Management Standard, this issue does not fall within our scope as a certification body, and as a result we have closed the matter.

It appears that this species, being "only" Special Concern in the COSEWIC assessment or SARA listing, or being Blue-listed by the BC Conservation Data Centre, means that the species does not warrant attention from those issuing certification for the forest industry. Hardly a precautionary approach.



FIGURE 3. Examples of felled host trees with Oldgrowth Specklebelly Lichen (*Pseudocyphellaria rainierensis*) in the Granite Creek area, southern Vancouver Island, British Columbia. Photo: T. Lavdovsky.



PREVIOUSLY UNDOCUMENTED VULNERABLE SPECIES LIVE IN THE ANCIENT FORESTS OF SOUTHERN VANCOUVER ISLAND

... YET, CHAINSAWS CONTINUE AND IRREPLACEABLE ECOSYSTEMS ARE LOST

Western Screech-Owl - Threatened

This summer over **320 species (16 vulnerable)** have been documented in the Fairy Creek area, take action for them today:

Tell John Horgan to implement a ban on old-growth logging: **1-250-387-1715**
 OR take action here: <https://www.wildernesscommittee.org/SaveOldGrowth>

Scan the QR code

FIGURE 4. Advertisement appearing in *The Province*, September 2021.

Finally, after failing to gain the attention of decision-makers at the provincial and federal level through direct communications, we collaborated with a Member of the BC legislature (Mr. Adam Olsen, Saanich North—The Islands) to ask the following questions of the responsible Minister (Ms. Katrine Conroy):

1. Were comprehensive biodiversity surveys done prior to allowing road construction and logging in TFL 46 and are comprehensive species surveys ever carried out prior to clearcutting, road-building and other forestry operations?
2. Given the published commitment to protect the species and its habitat, will you immediately protect these rare lichens and host trees?
3. How do the proposed amendments to FRPA (*Forests and Ranges Protection Act*) ensure that endangered species are identified and protected prior to logging or road construction—and, if at-risk species or ecosystems are found during these surveys, will logging or road-building be halted in the relevant areas?

Minister Conroy's responses to the above questions to A. Olsen (via a pers. comm. 28 January 2021 to us) were revealing and confirmed our suspicion that comprehensive biodiversity and species surveys are not required before clear-cutting, road-building, and other forestry operations. Surprisingly, Minister Conroy further noted that recently adopted amendments to the FRPA do not speak directly to species at risk and stated "the Province manages species at risk by designating Identified Wildlife Management

Areas, parks and ecological areas to conserve species and support biodiversity". By extension, this seems to imply that the province has no interest in species-at-risk occurring in areas outside of parks or ecological reserves, unless these are on the very truncated list of species of interest in limited geographical locations under the BC *Wildlife Act* or the FRPA.

During the course of our work, we followed due process and exhausted all the options available to us to provide some measure of protection for this rare lichen species. Returning to the question framed in our title, we can only conclude that the current protections available for at-risk species are inadequate and protect only a small number of the species considered at risk in BC.

How can we do better? What is needed is an overarching Biodiversity Protection Act mandating that sites must be professionally surveyed before resource extraction takes place, and that management protocols must be adhered to for listed species identified, including those species considered to be Special Concern, such as Oldgrowth Specklebelly Lichen. The need for comprehensive surveys in advance of resource extraction is well-demonstrated by our iNaturalist Fairy Creek Project Page. Oldgrowth Specklebelly Lichen is only one of 16 species identified that are of conservation concern.

We envisage a new approach to biodiversity protection that fully integrates both traditional Indigenous knowledge and western science and provide accountability (Gagnon and Berteaux 2009; Jones *et al.* 2010; Artelle *et al.* 2021). This new approach

would be consistent with the views of Grand Chief Stewart Phillip (President of the Union of B.C. Indian Chiefs). During a December 2021 Press Conference (Anon. 2021), Grand Chief Phillip noted that a complete inventory of forest lands in BC is needed, including water systems, and fisheries and wildlife. Policy and legislation would then be developed in an informed manner. Chief Phillip's approach is both sensible and urgently needed. If we are serious about addressing climate change and biodiversity for future generations, then science and traditional knowledge must guide new approaches that value and reward biodiversity conservation and not just resource extraction.

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JOHN NEILSON
Comox, BC, Canada

LOYS MAINGON
Strathcona Wilderness Institute, BC, Canada

NATASHA LAVDOVSKY
Jordan River, BC, Canada