

HCVF Assessment Categories 4-6

Open House -Cochrane
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Category 4

- **Forest areas that provide basic services of nature in critical situations (e.g. watershed protection, erosion control).**

Category 4

- Key Question 12

- Does the forest provide a significant source of drinking water?
YES

- Key Question 13

- Are there forests that provide a significant ecological service in mediating flooding and or drought, controlling stream flow regulation, and water quality? **YES**

- Key Question 14

- Are there forests critical to erosion control? **Potentially**

- Key Question 16

- Are there forest landscapes (or regional landscapes) that have a critical impact on agriculture or fisheries? **Fisheries -YES**

Key Question 12

- Does the forest provide a significant source of drinking water? **YES**
- Could incorrect forest management activities cause impacts that are ***so significant that they lead to significant loss of productivity or sickness and death, with no alternate sources of drinking water***
i.e. ***catastrophic*** impacts ? **NO**
- i.e. adaptive management, ECA modeling, ongoing research, etc.

Definitive Question

- Is there a sole available and accessible source of drinking water? **NO**
- Water is a critical resource.
 - The Eastern Slopes, in the vicinity of the FMA, supply water to Calgary & surrounding communities.
 - Agricultural industry depends on it.
- FMA / B9 falls within 2 major provincial watersheds – Bow & Red Deer Rivers.
- Water courses to the west of the FMA/ B9 also supply drinking water.
- Many rivers, streams, small lakes and ponds, & water source areas scattered across FMA/B9. i.e. No single river or stream appears to supply the *only* source of drinking water to an end user.
- Access to water sources is available.

Guidance Question

- Are there watershed or catchment management studies that identify significant recharge areas that have a high likelihood of affecting drinking water supplies? **NO**
- No specific areas have been identified.
- OGRs provide guidance e.g. 20m buffers on water source areas, wetlands are avoided, etc.

Question 12 Summary

- **All streams, rivers, lakes, wetlands, and riparian areas on the FMA are considered high value resources and receive special management through normal operations.**
- **The intent of the question is not to designate all water features as a HCV (e.g. a broad brush defeats the purpose).**
- **The OGRs, Legislation, and other Principles in FSC address water values.**
- **No HCVF designation was made under this question.**

Key Question 13

- Are there forests that provide a significant ecological service in mediating flooding and or drought, controlling stream flow regulation, and water quality? **YES**
- HCVF designation is considered where a potential breakdown of this service has ***catastrophic*** impacts or cannot be replaced.

Definitive Question

- Are there high risk areas for flooding or drought? **YES**
- Flooding is a natural occurrence in all streams and lakes in Alberta.
- Largest floods occurring as a result of combined snowmelt runoff and heavy rainfall events i.e. May & June.
 - PLUS - flushing sediment & plant material, redistributing sediment and nutrients, depositing coarse woody debris for fish habitat, creating new channels and undercut banks, and recharging alluvial aquifers.
 - NEGATIVE - hardship to communities, property damage, risk of loss of life, lower quality drinking water, changes to fish habitat.

- Ghost Lake, Bearspaw, Glenmore, & Glennifer Lake Reservoirs mitigate flooding effects for downstream communities by controlling flows downstream of the reservoirs.
- Flooding increases the costs of water treatment

- Equivalent Clearcut Area (ECA) model
 - Area based representation of the “hydrologically effective disturbance” area that either new or recovering disturbances represent on the landscape.
- Projected range in maximum ECA was from 18.4 to 29.5% over the 200 year horizon
- First 25 years of the plan indicated a much lower range from 8.2 to 19.2%
- Maximum ECA was maintained below 30%, which is a common upper limit used for management plans in Canada.

- Projected water yield increases (mm/yr)
 - ❑ North FMA - ranging from 8.2 to 12.2% above baseline over 200 years and 4.7 to 11.3% for the first 25 years of the plan.
 - ❑ South FMA - ranging from 3.1 to 4.1 % over the 200 year horizon and 1.6 to 2.7% in the first 25 years of the plan
- projections for the increase in water yields were all less than the 15% threshold used by ASRD over the 200 year planning horizon.

