

Nadina forest management regime: summary of land management objectives and strategies

Dave Daust Apr 5, 2011

Purpose

This document aims to characterize forest management in the Nadina Forest District. It addresses two questions:

- What are forest managers trying to accomplish (objectives)?
- What actions are they taking (strategies)?

Thus, it describes the scope of forest management practices that may be affected by climate change and provides a basis for asking if strategies will achieve objectives in a changing climate.

Definition of key terms

In this document,

- an “objective” means a broadly specified desired end (e.g., maintain fish habitat),
- a “strategy” means specific measureable steps or practices intended to achieve an objective (e.g., retain a 30 m wide riparian reserve); a strategy is similar to a “result” which describes a specific measureable outcome (e.g., a 30 m wide riparian buffer) intended to achieve an objective, and
- an “indicator” means a specific measureable variable that correlates with the state of a forest value and is strongly affected by management actions (e.g., old forest area influences biodiversity and is affected by annual harvest rate).

Content and structure of document

This document summarizes objectives and strategies from the Morice Timber Supply Area Sustainable Forest Management Plan (M-SFMP), the Morice Land and Resources Management Plan (M-LRMP) and the Forest Planning and Practices Regulation of the Forest and Range Practices Act (FRPA; refers to Regulations and Act). Objectives and strategies from the Lakes SFMP and Lakes LRMP were not summarized but are similar in nature to those summarized for the Morice. See Appendix for a description of different types of management direction.

Objectives, and related strategies, are grouped into three broad categories (Figure 1) that serve as main sections of this document. Properly functioning terrestrial and hydrosiparian ecosystems provide ecological services that benefit nearby communities, including clean air and water, fish and game, timber, carbon sequestration, recreation and cultural opportunities.

Each main section (e.g., terrestrial ecosystem function) is divided into sub-sections (e.g., wildlife tress) that reflect different types of management objectives. Each sub-section presents objectives, then strategies and finally indicators as follows:

- M-SFMP Criteria and Objectives
- M-LRMP Objectives
- FRPA Objectives
- FRPA Strategies
- M-SFMP Indicators

Text for most objectives is taken directly from the source document (including numbering in most cases). Text for strategies is often reworded for brevity.

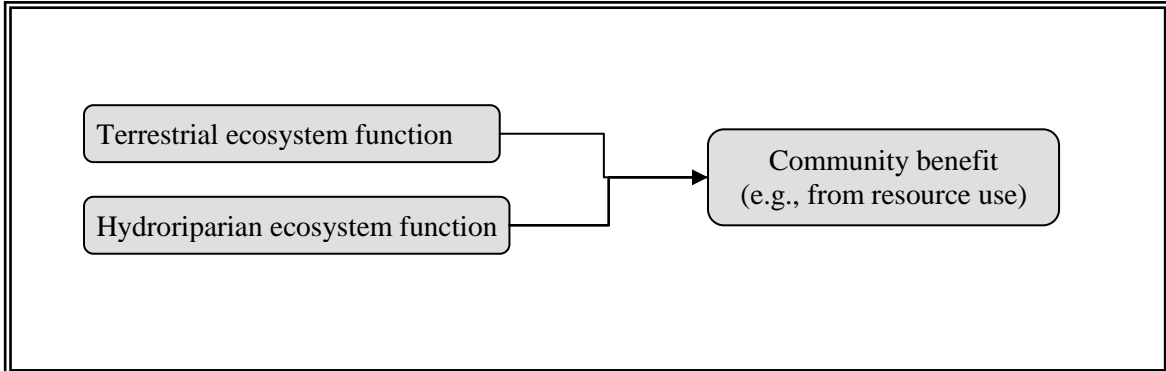


Figure 1. Broad categories addressed by forest management and presented below.

Terrestrial ecosystem function

Land management plans and legislation address factors that affect terrestrial ecosystem function (Figure 2). Objectives and strategies for each factor are summarized below.

