Saddle Lakes Timber Sale

Scenery Resource Report (Draft)

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for:
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Introduction

This report will use the Scenery Management System (SMS) to assess the environmental impacts to scenery that are likely to occur for the Saddle Lakes Timber Sale. The Scenery Management System provides a "vocabulary for managing scenery and a systematic approach for determining the relative value and importance of scenery in a national forest" (USDA 1995, Abstract). Using this vocabulary and approach, this report will look at the existing, desired, and future conditions of the scenery within the project area, and compare the effects of each proposed alternative to each other and to the objectives stated within the Forest Plan. The intent of this report is to disclose the effects of the project to the scenery of the area, as well as to provide the responsible official with sufficient information regarding scenery to make a decision as to how the project should proceed.

Project Location

The Saddle Lakes project area is located in the center of Revillagigedo Island, between George and Carroll Inlets, 14 miles northeast of Ketchikan, Alaska. Access is currently by boat or float plane. Alaska Department of Transportation (ADOT) has secured the funding for the Ketchikan to Shelter Cove State Highway, which will connect the project area to the community of Ketchikan once constructed. Much of the project area is roaded due to previous timber harvest. Much of the area within and surrounding the project area has seen previous timber harvesting and road construction, and is no longer a naturally appearing landscape.

Overview of Issues Addressed

The identified issues and concerns relevant to scenery resources within the Saddle Lakes Project area were developed based on internal review and public scoping comments. The primary issues/concerns surrounding scenery resources are related to the potential changes in scenery viewed from Visual Priority Routes (VPRs) and Use Areas and whether the Scenic Integrity Objectives (SIO), as defined in the Forest Plan, will be met while meeting the desired levels of timber production.

This project has several proposed alternatives that do meet the existing scenery standards and guidelines of the current Forest Plan. In order to make Alternatives 4, 5, and 6 consistent with the requirements of the Forest Plan, the Saddle Lakes Interdisciplinary Team (IDT) believes a Forest Plan amendment would be necessary to remove the VPRs. By removing VPRs in Alternatives 4, 5, and 6, the assigned Scenic Integrity Objectives (SIOs) of the area are lowered, enabling more activity to occur. This report will assume the recommended amendments will be enacted, and will examine the alternatives in relation to both the existing and revised SIOs. This report will also describe the impacts that the removal of VPRs will have to future planning for the larger area, that of the George and Carroll Inlets viewsheds.

Issue Indicators

Issue 3 in Chapter 2 of the DEIS outlines the concerns to Scenery:

Issue Statement: Timber harvest and road construction could affect the scenery and recreational opportunities in the Saddle Lakes project area.

Internal concerns were expressed regarding the effects that timber harvest would have on areas visible from Visual Priority Routes and Use Areas (VPRs). The five VPRs in and adjacent to the project area include: Saddle Lakes Recreation Area, Harriet Hunt to Shelter Cove Connection

Road (hereafter referred to as the Connection Road), Shelter Cove Boat Ramp, Carroll Inlet, and George Inlet. Changes to recreational opportunities may occur because of road construction and timber harvest. Changes to recreational opportunities may occur as a result of road construction and timber harvest, and are discussed in the recreation section.

The units of measure to compare alternatives include:

- Acres of timber harvest by silvicultural prescription within areas of High and Moderate Scenic Integrity Objective (SIO);
- Miles of road construction within project areas of High and Moderate SIO;
- Acres of timber harvest by silvicultural prescription within the planned Saddle Lakes Recreation Area viewshed; and
- Project Area acres that will change SIO if Visual Priority Routes (VPRs) are removed.

The units of measure may also include a qualitative discussion of an alternative's effect on the scenery in the project area.

Methodology

Determining or predicting both acceptable and unacceptable levels of scenery impacts due to timber harvest is a complex process because many key variables must be considered. Examples of these variables include: the harvest method and logging systems used; the type of activities in which a viewer at the site might be engaged; the viewing distances involved; the physical attributes of the fore, middle, and background scenes; and view angles and direction.

Developing a system to quantify a resource that is hard to measure, such as scenery, has been a challenge to land management agencies. While the land and its characteristics are fairly constant, it is the perceptions of people and society that brings value to the scenery. To aid in understanding the Forest Service-developed Scenery Management System (SMS), the following diagram (Figure 1) was developed to use as a reference during the reading of this resource report.

Scenery effects were considered in the design of project alternatives. Initial GIS analysis showed areas where the existing SIO would likely conflict with the harvest goals. Alternatives were developed that dropped and modified units to stay within the existing SIOs, and the IDT discussed what changes to Forest Plan direction would have to be made to accommodate an increase of harvest activities in other alternatives. In addressing the significant issues, several alternatives were developed that would require a Forest Plan amendment to ensure consistency with the Scenery standard and guidelines. Site visits in 2011 and 2012 supported the initial GIS Distance Zone and Visibility analysis. After initial design, project activities were reviewed again against a more thorough GIS analysis for this report.

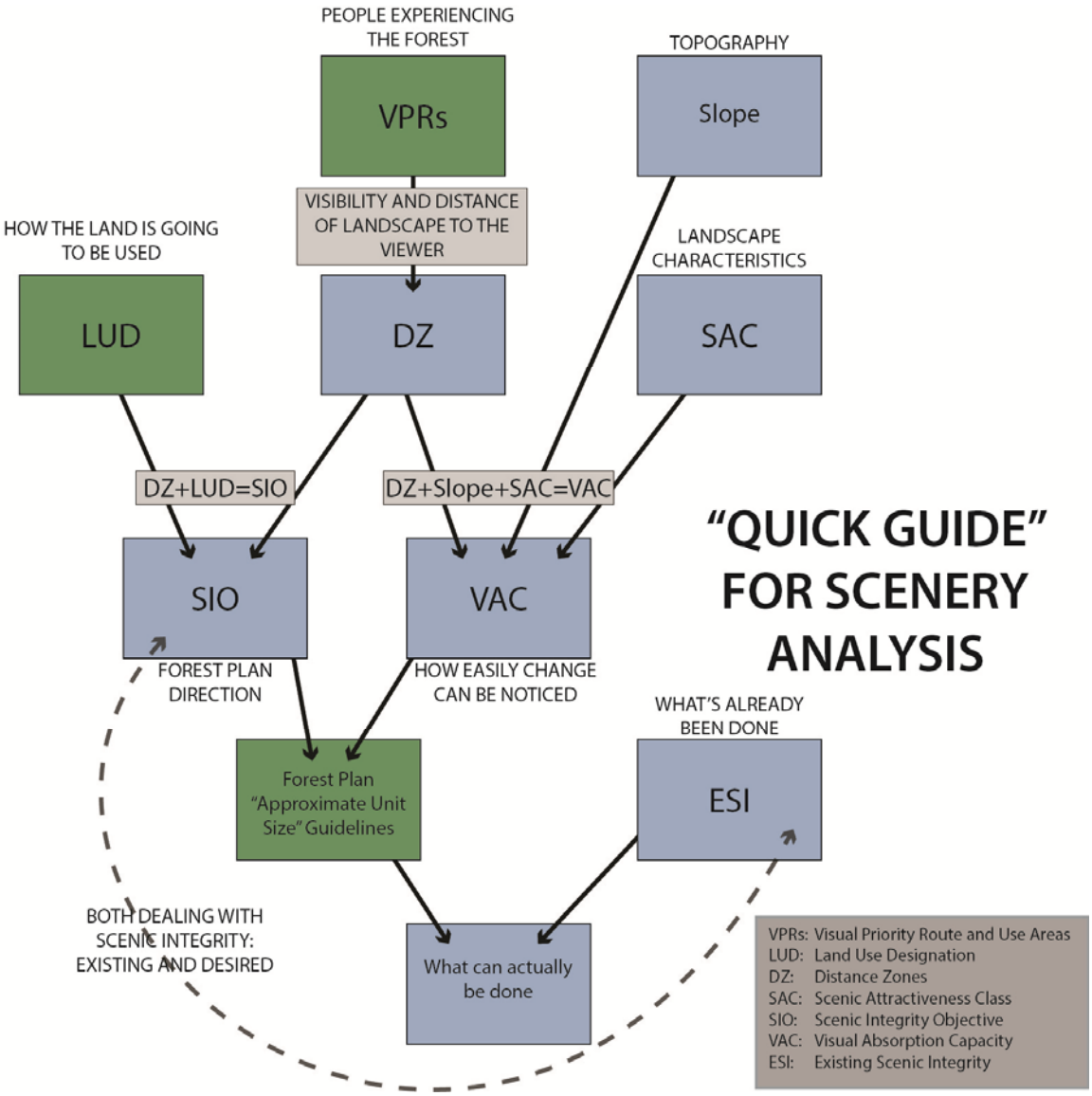

Figure 1. Scenery Management System (SMS) Diagram

The analysis:

- Evaluates whether the SIOs established by the Forest Plan for each alternative are met.
- Considers the future scenery integrity that would result from implementing the proposed action or one of the alternatives.
- Analyzes the cumulative effects on scenery.
- Considers recommendations for any mitigation, enhancement, and monitoring deemed necessary.

