

Chapter 2

Alternatives

Chapter 2

Table of Contents

Introduction.....	1
Development of the Proposed Action.....	2
Development of Alternatives	2
Alternatives Considered in Detail.....	3
Identification of the Preferred Alternative.....	4
Design Criteria Common to all Action Alternatives.....	4
Mitigation Measures	7
Projects Common to all Action Alternatives	8
Alternatives Considered but Eliminated from Detailed Study	9
Monitoring	11
Comparison of Alternatives	12

Chapter 2

Alternatives

Introduction

This chapter describes and compares the alternatives considered by the Forest Service for the Central Kupreanof Timber Harvest project to meet the Purpose and Need and to respond to the Significant Issues as described in Chapter 1. It includes a description and map of each alternative. The following topics are discussed:

- The development of the Proposed Action and alternatives,
- A description and map of each alternative considered in detail,
- An overview of design elements
- A comparison of the alternatives focusing on the evaluation criteria for the Significant Issues,
- Alternatives eliminated from detailed study, and
- Mitigation, other proposed projects, and monitoring

This chapter presents the alternatives in comparative form to inform the public and other agencies, and to provide a basis for a decision by the responsible official (40 CFR 1502.14). For a complete discussion of the effects used to compare alternatives, consult Chapter 3, “Affected Environment and Environmental Consequences”.

A Logging System and Transportation Analysis (LSTA) was developed to include all suitable commercial forest land as identified by the National Forest Management Act and the Forest Plan. From that LSTA, potential timber harvest units were identified. These units were field-verified to ensure their suitability, to identify any concerns, and to determine which silvicultural prescriptions would be feasible.

In response to the Significant Issues and comments received during scoping, a No-action alternative, the Proposed Action, and two other action alternatives were developed. Other alternatives were considered but dropped from detailed analysis. The development of the alternatives led to deferring several potential timber harvest units from further consideration at this time.

2 Alternatives

Development of the Proposed Action

The initial unit pool was designed to harvest approximately 40 MMBF (estimated from sawlog volume). Preliminary field exams revealed much lower volume than expected. Possible units were added to the unit pool and a second public involvement letter went out recognizing the project could harvest up to 80 MMBF through the development of alternatives.

Units that did not meet Forest Plan standards and guidelines (when all the Best Management Practices, project design and mitigations were included) were eliminated from the unit pool. The proposed action was adjusted to include the remaining second round units and better respond to timber economic concerns while remaining within the scope of the original proposed action.

During the development of alternatives, a preliminary deer habitat alternative was developed. In comparison, there were few differences between this alternative and the proposed action. Design elements of the deer habitat alternative were brought forward into the proposed action and the deer habitat alternative eliminated from further study. Specifically, units in acres of concentrated past and proposed harvest were dropped or prescribed with 50 percent retention to facilitate potential travel corridors. Also, units were dropped to promote additional connectivity between small old growth reserves. In response to the reduction of volume, additional units with no deer habitat or wildlife issues were added to the proposed action.

Development of Alternatives

A group of resource specialists, making up the Interdisciplinary Team (IDT), considered varied alternatives to the Proposed Action to provide a reasonable range of options for meeting the purpose of this project. Alternatives were designed to address the issues identified during scoping (See Chapter 1). They were also designed to meet Forest Plan Standards and Guidelines (2008 Forest Plan) and applicable laws. Each action alternative represents a site-specific proposal developed through intensive interdisciplinary evaluation and field verification. Within the range of options they provide, the decision maker can consider various combinations of alternatives in determining the Selected Alternative.

Alternatives Considered in Detail

The No-Action Alternative (Alternative 1), Proposed Action (Alternative 2) and two other action alternatives (Alternatives 3 and 4) are considered in detail in this chapter. Alternatives 3 and 4 provide alternate means of satisfying the Purpose and Need for this project than does the Proposed Action. They respond differently to the significant issues that are discussed in this chapter. Maps of all alternatives considered in detail are provided at the end of Chapter 2. The map for Alternative 1, the No-action Alternative, represents the current condition of the project area (See figures 2-1 through 2-4, at the end of this chapter, for maps of each alternative. Larger-scale maps of the alternatives are contained in the project record.)

Alternative 1 (Figure 2-1)

Alternative 1 proposes no new timber harvest or road construction in the Central Kupreanof Timber Harvest project area at this time. It does not preclude future timber harvest or other activities from this area. The Council on Environmental Quality (CEQ) regulations (40 CFR 1502.14d) requires that a “No Action” alternative be analyzed in every EIS. This alternative represents the existing condition against which the other alternatives are compared.

Alternative 2 (Figure 2-2)

Alternative 2 is the Proposed Action and was designed to meet the Purpose and Need for this project. It would offer up to 46.8 MMBF (sawlog and utility) of timber from 2,506 acres. It would provide 2,031 acres (81%) of clearcut (CC), 33 acres (1%) clearcut with reserves (CCR), and 442 acres (18%) uneven-aged management. There would be 7.3 miles of new NFS road constructed, 2.9 miles of reconstructed road, and 3.9 miles of temporary road construction to access timber.

Alternative 2 was designed to address concerns related to timber economics and deer habitat.

Alternative 3 (Figure 2-3)

Alternative 3 would provide the largest amount of volume of all the alternatives. It proposes harvesting 70.2 MMBF (sawlog and utility) from 3,647 acres. It would provide 3,127 acres (86%) of clearcut (CC), and 520 acres (14%) uneven-aged management. This alternative proposes helicopter yarding for those units where access by road construction is not feasible. Ground based systems and associated road construction are analyzed for this alternative. There would be 25.1 miles of new NFS road constructed, 9.1 miles of reconstructed road and 6.1 miles of temporary road constructed. This alternative would respond to the direction to maximize timber harvest opportunity while meeting Forest Plan standards and guidelines (Cole, 2005). It addresses the timber economics issue by maximizing the proposed volume available and would allow the Forest

2 Alternatives

Service the flexibility to respond to current and future market demands.

Alternative 4 (Figure 2-4)

Alternative 4 was developed in response to public concerns about the impacts of increased access, timber harvest, and road building on roadless area characteristics. This alternative offers the lowest amount of volume at 28.2 MMBF (sawlog and utility) from 1,327 acres. All units would be clear-cut (CC). There would be no new NFS road construction, 2.6 miles of road would be reconstructed and 2.2 miles of temporary road would be built.

