Prince of Wales Landscape Level Analysis Project

Draft Issue Statements and Alternatives

December 5, 2017

The Tongass National Forest is preparing an Environmental Impact Statement (EIS) for the Prince of Wales Landscape Level Analysis (POW LLA) Project. The purpose of the POW LLA Project is to improve forest ecosystem health on Craig and Thorne Bay Ranger Districts, help support community resiliency, and provide economic development through an integrated approach to meet multiple resource objectives. The Forest Service has incorporated public input into the design of the POW LLA Project proposal, has received comments on the proposed action to help identify issues and support the development of alternatives, and has drafted the following issues and alternatives based on those comments.

Issues and Units of Measure

Significant issues in the National Environmental Policy Act (NEPA) analysis serve to highlight impacts or unintended consequences that may occur from the proposed action or alternatives, giving opportunities during the analysis to reduce adverse Impacts and compare trade-offs for the decision maker and public to understand. Issues were identified through scoping. Significant issues were defined as those directly or indirectly caused by implementing the proposed action, may involve potentially significant impacts, and could be meaningfully and reasonably evaluated and addressed within the scope of this proposal. Issues help to develop alternatives, mitigation measures or Project Design Features to address the effects of proposed activities. Units of measure developed for each issue are used to compare the effects of proposed activities by alternative.

The following significant issues, listed alphabetically, were identified during scoping for the Notice of Intent (NOI) to publish an EIS, the Corrected NOI, and during public meetings and drove alternative development:

Invasive Plant Management

Issue Statement 1: Using only manual or mechanical treatments for invasive plant control may not effectively reduce the establishment and spread of invasive plant populations on Prince of Wales and outer Islands. Use of herbicides, in combination with other treatment methods increases effective invasive plant treatment strategies. However, using herbicides increases the level of exposure to the chemical properties contained within the herbicide to humans, soil, wildlife, aquatic resources, and non-target vegetation at a treatment site.

Background: Invasive plants displace native plant communities and may cause long-lasting economic and ecological problems within and outside the National Forest. They can degrade fish and wildlife habitat, out-compete native plants, impair water quality and watershed health, and adversely affect other resource values such as scenic beauty and recreational opportunities. Invasive plants can spread rapidly across the landscape to all land ownerships.

The ability to minimize the adverse impacts of invasive plants and achieve eradication is greatest when infestations are treated while they are small, at the early stages of invasion, and using the proper method based on the response to the treatment method by the species. Treatment costs, including the need for retreatments, are directly related to the methods used (manual, mechanical or herbicide) and

the response of targeted invasive plant species to the treatment. Often a combination of all three methods provides the most cost efficient and effective control.

In some instances herbicide application is the recommended treatment of difficult-to-control invasive plants. Treatment extent, rate and method of application, and the properties of the chemicals proposed influence the degree of risk. Mitigation measures and project design features minimize the risks associated with chemical use. Chemical toxicities and exposure scenarios will be evaluated for each proposed chemical for each resource, including human health.

Units of Measure:

- Relative cost and treatment effectiveness by treatment method;
- Herbicide toxicology (chemical properties) and exposure (application rate in pounds/acre) for the herbicides;
- Herbicide impacts on non-target vegetation, i.e. subsistence use or culturally significant plants;
- Herbicide impacts on soils;
- Herbicide impacts on water/aquatic organisms;
- Herbicide impacts on wildlife; and
- Effects to Wilderness area characteristics from manual, mechanical and herbicide treatments

Subsistence

Issue Statement 2: Proposed actions, particularly timber harvest and road construction, combined with past and reasonably foreseeable timber harvest would affect subsistence resources and lifestyle.

Background: People expressed concerns about timber harvest and road construction affects to subsistence use in the project area. Concerns included impacts to the harvest of salmon, deer, berries, and mushrooms, and firewood gathering. The cumulative effects of the proposed activities on subsistence resources and associated habitats were noted concerns.

Units of Measure:

- Acres of different age classes of young-growth harvest on south facing slopes below 800 feet in elevation by Wildlife Analysis Area (WAA) to determine affects to deer winter range;
- Acres of and type of harvest prescription and placement of old-growth harvest by WAA;
- Access to subsistence resources – miles of open and closed roads by WAA; and
- Percentage of deer harvested based on the deer habitat capability as calculated, by user type (subsistence vs non-subsistence) by WAA.

Timber Supply and Timber Sale Economics

Issue Statement 3: The proposed quantity and quality of old growth and young growth timber volume offered by the Forest Service and the logging costs associated with the logging systems and silvicultural prescriptions would affect local operators' ability to contribute to local economy.

Background: Project design affects the viability of potential sales and the ability to offer them. Flexibility over the life of the project would provide for optimizing volume and net return on timber harvest and the ability to offer economically viable timber sales across fluctuating market conditions. The amount of timber available for sale from national forests and a stable supply affects local employment and revenues. It is also critical to match the size of sales offered to meet the various needs of industry

operators. Operators need economical timber to stay in business and loss of those operators would have an adverse impact on local economies.

