Bottom Canyon Alternative

Submitted by the Panhandle Forest Collaborative
to the Idaho Panhandle National Forest

April 9, 2014
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1. BACKGROUND AND INTRODUCTION

Panhandle Forest Collaborative Vision: “By assisting the agencies to bring balanced approaches to timber, wild ecosystems, and recreation, the Panhandle Forest Collaborative (PFC) will help to contribute to sustainable social, environmental, and economic viability within our region.”

Other Information on the PFC Including Members, Protocols and Meeting Notes Available at: https://sites.google.com/site/panhandleforestcollaborative/

Summary on Process: The Idaho Panhandle National Forest (IPNF) identified an 11,000 acre project area known as Bottom Canyon. Since the project had already been formulated, the PFC began engaging after the project area and purpose and need were defined, but prior to scoping. The IPNF agreed to consider analyzing a “citizen’s alternative” submitted by the PFC. The PFC’s Forest Projects Committee developed and recommended a proposal to the PFC, which was then approved by consensus and forwarded to the IPNF.

TIMELINE

February 8, 2013 - The Forest Projects Committee (Committee) met with Coeur d’Alene River District Ranger Chad Hudson and his staff to get a briefing on the Bottom Canyon project and to discuss what working together might look like.

February 27, 2013 - The Committee recommended to the full PFC that the collaborative engage in the Bottom Canyon project. Deputy District Ranger Kim Johnson attended the PFC meeting and provided basic information about the project. Chad Hudson and Forest Supervisor Mary Farnsworth suggested that the PFC develop an alternative for consideration for the Bottom Canyon Project. By consensus decision, the PFC members agreed to engage in the Bottom Canyon project and to develop an alternative based on the existing purpose and need.

From May 2013 to April 2014, the Committee held a series of meetings and met in consultation with the IPNF to study the existing knowledge base including stand analysis and other data, to learn more about site resources from both experts and from field trips, and to consider both opportunities as well as restrictions.

The Idaho Forest Group, represented by Bob Boeh on the PFC and Committee, contracted with Northwest Management to analyze and develop site specific maps for various treatment and road alternatives. These maps were then reviewed and altered by the Committee in developing the final alternative.

Consideration was given to how best to achieve the purpose and desired conditions while managing for other ecosystem management considerations and values including wildlife, water
quality, resilience to fire and disease, improving forest health, and preserving recreational access.

Mike Petersen, as Forest Projects Committee Chair, served as the point of contact between the Committee and the Forest Service.

**PANHANDLE FOREST COLLABORATIVE and FOREST PROJECTS COMMITTEE LIST**

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<thead>
<tr>
<th>Name</th>
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<tr>
<td>Cliff Anderson^</td>
<td>Kootenai Natural Resource Advisory Board</td>
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<tr>
<td>Glen Bailey**^</td>
<td>Bonner County Commissioner</td>
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<tr>
<td>Bob Boeh**^</td>
<td>Idaho Forest Group</td>
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<tr>
<td>Jeff Connolly**^</td>
<td>Mike Reynolds Logging</td>
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<td>Tom Crimmins^</td>
<td>North Idaho Riders</td>
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<td>John Finney*</td>
<td>Sandpoint Winter Riders &amp; Panhandle Riders Association</td>
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<tr>
<td>Phil Hough**^</td>
<td>Friends of Scotchman Peaks Wilderness</td>
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<td>Liz Johnson-Gebhardt**^</td>
<td>Priest Community Forest Connection</td>
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<td>Mike Petersen**^</td>
<td>The Lands Council</td>
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<tr>
<td>Paul Sieracki**^</td>
<td>GIS Analyst/Wildlife Biologist</td>
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<tr>
<td>Brad Smith**^</td>
<td>Idaho Conservation League</td>
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<tr>
<td>Kajsa Stromberg^</td>
<td>Idaho Department of Environmental Quality</td>
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<td>Laura Wolf**^</td>
<td>Idaho Department of Fish and Game</td>
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Karen DiBari (facilitator) National Forest Foundation

*Panhandle Forest Collaborative member
^Forest Projects Committee member
2. ACKNOWLEDGEMENTS

Many Forest Service personnel attended meetings occasionally to present information, listen to the resource experts, or observe the process. The PFC wishes especially to thank Chad Hudson for providing staff resources and meeting space, and for answering information requests from the PFC throughout the alternative development process. In addition, the PFC thanks Mary Farnsworth for her support of PFC engagement in the Bottom Canyon project.