Alternative 4 has been designed to address all of the significant issues to some extent. It does not propose harvest and road building within the boundary of any inventoried roadless area, although there would be effects to the zone of influence. Harvest would be limited to units in close proximity to existing roads. No new NFS road and only 2.2 miles of temporary road are proposed, which addresses concerns related to increased access. Less road building equals out to shorter haul distances which also satisfies timber economics concerns related to today's market, but does not take into account the need for flexibility in the long term.

Identification of the Preferred Alternative

At this point in the analysis, Alternative 3 has been identified as the Preferred Alternative. The recommendation was based on the environmental analysis and public and agency comments received to this date. The Responsible Official may select this alternative, another alternative, or a modification of one of the alternatives.

Design Criteria Common to all Action Alternatives

All alternatives are consistent with the 2008 Tongass Land and Resource Management Plan (Forest Plan). All applicable Forest Plan Standards and Guidelines have been incorporated into the design of the proposed units and alternatives. While some alternatives have been designed to provide a greater measure of protection than is required by the Forest Plan for some resources, such as additional consideration for potential wildlife travel corridors, all alternatives were designed to meet Forest Plan Standards and Guidelines for these and all other resources. Additional direction comes from applicable laws and Forest Service manuals and handbooks. Site-specific descriptions and resource considerations for each potential harvest unit are included as unit cards and road cards in Appendix B of this Draft EIS. These cards serve as the prescription or design narrative for the project as

well as detail design elements for the construction and reconstruction needed for existing National Forest System roads.

Biodiversity and Old Growth

The small old growth habitat reserves were evaluated and redesigned in the 2008 Forest Plan and adjustments adopted. Figure 2-1 in this chapter outlines these reserves.

Beach and Estuary Fringe

Beach and estuary fringe extend 1,000 feet inland from mean high tide along all marine coastlines. The Forest Plan classifies the beach and estuary fringe as unsuitable for planned commercial timber harvest (Forest Plan pages 4-5). No timber harvest or new roads are proposed in beach or estuary fringe.

Fish and Marine Habitats

Forest Plan Standards and Guidelines for riparian areas are applied to all fish streams (Class I and II) within the project area and to non-fish bearing Class III streams.

Hydrologic and fisheries resource analysis for the project has included landscape, watershed, and site-level considerations. Unit cards and road cards in Appendix B indicate which streams are likely to need special attention during implementation, such as applying timing restrictions for in-stream activities, or using larger-than-normal culverts or bridges.

All applicable Best Management Practices (BMPs) would be incorporated during sale design and harvest administration. A National Pollutant Discharge Elimination System permit is still valid for the Hamilton Bay LTF.

This permit provides for protection of water quality by eliminating discharge of surface water directly from the working area to the environment through the use of settling ponds and a drainage system.

Heritage Resources

Areas considered as having a high probability of containing heritage resources (cultural sites) have been intensively surveyed by heritage resource specialists. No heritage resources have been identified in the project area. A detailed Heritage Resource Report was submitted to the Alaska State Historic Preservation Officer (SHPO) as per the R10 Programmatic Agreement with the Alaska State Historic Preservation Office and the Advisory Council on Historic Preservation. If heritage resources or items protected by the Native American Graves Protection and Repatriation act are discovered during implementation, work should cease in the immediate vicinity. The sale administrator should be contacted, who will contact the appropriate archaeologist. The Petersburg District Ranger in consultation with the appropriate Native organization and the State Historic Preservation Office will determine a course of action.

2 Alternatives

- Invasive Species** On October 19, 2007, the Tongass National Forest implemented a supplement to the Forest Service Manual 2080 concerning invasive plant species (Supplement No.: R10 TNF-2000-2007-1). An invasive plant species risk assessment has been completed and recommendations to reduce risk of spread are included in Chapter 3.
- Karst Resources** All activities have been designed to avoid high-vulnerability karst and to meet Forest Plan Standards and Guidelines for low and moderate vulnerability karst areas.
- Soils, Water Quality and Wetlands** Potential harvest units with slopes greater than 72 percent have received an on-site analysis of slope and class IV channel stability and an assessment of potential down stream effects. At the project planning level, the Forest Supervisor may approve timber harvest on slopes of 72 percent or more on a case-by-case basis, based on the results of an on-site analysis of slope class IV channel stability and on an assessment of potential impacts of accelerated erosion on downslope and downstream fish habitat, other beneficial uses of water, and other resources. Areas with moderate risk are included in the proposed units where the potential for downstream effects is low. Road locations generally avoid slopes greater than 67 percent, unstable areas, and slide-prone areas where it is feasible to do so. Roads on slopes in excess of 67% or on unstable soils require geotechnical investigation and appropriate designs. All roads would be located to avoid wetlands to the extent practicable. Where wetlands cannot be avoided, 33CFR 323.4 baseline provisions and State approved BMPs are followed to minimize impacts to wetlands (see road cards and unit cards, Appendix B).
- Scenery** Potential harvest units within the viewshed of a Visual Priority Travel Route and Use Area were evaluated for consistency with the Scenic Integrity Objectives as required in the Forest Plan. Where needed, unit boundaries and silvicultural prescriptions were designed to be consistent with the Forest Plan.
- Roads** Temporary (or NFS) roads were proposed in all units where shovel-yarding distances exceeded 500 feet to provide a surface for log hauling. Temporary road locations on the maps are estimated. Temporary road locations are subject to approval by the Forest Service. Temporary road decommissioning will be part of the timber sale contract. Road closures will occur up to ten years after the completion of timber harvest. Road closure, storage and decommissioning are described in the Road Management/Access section in Chapter 3 and in the Glossary of Chapter 4.