Units of Measure:

- Timber volume (old-growth and young-growth) by species;
- Cost per acre of harvest;
- Miles of road constructed, reconstructed, or reconditioned; and
- Number of annualized direct jobs supported.

Watershed Function

Issue Statement 4: Proposed logging and road building activities in watersheds that have been impacted by past management may have adverse effects to water quality and fish habitat, and could reverse progress made by previous restoration efforts.

Background: Concern was expressed regarding the amount of past harvest and road construction in the project area, and the potential cumulative effects on watersheds and fish associated with additional harvest. The project area includes a number of streams with high fisheries value.

Units of Measure:

- Miles and percent of roads traversing slopes greater than 50 percent by 6th level HUC[1] watershed;
- Estimated percent increase to peak flow rates as a result of past (30 year moving window) and proposed harvested and roaded area by 6th level HUC watershed;
- Total existing and proposed road miles by 6th level HUC watershed;
- Total existing and proposed road miles within 300 feet of a Class I or Class II stream by 6th level HUC watershed;
- Total existing and proposed road density by 6th level HUC watershed; and
- Total acres of existing and proposed vegetation management by 6th level HUC watershed.

Wildlife Habitat and Connectivity

Issue Statement 5: Proposed actions, particularly timber harvest and road construction combined with past and reasonably foreseeable timber harvest would affect the amount of remaining productive old growth (POG), high volume POG (HPOG) and large tree POG (SD67) wildlife habitat. Past actions have also impacted wildlife habitat by converting old growth forest into young growth forests. Proposed actions in young growth stands should improve wildlife habitat. These same activities would affect current wildlife habitat connectivity provided by productive old growth as well as older young growth (greater than 50 years old) stands at different elevations and across the landscape.

Background: Changes in forested conditions and the presence of roads have altered wildlife habitats. Project vegetation management may affect wildlife habitat through modification of vegetation characteristics or habitat composition. A primary concern in the project area is to maintain lower elevation, productive old-growth forested habitats, improve wildlife habitat in young-growth stands, and reduce road densities and fragmentation that negatively affect wildlife species. The function, location,

[1] Hydrologic units (HUCs) are watershed boundaries organized in a nested hierarchy by size from the largest (regions) to the smallest (cataloging units), and can be viewed as the "address" of a particular watershed. Watersheds are spatially located landscape features uniformly mapped for the entire United States at multiple scales. The 6th level HUC is the scale commonly used to determine the potential effects of management activities.

patch size and diversity of forested habitats must be considered in order to properly address wildlife needs.

Units of Measure:

- Total POG, HPOG, and SD67 in acres by WAA, Biogeographic Province (BP), and Game Management Unit 2 (GMU 2);
- Road density in miles per square mile (all roads [open and closed]) by WAA below 1,200 feet;
- Qualitative discussion of deer habitat capability by WAA, BP, and GMU 2;
- Acres of HPOG below 800 feet and acres of all POG below 1500 feet by WAA;
- Percent of the WAA and GMU 2 consisting of POG and older young-growth (50-100 years);
- Distance and connectivity between large and medium Old Growth Reserves (OGRs) and other non-development Land Use Designations (LUDs);
- Road density by WAA;
- Miles of open and closed roads by WAA.

Alternatives Considered in Detail

The Forest Service developed four alternatives, including the No Action and Proposed Action alternatives, in response to issues raised by the public.

Alternative 1: No Action

The no action alternative, required by the National Environmental Policy Act, provides a baseline to measure and compare impacts of the various action alternatives and represents the existing condition in the project area. Under Alternative 1, none of the specific management activities proposed in the DEIS would be implemented to accomplish project goals and objectives. Natural disturbances and current management of the project area would continue as before. Ongoing activities such as recreation, firewood gathering, road and trail maintenance, and other routine forest management activities not associated with this decision would continue at current levels. This alternative does not meet the purpose and need for this project.

Action Alternatives

Alternatives 2, 3, and 4 provide a reasonable range of options for meeting the purpose and need of this project while addressing the issues identified by the public (see above). The list of actions in the "common to all" section in the comparison table below would apply to all action alternatives; actions unique to Alternatives 2, 3, and 4 are described in their respective sections in the table.

Alternative 2 – Proposed Action

The proposed action was designed to meet the purpose and need as stated for the project. It incorporates input from a broad collaborative effort, including comments received in response to the Notice of Intent to publish an EIS and during public meetings. A majority of the suggestions from the Prince of Wales Landscape Assessment Team (a local collaborative group) were included in the alternative.