Expert Presentations: Experts both from the Forest Service, universities, other agencies, or private consultants met with the collaborative to provide general background as well as site specific information. The PFC thanks the following people who generously offered their time and expertise:

- Ana Cerro-Timpone, Idaho Panhandle National Forests
- Shannon Ehlers, Idaho Department of Fish and Game
- Russell Graham, Rocky Mountain Research Station
- Melissa Hendrickson, Idaho Panhandle National Forests
- Mike Hillis, Ecological Research Group
- Terri Jain, Rocky Mountain Research Station
- Jason Jerman, Idaho Panhandle National Forests
- Andrew Larson, University of Montana
- Joel Sauder, Idaho Department of Fish and Game
- John Schwandt, retired (former USDA Forest Service)
- Kajsa Stromberg, Idaho Department of Environmental Quality
- Laura Wolf, Idaho Department of Fish and Game
- Art Zack, Idaho Panhandle National Forests

Technical support by Northwest Management in developing the alternative maps and calculating acreages and other landscape details was made possible due to a generous contribution from Idaho Forest Group. Paul Sieracki’s GIS skills enabled the Committee members to see the different data layers during meetings.
3. PURPOSE AND NEED

The alternative presented here is focused on achieving the following, as articulated by the IPNF:

Establish and maintain resilient stand structure and species composition across the landscape

**Existing Condition:** Key early seral tree species (white pine and larch) are virtually absent in the largest and oldest size/age classes.

**Desired Condition:** Need to focus on increasing the amount of white pine while decreasing the amount of grand fir/cedar/hemlock. The disease- and fire-resistant white pine has been largely replaced by disease- and fire-intolerant grand fir/cedar/hemlock mix. Increased regeneration harvest and prescribed burning and planting of white pine in the grand fir/cedar/ hemlock mix trends the Forest towards desired conditions and improves resiliency of the Forest.

**Need:** Increase the amount of long-lived early seral species, particularly in the smallest and largest size classes, and increase both the patch size and percentage of the landscape in the seedling/sapling size class.

Improve water quality and aquatics habitat

**Existing Condition:** Idaho DEQ has identified Burnt Cabin Creek as water quality impaired due to sediment & temperature pollutants (CWA). A sediment TMDL has been developed for Burnt Cabin Creek including load allocations for sediment.

**Desired Condition:** Idaho DEQ has recommended sediment reductions in the watershed to meet water quality targets and the TMDL for sediment. Water quality improvement accomplished by reducing watershed road densities, removing/replacing road crossings, & promoting bank stabilization & instream stability.

**Need:** The project falls within the Burnt Cabin Creek-Little North Fork (LNF) CDA River subwatershed - identified as high value for restoration in the 2011 Draft Forest Plan. Current restoration work is occurring upstream (LNF CDA River) as part of the Moose Drool Watershed Restoration Project. Watershed restoration in Burnt Cabin Creek will complement efforts occurring upstream.
Provide forest products that contribute to the sustainable supply of timber products from National Forest Lands

Existing Condition: While employment in Kootenai County continues to increase, some of the biggest losses in jobs from 2001-2011 were in forestry and related activities.

Desired Condition: Although resource extraction (in this case timber) does not play as large a role in the local economy as it once did, it still plays an important role in the Northern Idaho community; therefore, there is a desire to contribute to maintaining jobs in the forestry industry.

Need: In order to contribute to maintaining jobs in the forestry industry, there is a need to provide forest products (including products from NFS lands) which contribute to a sustainable supply of timber products.
4. MAPS OF THE BOTTOM CANYON ALTERNATIVE
5. RECOMMENDATIONS

The “entry area” represented on the Bottom Canyon Alternative maps totals 2,249 acres, all within the suitable timber base. The term entry area is defined as the total area of all treatment units. Desired end results across the entry area are described below.