Spatial information used for the study is based on the most current and accurate Geographic Information System (GIS) information available.

Available Information and Assumptions:

Much of the data in this report were generated from several Tongass "corporate" GIS layers that were existing prior to the start of the project. Layers that were used as a basis for the creation of others were: the digital elevation model (DEM), mapped locations of VPRs that have been on file since before 2008, and Land Use Designation (LUD) maps. While the Tongass has layers created for Distance Zone, Scenic Integrity Objectives, and VAC, these layers were not used for this project. The reason these layers were not used was that they were found to not include the VPRs listed in the 2008 Forest Plan (USDA FS 2008b, F-23) as "Planned." As these three VPRs (Saddle Lakes Recreation Area, Shelter Cove Boat Ramp, and Harriet Hunt-Shelter Cove Connection Road) are included in the Forest Plan (Appendix F), it was assumed that they were intended to be treated as VPRs, just like any other. There are many unbuilt "opportunities" in every District, but none are included in the Forest Plan, so while some members of the IDT felt they should not be treated as a VPR until after they are built, the overall consensus of the IDT was that their inclusion in the Forest Plan conveyed the intention that the scenic analysis should treat them as existing for the purpose of project planning. Therefore, while these three VPRs are not currently used to the extent that many VPRs may be, they are treated in this analysis as if they were.

Therefore, the layers for the existing DZ, SIO, and VAC were created specifically for this project. The parameters to create them were the same used for the layers found in the Tongass corporate database. In addition, the same layers were created for Alts 4, 5 and 6, which all include different combinations of VPRs.

It should be noted that scenic analysis and the assessment of the visual landscape is not an exact science with borders between areas of different categories more transitional than discrete. The numbers used to compare alternatives and convey the effects, are more relational than precise.

Several assumptions were made during the design of the alternatives, to aid in the design and to keep a consistent analysis for each alternative. They are:

- The silvicultural prescription of UA33 (Single-tree Selection and Group Selection (up to 33% removal) will meet High SIO. There should be no visible evidence of harvest using this method.

Guidance

The direction for complying with scenery objectives for this project is found in the following agency publications:

> Land and Resource Management Plan, Tongass National Forest (USDA Forest Service 2008)
>
> Landscape Aesthetics, Scenery Management System (USDA Agricultural Handbook 701)
>
> National Forest Landscape Management Volume 2, Chapter 5, Timber
>
> Forest Service Manual 2300, Chapter 2380 Landscape Management

References used in the body of this document are cited in text and listed in the bibliography.

Regulatory Framework

Management activities on National Forest System (NFS) lands are required to comply with the Tongass Land and Resource Management Plan (Forest Plan) and Federal and State laws. Relevant standards and regulations intended to protect recreation resources are addressed in the following subsections.

Tongass Land and Resource Management Plan

The Forest Plan is the governing document for management activities that take place within the Tongass National Forest (USDA Forest Service 2008a). It consists of three parts that work together to facilitate the development of management activities. These parts include: forest goals and desired objectives for resources; the management prescriptions for each of the 19 land use designations (LUDs); and the Forest-wide Standards and Guidelines, which apply to all or most areas of the Forest and provide for the protection and management of forest resources.

In the LUDs suitable for timber harvest where land-disturbing activities are proposed (Timber Production, Modified Landscape, and Scenic Viewshed), the applicable Forest Plan scenery standards and guidelines would be applied as a measure of effect to the scenic environment..

The degree of acceptable alteration to the landscape is defined in terms of SIO's. The objectives are based on the desired future condition of each LUD and the degree of visibility of these landscapes from identified VPRs listed in Appendix F of the Forest Plan.

Other Laws, Policies, and Relevant Direction

National Environmental Policy Act

The National Environmental Policy Act (NEPA) of 1969, as amended (P.L. 91-190, 42 U.S.C. 4321-4347, January 1, 1970) is a United States law that establishes national policy for the environment, and the President's Council on Environmental Quality (CEQ) and for other purposes. The NEPA strives to assure for all Americans, "aesthetically and culturally pleasing surroundings" and to apply "the environmental design arts" in planning and decision-making. NEPA's most significant effect was to set up procedural requirements for all federal government agencies to prepare environmental documents to disclose the environmental effects of proposed federal agency actions. The mention in NEPA of aesthetics as a resource to be considered along with all other resources is the basis for development and application of the Scenery Management System for projects on National Forests.

Affected Environment

This section provides details regarding the scenery resource of the Ketchikan – Misty Fiords Ranger District, including a description of the existing condition of the project area and the standards and guidelines of the Forest Plan that define the desired future condition, to facilitate an understanding of the direct, indirect and cumulative effects the project will have on the scenery resource in the project area and on surrounding lands.

The lands managed by the Ketchikan – Misty Fiords Ranger District have a long history of timber or logging activity (see Past Timber Harvest section in SilvicultureReport), and the visual effects associated with large scale clear cut sales is evident when viewed from the Carroll and George Inlet saltwater use areas and from the interior Forest roads. There is concern that the Saddle Lakes Timber Sale may further diminish the scenic quality of the project area and have direct or indirect effects on the scenic qualities that among other things, help drive tourism. The

Environmental Consequences section addresses this concern by disclosing anticipated effects by alternative.

Existing Condition

The following are the elements that comprise the existing condition of the project area related to Scenery Analysis: Landscape Character, Scenic Attractiveness, Land Use Designations, Visual Priority Routes and Use Areas, and Existing Scenic Integrity.

The Saddle Lakes Timber Sale project area is located between George and Carroll Inlets on Revillagigedo Island, approximately 14 miles northeast of Ketchikan, the nearest city. The project area is about 38,500 acres, and includes parts of 5 VCU's as shown in Table 1 and Figure 2. Project Area VCUs below.

Table 1. Project Area VCUs

VCU	Acres within Project Area	% of VCU within Project Area
7420	132.3	0.4%
7460	11138.0	36%
7470	19185.7	99.6%
7480	313.5	0.8%
7530	7686.2	23%
Total Project Area	**38455.6**	N/A

Source: USDA Forest Service, GIS

As shown in Table 1 and Figure 2. Project Area VCUs, two VCU's include a sliver of land within the project boundary, possibly a result of mapping changes. There is no timber harvest planned within those small slivers of land. For the remainder of this report, only VCUs 7460, 7470 and 7530 will be analyzed when the data is broken out into VCUs.