Guidance Questions

- Are there particular forest areas that potentially affect a significant or major portion of the water flow (e.g. 75% of water in a larger watershed is funneled through a specific catchment area or river channel)? **NO**
- Does the forest occur within a sub-watershed that is critically important to the overall catchment basin? **YES**
- Are there particular forest areas (i.e. a critical subwatershed) that potentially affect water supplies for services such as reservoirs, irrigation, river recharge, or hydroelectric schemes? **YES**

- The Elbow River supplies 45-50% of the drinking water for the City of Calgary, stored in the Glenmore Reservoir, and it's sub-basin is only 1/25th the size of the entire Bow River basin.
- The alluvial aquifer refers to the gravel and sand deposited by recent or historic river processes.
 - Very permeable and hydraulically connected to the river.
 - Groundwater from the alluvial aquifer flows into the river during periods of low river flow and river water flows into the aquifer during times of high river flow.
 - Groundwater flow often moves sub-parallel to the river.
 - Groundwater and surface water considered a single resource.
 - Land use on the aquifer has the potential to directly impact water quality.
- Bragg Creek impacted by flooding in the past.
- Bragg Creek has been under a water boil advisory for over 20 years.

Key Question 13 Summary

- **While impacts from forest operations are expected to be minimal, the Elbow River main stem and its adjacent alluvial aquifer is considered a HCV due to the significance of the water supply for the City of Calgary (e.g. 45-50%) and the history of floods with potential negative impacts to the Hamlet of Bragg Creek.**

Key Question 14

- Are there forests critical to erosion control? **Potentially**
- A HCVF designation is considered where a forest is **critical** to soil, terrain, or snow stability and where there is increased risk of erosion, sedimentation, landslides or avalanches.

Guidance Questions

- Are there soil and geology site types that are particularly prone to erosion and terrain instability? **YES**

However:

- No provincial requirement for terrain stability mapping.
 - No history of significant problems associated with logging on FMA / B9.
 - Localized areas (i.e. near gullies or draws), dealt with at the block level through OGRs and site walkthroughs (e.g. areas flagged as retention or removed from blocks).
 - Well drained, coarse textured soils.
- Is the spatial extent of erosion –prone or unstable terrain such that the forest is at high risk (also of cumulative impacts)? **NO**

Definitive Question

- Are there forest areas where the degree of slope carries high risk of erosion, landslides and avalanches? **YES**

However:

- Ground based mechanical harvesting, limited to slopes <45%.
- Dry, windy climate with Chinook winds reduces snow accumulation.
- Low risk to human dwellings and infrastructure.

Key Question 14

- **No HCVF designation.**

Key Question 16

- Are there forest landscapes (or regional landscapes) that have a critical impact on agriculture or fisheries? *YES*
- This attribute refers to forests that mediate wind and microclimates at an ecoregion scale, and which affect agriculture or fisheries production.

Guidance Question

- Are there agriculture or fisheries production areas in the forest that are potentially severely negatively affected by changes in wind and microclimate and microhabitat (i.e. woody debris from riparian vegetation)? **Possibly**
- FMA /B9 lands not available for cultivation
- No commercial fisheries activity
- Must assume all streams can support salmonid life cycles.
- OGRs, riparian buffers mitigate impacts
- Irregular block shapes and retention mitigate wind
- Cutthroat and Bull trout designated as HCV attributes under *Key Question #1 (Category 1)*.

- **In summary, the impacts of forest management activities on the fisheries resource can be mitigated. The Sheep River is largely surrounded by protected areas in the vicinity of the FMA. Note that the Highwood River and Red Deer River riparian areas within the nationally significant ESA have been designated as HCVF under *Key Question #3*. The west slope cutthroat trout and bull trout have been designated as HCV attributes under *Key Question #1*. Stream reaches identified by ASRD for westslope cutthroat trout and bull trout are considered HCVFs.**

CATEGORY 5

- **Forest areas fundamental to meeting basic needs of local communities (e.g. subsistence, health).**

Category 5

- Key Question(s) 17
 - Are there local communities (including people living inside the forest area and those adjacent to it as well as any group that regularly visits the forest)? **YES**
 - Is anyone within the community making use of the forest for basic needs/ livelihoods? **NO**

Key Question #17

- Are there local communities (including people living inside the forest area and those adjacent to it as well as any group that regularly visits the forest)? **YES**
- Is anyone within the community making use of the forest for basic needs/ livelihoods? **NO**
- **Local** is defined as: people who permanently reside within commuting distance by car or boat from the management unit, or where they are part of a First Nation whose lands and territories contain or are contained within the management unit; or any human community that is adjacent to the forest being audited for certification.
- A distinction is made between use of the forest by individuals (i.e. trap lines) and where use is **fundamental** for local **communities**. **Basic needs** and **livelihoods** refer to food, medicine, fodder, fuel, building and craft materials, water, and income.

