



**LOWER NICOLA
INDIAN BAND**

Nlaka'pamux Environmental Management Program

MARCH '22

ANNUAL REPORT

LNIB VISION STATEMENT

We are the Scw'exmx, the people of the creeks, of the Nlaka'pamux Nation. We provide for our community's needs and promote wellness, connectedness, and unity amongst our members and with our neighbours and exercise our inherent rights and responsibilities as the recognized titleholders for the lands and its resources within our traditional territory.

CONTACT

Alex LaForce
Cumulative Effects Coordinator

alex.laforce@lnib.net
250.378.5157

Acknowledgements

The Nlaka’pamux Environmental Management Program (NEMP) is made possible by the leadership and staff of the Lower Nicola Indian Band (LNIB) and the generosity of the LNIB people. The program is funded by the Terrestrial Cumulative Effects Initiative (TCEI), which provides funding for capacity building and Indigenous-led cumulative effects projects in terrestrial environments. The program is housed with the LNIB Economic Development Department and is co-managed with LGL Limited.

Document Purpose

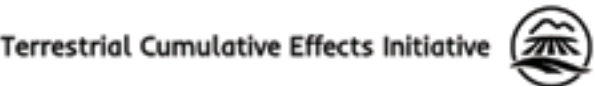
This annual report is intended to:

- Inform the Lower Nicola Indian Band membership of the activities completed to date on the Nlaka’pamux Environmental Management Program.
- Continue to inform the LNIB about cumulative effects within its Traditional Territory.
- Contribute to growing knowledge and research on cumulative effects.

Contact Information

For more information on the Nlaka’pamux Environmental Management Program, please visit:
<https://www.lnib.net/nlaka-pamux-environmental-management>

The Nlaka’pamux Environmental Management Program is funded by:



Statement of Limitations

This report was prepared by Heather Polan and Marc d’Entremont on behalf of the LNIB. This document represents the best professional judgment of the authors, based on the information available at the time of its completion. The annual report is one of the communication tools identified in the Nlaka’pamux Environmental Management Program workplan. It is anticipated that feedback on the report from LNIB membership will add to the growing body of knowledge on cumulative effects.

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TABLE OF CONTENTS

| | |
|--|----------------|
| Lower Nicola Indian Band | 4 - 5 |
| ▸ Nlaka’pamux Traditional Territory | 5 |
| Nlaka’pamux Environmental Management Program | 6 - 9 |
| ▸ NEMP Team | 7 |
| ▸ Defining Cumulative Effects | 7 |
| ▸ Program Objectives | 8 |
| ▸ Guiding Principles | 9 |
| Approach to Understanding Cumulative Effects | 10 - 15 |
| ▸ NEMP Vision | 11 |
| ▸ Building a Values Inventory | 11 |
| ▸ Setting Priorities | 12 |
| ▸ Cumulative Effects Framework | 13 |
| ▸ Program Phases | 14 - 15 |
| PHASE 1 - Planning and Community Engagement | 16 - 17 |
| PHASE 2 - Community Values Inventory | 18 - 19 |
| PHASE 3 - Research and Understanding Community Values | 20 - 21 |
| PHASE 4 & 5 - Develop and Implement a Management Plan | 22 - 23 |
| Status of Priority Values | 24 - 37 |
| ▸ Status of Plants | 26 - 29 |
| ▸ Status of Species at Risk | 30 - 33 |
| ▸ Status of Culturally Modified Trees | 34 - 37 |
| Looking Forward | 38 |
| Summary of Successes and Challenges | 39 |

Lower Nicola Indian Band

The Lower Nicola Indian Band (LNIB), traditionally known as the Scw'εmx or “People of the Creeks” are part of the Nlaka'pamux Nation.




The LNIB is committed to being a peaceful, prosperous and secure community made up of healthy individuals rooted in the Nlaka'pamux culture that respects ourselves, each other, the environment and all Creation. The LNIB is guided by its traditional laws and protocols and has the responsibility to care for tékm Nle?kepmx he tmíx^w (“all our territory”) and to maintain the balance between all things. The Lower Nicola Indian Band shows its respect for the land, the waters, the air, the salmon, the plants, the animals, the forests, the minerals and all other resources of our Nation, just as ski?kiye (our ancestors) have done. We owe our strength, our cultural identity and our very existence to the relationship that our people have always had with the tmíx^w. We must respect and look after the land and resources, as these will take care of us, just as they have taken care of our ancestors.