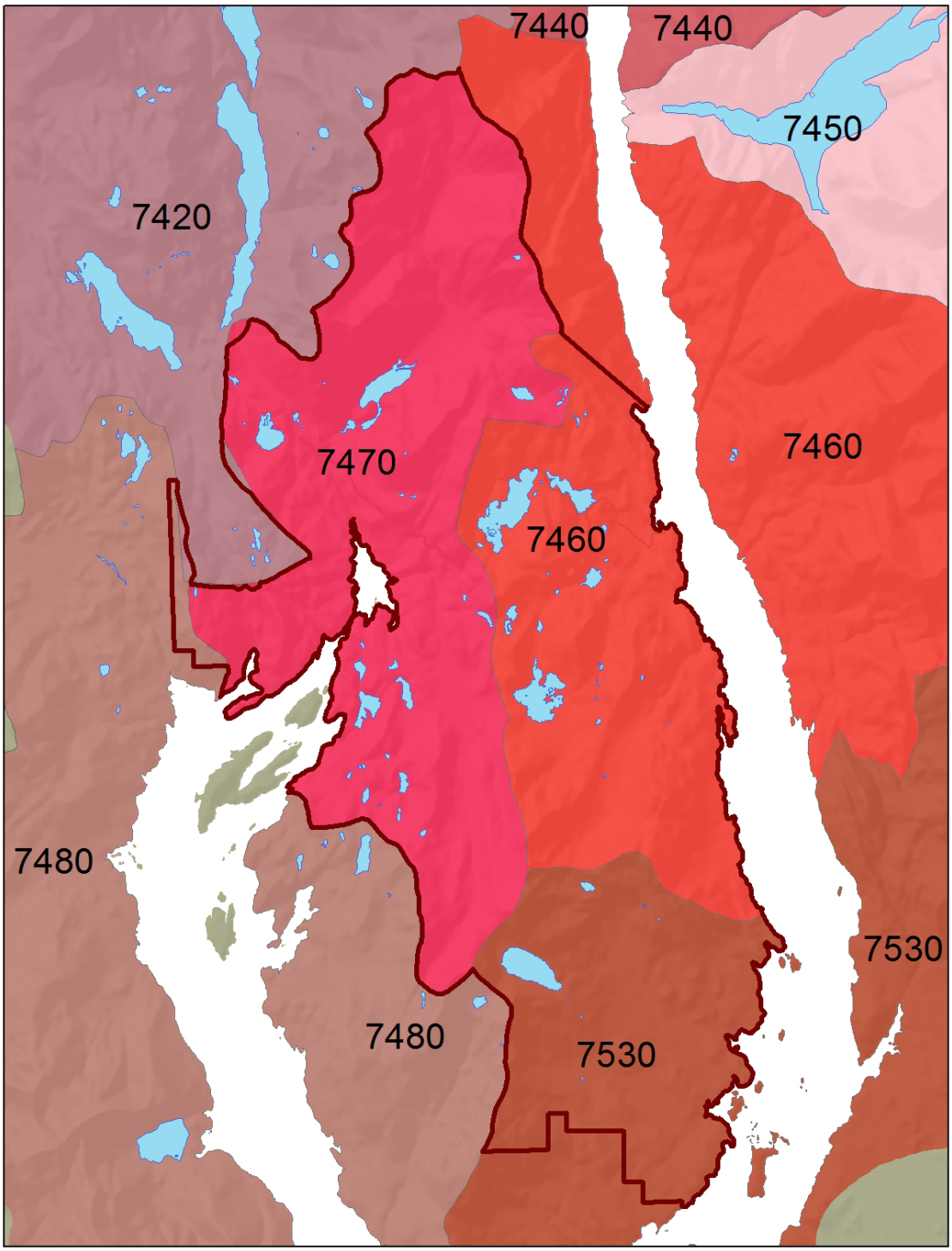

Figure 2. Project Area VCUs

Landscape Character

The Tongass National Forest is divided into 11 landscape character types. Landscape Character Types are large geographic areas that have general or distinguishing visual characteristics that when combined with other physical, biological, and cultural attributes, help define an areas meaning of "place". The Saddle Lakes project area falls entirely into what is defined as the Inside Passage Islands Landscape Character Type (USDA 2005). This character type consists primarily of tall rounded mountains, long broad ridges, deep fjords, and long connected inland waterways. Landforms

The Inside Passage Fiordlands is a complex unit consisting primarily of tall rounded mountains, long broad ridges, deep fiords, and long connected inland waterways. It includes portions of the mainland south of the Stikine River and all of the Cleveland Peninsula, but the majority of the character type covers all or portions of Mitkof, Kupreanof, Zarembo, Etolin, Wrangell, Revillagigedo, Gravina, Annette, and Duke Islands as well as many smaller islands. The project area is a part of Revillagigedo Island. This character type lies just west of the Boundary Ranges Icefields unit, which provides a higher mountain and glacial backdrop to this unit on clear days. The landscape type contains many glacially modified landforms including hanging valleys with steep-sided slopes, broad U-shaped valleys, and coastal lowlands. Higher mountains generally occur on the mainland; the majority of the mountains in this unit are less than 3,000 feet, although some reach over 4,000 feet. Topography ranges from rolling to very rugged. Some of the most rugged and angular mountains in the unit occur around Ketchikan, on a small portion of the Cleveland Peninsula, and on Etolin Island (USDA 2005).

Vegetation Patterns

In the higher mountains of the unit, alpine vegetation covers extensive areas and widespread alder brushfields often separate the alpine from hemlock, spruce, and cedar forests on lower mountain slopes. Most of the lower rounded mountain areas support productive western hemlock and Sitka spruce forests. Many portions of these forests have been harvested over the past 40 years or more and now support young second-growth forests. Forested wetlands and emergent wetlands, the latter occurring adjacent to large estuaries and cirque lakes, are common in some areas (USDA 2005).

Water Features

Streams are mostly high gradient and contained and often deeply incised. Some of the mainland streams are glacial. Long, narrow bays and lakes follow bedrock weaknesses in some areas of this unit. Cirque basin lakes are often tucked in hanging valleys of mountain summits. All of the islands and land masses are connected by a network of broad waterways that serve as major transportation routes (USDA National Forest 2005).

Cultural Elements

With the exception of the areas around the towns of Ketchikan, Wrangell, Petersburg, other small settlements, and in areas of timber management, the majority of the landscape shows very little human influence. Some of the area is privately owned or owned by the State of Alaska. Extensive timber harvest has occurred on the private lands and in many portions of National Forest System lands, beginning in the 1950s (or earlier) and continuing through the present. Extensive road systems to support timber management have also been developed and are visible in many portions of this unit. Around Ketchikan, Wrangell, Petersburg, and other communities, roads, buildings, and other structures are very visible (USDA 2005).

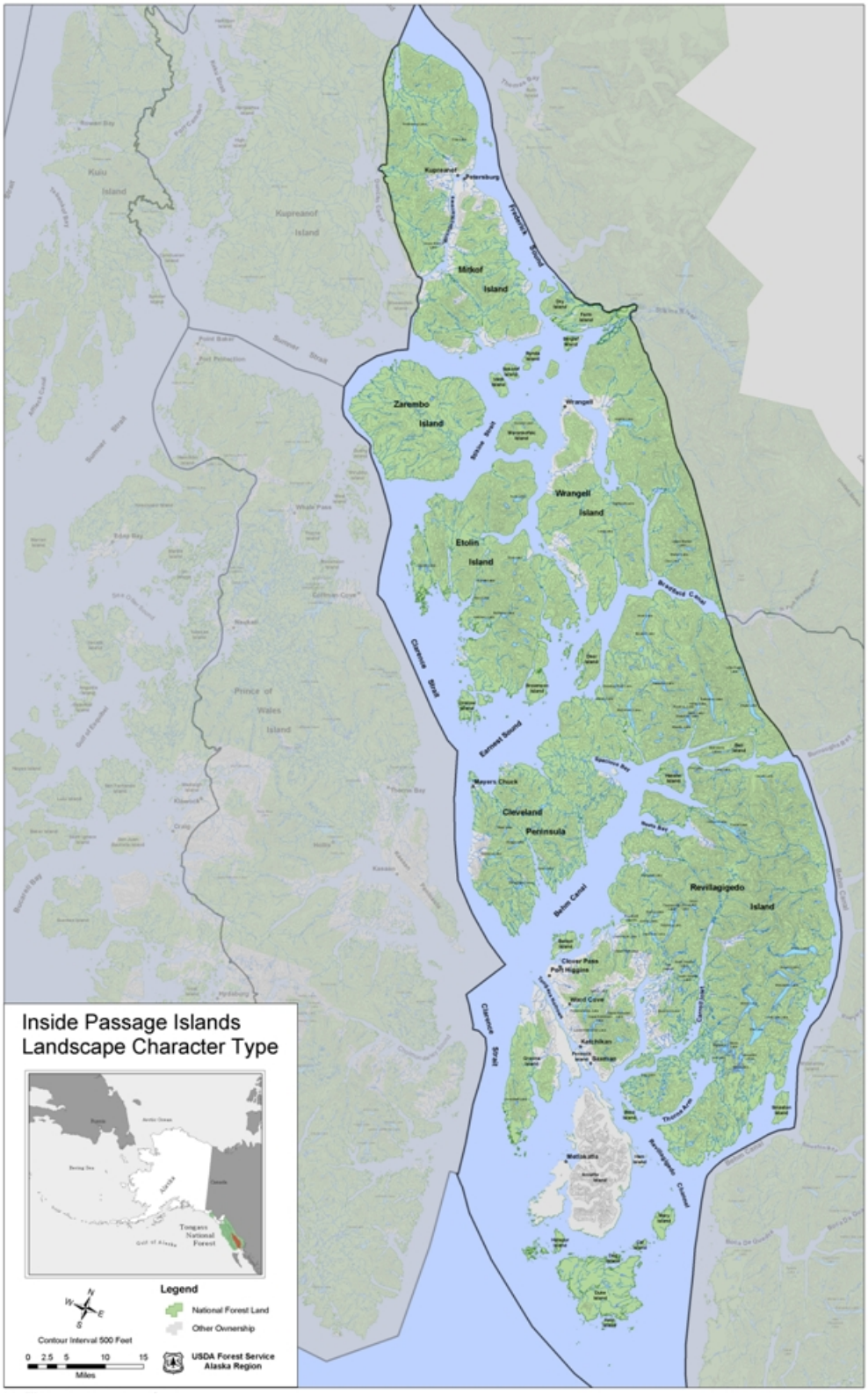

Figure 3. Inside Passage Islands Landscape Character Type

Scenic Attractiveness

Scenic attractiveness is the primary indicator of the intrinsic beauty of a landscape and of the positive responses it evokes in people. Scenic attractiveness helps determine landscapes that are important for scenic beauty, as well as those that are of lesser value, based on commonly held perceptions of the beauty of landform, vegetation pattern, composition, surface water characteristics, and land use patterns and cultural features (USDA 2005).