Rock Quarries	Existing rock quarries may be expanded or new rock quarries may be developed to support new road construction and road maintenance. Quarry sites would be developed within 500 feet of a road and avoid Class I and Class II stream buffers, old-growth habitat reserves, eagle and goshawk nest tree buffers and non-developmental LUDs. With either the expansion of an existing quarry or the development of a new site, the area footprint would not exceed five acres.
Log Transfer Facility (LTF)	The existing permitted LTF located in Hamilton Bay would be used to transport logs by saltwater to a processing facility. The operator has the option to barge or raft the logs. Hamilton Bay was placed on the 1996 Section 303 (d) list for debris. Past dive surveys had indicated that excessive bark existed on the bottom of Hamilton Bay as a result of logging operations on Kupreanof Island that used the Hamilton Bay log transfer facility. Dive survey reports from September 2000 of 0.6 bottom coverage and the June 2002 of 0.6 acre document that this water is compliant with standards. This water was removed from the Section 303 (d) list in 2002/2003.
Logging Camp	No land camp is proposed in the project area for any of the alternatives. The town of Kake or a floating camp could be used during harvest activities. Appropriate permits would need to be acquired by the operator for use of a floating camp.
Subsistence	All alternatives have been evaluated in compliance with ANILCA, Title VIII, Section 810 and 811. Alternatives will have no significant effects on subsistence. Subsistence hearings will be held as required between the Draft and Final EIS for this project.
Timber Harvesting/ Helicopter Logging	A service and staging area for helicopter logging operations would be needed in Alternatives 2 and 3. This site would consist of an existing developed site adequate for helicopter maintenance and fueling operations. This area may require the removal of existing vegetation or if a rock pit is used minor expansion may be required for safety or the movement of existing material to level the pit floor and clear obstacles.

Mitigation Measures

The analysis documented in this EIS discloses the possible adverse effects that may occur from implementing the actions proposed under each alternative. Many of these effects are reduced or avoided by using Forest Plan direction, including management prescriptions, standards and guidelines, and Best Management Practices (BMPs), which meet the requirements of the Clean Water Act. All unit-specific and/or alternative-specific mitigation is identified in Appendix B.

2 Alternatives

Projects Common to all Action Alternatives

The following projects were identified by the Interdisciplinary Team as possible stewardship opportunities within the project area. These projects are not design criteria or mitigation measures to reduce the effects of the alternatives, but could be used to improve or enhance resources or to complete obligations within the project area. These project opportunities are common to all action alternatives and are suitable for potential stewardship contracting opportunities.

Funding for project contracting may come from a combination of timber receipts and other appropriated dollars. The receipts from the value of the timber would be used to finance the contractual requirements, and a priority listing of the project area activities would be included in the contract. These projects would either be accomplished as part of the contract or independently. There will be a list of mandatory projects to be completed with timber receipts, combined with the possibility of using other appropriated dollars available at the time to maximize the number of projects completed.

See Figure 2-5 for more information regarding Projects Common to All Action Alternatives.

Fisheries/ Hydrology

The Road Analysis Process (RAP), updated with decisions made with this project, recommends road management objectives for the Kake Road System. Ultimate storage/closure of these roads and these fisheries/hydrology projects will depend on the analysis and decisions made in the District Access and Travel Management Plan. Implementation of the recommended road management objectives would result in the removal of 19 culverts that do not meet fish passage standards.

Recreation

Maintain the four recreational hiking trails in the area: Cathedral Falls (0.5 mi.), Goose Lake (0.75 mi.), Hamilton Creek (1.0 mi.), and Big John Bay (1.75 mi.) The total length of all trails combined is about four miles. The work could include annual brushing, condition surveys and replacement of gravel as needed. Structure work on the trails could also be included depending on the extent and difficulty of the work. Gravel for trail maintenance in the past has been obtained locally in Kake.

Conduct annual maintenance for the Big John Bay Cabin including preparing it for occupancy in the spring and winterizing it at the end of the season. In addition, deferred maintenance and repairs could also be considered for this project. The cabin can be accessed by hiking the 1.75-mile trail off Road 45001 or by boating to Big John Bay.

Invasive Plants

Hand-pull a small population of spotted knapweed located on the 6337 Road. Work could involve up to a half-day of work annually for at least five years and possibly monitoring and/or hand-pulling beyond that depending on how well the plants respond to hand-pulling. Proper disposal of the pulled weeds would be specified as part of the project design, most likely burning in a controlled manner. Other roadside weed populations could also be included, if new populations are discovered.

Silviculture/ Wildlife

Currently there are 325 acres of precommercial thinning to accomplish in second growth stands that could potentially be done under a stewardship contract on the Kake road system. These stands are approximately 25 years old. By modifying thinning prescriptions to include spacing varying from 14x14 to 18x18 feet, thinning in these stands would also benefit wildlife. It would provide cover and allow side lighting to reach the forest floor. There is the possibility of using the cut material for some type of product if the contractor is interested. (See Figure 2-5)

Transportation

There are approximately 114 miles of Forest Service System roads in the Kake road system, which encompasses the Central Kupreanof EIS project area. Of those 114 miles of roads there are approximately 94 miles of open roads that need maintenance to remain open. This maintenance generally includes brush cutting, blading of the road surface, ditching and cleaning of culverts to keep proper drainage. Of the 94 miles of open road there are approximately 38 miles of mainline roads (6040, 6328, 6314, 6314S) that take first priority for maintenance.

Petersburg Ranger District historically has approximately \$70,000 per year to spend on road maintenance in Kake. On the average it costs \$2,000 per mile to maintain roads, which equates to 35 miles of road per year that can be done in Kake. Generally, two thirds of the mainline roads are done and the remaining portion is spent on selected side roads.

Alternatives Considered but Eliminated from Detailed Study

Several alternatives were considered during the planning process, but have not been included in this EIS for detailed study. These are described briefly below, along with the reasons for not considering them further.

Subsistence/ Deer Habitat

A few alternatives that addressed subsistence and deer habitat were developed. During the first round of alternative development using the

2 Alternatives

original unit pool, the team discussed subsistence and deer habitat as a potential significant issue. Many comments indicated subsistence use, access, and deer were concerns. Units were rated using deer winter range data, the highest rated units being removed from the alternative, or prescribed for 50 percent retention. Potential travel corridors were also considered. This alternative was eliminated from further consideration when additional units were added to the unit pool.

Two more alternatives around deer habitat were developed once the unit pool was finalized. Again higher rated units for deer habitat and units within potential travel corridors were avoided or prescribed retention. One alternative applied these elements to the proposed action; the other alternative applied these elements to the entire unit pool. Elements of the first alternative were incorporated into the proposed action and therefore this alternative was eliminated from further study. The later alternative was eliminated from further consideration because deer habitat was considered in the design of the proposed action.

Timber Supply and Sale Economics

An alternative for timber supply and sale economics was developed from the first unit pool. This alternative concentrated on the least amount of road building and the best economics of “today” as identified by the financial efficiency analysis. This alternative was eliminated from further study since elements of this alternative were ultimately incorporated into the development of Alternative 4.

Inventoried Roadless Areas

While carried forward as a Significant Issue, several preliminary alternatives were developed to respond to Inventoried Roadless Area concerns.