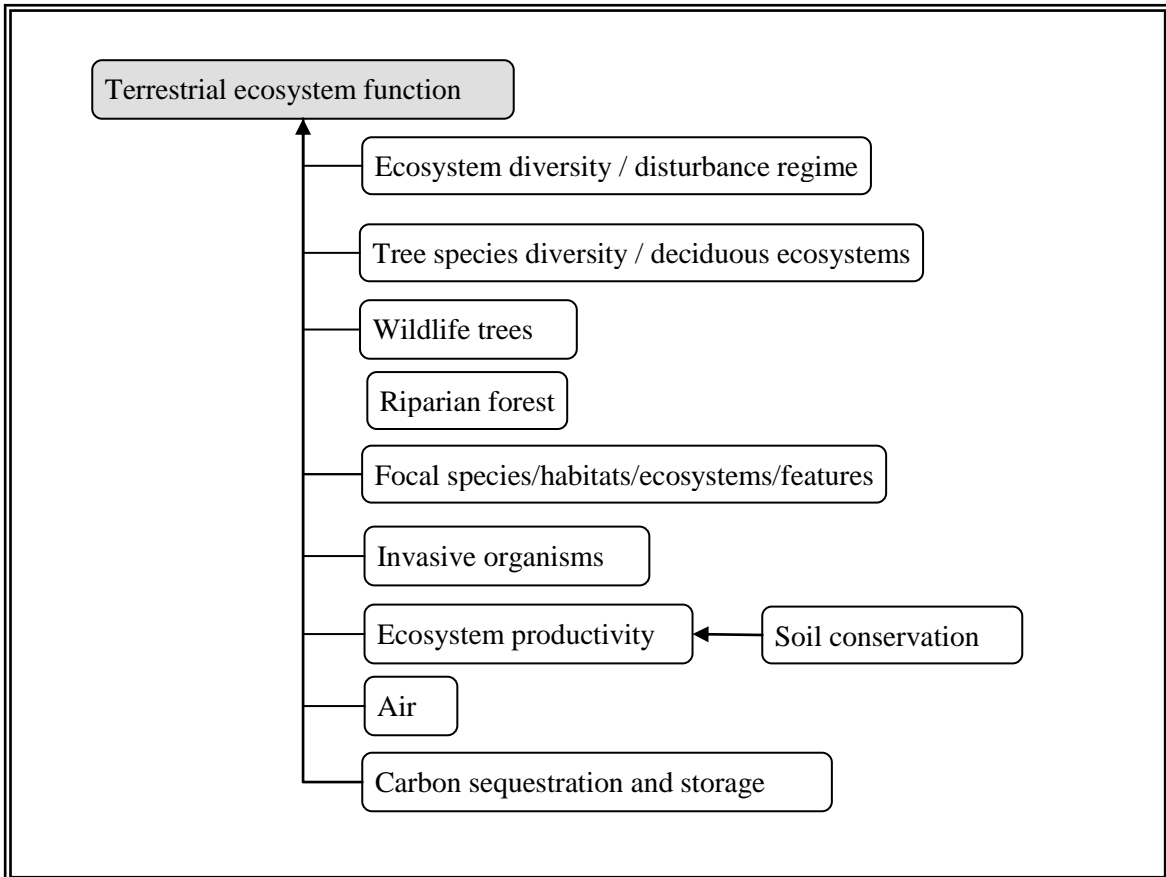


Figure 2. Overview of factors affecting terrestrial ecosystem function.

Ecosystem diversity / disturbance regime

SFM Criteria and Objectives

1. Conservation of Biological Diversity

- *Functions, interactions and processes that occur naturally within and between ecosystems on the DFA¹ will fluctuate within a (naturally, socially) acceptable range of variation over time.*
- *A constant supply of habitats and/or attributes sufficient to conserve species that occur naturally on the DFA through time.*
- *Habitats for species present on the DFA that are functionally connected over a range of spatial and temporal scales.*
- *Protected Areas identified through government processes are respected and accommodated. Biologically significant areas are identified and management strategies appropriate to their long term maintenance are implemented.*

2. Maintenance and Enhancement of Forest Ecosystem Condition and Productivity

- *Forest ecosystems resilient to disturbances and stresses.*

M-LRMP Objectives for Biodiversity

1. Maintain a distribution of representative seral stages across the plan area that is reflective of the range of natural variation.

2. Achieve structurally complex forested ecosystems, through all successional stages, distributed across the plan area. (strategies address patch size).

FRPA Objective for wildlife and biodiversity

At the landscape level, design areas on which timber harvesting is to be carried out that resemble, both spatially and temporally, the patterns of natural disturbance that occur within the landscape.

FRPA Strategies

- Lakes HLP² (2000) contains seral stage targets for BEC Variants and interior forest condition targets. It defines ecosystem types for the purposes of representation. The Lakes North and Lakes South SRMPs³ create Old Growth Management Areas to achieve these targets.
- see also Morice SRMPs

M-SFMP Indicators (see M-SFMP for targets)

- Seral stage distribution
- Patch size distribution

¹ Defined Forest Area: a specified region used as the basis for SFM planning.

² Higher Level Plan Order: order in council giving legal status to selected LRMP objectives.

³ Sustainable Resource Management Plan: provincial plans providing detail to clarify LRMP direction.

Tree species diversity / deciduous

M-SFMP Criteria and Objectives

1. Conservation of Biological Diversity

- *A constant supply of habitats and/or attributes sufficient to conserve species that occur naturally on the DFA through time.*

2. Maintenance and Enhancement of Forest Ecosystem Condition and Productivity

- *Forest ecosystems resilient to disturbances and stresses.*

M-LRMP Objectives for Biodiversity

3. Maintain representation of natural tree species diversity and deciduous ecosystems through time.

- #### *7. Employ a range of silviculture practices on harvested forests, to provide for a distribution of natural successional pathways through time.*

No specific FRPA objectives

FRPA Strategies

- Tree species should be selected considering, commercial value, ecological suitability and long-term forest health risks.

M-SFMP Indicators (see M-SFMP for targets)

- Tree species composition

Wildlife trees

M-SFMP Criteria and Objectives

1. Conservation of Biological Diversity

- *A constant supply of habitats and/or attributes sufficient to conserve species that occur naturally on the DFA through time.*

2. Maintenance and Enhancement of Forest Ecosystem Condition and Productivity

- *Sustainable rates of ecosystem and biological productivity.*

M-LRMP Objectives for Biodiversity

2. Achieve structurally complex forested ecosystems, through all successional stages, distributed across the plan area. (strategies address patch size).

- #### *7. Employ a range of silviculture practices on harvested forests, to provide for a distribution of natural successional pathways through time.*

FRPA Objective for wildlife and biodiversity

At the stand level, retain wildlife trees.

FRPA Strategies

- Wildlife tree retention areas must cover 7% of cutblock area.

M-SFMP Indicators (see M-SFMP for targets)

- Cutblocks meeting structural targets
- Area of wildlife trees

Riparian forest

See Riparian Forest in Hydroriparian Ecosystem Function section below.