The Scenery Management System (SMS) provides a process that rates the inherent scenic attractiveness based on the values listed above as either Class A-Distinctive, Class B-Typical, or Class C-Indistinctive. The following list provides detailed description for each class.

> Class A – Distinctive: Areas where landform, vegetation patterns, water characteristics, and possibly long established cultural features combine to provide unusual, unique, or outstanding scenic quality.
>
> Class B – Typical: Areas where landform, vegetative patterns, water characteristics, and cultural features combine to provide ordinary or common scenic quality. The above features would generally be the more frequently found features in the ecological unit – i.e. they would form the basic matrix of the unit.
>
> Class C – Indistinctive: Areas where landform, vegetative patterns, water characteristics, and cultural features have low scenic quality, often water and rock forms of any consequence are missing, and the landscapes generally have weak or missing attributes of variety, vividness, pattern, and other factors that contribute to scenic quality.

The Saddle Lakes project area is characterized by rugged terrain, steep mountain slopes, and lakes. The area itself is mostly unmodified, however the developments associated with timber management on State, private and federal lands adjacent to the project area, and the corridor for the Swan Lake, Lake Tyee Intertie powerline influence the natural integrity and apparent naturalness. Non-National Forest System lands, forest roads, and timber harvest units border the project area to the south and part of the west. The project area receives significant recreation use. None of the landscape is considered to be distinctive for the character type from a scenery standpoint. There are no known features of ecologic, geologic, scientific, or cultural significance (USDA 2003).

The project area is a mosaic of coniferous forests in managed and unmanaged conditions, interspersed with muskeg, scrubland, and alpine plant communities. The forests are primarily dominated by western hemlock with a Sitka spruce component, and scattered Alaska yellow-cedar (*Callitropsis nootkatensis*) and western redcedar (*Thuja plicata*) (see Silviculture section).

There are about 543 miles of streams in the project area as well as about 1,000 acres of lakes and ponds (see Aquatics section). In particular, Saddle Lakes, located in the north central portion of the project area offers a scenic attraction for recreationists (Figures 4 and 5).

The entire Saddle Lakes Project Area, approximately 35,000 acres, is classified as Class B-Typical. Non-National Forest Lands are not classified.

Figure 4. North Saddle Lake (west side of Shelter Cove Road looking East)

Figure 5. North Saddle Lake (east side of Shelter Cove Road looking West)

Demand for scenic quality can best be represented by the increase in tourist-related travel to the Tongass, as well as a heightened awareness and sensitivity of Alaskan residents to scenic resource values. Southeast Alaska's Inside Passage is advertised and promoted by the Division of Tourism, cruise ship operators, and the Southeast Alaska Tourism Council. Their marketing strategy focuses on the scenery of the Tongass National Forest as a major attraction. The visitors to Southeast Alaska would, therefore, arrive with expectations and an image of the environment and scenery awaiting them. If current trends continue, demand for viewing scenic landscapes will increase.

As shown in Figure 6, the 2012-13 full-year visitation of 1,849,700 marks the second consecutive year of growth after the recession-era slump of 2008-09 to 2010-11. After the low point of 2010-11, volume grew by 3 percent in 2011-12, then by an additional 1 percent in 2012-13. The 2012-13 figure of 1,849,700 is nearly equivalent to the 2005-06 total of 1,875,200; the most recent period is still 7 percent below the peak of 2007-08. Annual visitation volume is largely driven by the summer market, which represents 86 percent of full-year volume. With visitor volume expected to increase in summer 2013 (largely driven by the recovery of the cruise ship market), the next full-year period will almost certainly show a third consecutive year of growth (McDowell Group, 2013).

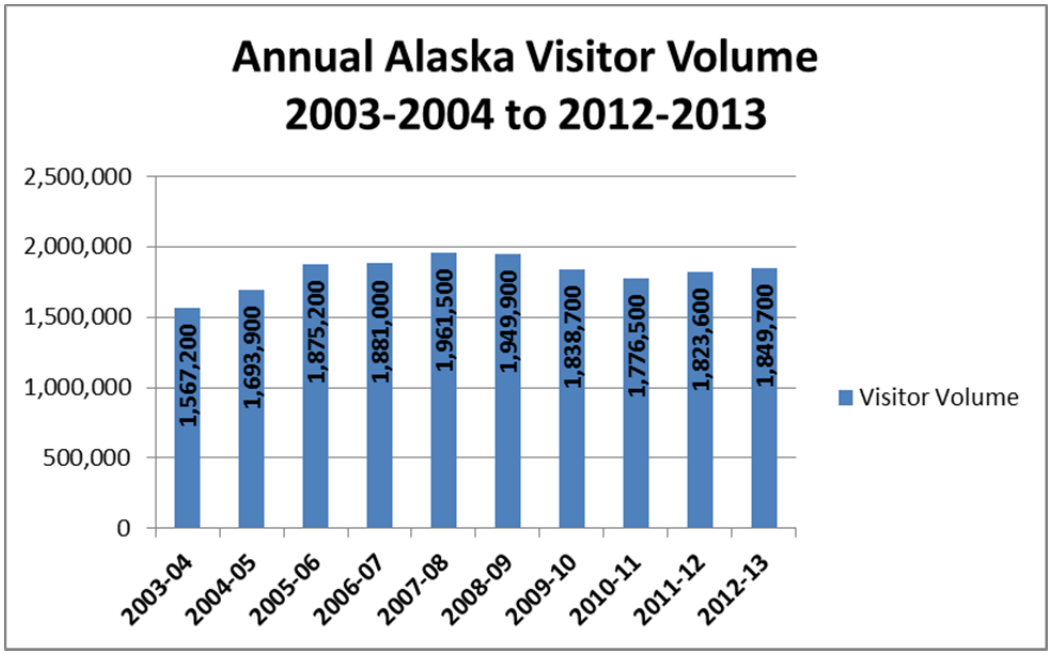

Figure 6. Annual Alaska Visitation (McDowell Group, 2013)

Land Use Designation (LUD)

Desired future conditions on the Forest for visual quality are guided by the LUDs in the Forest Plan. There are designated Scenic Integrity Objectives (SIOs) for each LUD and identify the degree to which a natural landscape may be altered and provide guidelines to ensure that management activities are consistent with scenic objectives. The long-term desired future condition for a specific area is the maintenance of a scenic integrity level that is at least as high as the adopted SIO for that area.

The LUDs within the analysis area, a summary of their management goals, and the acres are listed below in Table 2. Their distributions are provided in Figure 7 below.

Old Growth Reserve LUD: To maintain areas of old-growth forest and their natural ecological processes to provide habitat for old-growth associated resources. (USDA 2008b, p. 3-57). This LUD constitutes approximately 9% of the analysis area.

Modified Landscape LUD: To provide a sustained yield of timber and a mix of resource activity while minimizing the visibility of developments in foreground distance zones (USDA 2008b, p. 3-109). This LUD constitutes approximately 42% of the analysis area.

Timber Production LUD: To maintain and promote wood production (USDA 2008b, p. 3-116). This LUD constitutes approximately 40% of the analysis area.

Non-National Forest Lands constitute 9% of the project area.

Table 2. Project Area Acres by LUD

LUD	Project Area Acres
Modified Landscape	16,028.1
Old Growth Habitat	3,564.8
Timber Production	15,305.4
Non National Forest (NNF)	3,557.3
Total Project Area	38455.6

Source: USDA Forest Service, GIS.