5.1 SILVICULTURAL TREATMENTS

A. Openings (Cut 31% = 709 acres = 16,409 mbf removed)

Openings include seed tree or shelterwood treatments where the objective is to regenerate desirable species such as white pine and larch. Opening sizes may vary depending on the composition of the original stand, slope, aspect, or other variables. Where openings are created, individual leave trees, coarse woody debris, snags, and small clusters of trees would be retained.

Leave trees would be selected based on two factors. First, all live trees of at least 150 years of age would be retained within the openings, regardless of species. Secondly, the retention of other individual leave trees or patch of trees would be based on species. For example, white pine, larch, ponderosa pine, cedar, hemlock, and hardwood species would be retained.

All existing snags would also be retained unless they pose a hazard to the operators. Snags that are cut down due to safety concerns will be left on the ground as large woody debris, in accordance with Forest Plan guidelines, to provide nutrient capital, habitat for small animals, and favorable microsites for planting desirable species.

The edges of openings would be variably thinned to reduce “edge” effects, improve visual appearance, and more accurately mimic natural disturbance patterns (i.e. irregular shapes).

The goal of the Bottom Canyon project is to have identified irregular openings across approximate 31% of the Entry Area.

B. Retention Areas (Leave 29% = 644 acres = 15,198 mbf of standing volume/no entry + 6,349 mbf partial retention totals 21,547 mbf left standing)

Where openings are created to regenerate desirable species, at least 29% of the entry area would be retained as “aggregates” or “skips”. Retention areas will be distributed throughout the target stand and located to enhance other resource values such as wildlife, water, aesthetics etc.
Retention areas should be centered on mature or old growth trees, concentrations of course woody debris, snags, seeps, rock outcroppings, or other unique structural and/or habitat features. In particular, retention areas should be located where stands with old growth attributes exist as described by Green et al. (2008), but which may otherwise be of insufficient size to be allocated according to Forest Plan old growth requirements. To the extent practical, retention areas should include an overall representation of the tree species that were present in the original stand to promote species diversity.

Retained areas protruding into harvested areas as “peninsulas” should be minimized because creation of large areas lacking in retention would fail to meet the objectives associated with retention.

C. Commercial thinning and variable retention (Cut 40% = 896 acres = 15,008 mbf removed)

Much of the area has too many stems per acre to achieve adequate growth and meet forest health objectives. Stands are dominated by hemlock and grand fir with moderate amounts of Douglas fir, western white pine, western red cedar, and western larch. The goal here will be commercial thinning, regeneration harvest and selective harvest to favor root rot resistant seral species (i.e. white pine, western larch, lodgepole pine and ponderosa pine). The following general guidelines should be followed:

- Selectively harvest areas on favorable terrain retaining 60-70% of current basal area. Trees left will consist of co-dominant trees representing the existing species mix and retaining good quality seral tree species in the smaller diameter class. Address crown closure as appropriate.

- In root rot areas on favorable terrain, remove susceptible species to a distance of one tree length from edge of root rot zone; retain co-dominant and dominant root rot resistant tree species where possible.

- On steep terrain stands with no root rot problems, selectively thin to remove diseased, dying and decadent trees. Favor leaving the younger, healthy and vigorously growing seral tree species, in a wide range of diameter classes that have minimum 40% crown ratios.

- On steep terrain with areas of root rot, create small group selection harvest areas not to exceed 3 acres in size. Disperse these harvest units across the landscape so that adjacency exceeds 3 tree lengths. Promote seed walls around the group selection units.
by commercially thinning less desirable species and promote populations of resistant seed sources.

- Openings created due to group selection and eradication of root rot will be reforested with western larch and western white pine in accordance with the IPNF Forest Plan.

To summarize, there are 2,249 acres in the entry area. 1,217 acres are cable ground (slopes exceeding 35%) and 1,032 acres are mechanical/tractor ground (slopes less than 35%). The total volume within the entry area is approximately 52,964 mbf. Expected removals total 31,417 mbf, or 59%.

Conceptual drawings follow of what the forest could look like before and after silvicultural treatments are completed.
Bottom Canyon Entry Area, Western Slope

Before Treatment
Openings, Before and After Treatment

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Commercial Thinning, Variable Retention, Before and After Treatment
5.2 OLD GROWTH

The PFC recommends:

- No harvest in old growth.
- No new roads through old growth.
- Identify opportunities to decommission existing roads in old growth.
- Field verification of old growth stands.