Focal species/habitats/ecosystems/features

M-SFMP Criteria and Objectives

1. Conservation of Biological Diversity

- *A constant supply of habitats and/or attributes sufficient to conserve species that occur naturally on the DFA through time.*
- *Protected Areas identified through government processes are respected and accommodated. Biologically significant areas are identified and management strategies appropriate to their long term maintenance are implemented.*

M-LRMP Objectives for Biodiversity

- 4. Identify and maintain the ecological integrity of regionally significant and sensitive ecosystems and features.*
- 5. Manage culturally significant ecosystems of concern, identified in Table 19, in a manner that ensures a sustainable supply of culturally important attributes, distributed across the plan area, through time.*
- 6. Conserve red and blue listed ecosystems as listed by the Conservation Data Centre (CDC).*

M-LRMP Objectives for Wildlife and Wildlife Habitat

- 1. Maintain effective high value spring forage habitats for grizzly bears.*
- 2. Limit disturbance from development activities adjacent to high value spring or salmon forage areas.*
- 3. Maintain effective thermal and security cover adjacent to high value spring forage habitats or salmon foraging areas.*
- 4. Reduce mortality risk to grizzly bears due to industrial and range activities.*
- 5. Maintain effective high value seasonal forage habitats for woodland caribou.*
- 6. Maintain effective calving / post-calving habitats for woodland caribou.*
- 7. Maintain effective security cover adjacent to high value seasonal forage or calving / post-calving habitats.*
- 8. Limit disturbance to caribou from development activities adjacent to calving / post-calving habitats.*
- 9. Limit disturbance of caribou as a result of motorized activities in identified caribou management sub-areas.*
- 10. Limit risk of disease transfer between caribou and cattle.*
- 11. Maintain effective thermal cover adjacent to known mountain goat use areas.*
- 12. Maintain important mountain goat trails.*
- 13. Reduce mortality risk to mountain goats due to access.*
- 14. Limit risk of disease transfer between domestic sheep, goats or llamas and mountain goats.*
- 15. Limit disturbance to mountain goats as a result of motorized activities in identified mountain goat areas.*
- 16. Maintain, restore or enhance effectiveness of wildlife habitats and*

features important to species at risk.

17. Maintain, restore or enhance effectiveness of wildlife habitats and features important to species of interest.

18. Minimize the risk of disease transfer between livestock and wildlife.

19. Maintain or enhance moose summer and winter forage habitats.

20. Maintain or enhance deer winter range.

21. Maintain known northern goshawk nest sites.

22. Maintain known fisher den sites.

23. Maintain known black bear den sites.

24. Maintain structural features important for the habitat needs of a variety of wildlife species.

FRPA Objective for Wildlife (selected species)

Conserve sufficient wildlife habitat for the survival of species at risk, regionally important wildlife and specified ungulate species.

FRPA Strategies for wildlife (selected species)

- Address wildlife objectives and follow general wildlife measures where applicable. Under GAR⁴, the appropriate minister identifies species at risk, regionally important wildlife and ungulates. The minister identifies wildlife habitat areas for species at risk and regionally important wildlife and ungulate winter ranges for ungulates and specifies management objectives for these areas. The minister describes general wildlife measures (practice requirements) for identified areas.
- Do not damage wildlife habitat features.
Under GAR, the appropriate minister identifies important wildlife habitat features including sensitive fisheries/marine features, important mineral licks or wallows, nests of certain bird species and other localized features.

M-SFMP Indicators (see M-SFMP for targets)

- Area of important focal ecosystem/habitat types
- Seral stage distribution of focal ecosystem/habitat types
- Road density of focal ecosystem/habitat type

Invasive organisms

M-LRMP Objectives for Invasive Organisms

1. Minimize the spread and, where possible, eradicate invasive terrestrial and aquatic organisms.

FRPA Strategies

- Specify measures in Forest Stewardship Plans to prevent the introduction or spread of invasive plants likely to result from forest practices.

⁴ Government Actions Regulation.

Ecosystem productivity

M-SFMP Criteria and Objectives

2. Maintenance and Enhancement of Forest Ecosystem Condition and Productivity

- *Forest ecosystems resilient to disturbances and stresses.*
- *Sustainable rates of ecosystem and biological productivity.*

M-LRMP Objectives

None

FRPA Objective for Wildlife (selected species)

See objectives for soil conservation and timber.

FRPA Strategies

- See strategies for soil conservation and timber.

M-SFMP Indicators (see M-SFMP for targets)

- MPB susceptible stands
- MPB attacked stands
- Average MAI at minimum harvest age
- Also see indicators for ecosystem diversity / disturbance regime and tree species composition / deciduous

Soil conservation

M-SFMP Criteria and Objectives

2. Conservation of soil and water resources

- *Soil quantity and quality are sustained through their characteristic range of variation on the DFA through time*

M-LRMP Objectives for Point Source Pollution

- 1. Maintain clean soil and water through avoidance of point source pollution.*
- 2. Minimize and, where possible, eliminate the use of pesticides in silviculture practices.*

FRPA Objective for Soils

Conserve the productivity and the hydrologic function of soils.

FRPA Strategies

- Limit permanent roads/trails to < 7% of cutblock area.
- Limit soil disturbance within cutblocks to < 10% of stand (5% if soils sensitive) and to 25% of roadside work area.
- Also see strategies under “Water quality and stream morphology”.

M-SFMP Indicators (see M-SFMP for targets)

- Percent permanent access
- Cutblocks within soil disturbance limits

Air quality

M-SFMP Criteria and Objectives

2. Communities and sustainability

- *A diverse local economy and local participation in the use of forests benefits on the DFA*

M-LRMP Objectives for Air Quality

1. Maintain and improve air quality.

FRPA Strategies

- See Open Burning Smoke Control Regulation under Environmental Management Act.

M-SFMP Indicators (see M-SFMP for targets)

- % of burning on bad air days

Carbon storage

M-SFMP Criteria and Objectives

4. Forest ecosystem Contributions to the Global Ecological Cycles

- *Forest ecosystems are net carbon sinks over time on the DFA*
- *Minimal loss of the gross forest area on the DFA over time*

M-SFMP Indicators (see M-SFMP for targets)

- Seral stage distribution
- Cutblocks meeting structural targets
- Carbon stored (tonnes/ha)
- Permanent access

Hydroriparian ecosystem function

Figure 3 presents an overview of factors affecting hydroriparian ecosystem function. Plans and legislation provide objectives and strategies for these factors.