Using the first initial unit pool, an alternative was developed that avoided inventoried roadless areas completely, at times cutting settings and units in half. The alternative proposed only to build roads and harvest units that were within the 600-foot buffer of existing units and 1,200-foot buffer of existing roads. The volume estimated was about 18 MMBF. It estimated no new miles of system road and 13 miles of temporary roads. It was eliminated due to low volume, high costs, and effects to future timber management opportunities; it did not meet the purpose and need.

A second alternative was developed at this time that minimally impacted Inventoried Roadless Areas (approximately 565 acres would have been affected). Existing unit boundaries were considered as well as those in close proximity to roaded areas. The alternative proposed to build road and harvest units that were within the 600-foot buffer of existing units and 1200 foot buffer of existing roads, and some units

that were not more than 1500 feet outside the buffers. It offered about 30 MMBF with approximately 12-19 miles of new road. It was eventually eliminated from further study when the unit pool changed. Alternative 4 was developed to address the issue of Inventoried Roadless Areas.

Monitoring

Monitoring is a tool which involves gathering data and information and observing the results of management activities as a basis for evaluation. Monitoring activities can be divided into project-specific monitoring and Forest Plan monitoring. The National Forest Management Act requires national forests to monitor and evaluate their forest plans (36 CFR 219.110). Chapter 6 of the Forest Plan includes the monitoring activities to be conducted as part of the Forest Plan implementation.

Forest Plan monitoring items are either contingent on management activities, such as those associated with this project, or are based on the condition of the Tongass National Forest as a whole. Much of the monitoring at the Forest Plan level consists of annually surveying a representative sample of harvest units or roads.

Implementation monitoring is conducted at the project level. The selected management activities need to be consistent with the design criteria used to analyze the environmental effects during the planning stage.

The IDT prepared unit and road cards to provide site-specific analysis and guidance for unit layout, road location during timber harvest, and road construction and road reconditioning needs. Unit cards include a unit map and a narrative explaining resource concerns and how the concerns could be addressed in the design of each unit. Road Management Objectives were developed for each NFS road (Road Cards, Appendix B).

Staff members who prepare timber sale contracts are required to confirm and certify that the contract is in agreement with the decision document. This certification verifies that items such as maps, number of acres, location of units, harvest methods, and stand numbers are consistent. The certification also ensures that all mitigation measures identified in the EIS relation to timber sale contract requirements are included in the contract.

Implementation monitoring continues through harvest and contract inspections. As a routine part of project implementation, sale

2 Alternatives

administrators and road inspectors monitor harvest and construction activities. Through provisions contained in the timber sale contract or other contracts, contract administrators and inspectors ensure that the prescriptions contained on the unit and road cards are implemented. Sale administrators and road contract inspectors have the authority to initiate action to repair resource damage and suspend operations until problems have been corrected. This process ensures that project elements and Forest Plan Standards and guidelines are implemented as designed. The Contract Administrators monitor all units and roads for implementation of the appropriate BMPs.

Comparison of Alternatives

This section compares outputs, objectives and effects of the alternatives in terms of the Significant Issues for the Central Kupreanof Timber Harvest project. The discussions of effects are summarized from Chapter 3, which should be consulted for a full understanding of these and other environmental consequences. Table 2-2 below provides an overview comparison of information from the alternative descriptions and Chapter 3 relevant to the issues. This information will be used in the discussions that follow.

Issue 1- Timber Supply/ Sale Economics

Optimizing volume and net return on timber harvest will provide for flexibility, in both the long and short term, for offering economically viable timber sales.

While Alternative 3 proposes the greatest amount of NFS road and temporary road construction, it provides the Forest Service the most flexibility in sale packaging and the greatest ability to respond to future market conditions. It proposes the most volume at approximately 70 MMBF.

Estimated logging and transportation costs would be \$421 per MBF with road costs estimated to be \$41 per MBF. The indicated bid is (\$122.46) per MBF. Between 234 and 332 direct annualized jobs would be supported in Alaska, providing an estimated \$9.1 to \$12.5 million in direct income.

Alternative 4 was developed in response to public concerns about the impacts of increased access, timber harvest, and road building on roadless area characteristics. Although this alternative proposes the lowest volume and the lowest flexibility in sale packaging, it has the highest indicated bid under current market conditions. It proposes only harvesting stands accessible from the existing road system or temporary roads and avoids building new National Forest System roads and helicopter yarding. Alternative 4 proposes the least amount of volume (28.2 MMBF) of all of the action alternatives.

Estimated logging and transportation costs would be \$359 per MBF with road costs estimated to be \$17.00 per MBF. The indicated bid is (\$70.99) per MBF. Between 94 and 143 direct annualized jobs would be supported in Alaska, providing an estimated \$3.6 to 5.0 million in direct income.

Alternative 2 provides less flexibility than Alternative 3, but still provides more flexibility than Alternative 4. It builds the greatest amount of road after Alternative 3, and offers the second highest amount of volume with 46.8 MMBF. The estimated logging and transportation costs would be \$382 per MBF with road costs estimated to be \$19 per MBF. The indicated bid is (\$80.96) per MBF. Between 156 and 221 direct annualized jobs would be supported in Alaska, providing an estimated \$6.1–8.3 million in direct income.

Alternative 1 proposes no timber harvest. Timber needed to meet the estimated demand would have to be harvested from other areas on the Tongass National Forest. Jobs supported by this project and manufacturing would not be supported by this project.

Issue 2- Inventoried Roadless Areas

Timber harvest and building roads in inventoried roadless areas would reduce roadless acres within the project area and affect roadless values as identified in the 2003 Supplemental EIS.

In all action alternatives, the roadless values would either remain unchanged or be minimally influenced by the proposed activities. In all alternatives, the North Kupreanof, South Kupreanof, Rocky Pass, and Castle Inventoried roadless areas would remain greater than 5,000 acres in size and eligible for Wilderness consideration in subsequent forest planning. In all alternatives the Castle Roadless Area would be unaffected by timber harvest, road construction, buffers, or other associated activities.

No changes to inventoried roadless acres or character would occur as a result of Alternative 1.