5.3 WILDLIFE

Although several of these recommendations are also mentioned in Section 5.1, they are repeated here due to their importance for wildlife.

- The PFC recommends that “skips” or “aggregates” be appropriately placed within the entry zone to reduce impact on wildlife like fisher. For example, select moister areas near riparian areas for skips and leaving larger diameter trees.
- Plant aspen, willow and birch in some areas (not only riparian areas), and protect from browsing after planting to support recruitment.
- Avoid skidding through naturally-occurring openings and feather away from them.
- Leave old trees as legacy trees.
- Retain all existing snags unless they pose a hazard to the operators. Snags that are cut down due to safety concerns will be left on the ground as large woody debris, in accordance with Forest Plan guidelines, to provide nutrient capital, habitat for small animals, and favorable microsites for planting desirable species.
- Plant cedar under hemlock and in thinning areas to promote diversity.
- Specific recommendations:
  - For elk security, the PFC recommends there be no net gain of open roads and that the IPNF look for opportunities to close roads.
  - Raptors are a topic of concern to the PFC but the group hasn’t yet reached specific recommendations, however a variety of considerations have been discussed: conduct surveys for raptors; consider timing restrictions to avoid raptor nesting season (April – May).
- Design a silvicultural prescription for cedar to produce cover and forage for snowshoe hare

Specific area recommendations:

- Soften up existing edges (feather) the area between Rds 1511 and 1587
• Conduct a prescribed burn through the beaver area in Burnt Cabin Creek to produce young vegetative growth to benefit beavers.

5.4 **ROADS AND RECREATION**

• The new roads recommended for timber harvest in this project are intended to be temporary roads.
• The PFC recommends there be no net gain of open roads (“open” is defined as open to the public seasonally or year round).
• The PFC recommends that the IPNF evaluate changes to the transportation system to address management considerations, including watershed and wildlife.
• The PFC has identified two areas (Huckleberry Mountain Motorcycle Trail #28 and in SW corner 1513UC) where new roads are very near motorized recreation trails. In areas where new road construction creates parallel roads or goes on either side of ATV trails, the PFC recommends the IPNF evaluate through ground-truthing whether a trail location could be used as a road during harvest.
• The PFC recommends ensuring that adequate barriers are in place to prevent illegal use of closed routes.
• The PFC recommends adding logs and barriers to motorized trails to reduce erosion and to improve the motorized recreation experience.
• The PFC recommends looking for areas within the Bottom Canyon area where building a non-motorized trail would be appropriate.
• The PFC recommends that new road construction areas be open for administrative use only during the project. The PFC is concerned about elk security during the project due to a temporary increase in net roads.
• The PFC recommends accommodating existing over-snow vehicle use and grooming during the project.

5.5 **WATERSHED AND RIPARIAN RESTORATION RECOMMENDATIONS**

The Idaho Department of Environmental Quality brought to the PFC’s attention the following issues which further emphasize the ecological values related to watershed conditions, described below.

• Existing Condition: Watershed conditions and stream habitats in the Bottom Canyon Project planning area do not fully support cold water aquatic life communities and do not meet water quality goals. Water quality impairments include excess sediment loads,
elevated stream temperature, flow alteration, and habitat alteration. In addition, stream connectivity for aquatic organism passage is blocked in several locations. These factors contribute to reduced abundance and diversity of native aquatic organisms such as westslope cutthroat trout and macroinvertebrates.

**Desired Condition:** Restored watershed conditions and stream habitats in the Bottom Canyon would attain water quality goals and fully support cold water aquatic life communities. Sediment and temperature loading would be within the assimilative capacity of stream ecosystems. Flow and physical habitat would provide conditions needed for native aquatic organisms such as westslope cutthroat trout and macroinvertebrates. Additionally, aquatic organism passage would be restored where ecological benefits outweigh risks to westslope cutthroat trout.

