9. Biodiversity Ecosystem: Old-Growth Associated Species

Goal: Maintain healthy forest ecosystems by maintaining a mix of habitats at different spatial scales capable of supporting the full range of naturally occurring flora, fauna, and ecological processes native to Southeast Alaska.

Objective: Maintain a Forest-wide system of old-growth forest habitat to sustain old-growth-associated species and resources.

Background: An integrated old-growth conservation strategy was developed to protect and maintain old-growth habitat. This strategy was incorporated into the 1997 Tongass National Forest Land and Resource Management Plan (Forest Plan) and was reviewed, revised, and incorporated into the 2008 Forest Plan. The conservation strategy includes two major components. First is the system of large, medium, and small old-growth reserves well distributed throughout the Tongass. This system of reserves is made up of areas allocated to the old-growth habitat land use designation, plus lands in all the rest of the non-development land use designations, which essentially maintain the integrity of the old-growth system. This component provides adequate habitat for old-growth-dependent or associated species, and provides for connectivity between reserves in order to prevent genetic isolation of populations. In response to concerns for small island endemic taxa, the Forest Plan also protects all islands less than 1,000 acres from additional harvest of old-growth forest (USDA Forest Service 2008c, page D-10).

The second major element of the conservation strategy is a series of standards and guidelines applicable to those portions of the Tongass open to consideration for potential timber harvest (referred to as the matrix). The matrix includes lands designated as experimental forest, modified landscape, scenic viewshed and timber production land use designations and sometimes excludes the recreational river land use designation. Within the matrix, components of the old-growth ecosystem are maintained by standards and guidelines to protect important areas and provide old-growth forest habitat connectivity. This component includes beach and estuary fringe, riparian buffers, and other Forest-wide standards and guidelines that preclude or significantly limit timber harvest in areas of high hazard soils, steep slopes, karst terrain, visually sensitive travel routes and use areas, and in timber stands technically not feasible to harvest. It also includes a number of species-specific standards and guidelines such as raptor nest and wolf den protection areas (USDA Forest Service 2008b, page D-10).

During the 2008 Forest Plan amendment process, a comprehensive review and mapping effort was completed for the small old-growth reserves. This review focused primarily on small old-growth reserves because they received differing levels of review during the development of the 1997 Forest Plan. The large and medium old-growth reserves were generally not reviewed because they received a rigorous review and were designed to meet reserve strategy objectives (USDA Forest Service 1997, page 3-82) and few modifications were anticipated. The total acres of old-growth land use designations were increased by 38,749 acres from the 1997 Forest Plan to the 2008 Forest Plan (USDA Forest Service 2008c, page D-29). In addition, old-growth reserve locations were finalized for all but 13 old-growth reserves (identified in Appendix K of the 2008 Forest Plan). Old-growth reserve locations are not expected to change unless they meet the limited circumstances described in Appendix K of the 2008 Forest Plan.

Pursuant to Forest Plan Appendix K, old-growth reserve boundary changes proposed at the project level require an interagency team of USDA Forest Service, U.S. Fish and Wildlife Service (USFWS), and Alaska Department of Fish and Game (ADF&G) biologist to jointly evaluate the location and habitat composition of old-growth reserves. The interagency review team is to develop a biologically preferred location for old-growth reserves that meets Forest Plan criteria and document why other proposals are not recommended. Management prescriptions for the old-growth habitat land use designations (Forest Plan, page 3-62, WILD B.2) indicate that “Reserve location, composition, and size may otherwise also be adjusted. Modified OGRs must provide a comparable achievement of the Old-growth Habitat LUD goals and objectives. Determination as to comparability must consider the criteria in Appendix K.” Thus, the

primary direction for evaluating the capability of a modified old-growth reserve to provide a comparable achievement is contained in the old-growth habitat land use designation goals and objectives and Appendix K of the Forest Plan. Appendix K further references Appendix D of the Forest Plan FEIS.

Biodiversity Ecosystem Question: *Is the old-growth habitat protected under the Forest Plan being maintained to support viable and well-distributed populations of old-growth-associated species and subspecies?*

Evaluation Criteria

The maintenance of old-growth habitat and assessment of its support to viable and well-distributed populations of old-growth associated species and subspecies will be determined by assessing changes in the total acres and acres of productive old-growth forest in the system of large, medium, and small habitat reserves (including old-growth habitat and other non-development land use designations). This assessment will be completed by reviewing project-level environmental documents and Forest Plan amendments for their effects on the spatial distribution, size, and composition of old-growth habitat reserves compared to those designated in the 2008 Forest Plan.

The 2008 Forest Plan designates 79 percent of the land use designations as non-development (Table 1). Of this, 1,221,173 acres are old-growth land use designation (USDA Forest Service 2008c, page D-29). National Forest System lands total 16,773,804 acres.