Alternatives 2 and 3 include timber harvest within the boundaries of the North Kupreanof, South Kupreanof, and Rocky Pass Inventoried Roadless Areas. The predominant effect would be to the South Kupreanof Inventoried Roadless Area with approximately 341 acres of timber harvest and one mile of new NFS road in Alternative 2 and 1,184 acres and 15 miles of road construction in Alternative 3. In comparison, the North Kupreanof Inventoried Roadless Area acres of harvest would vary from 90 acres in Alternative 2 to 152 acres in Alternative 3. No new roads are proposed within North Kupreanof or within Rocky Pass Inventoried Roadless Area. Both Alternative 2 and 3 propose three acres of timber harvest within the Rocky Pass Inventoried Roadless Area.

2 Alternatives

Of the three action alternatives, Alternative 3 affects the most total inventoried roadless acres. Up to 5,273 acres would be treated as developed in the South Kupreanof Inventoried Roadless Area. The affected acres represent about two percent of the South Kupreanof Inventoried Roadless Area.

Alternative 4 avoids timber harvest and road building within the boundary of inventoried roadless areas. However, the application of the 600 feet and 1,200 feet around harvest units and roads would overlap into the inventoried roadless area boundaries. Alternative 4 affects the least total roadless acres of any action alternative.

Issue 3- Road Management/ Access

Road building, reconstruction and closures associated with the timber sale may change access within the project area.

Construction of new roads and closure of existing roads would affect motorized access. The proposed roads in each alternative are necessary to meet the purpose and need of the project because they provide access to the timber and provide transportation for timber to be hauled to a processing facility. Each alternative requires a different level of road construction thus having different levels of effects.

Alternative 1 does not propose any new road construction. Under this alternative, current management plans would continue to guide the management of NFS roads. All system roads would be managed as directed by the Forest Plan, road management objectives, and previous NEPA decisions. Access would not increase or decrease for recreational or subsistence activities and maintenance would continue to be ongoing.

Alternative 3 (construction of 25.1 miles new NFS road) would have the greatest increase for motorized public access to the area. Alternative 2 (construction of 7.3 miles new NFS road) would also increase motorized public access. Alternative 4 (no new NFS road construction) would not increase motorized public access. Any increase in new access will occur during the timber sale and for up to ten years after timber harvest completion. However, motorized access would then decrease as roads are closed and placed in intermittent service. Closed roads would still provide a long term increase for non-motorized access. Alternative 2 and 3, by creating additional infrastructure, would enhance opportunities for future timber harvest.

Alternative 3 reconstructs 9.1 miles of existing NFS road, Alternative 2 reconstructs 3.9 miles of existing NFS road, and Alternative 4 reconstructs 2.2 miles of existing NFS road. This reconstruction would increase current access. All reconstructed roads would be

managed as a maintenance level 2, open to motorized vehicle traffic, during timber sale activities and up to ten years thereafter. However, motorized access would again decrease as these roads are closed and placed into intermittent service.

Alternatives 3 and 4 close the most existing NFS roads (about 2.0 miles) while Alternative 2 closes only slightly less miles at 1.1 miles of road. This will reduce motorized access and place roads in a condition that requires minimum maintenance to protect the environment and preserve them for future use.

Table 2-1. Comparison of Alternatives by Issues and Effects

(Numbers may not add up to the totals shown due to rounding)

Units of Measure	Alt 1	Alt 2	Alt 3	Alt 4
Issue 1- Timber Supply/Sale Economics				
Indicated Bid Value(MBF)	0	(\$80.96)	(\$122.46)	(\$70.99)
Logging/Transportation Cost (MBF)	0	\$382.00	\$421.00	\$359.00
Road Costs (MBF)	0	\$19.00	\$41.00	\$17.00
Temporary Road Miles	0	3.9	6.1	2.2
System Road Miles	0	7.3	25.1	0
Helicopter Sawlog Volume (MMBF)	0	3.0	3.4	0
Ground Based Sawlog Volume (MMBF)	0	36.4	55.6	23.6
Total Volume (MBF)	0	46.8	70.2	28.2
Direct Jobs	0	156-221	234-332	94-133
Economic Flexibility Ranking	N/A	2	1	3
Issue 2- Inventoried Roadless Areas				
Acres of Timber Harvest within Inventoried Roadless Areas	0	434	1,339	0
Miles of NFS Roads (closed after harvest)	0	1	13	0
Miles of Temporary Roads within Inventoried Roadless Areas (decommissioned after harvest)	0	0	2	0
Total Acres Affected Including Buffers (600' for harvest units, 1200' for roads)	0	1,220	5,674	140
Percent of Inventoried Roadless Area Affected for the Project Area	0	0.9	4.6	0.1