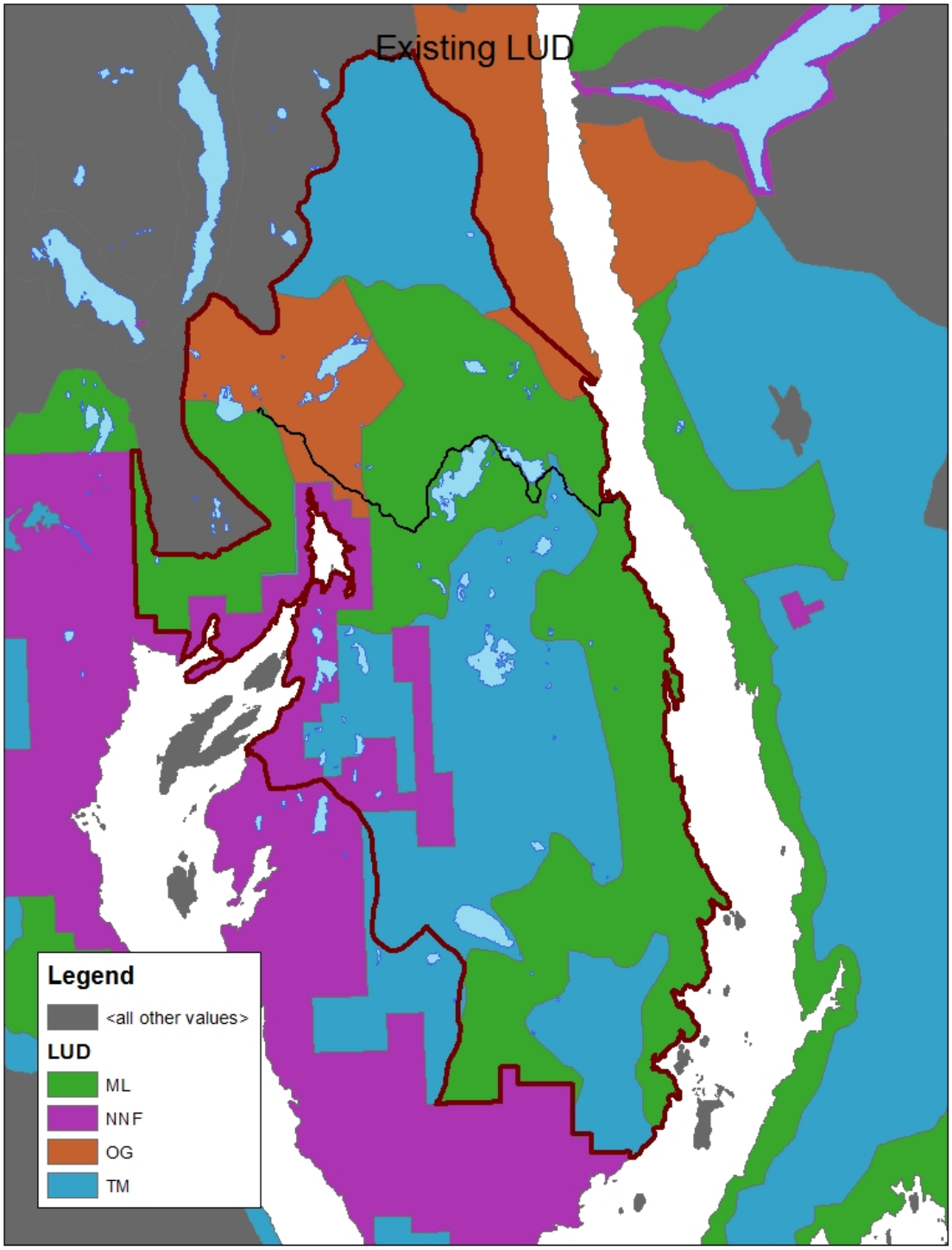

Figure 7. Saddle Lakes Project Area LUDs

Visual Priority Routes (VPR) and Use Areas

A viewshed is an expansive landscape or panoramic vista seen from a road, marine waterway, or specific viewpoint. Viewsheds are identified and viewpoints are established to assess the existing scenic integrity of any given project area and to develop project designs that will be consistent with the Scenic Integrity Objective (SIO) for each Land Use Designation (LUD). As part of the process of applying the SMS to the Forest, a viewshed analysis of the entire Tongass National Forest was completed using GIS. The analysis was completed separately for each Ranger District, and is further explained in Appendix F (USDA 2008, p. F-1).

Appendix F of the Forest Plan identifies places (i.e., Visual Priority Routes and Use Areas and hereafter referred to as VPRs) from where scenery is to be emphasized for each Ranger District in the form of landscape analysis. These can be routes which cruise ships, ferry boats, and personal watercraft frequently travel or destinations where they anchor up. They can also be roads people drive, cabins or recreation areas where people stay, and trails on which they hike. An important concept to remember when working with VPR's is that they represent very specific physical entities, and rarely include land on which timber harvest can occur. Units are never within a VPR, but the distance from the unit to the VPR will influence the prescription. All the lands in the Tongass National Forest are categorized by their distance to VPR's (see Distance Zone section). VPR's specific to the Ketchikan – Misty Fiords Ranger district are found on pages F-22 - 24 of the Forest Plan.

The main VPRs relevant to the analysis of the Saddle Lakes project area are:

Saltwater Use Areas:

Carroll Inlet

George Inlet

Routes not constructed or NEPA Cleared: Planned or Opportunities

Harriet Hunt to Shelter Cove Connection Road

Saddle Lakes Recreation Area

Shelter Cove Boat Ramp

The planned VPRs are located within the project area and the saltwater use areas are adjacent to the Project Area. As stated previously, all VPRs will be treated equally in the analysis of the Project Area, regardless if they are existing or planned.

Three other VPRs provide distant background views of the project area, and were also used in the GIS analysis for this project. They are located approximately eight (8) miles from the project area, on the west side of George Inlet.

These are:

Mountain Ranges and Alpine Area between Ketchikan, Ward Lake-Harriett Hunt Lake Road, and George Inlet (Dispersed Recreation Area)

Deer Mountain Trail

Silvis Lake Trail

Existing Scenic Integrity (ESI)

It is important to compare the existing scenic integrity of the project area to the scenic integrity objective (SIO) of the land use designation. This is to determine if existing condition conflicts with Forest Plan scenic integrity objectives and how much additional disturbance is allowed.

The existing scenic resources of the Saddle Lakes project area encompass everything from vast tracts unmodified by human activity to extensive areas of heavily modified landscapes. Existing scenic integrity (ESI) is defined as the current state of the landscape, considering previous human alterations (USDA 1995, p. I-2). ESI ratings are used by the Forest Service to analyze the degree of intactness of the landscape character. These ratings are used to categorize the degree of alteration visible in the landscape on a continuum from a natural setting to a heavily altered landscape. The ratings apply to the broad landscape affected, not just the acres altered (USDA 2008c, 3-404).

The latest GIS data on record that represents ESI is the existing visual conditions layer (EVC) (Table 3). This was updated no more recently than 2005. This data needs to be updated, as at least 8 years have elapsed and areas may have experienced enough vegetation regrowth to be classified in a higher condition. There is also past harvest that is not represented in this data that would likely lower the rating for an area. For the draft report, existing data will be used. It is likely that most areas have gone "up" at least one level on the spectrum, for example from Low to Moderate SIO.

The Forest Service GIS inventory shows five existing visual condition / scenic integrity objective types within the project area. The types are listed and described below. Figure 8 depicts the distribution within the project area.

> Very High (Type 1: Natural) - Areas in which only ecological change has taken place (except for trails needed for access). They appear to be untouched by human activities. This type corresponds with Very High SIO and comprises approximately 45% of lands within the analysis area boundary, much of which are areas not included in the unit pool. Some of the "Saddle Lakes Recreation Area" viewshed is also in this category, and does have units planned for harvest in several of the alternatives.
>
> High (Type 2: Naturally Appearing) - Areas in which changes in the landscape are not noticed by the average person unless pointed out. They appear untouched. This type corresponds with High SIO and comprises approximately 2% of lands within the analysis area boundary. This is found mainly around and in the "Saddle Lakes Recreation Area."
>
> Moderate (Type 3: Slightly Altered) - Areas in which changes in the landscape are noticed by the average forest visitor, but they do not attract attention. The natural appearance of the landscape still remains dominant. They appear to be minor disturbances. This type corresponds with Moderate SIO and comprises approximately 2% of lands within the analysis area boundary.
>
> Low (Type 4: Altered) – Areas in which changes in the landscape are easily noticed by the average forest visitor and may attract some attention. They appear to be disturbances but resemble natural patterns. This type comprises approximately 5% of lands within the analysis area boundary, mainly along the Carroll Inlet shoreline.
>
> Very Low (Type 5: Heavily Altered) – Areas which changes the landscape are strong and would be obvious to the average forest visitor. These changes stand out as a dominating

impression of the landscape, yet they are shaped so that they might resemble natural patterns when viewed from 3-5 miles or more distant. They appear to be major disturbances. This type corresponds with Very Low SIO and comprises approximately 37% of lands within the analysis area boundary. The majority of the unit pool falls into these areas. (Note: Remember the data is at least 8 years old and some of the areas in this category may now be categorized as "Low")

One area that has not changed its ESI is the Saddle Lakes Recreation Area viewshed. It is categorized as High and Very High, and encompasses 1890 acres (the red and orange areas surrounding Saddle Lakes).