Alternative 3

Alternative 3 was designed to address public concerns from past management and its' effects to wildlife habitat, watershed function, subsistence opportunities and the spread of invasive plants. It incorporated mitigation measures beyond what is required in the Forest Plan. Alternative 3 has a reduced amount of

old growth that would support local small mills/cottage industry while providing a limited time for larger mills to increase their utilization of young growth or locate another source of old-growth to supplement their timber supply. In addition, alternative 3 addresses high value habitat needs by implementing treatments to maintain or improve wildlife habitat and corridors across the landscape, minimize peak flows, and implementing instream habitat restoration projects. The intent is to limit the effects of harvest, for multiple resources, by staggering the amount of harvest over time, using various harvest prescriptions in both old growth and young growth, and the placement of different types of harvest on the ground. This will be achieved by a combination of contract restrictions, timing of timber contract offerings and dispersal of offers across the landscape. This alternative would emphasize improvements in habitat on NFS lands adjacent to Non-NFS land. This alternative addresses all issues to some degree in its design.

Alternative 4

Alternative 4 was designed to address public comments that requested that we maximize the available productive timber stands for harvest, increase the recreation opportunities for local residents and tourism industry, and improve aquatic habitat by stream restoration and enhancement activities. This alternative would allow young-growth and old-growth timber harvest in 2001 Roadless Rule Inventoried Roadless Areas (IRAs), phase II and III lands identified in the Tongass Timber Program Adaptive Management Strategy, T77 watersheds, and The Nature Conservancy and Audubon Alaska conservation areas. If this alternative were selected, harvest would be deferred until agency rulemaking or an act of Congress modifies our regulations at 36 CFR 294.13(b)(4) (2001) and the 2016 Forest Plan was amended to allow harvest within these areas. This alternative incorporates design criteria to maintain or improve wildlife habitat holistically across the landscape and invasive plant treatments. This alternative addresses all issues to some degree in its design.

Alternatives Considered but Eliminated from Detailed Study

Public comments received in response to the Proposed Action provided suggestions for alternative methods for achieving the purpose and need. Some of these alternatives did not meet the purpose and need or were duplicative of the alternatives considered in detail. Therefore, three alternatives were considered, but eliminated from detailed consideration for reasons summarized below.

1. The interdisciplinary team (IDT) considered an alternative that would:

    - offer no old-growth sales;
    - limit the amount of young-growth offered for sale until it meets culmination of mean annual increment (CMAI) requirements;
    - require all young-growth prescriptions to be uneven-aged management; and
    - maximize watershed restoration, wildlife habitat improvements and recreation opportunities.

    This alternative was eliminated because timber volumes under this alternative would not sustain a local timber industry to meet the purpose and need of this project. It doesn't meet the need for sustainable level of forest products to contribute to the economic viability of Prince of Wales communities and doesn't address the need for young-growth forests to produce future desired resource values, products, services, and forest health conditions that sustain the diversity and productivity of forested ecosystems.

2. The IDT considered an alternative that would:

    - limit old-growth offerings to 5 MMBF annually for small purchasers and cottage industry;
    - only allow uneven-aged management prescriptions in high-value wildlife habitat;
    - allow offerings of 9.2 MMBF annually of young-growth harvest for the first ten years post decision and maximizing offerings as possible using the authorities in the 2016 Forest Plan;
    - decommission some existing low use recreation facilities and focus on maintaining highly used existing facilities; and
    - focus restoration activities on protecting the existing instream investments (Harris River, Sal Creek, 12-mile, Staney Creek, and Luck Creek) and implementing precommercial thinning activities.

    This alternative was eliminated because the young growth, recreation and restoration activities fall within the range of alternatives considered in detail. Alternative 3 has a reduced amount of old growth that would support local small mills/cottage industry while providing a limited time for larger mills to increase their utilization of young growth or locate another source of old-growth to supplement their timber supply. In addition, alternative 3 addresses high value habitat needs by implementing treatments to maintain or improve wildlife habitat and corridors across the landscape, staggering entries to minimize peak flows, and implementing instream habitat restoration projects.

3. The IDT considered an alternative that would:

    - maximize the old-growth offering up to 100 MMBF annually;
    - require even-aged prescriptions to be used where cable or shovel yarding is feasible;
    - reclaim rock from existing roads to build new roads;
    - not allow young-growth offerings until stands meet CMAI requirements;
    - not allow timber stand improvement or timber stand establishment treatments to be implemented;
    - decommission existing low use recreation facilities, focus on maintaining highly used existing facilities, and not construct any new recreation facilities; and
    - not implement any new restoration projects.

    This alternative was eliminated because it does not meet the purpose and need for this project. It doesn't meet the need for young-growth forests to produce future desired resource values, products, services, and forest health conditions that sustain the diversity and productivity of forested ecosystems. Nor does it meet the need for restoration activities in some watersheds to reestablish self-sustaining habitats that promote viable fish, wildlife, and plant populations and the need to expand opportunities for growth in the recreation and tourism business sector. The amount of old-growth volume requested would eliminate all available old growth within 10 years and does not meet the need to provide a sustainable level of forest products to contribute to the economic viability of Prince of Wales communities into the future.