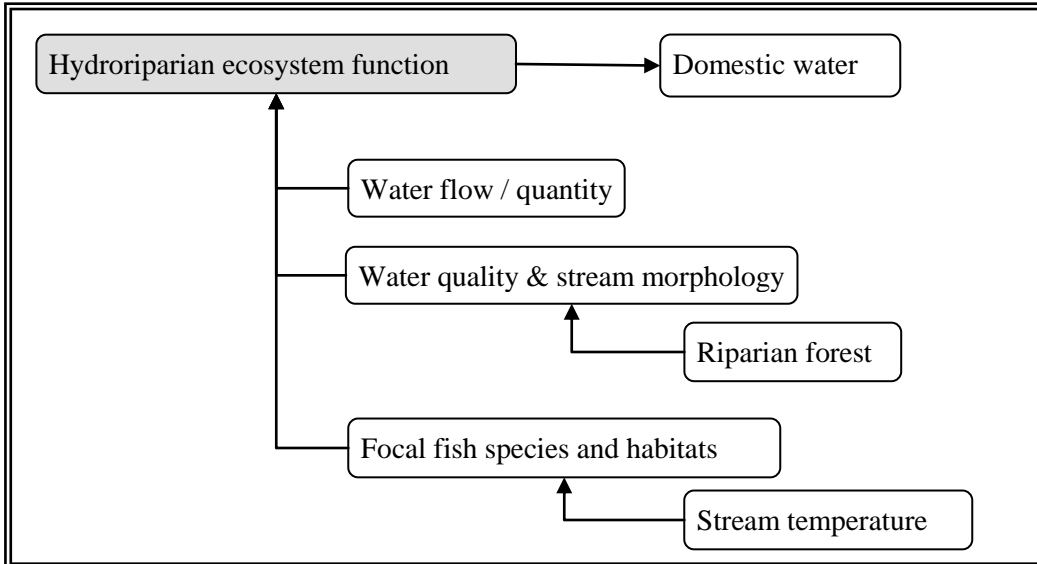


Figure 3. Overview of factors affecting hydroriparian ecosystem function.

Water flow / quantity

M-SFMP Criteria and Objectives

3. Conservation of soil and water resources

- *Water quantity and quality are sustained through their characteristic range of variation on the DFA through time*

M-LRMP Objectives for Fish, Fish Habitat and Aquatic Ecosystems

- *11. Minimize negative effects of water withdrawals on flow regimes and aquatic ecosystems.*

FRPA Objective

- *None*

FRPA Strategies

- *None*

M-SFMP Indicators (see M-SFMP for targets)

- *Equivalent Clearcut Area in identified sensitive watersheds*

Water quality and stream morphology

M-SFMP Criteria and Objectives

3 Conservation of soil and water resources

- *Water quantity and quality are sustained through their characteristic range of variation on the DFA through time*

M-LRMP Objectives for Fish, Fish Habitat and Aquatic Ecosystems

1. Maintain water quality to support healthy aquatic ecosystems.
2. Maintain or enhance the structural and functional integrity of streams, including off- channel habitat.
3. Maintain the natural structural integrity and functional processes of floodplains, including off-channel habitat on streams.
7. Maintain the structural and functional integrity of alluvial and colluvial fans that impact water processes

FRPA Objective for Soils

- Conserve the productivity and the hydrologic function of soils.

FRPA Strategies

- Do not cause landslides that negatively affect management objectives .
- Maintain natural surface drainage patterns on an area both during and after construction of temporary or permanent access structures.
- Following the construction or deactivation of a road, revegetate exposed soil (within two years) if soil erosion is likely to cause sediment to enter a stream, wetland or lake, or likely to adversely affect objectives set by government and if revegetation will likely reduce erosion.
- Maintain natural surface drainage patterns on the area both during and after road/trail construction or maintain compatible with natural patterns after construction.
- Conduct primary forestry in a way that is unlikely to harm fish or fish habitat.
- Locate, build and use stream crossings in a manner that (a) protects the stream channel and stream bank immediately above and below the stream crossing, and (b) mitigates disturbance to the stream channel and stream bank at the crossing.

M-SFMP Indicators (see M-SFMP for targets)

- Percent of identified high-hazard drainage structures addressed
- Equivalent Clearcut Area in identified sensitive watersheds

Riparian forest

M-SFMP Criteria and Objectives

See Water Quality and Stream Morphology

M-LRMP Objectives for Fish, Fish Habitat and Aquatic Ecosystems

5. Maintain the functional integrity of riparian ecosystems.
6. Maintain the functional integrity of lakeshore management areas.

FRPA Objective for Riparian Areas

- Conserve, at the landscape level, the water quality, fish habitat, wildlife habitat and biodiversity associated with riparian areas (FRPA).

FRPA Strategies

- Create riparian reserve zones and riparian management zones (collectively riparian management areas) appropriate for different stream classes (S1-S6) as specified in legislation.
- Do not modify trees in a riparian reserve zone, except for specified purposes.
- Retain a specified percentage of trees in a riparian management zone. In S4-S6 streams, retain enough trees to maintain stream bank stability in specified situations.
- Avoid constructing a road in a riparian management area.
- Keep road maintenance activities within clearing width within riparian management areas when possible.
- Do not use gravel from riparian management areas unless within the road prism, located at stream crossing, or there is no other practicable option,

M-SFMP Indicators (see M-SFMP for targets)

- Cutblocks meeting riparian targets

Focal fish species and habitat

M-SFMP Criteria and Objectives

See Water Quality and Stream Morphology

M-LRMP Objectives for Fish, Fish Habitat and Aquatic Ecosystems

8. *Rehabilitate high value fish habitat where degraded by land use activities.*
9. *Restore fish access to habitat that is impeded by road or land use development.*
10. *Maintain populations of resident lake fish that are sensitive to overfishing.*
11. *Minimize negative effects of water withdrawals on flow regimes and aquatic ecosystems.*
12. *Conserve known critical bull trout habitat (staging areas and spawning or natal tributary reaches).*
13. *Maintain populations of bull trout that are sensitive to over fishing.*