Table 3. Project Area by Existing Scenic Integrity

ESI	Project Area Acres (in 2005 Data)
Very High	17,393
High	905
Moderate	612
Low	2016
Very Low	13,980

Source: USDA Forest Service, GIS existing visual conditions layer (EVC)

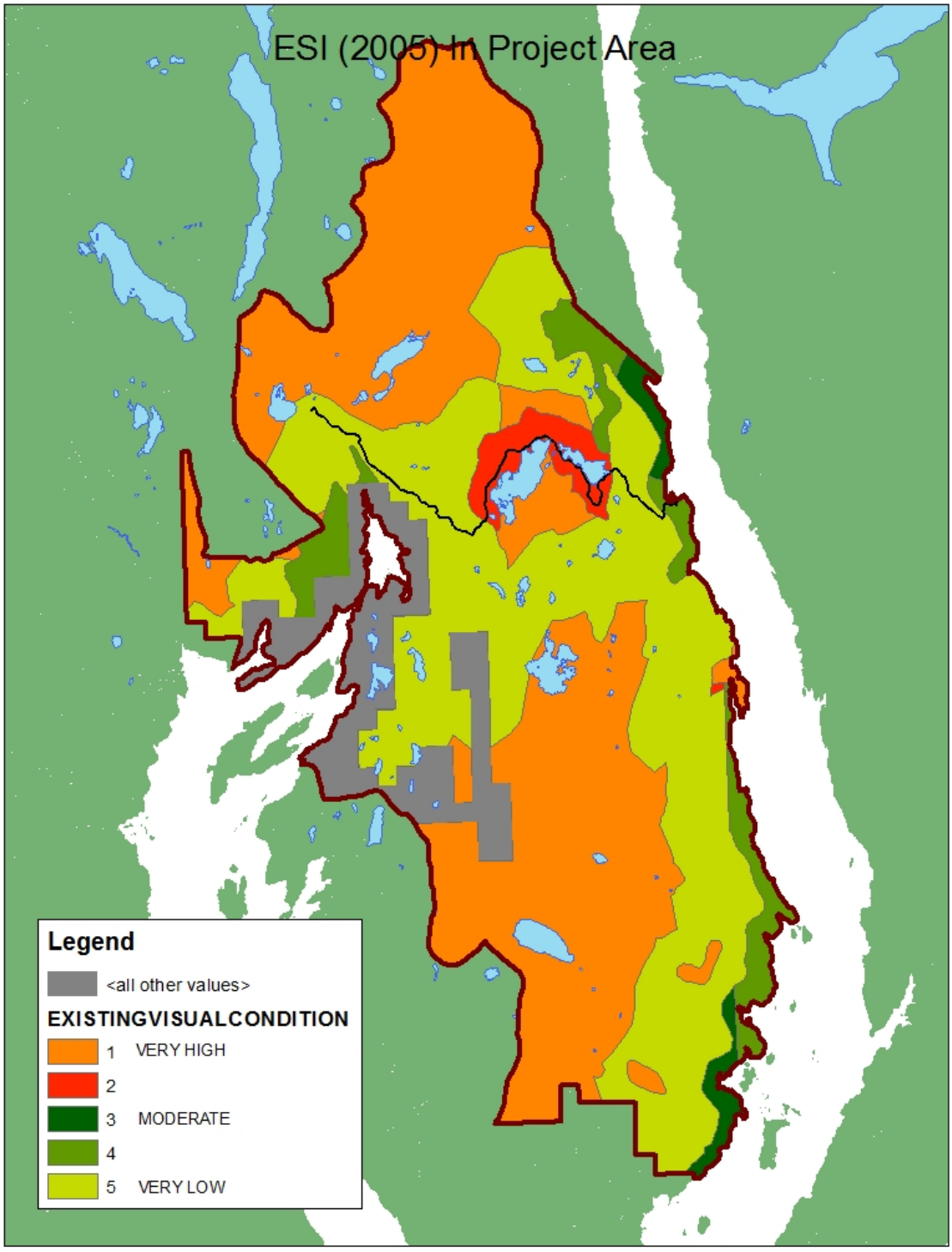

Figure 8. Saddle Lakes Project Area Existing Visual Conditions

Desired Condition

The desired condition of the lands within the project area, with regards to scenery, are expressed within the Forest Plan as Scenic Integrity Objectives (SIO). SIOs are developed during the development of the Forest Plan , derived from the assigned LUDs and Distance Zones and defined in the Forest Plan. LUDs are designated by the Forest Plan and the Distance Zones maps are developed using the VPRs to define the viewer's position.

Visibility and Distance Zones (DZ)

One of the first steps in developing SIOs for an area is to determine the visibility and distance zones from the VPRs. Visibility is simply whether the land is seen or not seen from point at or along a VPR. Distance zones apply to the seen areas and measure the distance from the VPR. Distance zones are important for determining both SIOs and Visual Absorption Capacity (VAC) or capability of the landscape to visually absorb management activities. They are obtained by measuring foreground, middleground, and background distances from the identified VPRs.(see VAC discussion below). The Distance Zones (DZ) referred to throughout the scenery section of this document are described as follows:

> Foreground: The part of a landscape located less than 1/2 mile from the viewer. About 16% of the project area is foreground according to the Forest Plan.
>
> Middleground: The area located from 1/2 mile to 5 miles from the viewer. About 34% of the project area is considered Middleground.
>
> Background: The area located from 5 miles to15 miles from the viewer. There is no background areas in the project area currently.
>
> Seldom seen: Areas that are unseen from any VPR or are more than 15 miles from any VPR are considered seldom seen. About 41% of the project area is seldom seen from VPRs listed in the Forest Plan.

Table 4 separates the acres of each SIO into five categories: foreground, middleground, background, seldom seen, and non-NFS lands. About 9% of the project area is non-National Forest lands. While visibility and distance zones can be calculated for non-National Forest lands, there is no need to do so and they are not included in this analysis.

Table 4. Project Area by Distance Zone

Distance Zone	Project Area Acres	% of Project Area
Foreground	6,299	16%
Middleground	1,3001	34%
Background	0	0%
Seldom Seen	15,598	41%
Non- NFS lands	3,557	9%

Source: USDA Forest Service, GIS

Distance zone and visibility mapping for the existing Forest Plan is shown in Figure 9. This mapping is applicable to any projects implemented in the project area and in not specific to the Saddle Lakes Timber Sale or to the harvest alternatives. Also shown in Figure 9 is the revised mappings for each alternative that would need a Forest Plan amendment enacted in order to revise

the scenery objectives to a level that can be met by the alternative. These maps spatially represent the management changes that will occur within the project area of removing VPRs.

Table 5. Project Area by Distance Zone and Percent Change from Existing

Project Area by Distance Zone (DZ)							
Distance Zone	**Existing Condition**	**Revised Mapping after removing 4 VPR's (per Alt 4)**		**Revised Mapping after removing 5 VPR's (Alt 5)**		**Revised Mapping after removing 3 VPR's (Alt 6)**	
	(Acres)	(Acres)	(% change)	(Acres)	(% change)	(Acres)	(% change)
Foreground	6,299	28	-99.6%	0.0	-100.0%	1816	-71%
Middleground	13,001	49	-99.6%	25	-99%	897	-93%
Background	0.0	7131	*	6347	*	6074	*
Seldom Seen	15,598	27,688	+78%	28,524	+83%	26,112	+67%

Source: USDA Forest Service, GIS
*Not able to calculate percentage because of starting point of 0.