Comparison of Alternatives

This section provides a summary of the effects of implementing each alternative. Information in the table is focused on activities and effects where different levels of effects or outputs can be distinguished quantitatively or qualitatively among alternatives.

Activity	Alternative 1	Alternative 2	Alternative 3	Alternative 4
		Activities Common to all Action Alternatives		
Invasive plant management		To provide flexibility to respond to newly discovered invasive plant infestations, an adaptive management tool called Early Detection Rapid Response (EDRR) is proposed. With this tool, new infestations would be treated using the range of methods and design features described in the alternatives.		
Potential commercial young growth timber stands		Each action alternative would offer varying amounts of young-growth timber from the pool of young-growth stands where commercial timber harvest may occur as allowed by the Forest Plan (See Commercial Vegetation Management Map).		
Potential commercial old growth timber stands		Each action alternative would offer varying amounts of old-growth timber harvest from the pool of old-growth stands where commercial treatments may occur as allowed by the Forest Plan. Alternative 4 considers additional acres of productive old-growth that could be offered if the Forest Plan was amended. (See Commercial Vegetation Management Map).		
Salvage opportunities for wood energy and other products		Salvage opportunities for wood energy and other products may occur as allowed by the Forest Plan. Within Old Growth Habitat LUD, opportunities are limited to within one tree length from a road or landing.		
Connectivity of old growth between Port Protection and Calder Bay		The connectivity of old growth between Port Protection and Calder Bay will be maintained.		
Precommercial thinning of young growth stands		Precommercially treat up to 4,500 acres of young growth stands annually for timber production, wildlife habitat improvement, and/or riparian improvement (See Precommercial Vegetation Management Map). Slash treatments may occur in thinned stands for wildlife habitat improvement.		
Tree planting and interplanting		Tree planting and inter-planting may occur in any post-harvest unit to achieve desired species composition or regeneration requirements.		

Activity	Alternative 1	Alternative 2	Alternative 3	Alternative 4
Cone collection		Cone collection may occur to acquire native seed for tree planting.		
Marine access facilities		Up to 70 sites may be developed or improved for marine access facilities (MAF) within the project area for recreation or timber removal. Developments may include log transfer facilities (LTFs), docks, boat ramps, floats, buoys, anchorages, breakwaters, boat haul outs, and similar improvements and facilities. These sites are not always associated with a road but may be used for a shoreline location such as near a cabin or shelter.		
National Forest System roads		NFS roads may be stored or decommissioned through a travel management analysis during project implementation. All new temporary roads would be decommissioned.		
Fish stream crossing structures		All newly installed fish-stream crossing structures must meet Fish Passage requirements. Existing stream-crossings within the project area that do not allow for fish and aquatic organism passage at all flows, referred to as ‘‘red pipes’’, may be replaced with appropriate structures, removed, or permitted by regulatory agencies (See Red Pipes Map).		
Root wad trees for stream restoration		The harvesting of root wad trees for stream restoration may occur.		
Wildlife trees		Wildlife trees may be created using methods such as blasting, girdling, and fungal inoculation in young-growth stands.		
Restoration of historic surface flows to karst features		Historic surface-water-flow paths may be restored to address past management activities that impeded natural water flows or created unnatural water flows to karst features. For example if a road drainage ditch captures and directs surface flow to a karst feature where it naturally would not have drained, corrections may be taken. These opportunities are not currently mapped and would be identified during field inventory.		
Recreational view improvements		To enhance recreation experiences, view improvements activities may occur at recreation sites, trails or along roads to provide or improve vistas, including timber stand thinning, pruning, or vegetation clearing.		
Canoe and kayak access points		Opportunities for fresh- and saltwater canoe and kayaks access points would be considered, which could include spur trails, roadside pullouts, and shoreline improvements to mitigate bank degradation.		
Activities with Variation between Alternatives				
Activity	Alternative 1	Alternative 2	Alternative 3	Alternative 4
Invasive plant management		• No herbicide would be used to treat invasive plant populations.	• Use an integrated weed management approach, which includes manual treatments	• Same as alternative 3.