FRPA Objective for Fisheries Sensitive Watersheds

- *In fisheries sensitive watersheds, conserve (1) the natural hydrological conditions, natural stream bed dynamics and stream channel integrity, and (2) the quality, quantity and timing of water flow, or prevent cumulative hydrological effects that would have a material adverse effect on fish (GAR).*
- *Under GAR, the appropriate minister may identify areas with significant downstream fisheries values and significant watershed sensitivity as fisheries sensitive watersheds. **No fisheries sensitive watersheds occur in the Nadina.***

FRPA Strategies

- Conduct primary forestry in a way that is unlikely to harm fish or fish habitat.
- Locate, build and use stream crossings in a manner that (a) protects the stream channel and stream bank immediately above and below the stream crossing, and (b) mitigates disturbance to the stream channel and stream bank at the crossing.
- Ensure that primary forest activity and stream crossing structures do not adversely affect fish passage. Some temporary obstruction allowed (see legislation)

M-SFMP Indicators (see M-SFMP for targets)

- None

Stream temperature

M-SFMP Criteria and Objectives

See Water Quality and Stream Morphology

M-LRMP Objectives for Fish, Fish Habitat and Aquatic Ecosystems

4. Maintain water temperature within critical limits for salmonid species on all water bodies.
14. Maintain stream temperature below critical limits for bull trout.

FRPA Objective for Riparian Areas

Conserve, at the landscape level, the water quality, fish habitat, wildlife habitat and biodiversity associated with riparian areas (FRPA).

FRPA Strategies

- Retain sufficient (a) streamside trees and/or (b) understory vegetation to provide enough shade to prevent temperature increases that are detrimental to fish in temperature sensitive streams.
- Under GAR, the appropriate minister may identify a temperature sensitive stream. **No temperature sensitive streams occur in the Nadina.**

M-SFMP Indicators (see M-SFMP for targets)

- None

Domestic water

M-SFMP Criteria and Objectives

See Water Quality and Stream Morphology

M-LRMP Objectives for Water

1. Maintain or restore the hydrological integrity of all watersheds in the plan area.
2. Maintain water quality (surface, subsurface and ground water) to support First Nations, domestic, industrial, agriculture and recreational uses.
3. Minimize the negative effects⁴⁰ of commercial and industrial water use on water quantity, including water flows (surface, subsurface and ground water).
4. Provide the maximum practicable water quality within the defined Morice Water Management Area (Map 10).

FRPA Objective for Water in a Community Watershed

Where objectives have not been set for designated community watersheds (older designations), prevent the cumulative hydrological effects of primary forest activities within the community watershed from adversely impacting water flow (i.e., quantity or timing) or water quality (i.e., human health impacts that cannot be addressed by water treatment)

Under GAR, appropriate ministers may designate community watersheds and establish water

quality objectives. No community watersheds occur in the Nadina.

FRPA Strategies

- None

M-SFMP Indicators (see M-SFMP for targets)

- None

Community benefit

Figure 4 presents an overview of factors affecting community benefit. Plans and legislation provide objectives and strategies for these factors.