Nlaka'pamux Traditional Territory

The Nlaka'pamux Traditional Territory spans over 44,000 square kilometres and encompasses south central British Columbia from north of Kamloops to the northern United States. The Traditional Territory spans six Biogeoclimatic Zones including Interior Douglas Fir, Coastal Western Hemlock, Subalpine Mountain Hemlock, Ponderosa Pine, Bunchgrass, Engelmann Spruce, Subalpine Fir and Alpine Tundra. The areas around

Nicola Lake and at the confluence of the Nicola and Coldwater rivers, has been a gathering place for the Lower Nicola peoples for millennia. The Nicola River watershed and the 10 LNIB Reserves were used as a guide for the compilation of information and data for this program. The Nicola River watershed is characterized by rolling grasslands, forested mountainous terrain and streams that flow into the Fraser and Thompson rivers.

LEGEND

-  Nlaka'pamux Traditional Territory
-  International Border
-  Roads



Nlaka’pamux Environmental Management Program

In 2020, the LNIB initiated the Nlaka’pamux Environmental Management Program (NEMP) with support of the Terrestrial Cumulative Effects Initiative (TCEI) Capacity Funding.

NEMP is a branch of the LNIB Economic Development Department dedicated to monitoring and protecting LNIB land and natural resources. The NEMP is mandated to take a holistic approach to understanding cumulative impacts of the various human activities that occur within the tékm Nlaka’pamux he tmíx^w and the associated environmental trends over time. To achieve this, the NEMP is designed to collect, analyze, and report on environmental information within LNIB’s tékm Nlaka’pamux he tmíx^w. The goal of the program is to provide information to LNIB decision-makers and community members that will support making wise decisions about how the land is managed now and into the future.

NEMP Team

The Nlaka’pamux Environmental Management Program team is made up of the Director of Economic Development: **Leesa Mike**, Cumulative Effects Coordinator: **Alex LaForce**, Administrative Assistant: **Monica Charters**, and LNIB Technical Advisor: **Dr. Marc d’Entremont** (LGL Limited). The team provides a strategic level of direction, solidifies the overall purpose of the program, and identifies program objectives and components related to cumulative effects within the Nlaka’pamux Traditional Territory.

A key figure in the Nlaka’pamux Environmental Management Program

is LNIB’s new Cumulative Effects Coordinator, **Alex LaForce**. He works as an integral part of the LNIB Economic Development Department and the Environment section to connect with external governments, other partners and the NEMP Team to develop solutions for the protection of LNIB Title and Rights in relation to cumulative effects within the Nlaka’pamux Traditional Territory.

Finally, the active participation and engagement of LNIB members is the foundation of the Nlaka’pamux Environmental Management Program.

Defining Cumulative Effects

Cumulative effects are defined as the changes to environmental, social, and economic values, as a result of past, present, and future events and actions. These changes can be a result of natural disturbances or human activities such as industrial or resource development; eventually these changes or impacts accumulate to create observable effects on values. Cumulative effects occur when there is a lack of information about the current condition of values or **stressors** and a lack of understanding of the combined

effects of human activities on the condition of values. The NEMP aims to address these data gaps and minimize cumulative effects moving forward.

STRESSORS

Stressors are things that cause changes to the integrity of ecosystems and to the quality of the environment.