Activity	Alternative 1	Alternative 2	Alternative 3	Alternative 4
		• Use manual treatments (e.g., hand pulling and tarping) and mechanical treatments (mowing) to eradicate, control, or contain populations of invasive plants within the project area. This includes lands other than National Forest System lands in the project area to allow for a comprehensive approach to weed management, and enable partnerships with other landowners if funding becomes available through federal grants or other initiatives. The number of acres proposed for treatment is based on the current inventory of invasive plants, 2300 acres of known infestations (See Invasive Plant Management Map), including lands of other ownership. Infestations selected for treatment would be addressed on a yearly basis through an annual treatment plan.	(e.g., hand pulling and tarping), mechanical treatments (mowing), and herbicides (spot and broadcast spraying, and hand/selective applications) to eradicate, control, or contain populations of invasive plants within the project area. • The Forest Service is including lands other than National Forest System lands in the analysis area to allow for a comprehensive approach to weed management, and enable partnerships with other landowners if funding becomes available through federal grants or other initiatives. • The number of acres proposed for treatment is based on the current inventory of invasive plants, 2300 acres of known infestations (See Invasive Plant Management Map), including lands of other ownership. While manual and mechanical treatments may occur on the entire inventory, documented infestations of species that are likely to be targeted with herbicide treatments only	

Activity	Alternative 1	Alternative 2	Alternative 3	Alternative 4
			cover approximately 90 acres within the project area. It is likely that additional undocumented infestations and EDRR sites would occur. Infestations selected for treatment would be addressed on a yearly basis through an annual treatment plan. Risk assessments[2] for herbicides registered by the U.S. EPA for control of invasive plants that are proposed for use have been prepared for the US Forest Service and the National Park Service by independent contractors. These documents will be consulted using the scenarios of high precipitation and low temperatures which represent climatic conditions of the project area, as well as using a "worst case scenario" meaning that the threshold of concern for exposure to the selected herbicides by humans, soil, wildlife, aquatic resources and other plants is set very low.	
Commercial young-growth harvest		Offer a variety of young growth timber sale sizes post decision:	Offer a variety of young growth timber sale sizes post decision:	• Proposed young-growth volume: same as Alternative 3

[2] https://www.fs.fed.us/foresthealth/protecting-forest/integrated-pest-management/pesticide-management/pesticide-risk-assessments.shtml

Activity	Alternative 1	Alternative 2	Alternative 3	Alternative 4
		• Years 4-8 up to an average of 8 million board feet (MMBF) of young growth annually; and • years 9-15 up to an average of 15 MMBF of young growth annually. • In young-growth stands surrounding communities, harvest prescriptions would favor wildlife travel ways (corridors) to benefit subsistence users. Prescriptions that improve wildlife habitat would be used in both young-growth and old-growth stands within a five mile radius of communities to benefit subsistence users.	• Years 1-7 up to an average of 9.2 MMBF of young growth annually; and • years 8-15 up to an average of 25 MMBF of young growth annually. • To provide sufficient deer habitat capability slash treatments may occur in beach buffers, OGRs, and on all south facing slopes below 800 feet in elevation. • In both young-growth and old-growth stands, maintain or improve deer habitat capability in WAAs where sufficient deer habitat capability does not exist.	• In both young-growth and old-growth stands, maintain or improve deer habitat capability in WAAs where sufficient deer habitat capability does not exist. • About 75,000 additional acres of potential stands located in inventoried roadless areas, phase II and III lands, T77 watersheds, and The Nature Conservancy and Audubon Alaska conservation areas would be suitable for harvest (See Commercial Vegetation Management Map). • Slash treatments are limited to precommercially thin stands that were thinned for wildlife habitat improvement.
Commercial old-growth timber harvest		Offer a variety of old growth timber sale sizes post decision: • Years 1-5 up to an average of 25 MMBF of old growth annually; • years 6-10 up to an average of 15 MMBF of old growth annually; and • years 11-15 evaluate the remaining amount of old growth available.	Offer a variety of old growth timber sale sizes post decision: • Years 1-5 up to 10 MMBF of old growth annually; • years 6-10 up to 8 MMBF of old growth annually; and • years 11-15 up to 5 MMBF of old growth annually. • At the north end of POW Island, in an area bounded by the national forest system road (NFSR) 2000000 to the south, saltwater to the north,	Offer a variety of old growth timber sale sizes post decision: • Years 1-5 up to an average of 50 MMBF of old growth annually; • years 6-10 up to an average of 30 MMBF of old growth annually; and • years 11-15 up to an average of 15 MMBF of old growth annually. • Set aside harvestable old-growth timber volume for years 16-25 post-decision, until

Activity	Alternative 1	Alternative 2	Alternative 3	Alternative 4
			the communities of Point Baker and Port Protection to the west, and western shoreline of Red Bay to the east, old-growth stands would only be harvested as part of sales of less than 3 MMBF (See Commercial Vegetation Management Map).	young-growth volume availability increases to more sufficient levels. • Assumption: volume equal to an average of 2 MMBF/yr x 10 yrs = 20 MMBF, from stands identified for potential harvest.
Old growth small sales strategy		An old-growth small sales strategy has been developed to address concerns raised through public comment. The strategy would ensure economical old-growth timber is available for small operators within the project area. It would also ensure old growth timber is available for small operators beyond the 15-year time line of this project, or until sufficient young-growth timber is available to supplement their volume needs. For each sale over 3 MMBF, an area equal to 25 percent of that planned harvest acreage must be identified and set aside from the remaining potential project old-growth timber stands. Acreage to be designed for small sales should meet the following criteria: Generally located near an existing or planned road, attached to the	Old-growth small sale strategy: Same as Alternative 2 except, for each sale over 3 MMBF, an area equal to 100 percent of that planned harvest acreage must be identified and set aside from the remaining potential project old-growth timber stands.	No old-growth small sale strategy developed for this alternative.