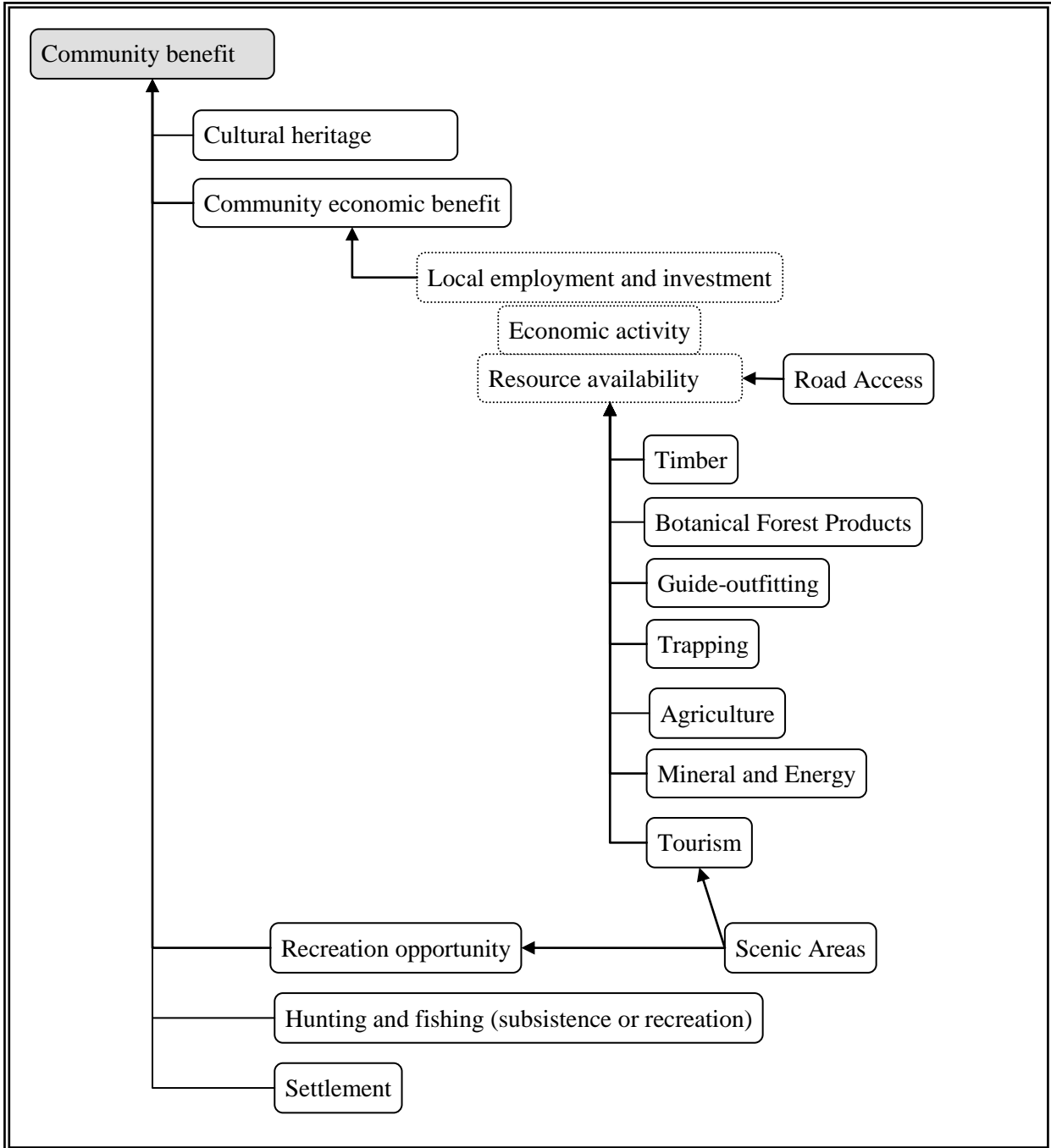


Figure 4. Overview of factors affecting community benefit. Dashed-lined boxes show logical linkages that are not presented as specific sub-sections.

Cultural Heritage

M-SFMP Criteria and Objectives

6. Accepting Society's Responsibility for Sustainable Development

- *Recognition and respect for Aboriginal and treaty rights*

M-LRMP Objectives

- 1. Identify, record and report First Nations cultural heritage resources when encountered, particularly those that provide evidence or demonstration of use and occupancy, or which are archaeological sites.*
- 2. Conserve First Nations cultural heritage resources.*
- 3. Preserve, in an untouched state, archaeological sites and sites indicating traditional use and occupancy.*
- 4. Conserve the composition, structure and function of areas where traditional use sites, traditional use areas or trails are concentrated or numerous.*
- 5. Maintain or restore traditional First Nations access to cultural heritage resources and traditional use areas.*
- 6. Minimize impacts to First Nations cultural heritage resources and traditional use areas when managing forest health or catastrophic events.*
- 7. Recognize and respect First Nations traditional use areas and traditional use activities.*
- 8. Recognize and respect First Nations traditional ecological knowledge and wisdom.*

FRPA Objective for Cultural Heritage Resources

- *Conserve, or, if necessary, protect cultural heritage resources that are (a) the focus of a traditional use by an aboriginal people that is of continuing importance to that people, and (b) not regulated under the Heritage Conservation Act.*

FRPA Strategies

- Results and strategies proposed in Forest Stewardship Plans must address objectives for cultural heritage resources.
- Primary forest activities must not damage resource features.
- Under GAR, cultural heritage resources may be identified as resource features.
- See also Heritage Conservation Act.

M-SFMP Indicators (see M-SFMP for targets)

- Communications initiated
- Responses to comments
- Participation opportunities

Community economic benefit

M-SFMP Criteria and Objectives

5. Multiple Benefits to Society

- *A diverse local economy and local participation in the use of forests benefits on the DFA.*
- *Timber and non-timber benefits are fairly and equitably distributed at a range of scales for current and future generations.*

M-LRMP Objectives for community resilience

- 1. Support a diversity of economic activities.*

2. Support local employment, including the number, diversity and quality of jobs.
3. Optimize long term local investment through land use certainty.
4. Provide for local economic benefits.
5. Preserve and enhance the quality of life and social values of communities (e.g. noise, viewsapes).

FRPA Objective

None

FRPA Strategies

- None

M-SFMP Indicators (see M-SFMP for targets)

- Participation opportunities
- Follow through on consultations
- % local suppliers
- % mill consumption to AAC apportionment
- % of AAC harvested
- Ratio of capital expenditures to depreciation
- Seral stage distribution in non-timber tenures (e.g., trap-lines)
- Donations to community
- Species composition of cut
- Continual improvement projects

Road Access

M-SFMP Criteria and Objectives

None.

M-LRMP Objectives for Access

1. Minimize and, where necessary, mitigate both immediate and cumulative access-related impacts to environmental values, as described in Table 9.
2. Encourage access development to support social and economic values and address associated issues, as described in Table 10.

FRPA Objectives

See Soil.

FRPA Strategies

- Bridges and culverts must be designed for appropriate peak flow return intervals.
- Roads must be maintaining until deactivated, including drainage systems.
- Various additional requirements related to road construction, maintenance and deactivation are described in FRPA.

M-SFMP Indicators (see M-SFMP for targets)

- Road density per important ecosystem/habitat type
- Road density index for sensitive watersheds
- Road density by recreation class
- Permanent access

Timber

M-SFMP Criteria and Objectives

5. Multiple Benefits to Society

- *A sustainable harvest and use of timber products services and benefits*

M-LRMP Objectives for Timber

1. *Maintain or increase timber production and harvesting across the available landbase.*
2. *Maintain the health of the timber resource.*
3. *Minimize alienation of the available productive forest land base due to development activities.*
4. *Reduce non-recoverable losses over time.*
5. *Maintain a forest landbase to support small, area-based forest tenures.*

FRPA Objective for Timber

- *Maintain or enhance an economically valuable supply of commercial timber (specifically, do not unduly reduce timber supply to manage for other values)*
- *Ensure that delivered wood costs are competitive with other jurisdictions*
- *See also Objective for Soil*

FRPA Strategies

- Establish a stand that meets stocking standards (tree species, height and density) by specified date.
- Tree species should be selected considering, commercial value, ecological suitability and long-term forest health risks.
- Plant only genetic stock that conforms to Chief Foresters standards.
- If trap trees or pheromones are used to concentrate insect populations, ensure that the insect brood is destroyed before the insects emerge.
- See also strategies related to Soil Conservation

M-SFMP Indicators (see M-SFMP for targets)

- Seral stage distribution
- Average MAI at min harvest age

Botanical Forest Products

M-SFMP Criteria and Objectives

5. Multiple Benefits to Society

- *A sustainable harvest and use of non-timber forest products services and benefits*

M-LRMP Objectives for Botanical Forest Products

1. *Maintain or enhance the distribution and abundance of culturally important botanical*

species over time.