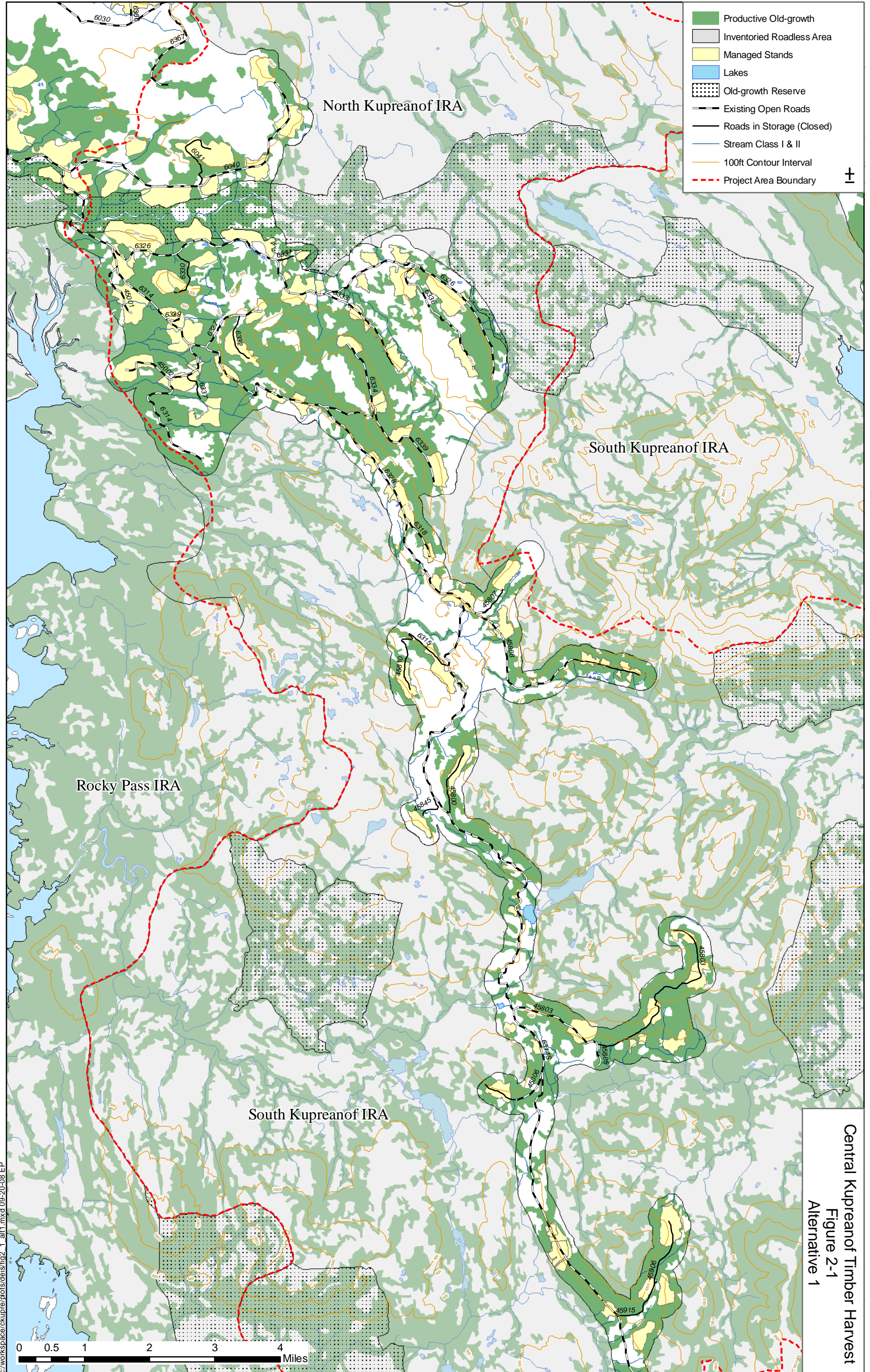
2 Alternatives

Units of Measure	Alt 1	Alt 2	Alt 3	Alt 4
Issue 3- Road Management/Access				
Miles of Proposed New NFS Road to be Constructed	0	7.3	25.1	0
Miles of Proposed New Temporary Road	0	3.9	6.1	2.2
Miles of Reconstructed Existing Closed Road to Remain Open after Harvest	0	2.9	9.1	2.6
Miles of Open Existing NFS Road before Harvest	64	64	64	64
Miles of Road to be Left Open for up to ten years after Harvest	64	74.2	98.2	66.6
Miles of New and Temporary Road to be Constructed in Inventoried Roadless Areas	0	1	15	0
Miles of Existing National Forest System Road to be Closed after Harvest	0	1.1	2.0	2.0
Total Road Cost for all New Temporary, New NFS, and Reconstructed Road within the Project Area	\$0	\$2,039,000	\$6,017,000	\$416,000
Total Miles of Road Remaining Open after Implementation of each Alternative	64	62.9	62	62
Other Environmental Considerations				
Effects on Wildlife				
Acres of POG Habitat Harvested	0	2,427	3,568	1,261
Percent Change from Current Condition within Project Area (57,628 acres of POG)	0	4.2%	6.2%	2.2%
Percent change from current condition (2008) within WAA (268,611 Acres of POG)	0	0.9%	1.3%	0.5%
Percent Change from Current Condition (2008) within Biogeographic Province (307,710 acres of POG)	0	0.8%	1.2%	0.4%