Activity	Alternative 1	Alternative 2	Alternative 3	Alternative 4
		road system on POW and Kosciusko Islands. Contain green timber with volume, species composition, and economic viability suitable for small operators. Compatible with yarding systems in use by and available to small operators, generally ground based and short span cable systems. Offerings generally are less than 3MMBF per offer and strive to meet the harvest and milling capacities of small operators. Assumptions: A minimum annual average of 2 MMBF of old-growth timber is needed for small operators within the project area for 25 years. From years 11-15 the maximum annual average of 10MMBF would be offered.		
Peak Flow Rates		To minimize increases to peak flow rates the following thresholds (based on Grant et al 2008) could be exceeded but are recommended: • Harvest of old growth or young growth within a 6th level HUC watershed (See Watershed Map) with harvest elevations less than 800 feet, with less than 2 percent of its area covered by	Same as alternative 2 except the thresholds would be implemented instead of optional.	Same as alternative 2 except only recommended for T77 watersheds and The Nature Conservancy and Audubon Alaska conservation areas.

Activity	Alternative 1	Alternative 2	Alternative 3	Alternative 4
		roads should not exceed a 45 percent watershed harvest area over a 30 year period. • Harvest within a 6th level HUC watershed with harvest elevations less than 800 feet, with greater than 2 percent of its area covered by roads should not exceed a 29 percent watershed harvest area over a 30 year period. • Harvest within a 6th level HUC watershed with harvest elevations greater than 800 feet, with less than 2 percent of its area covered by roads should not exceed a 20 percent watershed harvest area over a 30 year period. • Harvest within a 6th level HUC watershed with harvest elevations greater than 800 feet, with greater than 2 percent of its area covered by roads should be avoided to minimize effects. • Stagger entries when past management is approaching the 30 year threshold (i.e. maintain threshold percentages by limiting harvest younger than 30 years).		
Stream restoration		Conduct stream restoration activities on up to 200 miles of	Same as alternative 2 except conduct about 80 miles of	Same as alternative 2.

Activity	Alternative 1	Alternative 2	Alternative 3	Alternative 4
		stream within the project area in any watershed identified as having need to restore proper functioning condition. The Forest Service is including watersheds that have both NFS and non-NFS lands in the analysis area to allow for a comprehensive approach to stream and floodplain restoration, and enable partnerships with other landowners if funding becomes available to communities through federal grants or initiatives.	stream restoration activities only within watersheds which become prioritized based on amount of past management and public need.	
Fish habitat improvements		Consider fish habitat improvements such as lake fertilization, egg incubation boxes and barrier modifications for fresh water systems that have shown a decrease in fish population or have potential for increased habitat.	Only consider improvements such as barrier modifications.	Same as alternative 2
Incorporation of recommendations made by the Interagency Wolf Task Committee		Treat young-growth stands to increase deer forage and maintain or improve corridors to facilitate movement. Slash treatments may accompany thinning activities. Aim to treat young growth before stem exclusion.	Deer Habitat • Younger Young Growth (0-25 years): • Aim to thin all young growth prior to about 25 years post-harvest in medium to high productive stands. • Leave untreated or unthinned strips (leave strips) to provide elevational movement corridors for wildlife.	Deer Habitat • Younger Young Growth (0-25 years): same as alternative 3. • Young Growth (26-60 years): same as alternative 3 except only within beach buffer and OGRs for incorporating leave strips and treatments to reduce or abate effects of slash on deer mobility.

Activity	Alternative 1	Alternative 2	Alternative 3	Alternative 4
			• Promote/maintain red and yellow cedar through thinning and planting if needed. Young Growth (26-60 years) • Incorporate leave strips that provide elevational movement corridors for deer to maintain or enhance connectivity between higher and lower elevations. Use 400 feet as a guide to space travel corridors within thinning treatments in the absence of existing routes, terrain features, or other habitat connectivity drivers. • Consider a variety of treatment combinations to create deer forage and movement corridors (See Appendix B). • Reduce or abate effects of slash on deer mobility in treated stands. • Older Young Growth (Commercial age >60 years) • Without compromising continued succession towards old-growth conditions, design treatments that provide understory deer forage and reduce effects of stem exclusion and slash to support long-term deer habitat.	• Older Young Growth (Commercial age >60 years): same as alternative 3. Wolf Den: same as alternative 3 except the 330 foot buffers on major lakes and streams would not be implemented. Use a mean buffer of 1,090 feet in radius (about 332 meters) for reproductive wolves at den sites as suggested in Preliminary Wolf Buffer Analysis (ADF&G 18 Oct 2017) Road Density: same as alternative 3.