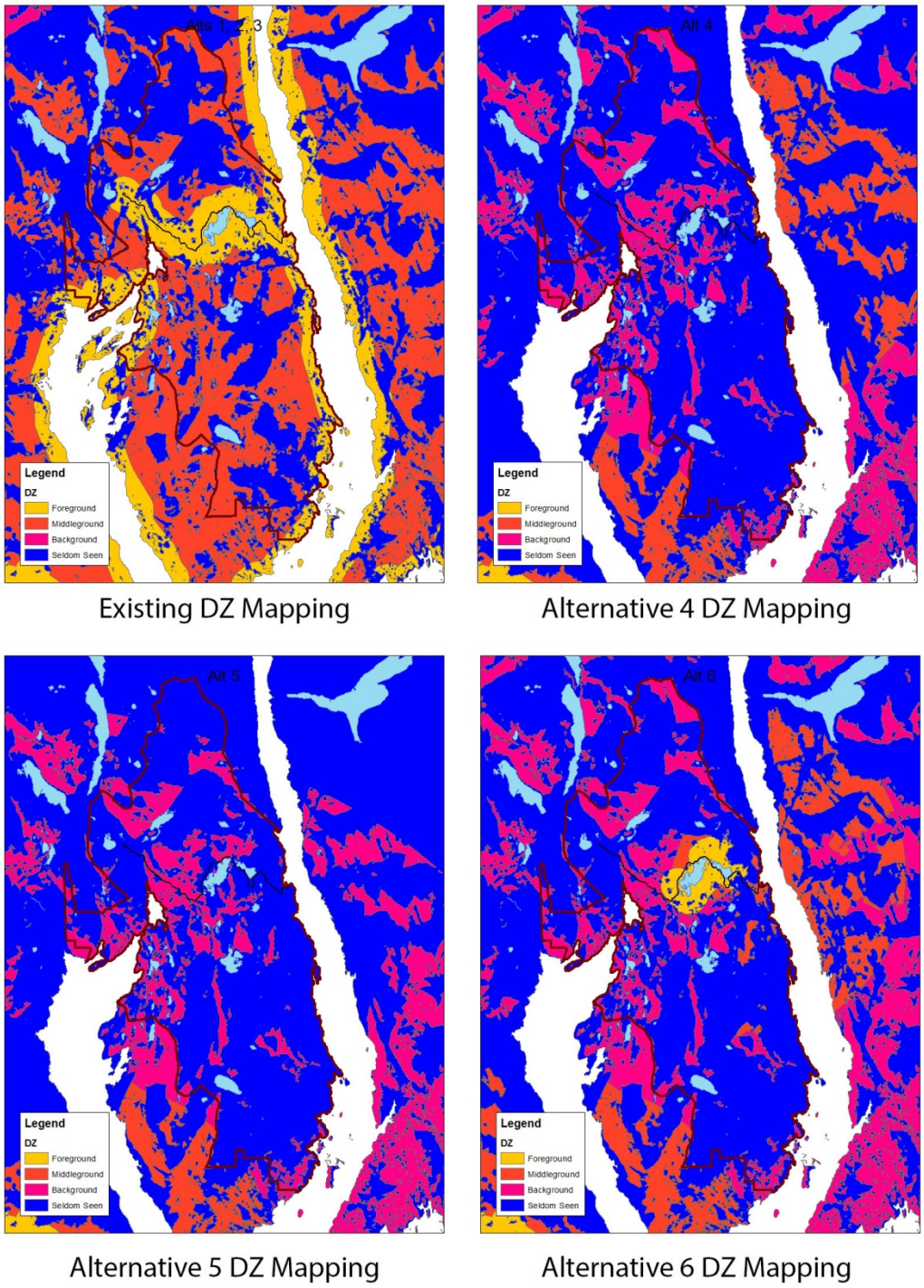

Figure 9. Distance Zone Mapping (Existing and Revised for Forest Plan Compliance for Alternatives 4, 5 and 6)

Scenic Integrity Objectives (SIO)

The Forest Service developed and implemented the Visual Management System in 1974, which was replaced in 1995 by Scenery Management System (SMS). Under SMS, Scenery Integrity Objective (SIO) is the term used to describe the desired visual condition of the landscape.

The Scenic Integrity Objective (SIO) is used to also describe the degree of acceptable alteration of the characteristic landscape, and is assigned to LUDs as seen from visual priority travel routes and use areas.

Scenic Integrity Objectives for the LUDs on the Tongass NF can be found on pages 4-56-59 of the Forest Plan. Examples of these are also found on pages 4-61-63 of the Forest Plan.

The following describes the SIOs adopted by the Forest Plan.

> High SIO: Landscapes where the landscape character "appears" intact. Deviations are not readily evident to the casual observer. This SIO represents approximately 9% of the lands within the analysis area boundary, all within the Old Growth Habitat LUD.
>
> Moderate SIO: Landscapes where the landscape character "appears slightly altered." Deviations are noticeable to the casual observer, but do not dominate landscape. . This SIO represents approximately 13% of the lands within the analysis area boundary.
>
> Low SIO: Landscapes where the landscape character "appears moderately altered." Deviations can begin to dominate a scene, but must blend with surrounding landscape, as viewed by the casual observer. This SIO represents approximately 16% of the lands within the analysis area boundary.
>
> Very Low SIO: Landscapes where the landscape character "appears heavily altered." Deviations clearly dominate, but must blend to some degree. This SIO represents approximately 53% of the lands within the analysis area boundary.

There are two other levels of scenic integrity, one at each end of the spectrum. Very High Scenic Integrity is where the landscape is intact with only minute, if any, deviations. This is not used as a SIO, or management objective, within the Tongass Forest Plan. At the other end is Unacceptably Low Scenic Integrity. This refers to landscapes where the landscape character being viewed appears extremely altered. This level is not used as a management objective but can be used to inventory existing conditions or to describe the potential effects to a landscape that will not meet the given management objectives.

Table 6 shows the existing acreage as well as the changed acreages if the suggested Forest Plan amendments are enacted. Figure 10 visually depicts SIO distribution inside and outside the analysis area, as well as the revised SIO distribution for Alternatives 4,5, and 6.

Table 6.-Project Area by SIO and Percent Change from Existing

Project Area by Scenic Integrity Objective (SIO)							
SIO	Existing Condition	Revised Mapping after removing 4 VPR's (per Alt 4)		Revised Mapping after removing 5 VPR's (Alt 5)		Revised Mapping after removing 3 VPR's (Alt 6)	
	(Acres)	(Acres)	(% change)	(Acres)	(% change)	(Acres)	(% change)
High	3565	3565	0%	3157	-12%	3565	0%
Mod	5041	28	-99%	0.0	-100%	1755	-65%
Low	6048	2794	-54%	2746	-55%	2525	-58%
V Low	20245	28510	+41%	28994	+43%	27054	+34%

Source: USDA Forest Service, GIS

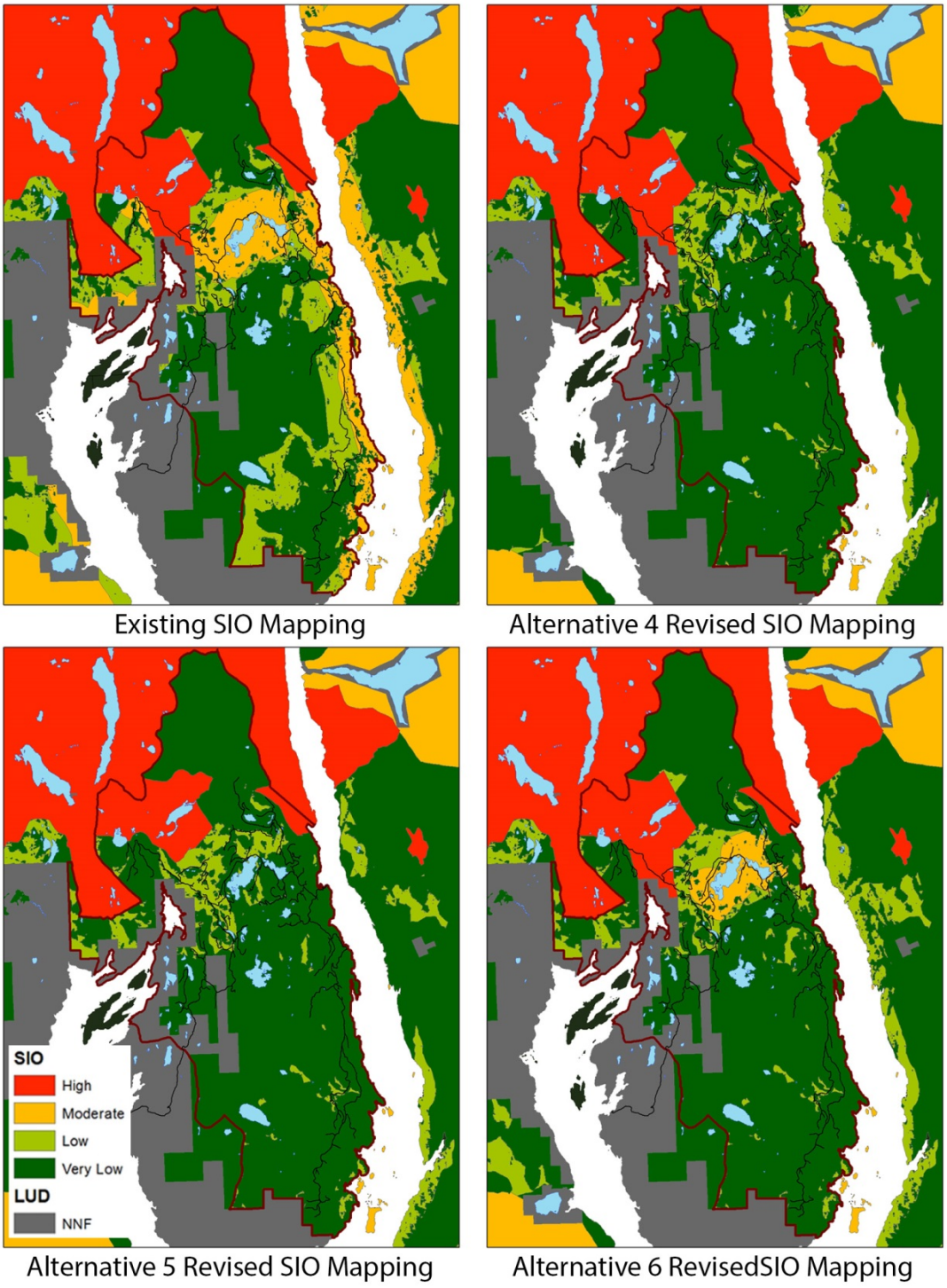

Figure 10. Scenic Integrity Objective (SIO) distribution inside and outside the analysis area (Existing Condition and Alternatives 4, 5 and 6)