2. *Maintain or enhance access to areas with culturally important botanical species.*
3. *Minimize impacts to culturally important botanical species and the ecosystems that support them.*
4. *Maintain or enhance the distribution and abundance of organically certifiable botanical species.*
5. *Maintain, conserve or enhance pine mushroom habitat.*

FRPA Objective

None

FRPA Strategies

- None but collection of botanical forest products is classified as a forest practice.

M-SFMP Indicators (see M-SFMP for targets)

- Follow through on consultations with non-timber users

Guide-outfitting

M-SFMP Criteria and Objectives

5. *Multiple Benefits to Society*

- *A sustainable harvest and use of non-timber forest products services and benefit*

M-LRMP Objectives for Guide-Outfitting

1. *Maintain sustainable populations of game species.*
2. *Maintain guide outfitting opportunities across the plan area.*
3. *Maintain physical access²⁶ to guide territories.*

FRPA Objective

None

FRPA Strategies

- See Wildlife Act and Commercial Activities Regulation

M-SFMP Indicators (see M-SFMP for targets)

- Follow through on consultations with non-timber users

Trapping

M-SFMP Criteria and Objectives

5. *Multiple Benefits to Society*

- *A sustainable harvest and use of non-timber forest products services and benefits*

M-LRMP Objectives for Trapping

1. *Provide trapping opportunities across the land base.*
2. *Provide trapping opportunities within each registered trap line area.*

3. *Maintain or enhance access to registered trap lines.*²⁹
4. *Manage the impacts of land use activities on the integrity of trap lines and access trails used to maintain trap lines.*

FRPA Objective

None

FRPA Strategies

- See Wildlife Act and Trapping Regulations

M-SFMP Indicators (see M-SFMP for targets)

- Follow through on consultations with non-timber users

Agriculture

M-SFMP Criteria and Objectives

5. Multiple Benefits to Society

- *A variety of agricultural products are provided from the DFA*

M-LRMP Objectives for Agriculture and Range

1. *Maintain or expand agriculture activities on arable land within the agricultural expansion area shown on Map 8 (Agriculture Expansion Areas).*
2. *Maintain or expand Crown domestic livestock²⁰ range.*
3. *Manage for long-term range productivity on Crown rangeland.*
4. *Maintain access to water resources for domestic livestock on Crown range tenures.*
5. *Maintain access to water resources for agricultural purposes outside of Crown range tenures, e.g., livestock watering and irrigation purposes.*

FRPA Objective for forage

- *Enable a range agreement holder to be vigorous, efficient and world competitive.*
- *See also other objectives in Range Planning and Practices Regulation.*

FRPA Strategies

- Mitigate the effect of removing or rendering ineffective natural range barriers (FRPA).
- See strategies in Range Planning and Practices Regulation.

M-SFMP Indicators (see M-SFMP for targets)

- % arable land converted to agriculture
- % area by forage opportunity class

Mineral and Energy Resources

M-SFMP Criteria and Objectives

None

M-LRMP Objectives for Water Flow / Quantity

1. Promote mineral, aggregate and energy projects that provide a variety of economic opportunities for their full life cycles.²⁷
2. Maintain the legal right of access for mineral exploration.
3. Allow for access for aggregate and energy exploration and development, outside of protected areas.
4. Minimize environmental impacts, over the full lifecycle, of mineral, aggregate and energy projects.
5. Encourage opportunities to develop mineral and energy resources.
6. Respect all communities of interest.

FRPA Objective

None

FRPA Strategies

- None.
- See legislation related to energy, mines and petroleum resources.

M-SFMP Indicators (see M-SFMP for targets)

- None.

Tourism

M-SFMP Criteria and Objectives

5. Multiple Benefits to Society
A sustainable harvest and use of non-timber forest products services and benefits.

M-LRMP Objectives for Tourism

1. Maintain or improve the integrity and functionality of features as per the guidelines in Table 6.
2. Maintain or improve the integrity and functionality of tourism facilities as per guidelines in Table 6.
3. Maintain the integrity and functionality of trails as per the guidelines in Table 6.
4. Encourage growth in the tourism industry.

FRPA Objective

See Scenic Areas

FRPA Strategies

- See Recreation and Scenic Areas

M-SFMP Indicators (see M-SFMP for targets)

- See Recreation and Scenic Areas

Recreation

M-SFMP Criteria and Objectives

5. Multiple Benefits to Society

- *A full range of recreation opportunities are provided on the DFA*

M-LRMP Objectives for Recreation

1. Maintain or improve the integrity and functionality of recreation features as per guidelines identified in Table 6.

2. Maintain or improve the integrity and functionality of recreation facilities as per guidelines identified in Table 6.

3. Maintain the integrity and functionality of trails as per guidelines identified in Table 6, respecting traditional First Nations trail networks.

4. Maintain opportunities for motorized and nonmotorized terrestrial recreation in areas identified in Table 7 and on Map 7: Motorized and Non-Motorized Recreational Access.

5. Maintain opportunities for a non-motorized recreation experience on lakes identified in Table 8.

FRPA Objective

See Scenic Areas.