Activity	Alternative 1	Alternative 2	Alternative 3	Alternative 4
			Treatments could include variable-density thinning, thinning favoring dominant trees, creating small gaps and narrow openings, and pruning. • Incorporate leave strips of intact canopy, especially along ridgelines, to promote elevational movements during severe winters and minimize distance between deer and foraging opportunities across the landscape. • Consider vulnerability to predation when designing sizes and shapes of multi-age-class-rotational configurations, decreasing deer vulnerability on flatter slopes by creating smaller and more dispersed treatments (See Appendix B). Wolf Den • Protect the integrity of known wolf dens (active and inactive) with noncircular polygons (buffers) generally centered around the den with consultation with Alaska Department of Fish and Game (ADF&G) and the United States Fish and Wildlife Service (USFWS).	

Activity	Alternative 1	Alternative 2	Alternative 3	Alternative 4
			• Retain roadless, gently sloping (< 14 degrees) old-growth forest within 330 feet of major lakes and streams to preserve denning habitat and den-site options for wolves. • In Legacy Value Comparison Units (VCUs) retain acres to create large buffers along major lakes and streams. See legacy standard and guideline in Forest Plan. • Use a mean buffer of 2,400 feet in radius (about 0.5 miles) for reproductive wolves at den sites as suggested in Preliminary Wolf Buffer Analysis (ADF&G 18 Oct 2017) Road Density • During implementation, prioritize roads for closure based on wolf harvest vulnerabilities. Focus road closures in areas to benefit wolves.	
Old growth reserves (OGRs)		Review and reconfigure small OGRs that do not meet the 2016 Forest Plan Appendix K direction.	Same as Alternative 2.	Reconfigure OGRs that do not meet Forest Plan direction. Adopt interagency configuration for small OGRs that do not currently meet the 2016 Forest Plan minimum requirements. This would require a Forest Plan amendment.

Activity	Alternative 1	Alternative 2	Alternative 3	Alternative 4
Recreation infrastructure	Maintain established and regularly used recreation infrastructure.	• Develop recreation infrastructure in areas identified by the public (See Appendix A), and that are accessible by road or boat. Recreation infrastructure inventory may increase or be realigned to provide recreation opportunities in areas with road or boat based access and potential for higher use and decrease infrastructure in those areas with difficult access and limited use. Improvements at existing and newly developed recreation sites would be implemented to improve recreation opportunities. Development of infrastructure (e.g., outhouses, structures, trails) must consider maintenance needs and limitations of available and foreseeable program resources (See Sustainable Recreation Management Map). • Decommissioning recreation facilities could occur; facilities considered for decommissioning may be evaluated by level of use comparatively against other POW district infrastructure, ease of access, and maintenance requirements. To maintain	• Some recreation infrastructure and sites where the amount of use does not justify the maintenance cost would be decommissioned. Facilities considered for decommissioning will be evaluated by level of use comparatively against other POW district infrastructure, ease of access, and maintenance requirements. The emphasis is on reducing the recreation infrastructure inventory. • Develop new sites to realign and improve recreation and tourism opportunities. Development should not exceed the current inventory. New sites would be accessible by road or boat. • New recreation sites design would require less program investment and maintenance commitment. Develop or improve sites to reduce maintenance requirements; for example, shift from weekly/monthly (in season) and annual maintenance schedule to a biennial or as needed maintenance program.	• Maintain existing recreation infrastructure regardless of use levels and maintenance costs. • Maximize the development and realignment of, and improvement on, recreation infrastructure. • Consideration would be given to sustainability, but would concentrate on increasing recreation and tourism opportunities.