Program Objectives

The NEMP is guided by five key activity objectives related to environmental monitoring:



Guiding Principles

- NEMP is a culturally relevant program that incorporates LNIB's relationship with the tmíx^w ("all our territory")
- The active participation of LNIB community members is the foundation of the NEMP
- NEMP is dedicated to protecting our land and way of life based on the values that are most important to our community
- NEMP will collaborate among LNIB departments and other Indigenous groups, governments and land users to increase the long-term success of the program
- NEMP is designed to be long-term and iterative, with multiple opportunities for critical reflection and improvements, allowing the program to explore a broad range of values and to find equally broad solutions

Williamson's Sapsucker



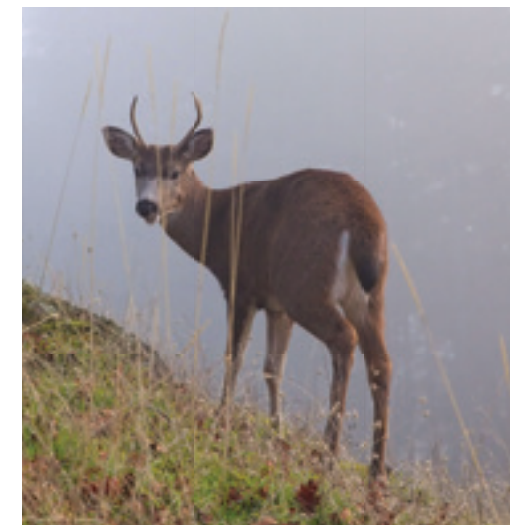
Grizzly Bear

Approach to Understanding Cumulative Effects

Cumulative effects assessment typically follows a standardized approach of selecting values, collecting data, assessing effects, identifying responses and reporting results.

NEMP Vision

The intent of the NEMP is to be value focused; values are things that LNIB cares about and would like to protect or restore. The NEMP employed various avenues of public engagement such as online surveys, in person community events, and virtual sessions, to compile a database of values that reflect the community's priorities and concerns.



White-tailed Deer

Building a Values Inventory

Several projects and initiatives have occurred in the Nlaka'pamux Traditional Territory over the years, such as traditional use studies. The NEMP Team reviewed existing documents to identify LNIB values and/or management priorities, which initiated the basis for a values inventory database.

Five themes (**Cultural Identity**, **Economic**, **Environmental**, **Governance**, and **Social Health**) were identified and values were assigned to each theme.



CULTURAL



ECONOMIC



ENVIRONMENTAL



GOVERNANCE



SOCIAL HEALTH

Setting Priorities

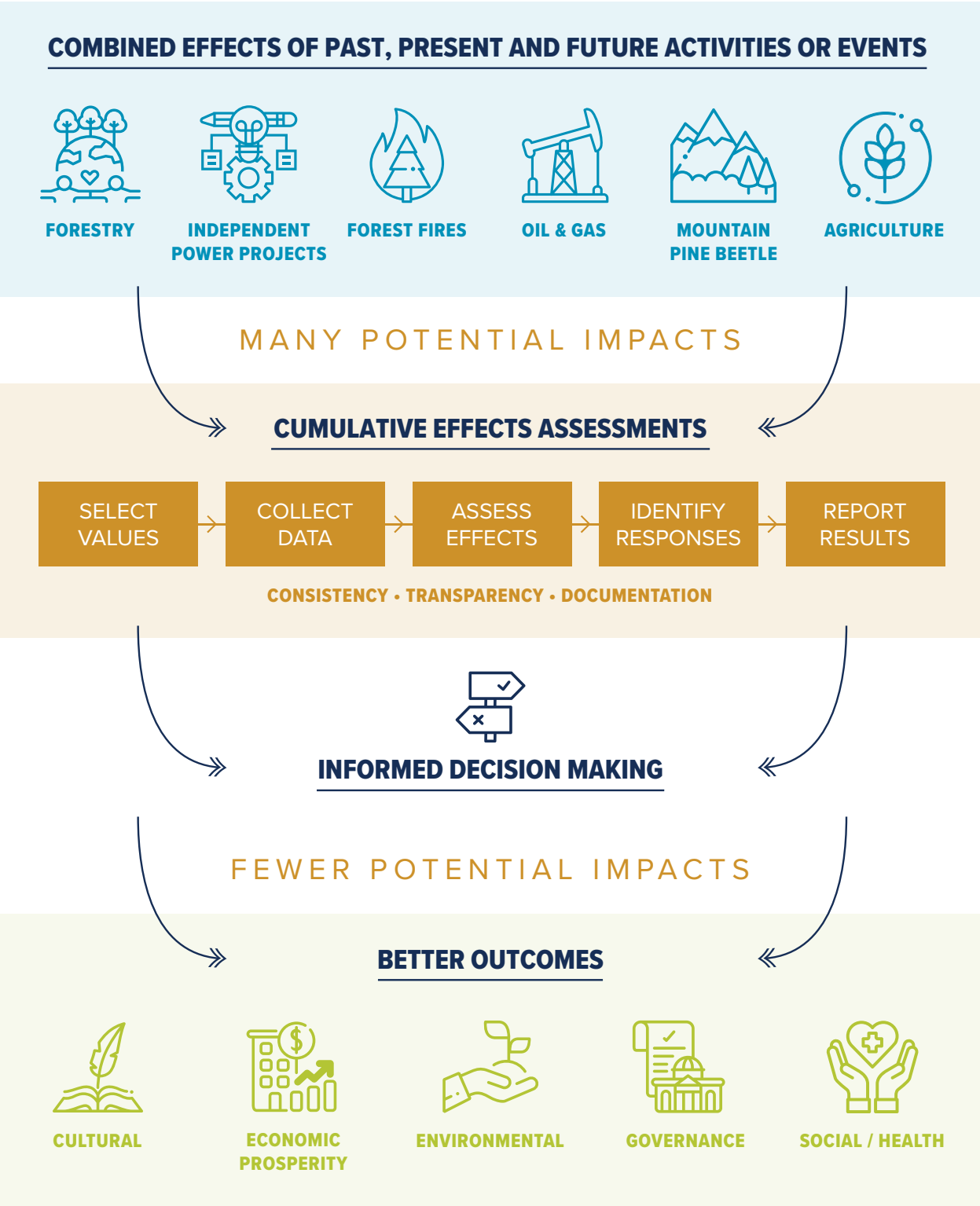
Each value that was identified was assessed based on four questions to determine the priority level. Values were assessed based on:

- Whether they were easily measurable, responsive and/or had practical **indicators** that would allow for tracking their condition
- Whether values covered the entire territory or were more local in nature
- Whether they were unique or covered more than one theme
- Whether known information about the values showed that changes were occurring (i.e., numbers of species declining, or availability of a resource is changing, etc.)

INDICATORS

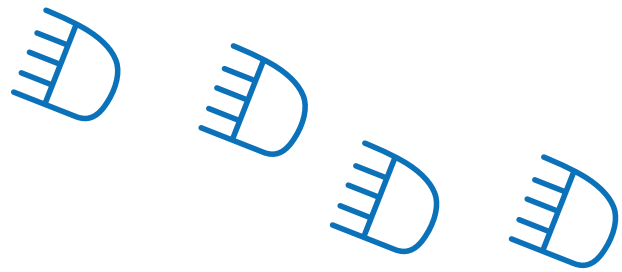
An indicator is a specific, observable and measurable thing that can be used to show changes or progress over time towards achieving a specific outcome.

Cumulative Effects Management Framework



Program Phases

The Nlaka'pamux Environmental Management Program involves establishing a baseline understanding of the impacts of past, present and future activities within LNIB's Traditional Territory. Conducting an assessment of impacts, and then eventually providing tools to make more informed decision making and support better outcomes of development activities over time. We defined these in a 5 phase framework for the entire program. A foundational step in this process is understanding what our community values are.



PHASE 1

Planning and Community Engagement

PHASE 2

Community Values Inventory

PHASE 3

Research and Understanding Community Values

PHASE 4&5

Develop and implement a management plan (based on actions) that will provide direction for a more informed decision-making process

Have a Nlaka'pamux Environmental Management Program to support better outcomes for the resources within LNIB's Traditional Territory.

PHASE 1

Planning and Community Engagement

The Nlaka'pamux Environmental Management Program began in earnest in late 2020 with the formation on the NEMP Team. The NEMP Team worked with outside consultants to develop a communication strategy that included a mix of digital, print and 'face-to-face' approaches, and content to connect the program with existing community values relating to the land, water, traditional practices, Elders, and family connections. The initial focus was on building awareness and understanding of the program so that more members were connected and

involved. Building this foundational awareness was intended to support ongoing, long-term engagement.