**Need:** Treatments of forest roads through maintenance, decommissioning, and other techniques is needed to reduce sediment delivery to streams in the Bottom Canyon Project planning area. Restoration activities are also needed in streams and riparian areas to improve water quality and physical habitat in streams. Removal or replacement of anthropogenic barriers is needed to restore aquatic organism passage. This restoration will improve watershed conditions in the planning area and complements other restoration ongoing nearby (e.g., Moose Drool) for larger scale improvements in watershed condition, restoration of water quality, and support of aquatic life.

**PFC recommendations:**

- The PFC looked at the Riparian Areas (which are represented in the enclosed maps and seem too narrow) and wants to ensure that the appropriate Riparian Habitat Conservation Area (RHCA) buffers are used.
- The PFC will work with the Forest Service to identify opportunities to close and/or decommission roads in 1) old growth and 2) unneeded jammer roads.
- Based on the Geomorphic Road Assessment and Inventory Package (GRAIP) analysis of the Bottom Canyon area and the obvious problem points for fish passage and stream blockage, in combination with other appropriate modeling and actual field conditions, the PFC supports the Forest Service in taking action to improve fish passage and reduce risk of stream blockages. The PFC is interested in hearing back from the IPNF about what specific proposed actions are planned and if certain problem barriers are not removed, the rationale for leaving them in place.
- The PFC recommends that the Forest Service address, at a minimum, the 22 drain points identified through GRAIP as being responsible for 80% of sediment loading into streams.
The PFC will advocate for additional funds from sources such as the Restoration Partnership in order to support as comprehensive an approach to reducing sediment loading and aquatic organism barriers as possible.

As the GRAIP analysis indicates, for water quality reasons the PFC recommends rehabilitating and decommissioning portions of Lone Cabin Creek Road (411). The PFC also recommends the IPNF consider adding motorized trails elsewhere to compensate for any loss in motorized trails that would be incurred by this. The PFC would like to work further with the IPNF to identify potential locations for additional motorized trails, such as on existing prism, mid-elevation old roads.

The PFC recommends the IPNF consider hardwood planting in riparian areas and adding large woody debris.

The PFC would like to coordinate with the North Fork Coeur d’Alene Watershed Advisory Group on this project.

6. IMPLEMENTATION RECOMMENDATION

The PFC recommends that the Bottom Canyon project work be conducted using a 10-year stewardship contract.

7. GENERAL RECOMMENDATIONS

Due to climate change, insects and disease and other factors, the PFC recommends increasing vegetation species diversity to support forest resiliency. Depending on the additional information gathered this coming field season about appropriate treatments in the current entry area, the PFC recommends continuing to evaluate other potential additions (orange areas on map).

8. PROJECT MONITORING

The PFC would like to work with the IPNF to develop a monitoring plan to aid in the adaptive management process and to ensure that desired conditions are achieved. The PFC requests semi-annual meetings between the PFC and the IPNF to share updates on the project, monitoring, and discuss modifications based on site conditions. Bottom Canyon offers a learning opportunity about the “entry area” approach and the PFC is interested in gaining as much knowledge about lessons, successes, projections for future conditions, etc.
9. MOVING FORWARD

The PFC has appreciated the opportunity to offer this alternative for consideration by the IPNF in its approach to the Bottom Canyon project. The PFC is interested in continued engagement in the project and in refining this alternative based on the additional information that will be gathered this coming field season and other data, models and knowledge available to the IPNF. Further engagement points are listed below. The PFC commits to raising issues and more specific recommendations throughout this period in order to keep communication lines open with the IPNF and reduce surprises.

May-August 2014

- PFC field trips
- Forest Service specialists field work
- NW Management to do cruising and stand exams and recommend specific treatments with PFC engagement based on PFC alternative recommendations

September 2014

- PFC provide a more detailed alternative with more specific recommendations based on field data

Fall 2014

- IPNF formal NEPA starts
- PFC will review the environmental assessment and evaluate how to respond and generate support within the community as appropriate

10. FUTURE

After the project is implemented, the PFC is particularly interested in learning whether the Bottom Canyon forest conditions are trending toward the desired conditions (change in acres in size class compared with Historic Range of Variation). It would be useful to hear from Jason Jerman an update of his presentation in two or three years to get an answer, or at least part of an answer, to this question.

In addition the PFC is interested in using what the group has learned and developed agreement around to apply toward future projects.