Guidance Questions

- Is this the sole source of the value(s) for the local communities? **NO**
 - Multiple use area with many overlapping values
 - Forestry, Grazing, O&G, Recreation/ Tourism, Trapping, Visual resources, etc.
 - Non commercial values extend to adjacent Provincial and National parks, and along the Eastern Slopes.
- Is there a significant impact to the communities as a result of a reduced supply of these values? **YES**
 - e.g. outdoor recreation is a way of life for local communities
 - e.g. Land for Grazing is a key value and way of life for local ranchers
 - Must balance multiple values across the landscape.
- Are there values that, although they may be a small proportion of the basic needs, are nevertheless critical?
NO – not that we are aware of

- In summary, No HCVF has been identified under Key Question #17.
- The FMA/ B9 Quota area is a multiple use area with many stakeholders.
- Local forestry jobs are dependent on resource extraction.
- Grazing areas are critical to the ranching industry.
- Water is a critical resource.
- Outdoor recreation and tourism on the FMA/ B9 is part of the *way of life* - tourism related jobs are dependent on the recreation resource.
- Use of the forest for basic needs (food, medicine, fodder, fuel, building and craft materials, water, and income) is not exclusive to the FMA / B9, with no specific areas considered critical in this regard.
- The impacts of timber harvesting on other stakeholders are minimized through the consultation process, collaborative planning, ongoing communication, timing of activities, and designing harvest areas with good visual management practices.
- Where possible, opportunities to maximize benefits to other land users are explored (e.g. upgrading or adding new trails, cooperating with the oil and gas industry on road use, enhancing range land, etc.).

CATEGORY 6

- **Forest areas critical to local communities' traditional cultural identity (areas of cultural, ecological, economic or religious significance identified in cooperation with such local communities).**

CATEGORY 6

- **Key Question 18**

- Is the traditional cultural identity of the local community particularly tied to a specific forest area? **NO**
 - To have HCVF designation, the value or forest area must be **critical** to the culture.

- **Key Question 19**

- Is there a significant overlap of values (ecological and/or cultural) that individually do not meet HCV thresholds, but collectively constitute HCVs? **NO**
 - Values overlap at various scales, resulting in much of the forest being included in HCVF management strategies

Guidance Questions

- Will changes to the forest potentially cause an irreversible change to the culture? **NO**
- Is the particular forest in question more valuable than other forests? **NO (?)**
Very subjective question that depends on who is being asked!
- SLS will continue to engage the public to identify issues and values from members of local communities.
- Traditional cultural identity is not known to be tied to a specific area in the forest.
- First nation values will be addressed as they are brought forward or identified.
- Compliance with Historical Resources Act.

- **In Summary, known and identified site specific unique and historical resource values, recorded with ACCS, are considered HCVs. Site specific values brought forward by First Nations will also be considered HCVs.**

Key Question 19

- Is there a significant overlap of values (ecological and/or cultural) that individually do not meet HCV thresholds, but collectively constitute HCVs?
 - Individual values that do not meet the threshold for **critical** and /or **outstanding** may collectively meet the threshold. Consideration of several spatially overlapping values is important for optimizing conservation management.
- Values overlap at various scales, resulting in much of the forest being included in HC VF management strategies.

Guidance Questions

- Are there several overlapping conservation values? **YES**
- Do the overlapping values represent multiple themes (e.g. species distribution, significant habitat, concentration area, relatively unfragmented landscape)? **YES**
- Are the overlapping values within, adjacent to, or in close proximity to an identified HCV or existing conservation area? **YES**
- Are the overlapping values adjacent or in close proximity to an existing protected area or candidate for permanent protection? **YES**
- Do the overlapping values provide an option to meet protected areas representation requirements (i.e., overlap an under-represented landscape as assessed using a protected areas gap analysis)?
More Analysis Required – Gap Analysis

HCVF Quick Summary

HCVs and HCVFs identified at 3 levels of scale or ecosystem hierarchy:

- Landscape
- Habitat / Community
- Species

HCVF Quick Summary

Landscape

- ESAs
- Protected areas
- 2 regionally significant large landscape level forests
- 2 remnant large landscape-level forests
- Elbow Alluvial Aquifer

HCVF Quick Summary

Habitat / Community

- 6 globally ranked forested plant communities
- 6 outlier populations of tree species
- 5 species rich and diverse habitat types
- Bull trout and westslope cutthroat trout reaches
- Identified and known historical /cultural resource values

HCVF Quick Summary

Species Attributes

- 20 vertebrate wildlife species (including species at risk and focal species)
- 21 species of provincially ranked vascular and non-vascular plants
- Limber and Whitebark pine

Spray Lake Sawmills Thank You