Shortly thereafter, community engagement commenced in January 2021. Six community engagement sessions were held where information and updates about the program were presented. Additional aspects of community engagement included the production of monthly pieces for the LNIB Newsletter and social media posts for the LNIB Facebook page.

PHASE 2

Community Values Inventory

Within the LNIB community, there are several important social and cultural values. The land and water continue to be of high importance, especially in consideration of the recent Nicola Watershed Governance Project. Also important are Elders and their stories, the connection to the land and water, traditional practices, family connection, and the history and connection to specific area of the

LNIB Traditional Territory. Through community engagement sessions, and online surveys, over 200 comments were received relating to values that were important to the LNIB community. These were added to the values identified during the review of relevant documents. A small selection of values have been chosen to be highlighted within this report.





PHASE 3

Research and Understanding Community Values

For the identified values, we are assembling relevant information to describe and assess their historical and current conditions. Pressures and potential impacts on these values are also documented to further assess the future condition and to allow for the development of management triggers and actions.

Depending on the availability of information, gaps in knowledge on identified values will be determined and future monitoring programs will be conducted.

PHASES 4&5

Develop and Implement a Management Plan

As values are assessed and potential impacts are identified, appropriate management actions will be identified, evaluated and presented. These actions can include policies, strategies or activities that LNIB will follow or

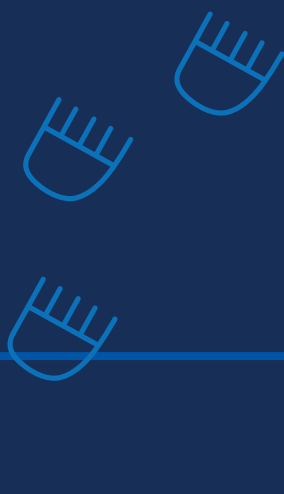
execute that will restore a value's condition. These actions will require extensive community engagement to ensure they address the community goals and needs.

Status of Priority Values

Community values form the basis of the Nlaka’pamux Environmental Management Program.

Understanding each value’s current and future condition, as well as current and potential impacts will allow for the development of management triggers and actions.

We are in the early stages of documenting the status of priority values. Preliminary information presented on the following pages provide three examples of the types of values the community has identified. Further information on these, and other values, will be compiled as the Nlaka’pamux Environmental Management Program progresses.





STATUS OF Plants

Plants are multicellular living organisms that use photosynthesis to create food. Plants absorb carbon dioxide and release oxygen from their leaves. For the purpose of this report the plant section will also include fungi (i.e. oyster mushroom, sand mushroom, pine mushroom, etc.).

Why Are Plants a Value?

Plants are used by the LNIB for ceremonies, foods, medicines and materials. Over 350 species of native plants are recognized and used by the LNIB. Traditionally, edible fruits, roots, mushrooms, and greens were preserved for year-round utilization and widely traded.



Ecological Role

Support biodiversity & ecological integrity



Community Priority

LNIB members would like to develop a program to increase the availability of harvest areas and ensure that medicinal/harvestable plants are included when reseeded forestry areas. Members would also like to have culturally significant plant species recognized and mapped rather than just species at risk



Sensitive

Plants and plant communities are sensitive to changes in the landscape and surrounding environment



Cultural

Plants are used ceremonially (sage for smudging, juniper for washing and cleansing and tobacco), historical harvesting locations would act as a social and cultural gathering where stories would be shared



Educational

Knowledge on harvestable plants can be shared within the community

STATUS OF PLANTS

Cumulative Effects Management Framework

Broad Desired Goal

To protect and improve the health and abundance of harvestable plants which will allow LNIB to continue to be able to harvest and forage in traditional areas.

Current Condition

Traditional use mapping is available which has general areas for harvesting and gathering. There have been some traditional land use studies (TLU) completed as part of the Trans Mountain Expansion Project which also highlight areas used for plant gathering or berry picking.

The LNIB has noted a decline in harvestable plants such as Huckleberry (*Vaccinum* spp.) when visiting areas that have traditionally been picked. Areas that use to be accessible for berry picking are not anymore and this represents a lost connection to those places.

Current / Potential Impacts

Loss of traditionally harvested/foraged areas due to development, or natural causes, such as fire or flooding.

