

Forest and Range Evaluation Program (FREP) and Wildlife Resource Value approaches

Coastal Northern Goshawk
Monitoring and Evaluation Meeting
August 28, 2007

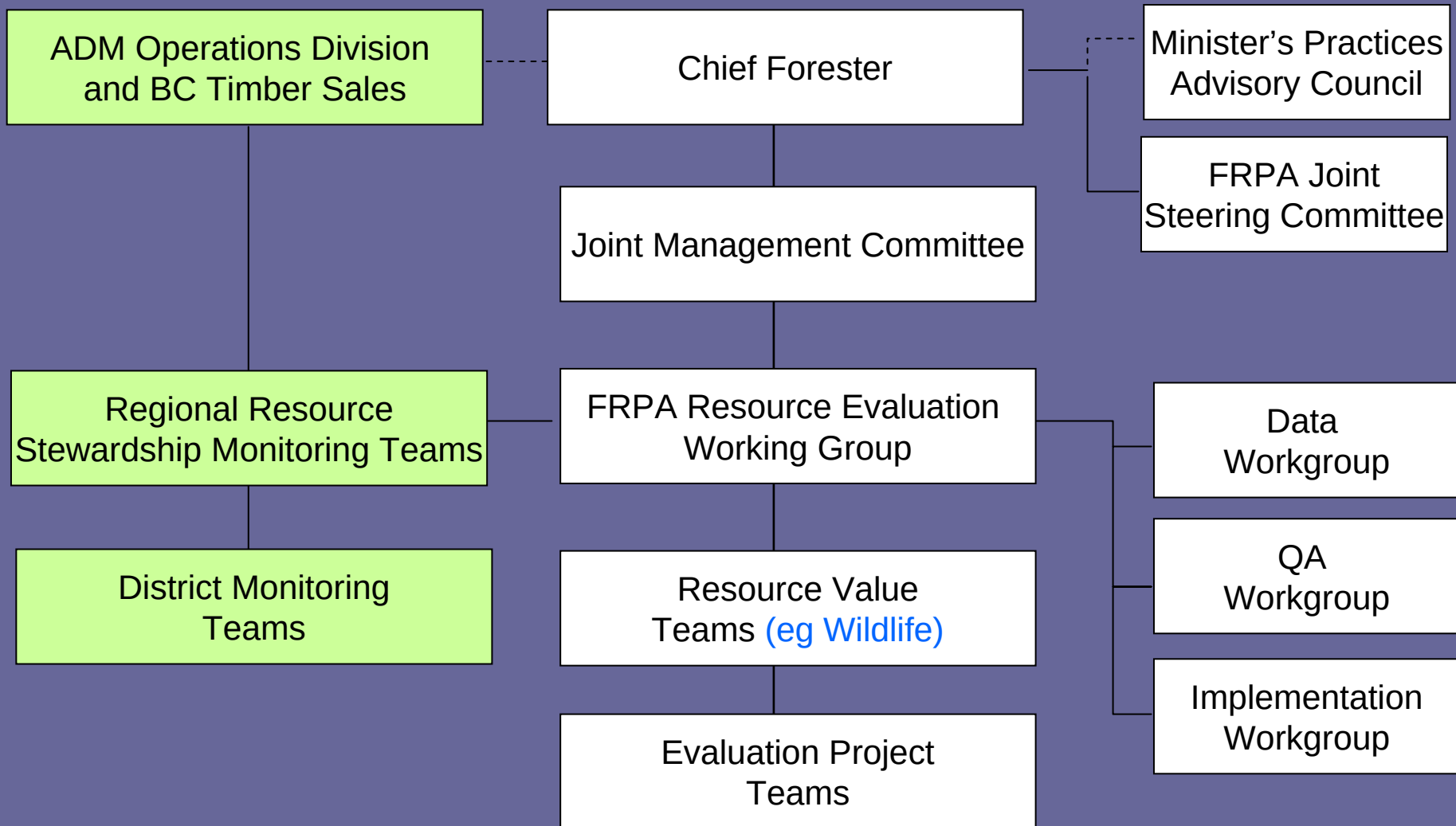
FREP

Forest and Range Evaluation Program



- Evaluation of 11 FRPA resource values
- MFR (old MOF), MOE, MAL
- MFR leads 10; MOE leads implementation of wildlife value
- Well-established; resourced; recognized
- Building credibility and capacity
- Access to resources for quality assurance, training, statistics, data management & publication
- Clear procedure for effecting change and easier to release information

FREP Structure



FREP Evaluation Approach

Three levels

Implementation Evaluation

1. **Routine Evaluation - checklists**
2. **Extensive Evaluation - categorical**
3. **Intensive Evaluation - quantitative**

Validation Monitoring

Cost, effort, time



Wildlife Resource Value

Priority Questions

Wildlife habitat areas*

Ungulate winter ranges

Riparian areas (terrestrial)

***Wildlife habitat areas**

*“Do **WHAs maintain** the habitats, structures and functions necessary to meet the goal(s) of the WHA, and is the amount, quality and distribution of WHAs contributing effectively **with the surrounding landbase** (including protected areas and managed landbase) to ensure the **survival of the species** now and over time?”*

- will be addressed on a species by species basis.