Percent Reduction From Historic/Original Condition Geographic Province (-28%) (431,217 acres of POG)	-29%	-29.8%	-30.2%	-29.4%

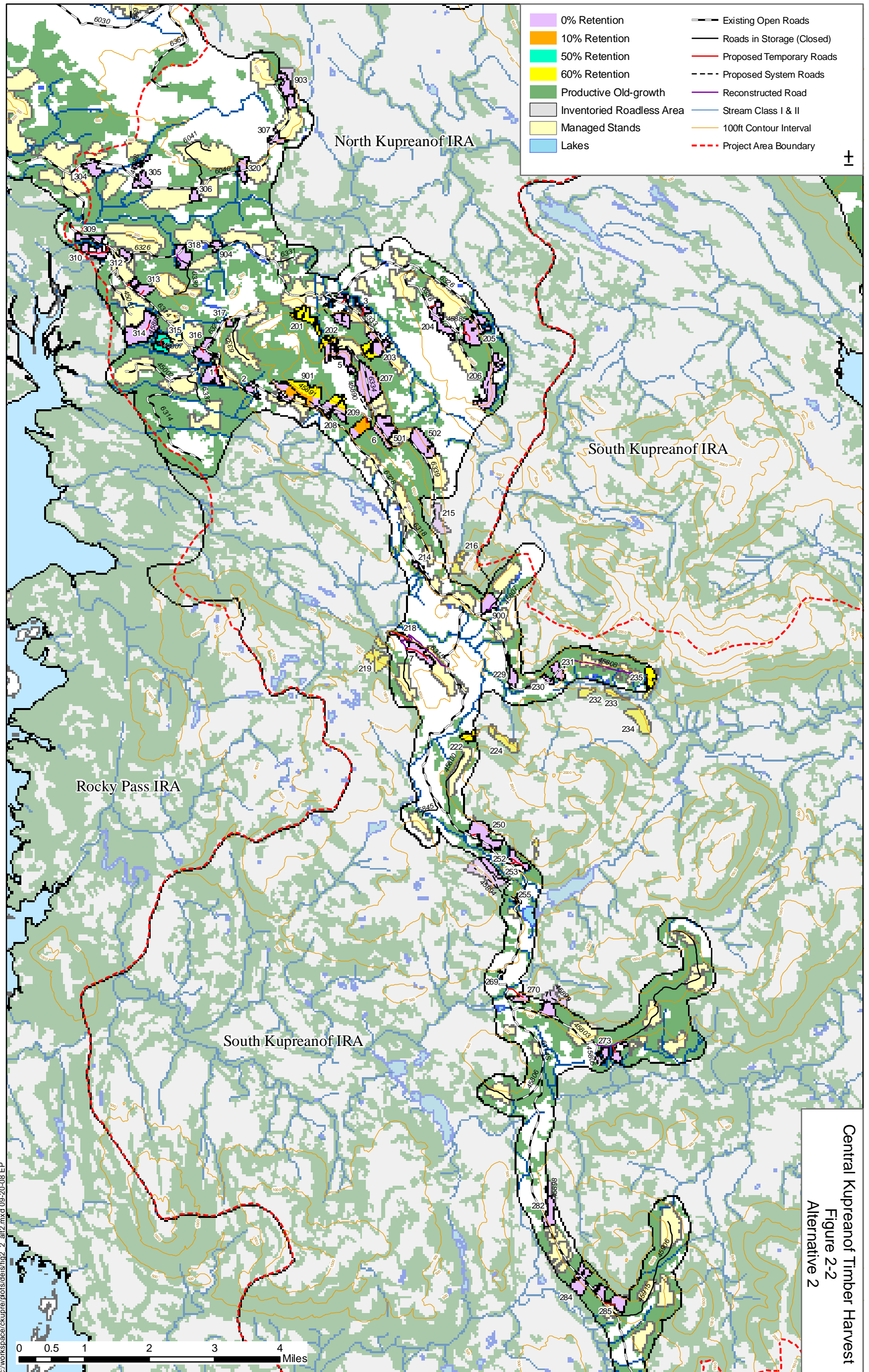
Units of Measure	Alt 1	Alt 2	Alt 3	Alt 4
Percent Reduction From Historic/Original Condition WAA (-27%) (359,445 acres of POG)	-27%	-27.9%	-28.3%	-27.5%
Effects on Timber and Vegetation				
Total Acres Even-aged Management (Clearcut)	0	2,031	3,127	1,327
Total Acres Two-aged Management (Clearcut with Reserves)	0	33	0	0
Total Acres Uneven-aged Management (Single-tree Selection)	0	442	520	0
Total Acres of Harvest by all Silviculture Systems	0	2,506	3,647	1,327
Effects on Soils				
Total Acres Soil Disturbance	0	124.8	257.1	51.4
Acres of Very High Risk Hazard (MMI-4) Soils in Units by Alternative	0	10	17	0
Effects on Wetlands				
Total Miles of Road (Reconstructed, Temporary and NFS) Crossing Wetlands	0	0.8	2.0	.34
Effects on Heritage Resources	None			
Effects on Scenery- Percent of Past and Proposed Visual Disturbance by Viewshed				
Hamilton	5%	7%	7%	6%
Big John Bay	15%	22%	23%	20%
Rocky Pass	2%	3%	3%	2%
Upper Castle	2%	2%	4%	2%
Upper Duncan	1%	2%	4%	1%
Effects on Recreation	No Significant Effects			
Effects on Hydrology/Fisheries- 30 year Cumulative Harvest Percentage by Watershed (assuming a 2009 implementation date)				
Hamilton Creek	1.9%	5.3%	5.4%	4.6%