Bitterroot

Management Actions

Potential management actions include:

- Updating traditional use mapping annually – indicate general areas for harvesting and gathering of plants
- Use of culturally important species when planting in restoration areas, to ensure that foraging of traditional plant species can be continued
- This could be achieved by seed collection and use of Shulus Community and Medicine Garden

Implementation Challenges

The location of plant gathering sites can be confidential so any sharing of information will require community input. Any actions to connserve or protect plant gathering sites must abide by LNIB’s Cultural Heritage Policy.



STATUS OF Species at Risk

A Species at Risk (SAR) is any plant or animal that is in danger of extinction or disappearing permanently from the province. Typically, these plants and animals are facing problems caused by human activities that limit their available habitat or resources. Once a plant or animal is deemed a SAR, the province and Canada provide regulations that guide activities to help conserve and protect the SAR. The province also determines “ecological communities” that may be at risk. An ecological community is a distinct grouping of species that occurs together and may only occur in a certain area.

Why Are Species At Risk a Value?

Species at risk provide diversity to the natural environment. The presence and persistence of species at risk is an indicator of sound management practices and a healthy ecosystem. By addressing species at risk needs at a landscape level, many other species and ecosystems can benefit.



Ecological Role

The presence of species at risk is an indication of the overall ecological health or sensitivity of an area



Community Priority

LNIB is aware of SAR present within the reserves and would like to know more about the species present



Sensitive

Management actions for species at risk should be a priority, since species losses would affect the ecological integrity of an area



Cultural

Several traditionally used plants can be found in ecological communities that are sensitive or at risk

STATUS OF SPECIES AT RISK

Cumulative Effects Management Framework

Broad Desired Goal

To conserve biological diversity in the Nlaka’pamux Traditional Territory.

Current Condition

There are over 200 species at risk and 31 ecological communities at risk in the Nlaka’pamux Traditional Territory. This includes over 100 plant species, 23 insect species, 20 bird species, 14 mammals, 10 amphibian and reptile species and 5 fish species. The status and level of risk of these species varies; however, about 30 species are considered endangered and are at risk of being lost from the Nlaka’pamux Traditional Territory.

Current / Potential Impacts

Across the territory, large scale impacts and threats to the status of species at risk include developments such as pipelines, mining and forestry. Climate change, such as over land forest fires and flooding, is also impacting the state and quality of habitats these species need to survive.

Great Basin Spadefoot Toad

Management Actions

Specific management actions can occur at a local scale to conserve individual species. For example, almost 50% of BC’s bat species are at risk, and it is expected that more will be at risk shortly due to white-nose syndrome (an introduced fungal disease). Autonomous recording units, also known as bat detectors, can be used on LNIB reserve lands to record and monitor bat species. The recordings can be used to determine which bat species are using the area and whether the area is being used for foraging, roosting, or general movement. The results will also help to determine if there are areas that need further protection or monitoring to ensure the bat populations are not declining.

Also, generally, the LNIB has produced species at risk habitat mapping for the Nicola Valley. These maps will be reviewed and updated based on the collection of new data for specific species.

Implementation Challenges

Given the abundance of species at risk in the Nlaka’pamux Traditional Territory, further community engagement is required to assist prioritizing species of concerns where specific management actions can be achieved.



STATUS OF

Culturally Modified Trees

Culturally modified trees (CMTs) are trees that were modified by Indigenous people as part of their traditional use activities. Evidence of this use includes scars, blazes, notches, cuts and other modifications to trees.

Why Are Culturally Modified Trees a Value?

The presence of CMTs shows LNIB's connection to the land, culture, and each CMT has historical importance to the LNIB people. Trees were, and continue to be, blazed to mark trails and places of significance.