- ***WRV Team***
- Kathy Paige (MOE), Wayne Erickson (MFR), Co-Chairs
- Richard Thompson (MOE), Irene Stewart (MOE),
Melissa Todd (MFR), Members
 - (have been other short term members)

- ***SPECIES TO DATE***

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- Tailed frog, Tiger Salamander*, Gopher Snake, White
headed Woodpecker*, Marbled Murrelet*, Badger

- **Also** Ungulates**

- **Mountain Goat, Mountain Caribou*, Mule Deer***

- * limited work on these
 - ** essentially the same question but for ungulate winter ranges

FRPA Wildlife Value Tools (Feb 07)

WHAs	UWR packages*
487 approved	45 approved
703,195 ha	3,322,279 ha
30 species	8 species

* Are multiple UWR's per package

? Goshawk WHA Summary

Region	# WHAs	Total ha
Van. Island	25	9604.80
Lower Mainland	0	0
Skeena	3	5159.80
Total	28	14764.60

WHA Evaluation Goals

- Develop & test indicators & monitoring protocols
- Investigate & report on implementation of General Wildlife Measures (GWM's)
- Assess effectiveness of WHAs and GWMs
- Provide recommendations for improving the design and management of WHAs
- Assess availability and status of suitable habitat for target species
- Provide recommendations for improving amount & distribution of protected suitable habitat

WRV Approach

<http://www.for.gov.bc.ca/hfp/frep/values/wildlife.htm>

1. Define monitoring objectives & questions
2. Develop conceptual model
3. Review & select indicators and methods
4. Define effectiveness & thresholds
5. Develop monitoring protocols
6. Conduct pilot studies & collect baselines
7. Implement projects
8. Evaluate & make recommendations

WHA Monitoring & Evaluation Priorities

WRV prioritization system

- system under development, preliminary results

Priority ranks

1) Marbled Murrelet

2) Coastal Tailed Frog

3) Coastal Northern Goshawk

Criteria

- Conservation priority
- Management investment
- Conservation role
- Confidence* in WHA/GWM
 - * in recommendations & their research base

Goshawk WHA Goals (Objectives)

1. *Prevent disturbance and abandonment of breeding goshawks (maintain use (persistence) and mitigate threats)*
2. *Maintain important breeding and foraging habitat features within the core area (Post Fledging Area (PFA))*
3. *When foraging habitat is included in the WHA, maintain suitable foraging habitat and habitat features*

Goshawk WHA Criteria

Feature

- areas with known goshawk nest trees
- place around nesting areas where occupancy and nest productivity patterns are known
- determining re-occupancy and breeding success of goshawk breeding areas is extremely difficult given their use of several alternative nest trees within their breeding area in successive years
- goshawks can be very secretive and difficult to detect using existing survey techniques

Size

- Approximately 200 ha but will depend on site-specific factors such as the terrain, habitat distribution, the distribution of OGMAs and UWRs, whether foraging habitat is included within the WHA, and the predicted harvesting regime in future years

Design

- include suitable post-fledging habitat
- size and shape should be determined by the existing habitat and future habitat projections for the breeding habitat and surrounding area

Design cont'd

- area around the active nest should be searched for alternative nest trees, plucking posts, and roost sites
- observations and vocalizations of juveniles and their sign during the post-fledgling period should also be used to determine WHA boundaries. Sign includes whitewash, plucking posts, down, and pellets
- consider connectivity with larger stands to prevent stand isolation: fragmentation may lead to higher predation rates and increased competition for nest sites by edge-adapted predators and competitors; stand isolation may also threaten the WHA integrity through windthrow
- incorporate foraging habitat if it cannot be maintained within the surrounding 2200 ha of the PFA, determine the boundaries of foraging areas using habitat characteristics and prey transects
- manage the PFA as the core area and foraging habitat (if included) as the management zone.

Considerations for Key Questions

- Asking the right monitoring questions
- **Appropriate indicators**
- Methods not destructive or disruptive
- **Thresholds known or possible**
- Implications for study design and intensity
- **Will less intensive level (routine, extensive) evaluations be helpful / informative?**
- What knowledge gaps do we need to address to support monitoring efforts (or which could be addressed by monitoring) ?

Landscape considerations around WHA's

(modified W.E.)

Are late structural stage forests (structural stages 5–7) <900 m asl represented throughout the forested land base so that both established and dispersing goshawks will have an opportunity to breed and forage in favourable habitats ? (Pattern)

Do late structural stage forests exist in large patch sizes equally as often as small patch sizes and is connectivity maintained ?

Are retention and **connectivity** maximized in suitable nesting, post-fledging and foraging habitats ?

Landscape continued

Does suitable breeding habitat occur *at an appropriate spacing* (eg. every 6–8 km nesting density observed from Vancouver Island)

Is suitable foraging habitat maintained in close proximity to known nests, particularly within the immediate 2200 ha surrounding the PFA (the core foraging area in the breeding season)

Are OGMAs, UWRs, and WTR areas utilized to buffer goshawk 200 ha PFAs to protect their integrity and to provide foraging habitat around PFAs

Recommendations from Huggard & Kremsater

- Objectives & questions should be specific.
“How much...”, “To what degree...”, What is the relationship...”, “Under what conditions....”
- Prioritize monitoring effort
- Address important but simple management questions that can be answered relatively quickly
- Address issues that you have some influence over
- Describe relationships between indicators and species response
- Incorporate (population) trend monitoring where appropriate
- Don't neglect basic research that fills key knowledge gaps