2 Alternatives

Units of Measure	Alt 1	Alt 2	Alt 3	Alt 4
McNaughton Point	2.9%	13.8%	14.5%	11.9%
Big John Creek	4.5%	6.8%	7.1%	5.8%
West Duncan Canal	0.4%	1.3%	2.5%	0.6%
Keku Creek	0.2%	0.4%	0.4%	0.2%
Castle River	1.3%	1.5%	2.7%	1.5%
Tunehean Creek	1.2%	1.9%	1.9%	1.5%
Total Number of Proposed Stream Crossings by Alternative				
Hamilton Creek	0	22	31	2
McNaughton Point	0	14	14	1
Big John Creek	0	6	13	1
West Duncan Canal	0	5	43	0
Keku Creek	0	4	4	0
Castle River	0	4	29	4
Tunehean Creek	0	4	5	0
Total	0	59	139	8
Effects on TES (plants)	No Effects	May impact individuals but is not likely to lead to a Federal listing		
Effects on Subsistence	No Significant Effects			

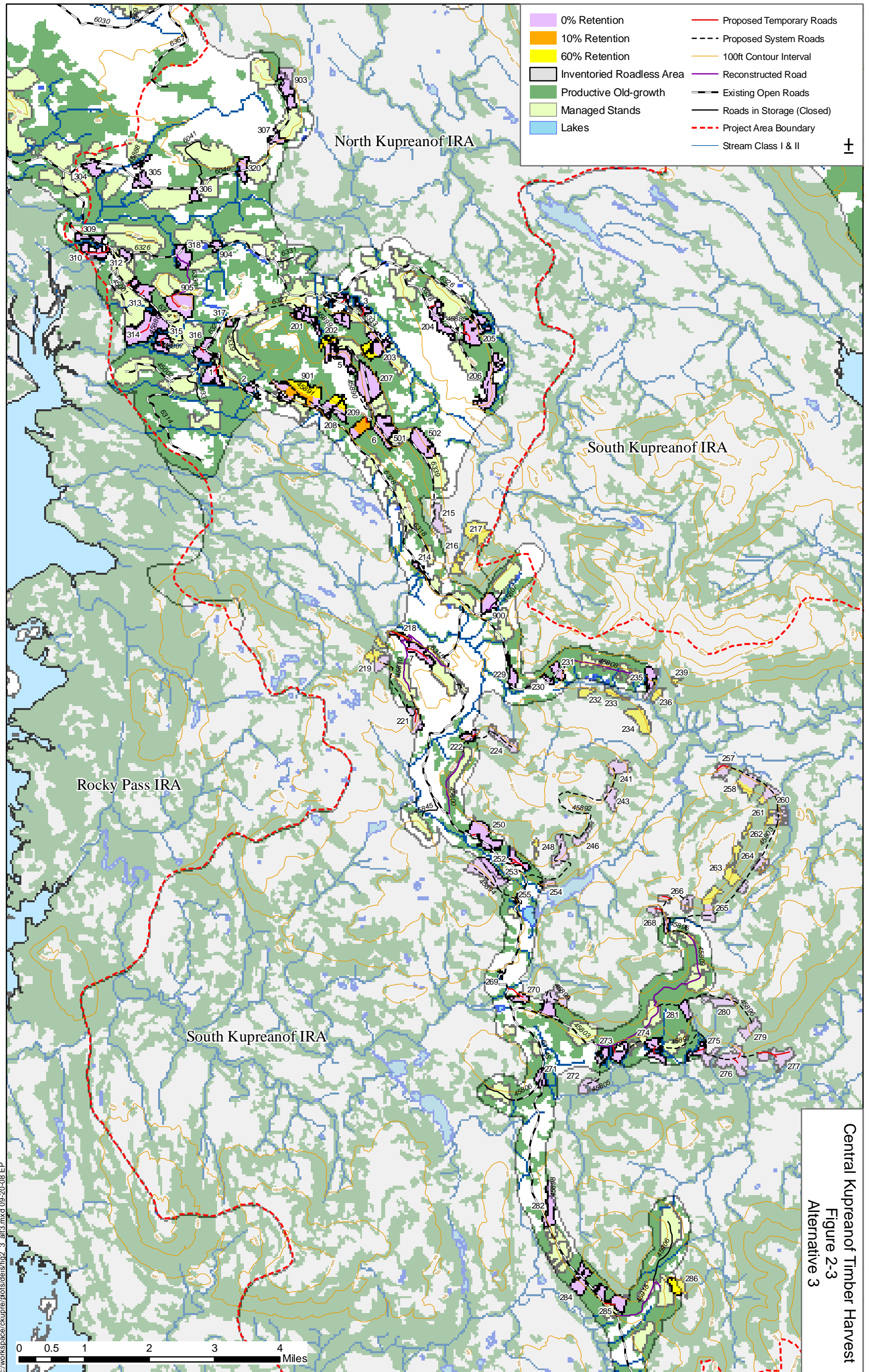


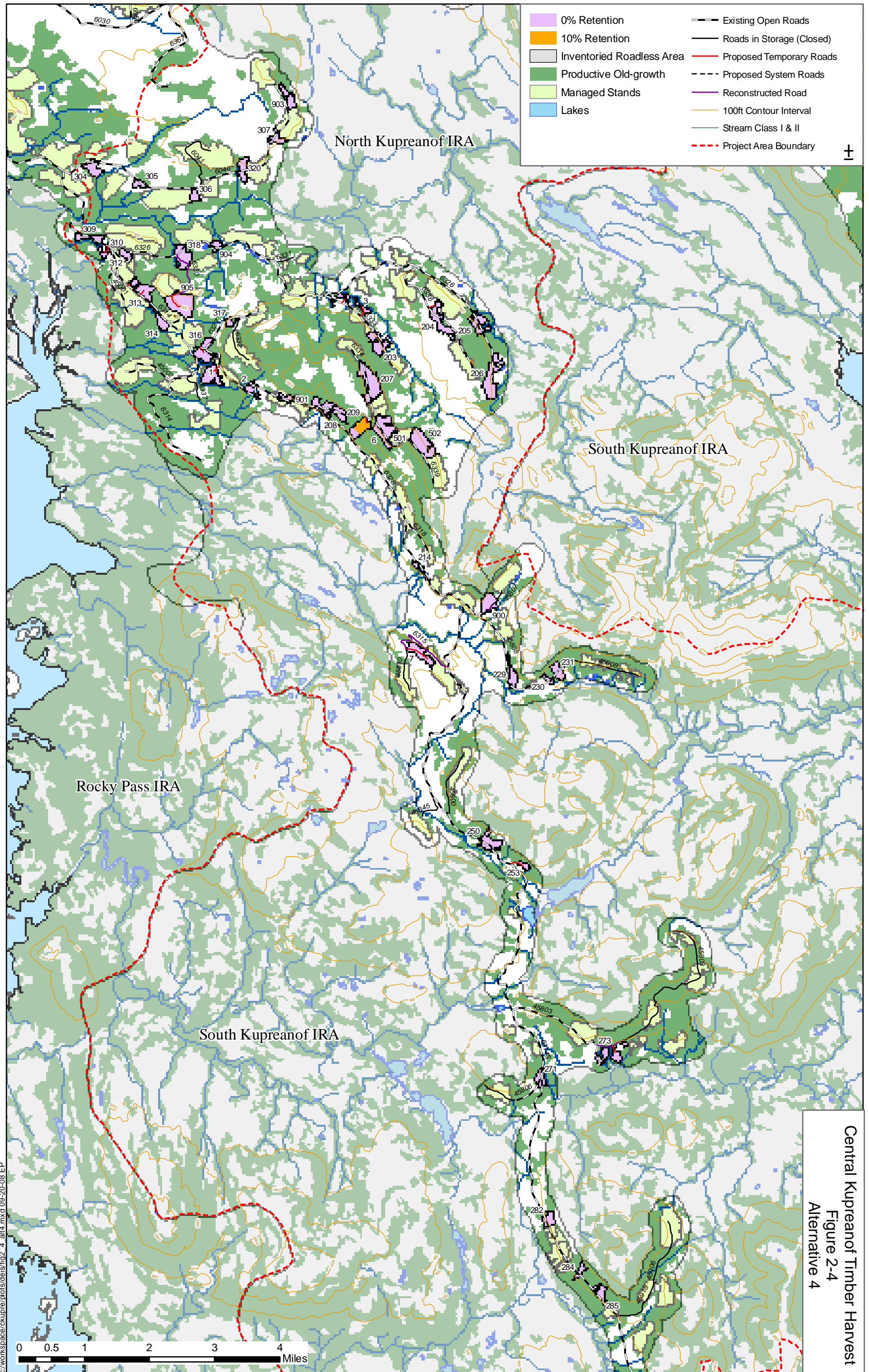
Central Kupreanof Timber Harvest
 Figure 2-1
 Alternative 1



Central Kupreanof Timber Harvest
Figure 2-2
Alternative 2

c:\workspace\kupreanof\plots\deis\fig2_2_all2.mxd 09-20-08 EP

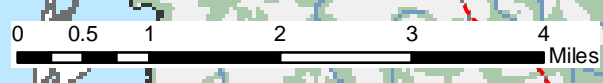




0% Retention	Existing Open Roads
10% Retention	Roads in Storage (Closed)
Inventoried Roadless Area	Proposed Temporary Roads
Productive Old-growth	Proposed System Roads
Managed Stands	Reconstructed Road
Lakes	100ft Contour Interval
	Stream Class I & II
	Project Area Boundary

Central Kupreanof Timber Harvest
 Figure 2-4
 Alternative 4

c:\workspace\kupreanof\plots\deis\fig2_4_alt4.mxd 09-20-08 EP





Legend

- Pre-commercial/Wildlife Treatment
- Non-national Forest
- Trails
- Existing Open Roads
- Closed Road
- Project Area Boundary
- Stream Class I
- # Cabins
- C Red Pipes
- I Invasive Plant

Central Kupreanof Timber Harvest
 Figure 2-5
 Projects Common to all Action Alternatives

c:\workspace\kupreanof\plots\deis\fig2_5_projects.mxd 09-20-08 EP

0 1 2 4 Miles