Biodiversity Ecosystem Table 1. Land use designations for national forest system lands from the 2008 Forest Plan

Non-development land use designations (13,324,832 acres)		**Development land use designations (3,448,972)**	
Wilderness/Non Development (5,916,026 acres)	Natural Setting/Non Development (7,408,806 acres)	Development (3,448,972 acres)	Development Overlay Group 3[1] (249,570 acres)
Wilderness Wilderness National Monument Non-wilderness National Monument	Land use designations II Remote Recreation Semi-Remote Recreation Old-growth Habitat Enacted Municipal Watershed Research Natural Area Special Interest Area Wild River Scenic River Recreational River	Experimental Forest Modified Landscape Scenic Viewshed Timber Production	Minerals Transportation & Utility Systems

[1]The two land use designations in this group are always overlay land use designations. Areas allocated to these land use designations are managed according to the underlying land use designations until such time that mineral or transportation/utility development is approved, if at all. The Minerals overlay land use designation has an area (249,570 acres) associated with it; no acreages are calculated for the Transportation and Utility System land use designations because it is defined as a series of corridors of undefined width and imprecise locations.

Source: USDA (2008a, page 3-2).

Monitoring Results

A non-significant Forest Plan Amendment was included in the Big Thorne Project Record of Decision for modification of the small old-growth reserves (OGRs) in the following VCUs: 5790, 5800, 5810, 5820, 5830, 5850, and 5950. The net result of these changes to the spatial distribution, size, and composition of the Old-Growth Habitat Land Use Designation (LUD) in these seven VCUs is an increase of 645 acres to

the OGR system, as well as an increase of 107 acres of POG (USDA Forest Service 2014) (see Table 2). Road miles and young-growth acres within the boundaries of the OGRs were reduced. The amount of POG, including large-tree and low elevation POG, interior forest acres, goshawk and marbled murrelet nesting habitat, and deer and marten winter habitat was reduced in some OGRs. All modified VCUs meet the criteria established by Appendix K of the 2008 Forest Plan and provide comparable achievement of the goals and objectives of the Old-Growth Habitat LUD. Changes were evaluated against factors established in Forest Service Manual and Forest Service Handbook direction to determine if the changes constituted a "significant amendment" (Appendix 3 of the Big Thorne ROD).

Biodiversity Ecosystem Table 2. Small Old-Growth Habitat LUD changes from the 2008 Forest Plan

VCU	Total	Change from existing	POG	Change from existing	Young growth	Change from existing	Total Road Miles	Change from existing
5790	2,740 ac	- 5 ac	867 ac	- 5 ac	128 ac	0 ac	3.1 mi	0 mi
5800	3,363 ac	+246 ac	1,711 ac	+117 ac	209 ac	-70 ac	4.1 mi	-1.3 mi
5810	3,363 ac	-386 ac	2,039 ac	-232 ac	101 ac	-81 ac	3.2 mi	-3.2 mi
5820	1,151 ac	+386 ac	887 ac	+299 ac	0 ac	0 ac	0 mi	0 mi
5830	2,368 ac	+329 ac	1,019 ac	+74 ac	590 ac	-69 ac	7.2 mi	-0.9 mi
5850	1,681 ac	-225 ac	875 ac	-174 ac	15 ac	-8 ac	1.8 mi	-2.3 mi
5950	2,593 ac	+300 ac	1,433 ac	+28 ac	203 ac	-64 ac	2.5 mi	-1.1 mi
TOTAL	**17,259 ac**	**+645 ac**	**8,831 ac**	**+107 ac**	**1,246 ac**	**-292 ac**	**21.9 mi**	**-8.8 mi**

Evaluation of Results

Old-growth habitat protected under the Forest Plan has been maintained in the system of small, medium, and large old-growth reserves. According to the analysis in the 2008 Forest Plan FEIS, this along with implementation of the standards and guidelines for protecting old-growth in the matrix continues to support viable and well-distributed populations of old-growth associated species and subspecies. The conservation strategy as implemented in the 2008 Forest Plan provides a sufficient amount and distribution of habitat to maintain viable populations of old-growth associated species after 100 years of plan implementation. Although this does not represent a "no risk" conservation strategy, it represents a balance of wildlife conservation measure that considers the best available scientific information and reflects an acceptable level of risk for continued species viability (USDA Forest Service 2008c, page D-17).

The changes that occurred as a result of the Big Thorne ROD continue to meet the minimum Forest Plan acreage requirements, meet Old-Growth Habitat goals and objectives outlined in the Forest Plan, and are consistent with direction in Appendix K of the Forest Plan. Overall acreage of the reserve system has been increased by 645 acres, a very minor portion of the overall Tongass-wide conservation strategy acreage (change of less than one tenth of one percent of the Tongass National Forest).

Action Plans

New information does not support any changes to the Forest Plan conservation strategy at this time. Action plan items include:

- Continue to detail descriptions of change in old-growth reserves and associated rationale in project-level National Environmental Policy Act documents.
- When changes in old-growth reserves occur, every 5 years, assess the changes in forest structure (using the size density map) and distribution of the small, medium, and large old-growth reserves

(including non-development land use designations) to monitor reserve function at the biogeographic province or island scale. Focus on landscapes within phase one areas of the Timber Sale Program Adaptive Management Strategy (i.e., Prince of Wales Island, Wrangell Island, etc.).

Citations

USDA Forest Service. 2014. Big Thorne Project. Record of Decision. Management Bulletin. R10-MB-736e. Thorne Bay, AK: USDA Forest Service, Alaska Region, Tongass National Forest, Thorne Bay Ranger District.

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