Community Priority

A large proportion of LNIB members do not know what CMTs are but would like to learn more about them. There is also community interest in having any CMTs that are removed brought back to the community to use as an art piece or for education



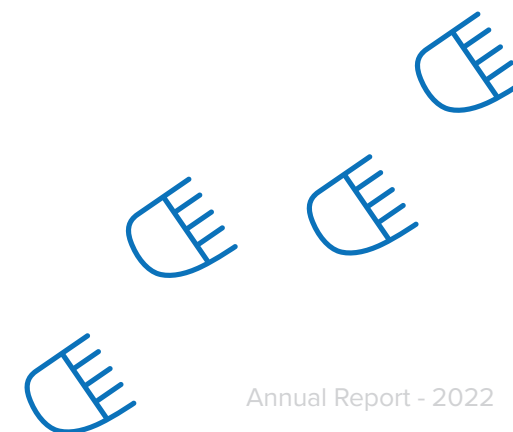
Cultural

CMTs can be trail markers, identified as places used for ceremonial purposes, such as puberty sites or spiritual sites



Educational

CMTs can provide educational values through informing LNIB members on its culture and history



STATUS OF CULTURALLY MODIFIED TREES

Cumulative Effects Management Framework

Broad Desired Goal

LNIB maintains that CMTs are not to be taken, damaged, moved or in any way impacted without consultation with LNIB.

Current Condition

Historically, relatively few CMTs were documented within the Nlaka’pamux Traditional Territory. Those that are were identified through traditional use studies and archaeological impact assessment for various industrial projects. Records for these are maintained by the BC Archaeological Branch and the LNIB project and referrals database.

Recently, several CMTs have been documented as chance find discoveries by Indigenous monitors during pre-construction surveys along the Trans Mountain Expansion Project route. Over 150 CMTs have been documented along the pipeline route.

Current / Potential Impacts

Since CMTs are living trees, over time they may be subjected to natural disturbances such as blowdown or forest fires. Individual CMTs may be lost or removed as a result of industrial developments.

Management Actions

LNIB is working with Trans Mountain to curate portions of CMTs that cannot be avoided by the pipeline construction activities. The current plan is to use these items for educational purposes within the community.

Implementation Challenges

LNIB will ensure there is adequate space to store curated CMTs. Likewise, an educational program for these trees will need to be developed.

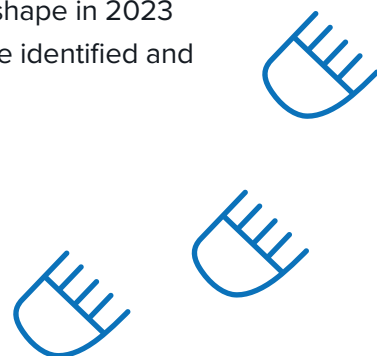
Looking Forward

The benefit of having the Nlaka’pamux Environmental Management Program is that we can proactively identify or manage negative impacts within our Traditional Territory from activities and development projects such as the Trans Mountain Expansion Project; although, much more work remains.

Information on community values will continue to be researched and compiled throughout 2022. Ongoing engagement activities are planned throughout the year.

We are also planning some monitoring activities this year to collect data and information on specific values, such as species at risk and plant communities on reserve lands. Updates on these activities will be posted in the LNIB newsletter and on social media and there will be opportunities for the involvement of community members in this monitoring.

Finally, Phases 4 and 5 of the Nlaka’pamux Environmental Management Program will begin to take shape in 2023 when specific management actions will be identified and implemented.



Summary of Successes and Challenges

When the Nlaka’pamux Environmental Management Program started there was little guidance on the management of cumulative effects in the Nlaka’pamux Traditional Territory. By adapting proven techniques from other areas and involving the LNIB community, we are obtaining a solid understanding of the values that are important to community members and are developing ways to manage the impacts on these values.

A major component of the Nlaka’pamux Environmental Management Program is the collection and compilation of data and information. Having access to this information will allow the Lower Nicola Indian Band to manage cumulative effects in the referrals process and land use decisions in a way that addresses the specific LNIB needs.

The Lower Nicola Indian Band leadership supported the Nlaka’pamux Environmental Management Program from the beginning. Community involvement has varied over the year, and it was challenging to engage community members in light of the global pandemic and direct community impacts from forest fires and flooding. Despite these challenges the project has been successful to date, and we will continue to explore all options to ensure community members remain engaged.





181 Nawishaskin Lane
Merritt, B.C. V1K 0A7

Telephone: 250-378-5157
Fax: 250-378-6188

www.lnib.net