FRPA Strategies

- Trees may be removed to maintain recreation sites, trails and facilities (FRPA).
- Under GAR, recreation trails, sites and facilities can be designated as resource features.
- Primary forest activities must not damage resource features (FRPA)

M-SFMP Indicators (see M-SFMP for targets)

- Road density by recreation class
- Follow through on consultations

Scenic areas

M-SFMP Criteria and Objectives

5. Multiple Benefits to Society

- *A full range of recreation opportunities are provided on the DFA*

M-LRMP Objectives for Visual Resources

1. Complete a visual landscape inventory within scenic areas, identified on Map 5: Identified Scenic Areas.

2. Avoid impacts to visual 100 resources in the interim prior to establishment of visual quality objectives.

3. Establish visual quality objectives for scenic areas.

4. Manage the visual resource in scenic areas in accordance with established visual quality objectives.

5. Apply forest practices that maintain visual quality at the landscape level across the plan area.

FRPA Objective for Visual Quality

- Under GAR, appropriate ministers may establish scenic areas and visual quality objectives describing the desired maximum level of visual alteration.
- For scenic areas established before October 2004 and having no visual quality objectives, maintain a degree of visual alteration that is consistent with the visual sensitivity class of the area (specified in legislation).

FRPA Strategies

- Results and strategies proposed in Forest Stewardship Plans must address objective for visual quality.

M-SFMP Indicators (see M-SFMP for targets)

- % area not achieving visually effective greenup per recreation class
- % harvesting consistent with VQO
- % of harvest from MPB stands

Hunting and fishing

M-SFMP Criteria and Objectives

5. Multiple Benefits to Society

- A sustainable harvest and use of non-timber forest products services and benefits
- A full range of recreation opportunities are provided on the DFA

M-LRMP Objectives for Water Flow / Quantity

- 1 Maintain access opportunities to fulfill a range of activities associated with recreational hunting and fishing.
- 2 Maintain or increase the range of opportunities to hunt across the plan area by maintaining sustainable wildlife populations.
3. Maintain or increase the range of opportunities to fish across the plan area by maintaining sustainable fish populations.

FRPA Objective

- None.
- See objectives for wildlife (focal species), riparian areas, and wildlife and biodiversity

FRPA Strategies

- See sections relating to wildlife, biodiversity, riparian areas, fish and fish habitat.
- See also hunting and trapping regulations and freshwater fishing regulations.

M-SFMP Indicators (see M-SFMP for targets)

- None

Settlement

M-SFMP Criteria and Objectives

None

M-LRMP Objectives for Settlement

1. Concentrate settlement expansion in areas meeting the following settlement expansion criteria:
 - consistent with existing or planned main road access and existing or planned electrical service, or
 - where allowed in OCPs⁵.
2. Provide opportunities for isolated, single parcel settlement across the plan area.
3. Recognize and protect known historical settlement areas, including those identified on Map 4: Wet'suwet'en Cultural Heritage, from adverse development activities.
4. Manage areas adjacent to settlement areas to avoid adverse impacts to safety, health and the quality of life within the settlement area.

FRPA Objective

None.

FRPA Strategies

- None

M-SFMP Indicators (see M-SFMP for targets)

- None

⁵ Official Community Plans, developed by municipalities.

Appendix: Types of management direction

Management direction comes in the form of plans, legislation and policy statements. Plans can be divided into strategic plans, that set broad objectives and sometimes identify indicators, and operational plans, that describe methods (strategies) for achieving objectives. Here we focus on strategic plans because they inform operational plans and provide broader guidance.

The provincial government has developed two main types of strategic plans that apply to the Nadina: Land and Resource Management Plans (LRMPs) and Sustainable Resource Management Plans (SRMPs). These plans provide direction for the allocation and management of public lands and resources (ILMB 2006). LRMPs typically use interest-based negotiation to identify land-use zones (specific portions of a landscape), to describe objectives for zones and to recommend broad management strategies—they reflect a spectrum of public interests. SRMPs typically address issues and values identified in LRMPs, but clarify direction so it can be made legally binding. For example, SRMPs may map oldgrowth management areas. Some of the content of SRMPs and LRMPs can be made legally binding in Higher Level Plan Orders.

In the Nadina Forest District, the Morice Timber Supply Area Sustainable Forest Management Plan (Morice SFMP) and the Lakes Timber Supply Area Sustainable Forest Management Plan (Lakes SFMP) are a third type of strategic management plan. They have been prepared by the Morice and Lakes Timber Supply Areas Innovative Forest Practices Agreement (M&L IFPA)⁶. The M&L IFPA is a partnership between six regional forest licensees (Babine Forest Products, Canadian Forest Products, Decker Lake Forest Products, Fraser Lake Sawmills, Houston Forest Products, and L&M Lumber) and BC Timber Sales in both the Morice and Lakes Timber Supply Areas. Recognizing that the multiple strategic planning initiatives, that serve specific purposes for different organizations, can cause confusion, SFMPs aim to merge strategic needs into a single document⁶. Although SFMPs are not legally-binding, they represent a commitment by forest companies for the purposes of certification. In addition, LRMPs and SFMPs document public views that should be considered in the course of forest management by professionals.

Legislation (mainly the Forest Planning and Practices Regulation of the Forest and Range Practices Act) specifies both management objectives (e.g., objectives set by government) and strategies, including required practices (e.g., reforestation) and constraints on practices (e.g., limit soil damage). Legislation also describes operational planning requirements, including Forest Stewardship Plans and Site Plans. Forest Stewardship Plans specify strategies or results that address forest management objectives described in legislation (e.g., riparian targets) or enabled by legislation (e.g., wildlife habitat areas) and that conform to prescribed requirements (specific practices) described in legislation. Site Plans must be consistent with Forest Stewardship Plans.

⁶ Tesera. 2010. The Morice Timber Supply Area Sustainable Forest Management Plan Version 3.4.