Activity	Alternative 1	Alternative 2	Alternative 3	Alternative 4
		inventory levels, may develop new facilities in lieu of decommissioned sites. Maintain and improve existing infrastructure.	This shift could be achieved through limiting the amenities provided such as outhouses and trash receptacles, and the use of durable materials and construction methods.	
Interpretive and informational signs	No new interpretive or informational signs.	Interpretative and informational signs would be associated with recreation infrastructure and along roads and trails.	Informational signs would be associated with existing or new recreation sites.	Same as alternative 2.
Trail Management	Maintenance would continue on existing trails; including cabin trails.	• Maintenance would continue on existing trails. • Improve regularly used trails if a need is identified. • Up to five new trails may be developed. Spur trails to recreation structures may be developed.	• Only trails with enough use to justify the cost of maintenance would be improved. • No new trails would be developed. • Use levels would be based on public input and district staff experience.	• Maintenance would continue on existing trails. • Improvements would be made to existing trails. • Five or more new trails would be developed. • Spur trails to structures would be developed.
Road to trail conversions		Consider road-to-trail conversions.	Road to trail conversions would be minimal and limited to routes with documented public support indicating the potential for high use and district staff knowledge.	Same as alternative 2 except consideration would be given to maximize conversions.
Winter sport access and warming huts		Up to eight winter sport access points and areas would be developed for over-the-snow vehicle use (See Sustainable Recreation Management Map). This may include pullouts, 60 foot-wide vegetation clearings providing access to sub-alpine/alpine locations, and warming huts.	Only winter sport access points and areas with documented public support indicating the potential for high use would be developed for over-the-snow recreation. Selection of sites would be based on public input. Development would include pullouts and standard OHV	Eight winter sport access points and areas would be developed for over-the-snow vehicle use. This includes pullouts, 60 foot-wide vegetation clearings providing access to sub-alpine/alpine locations, and warming huts.

Activity	Alternative 1	Alternative 2	Alternative 3	Alternative 4
			width trails to sub-alpine/alpine elevations.	
Outhouses		Consider outhouse development for all existing and proposed recreation facilities. Install outhouses based on anticipated use levels and maintenance requirements. Maintenance must be sustainable with available and foreseeable program resources.	Outhouse development would be limited to vault toilets at existing road accessible locations.	Outhouses would be installed for all existing and proposed developed recreation sites. Outhouses maintenance must be sustainable through program resources. Would include pit, burn, or vault toilets.
Campgrounds and campsites		Develop three campgrounds: Hydaburg, El Capitan, and Luck Lake. Decommission Harris River campground in exchange for developing the campground at El Capitan.	• Selection of campgrounds or campsites would be limited by maintenance costs to program resources and projected use levels. • The Harris River campground would be decommissioned. • Up to 12 proposed semi-developed sites could be established. These sites would be developed with a tent platform/pad, picnic table, and fire ring. Site selection would be based on road or boat accessibility.	Three campgrounds would be developed at the following locations: Hydaburg, El Cap, and Luck Lake. Harris River campground would not be decommissioned.
Cabins and shelters		About 3 cabins and 12 shelters may be developed that are boat or road accessible.	No new cabins or shelters would be developed.	Up to 3 cabins and 12 shelters would be developed that are boat or road accessible. Consideration would be given to additional locations to maximize recreation and tourism opportunities.

Activity	Alternative 1	Alternative 2	Alternative 3	Alternative 4
Cabin decommissioning		Cabins may be decommissioned. Cabins selected for decommissioning could be replaced with a cabin in a more accessible location, with potential for higher use; no net loss of cabins.	Cabins would be decommissioned where the amount of use does not justify the maintenance cost.	No cabins would be decommissioned.
		•		
Log transfer facilities		About 15 existing LTFs may be used and about 6 new LTFs may be constructed.	Same as Alternative 2.	About 21 existing LTFs may be used and about 22 new LTFs may be constructed.
Transportation management		All existing roads may be used to implement proposed activities. • About 90 miles of new NFS road construction may occur. • About 250 miles of new temporary road construction may occur.	Similar to alternative 2 total road miles, but will have more roads associated with young-growth commercial treatments than for old-growth harvest.	• All existing roads may be used to implement proposed activities. • About 570 miles of new NFS road construction may occur. • About 450 miles of new temporary road construction may occur.
Prescribed burning for wildlife habitat improvement		No prescribed burning.	Prescribed burning may be implemented to promote long-term sustained deer forage. Burning would be limited to south facing slopes less than 800 feet in elevation. The proposed blocks of burning would average less than 10 acres in size.	Prescribed burning: same as alternative 3 except would not be limit to south facing slopes less than 800 feet.
Forest Plan amendment to karst standards and guidelines	No Forest Plan amendment for karst S&Gs	No Forest Plan amendment for karst S&Gs	No Forest Plan amendment for karst S&Gs	In the 2016 Forest Plan, karst management guidelines were developed for young-growth management that limited harvest on moderate vulnerability lands. The current guidelines state that

Activity	Alternative 1	Alternative 2	Alternative 3	Alternative 4
				on lands identified as moderate vulnerability karst (See Appendix H of the 2016 Forest Plan), the maximum size of any created opening for commercial timber harvest must not exceed 10 acres with a maximum removal of 35 percent of the acres of the original harvested stand. The 2016 Forest Plan would be amended to re-write the Standards and Guidelines to allow for the Karst Vulnerability Assessment to guide the management of the moderate vulnerability second growth karstlands.
New telecommunication sites	No new telecommunication sites considered.	No new telecommunication sites considered.	No new telecommunication sites considered.	New Telecommunication sites would be considered. Additions would require a Forest Plan amendment.