Visual Absorption Capacity (VAC)

Visual Absorption Capability (VAC) is defined as an index of the relative ability of the land to absorb visual change (such as road construction and timber harvests), and is rated as being High, Intermediate, or Low. High VAC means that the landscape can absorb more manipulations to it than a Low VAC landscape could before being visually evident. As examples, a Low VAC setting generally has steep slopes, with little landscape variety, while a High VAC setting may be relatively flat and/or has a high degree of variety in the landscape.

Past projects on the Tongass National Forest have involved scenic variety class, distance zones, and slope values to develop VAC maps to aid in developments and timber planning.

When determining the VAC ratings for this project, factors such as LUD, distance zones, and slope values were combined to determine areas of high, intermediate, or low visual absorption capability useful for timber planning.

Timber harvest unit sizes can be influenced by the VAC settings and Scenic Integrity Objectives (see Forest-wide Standards and Guidelines for Scenery pages 4-57 – 4-59), and referring to these factors in the unit layout and design portion of the planning process is recommended.

Table 7 shows the existing acreage as well as the changed acreages if the suggested Forest Plan amendments are enacted. Figure 11 visually depicts VAC distribution inside and outside the analysis area, as well as the revised VAC distribution for Alternatives 4,5, and 6.

Table 7. Project Area by VAC and Percent Change from Existing

Project Area by Visual Absorption Capacity (VAC)							
VAC Rating	Existing Condition/	Revised Mapping after Removing 4 VPR's (per Alt 4)		Revised Mapping after Removing 5 VPR's (Alt 5)		Revised Mapping after Removing 3 VPR's (Alt 6)	
	(Acres)	(Acres)	(% change)	(Acres)	(% change)	(Acres)	(% change)
Low	8,423	32	-99.6%	2	-100%	1,940	-77%
Intermediate	6,774	5,189	-23%	4,500	-34%	4,927	-27%
High	19,701	29,676	51%	30,395	54%	28,031	42%

Source: USDA Forest Service, GIS

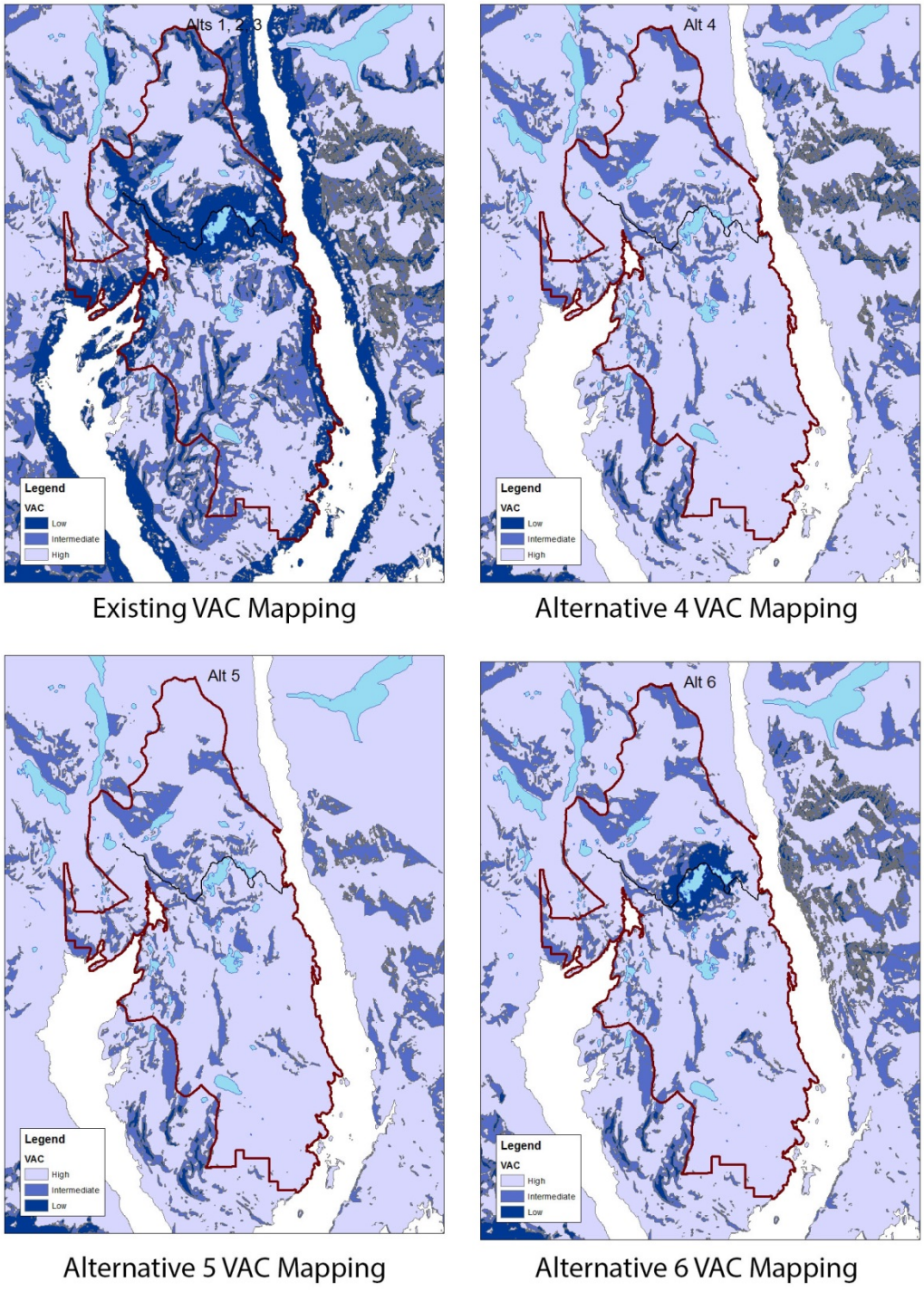

Figure 11. Project Area by Visual Absorption Capacity (VAC) and Percent Change (Existing Condition and Alternatives 4, 5 and 6)

Environmental Consequences

Direct, indirect and cumulative effects for scenery in all affected viewsheds are estimated using quantifiable measures or indicators for actual effects, as supported by the references (for example, percent of visible areas are an indicator for increased visibility under each alternative). The level (magnitude and intensity) of effects is also characterized by measures/indicators which account for how measurable the effect would be, how widespread the effect is likely to be, and how long it is likely to last.

Project actions include the no action alternative, the proposed action alternative, and four additional action alternatives. Table 8 presents a summary of actions associated with the alternatives, including the number of VPRs proposed to be removed from the Forest Plan by amendment for the alternative to comply with the scenery standard and guidelines.

Table 8. Saddle Lakes Timber Sale Activities

Alt.	Clearcut Harvest (acres)	Partial Harvest (acres)	Helicopter Harvest (% of Total Harvest)	New NFS Road (Miles)	Number of VPRs Removed
1	0	0	0%	0	0
2	1,055	1,100	50%	10.2	0
3	816	196	19%	6.7	0
4	2,112	312	21%	19.6	4
5	2,594	281	25%	20.6	5
6	1,654	484	22%	16.3	3

Source: USDA Forest Service, GIS

Spatial and Temporal Context for Effects Analysis

The Direct Effects section contains its analysis to the Saddle Lakes Project Area, while the Indirect Effects considers the impact, mainly of removing VPRs, to the larger area of George and Carroll Inlets. Existing harvest areas less than 30 years old are considered to still be visible and are used in analysis of Direct Effects and Cumulative Effects. Harvest areas older than 30 years are thought to be visually recovered for analysis purposes.

Past, Present, and Foreseeable Activities Relevant to Cumulative Effects Analysis

The following actions are considered reasonably foreseeable and are combined with past and present actions to be considered in the cumulative effects analysis and include timber harvest, pre-commercial thinning, road building, road paving, and restoration. The level of cumulative watershed effects that may occur in the future will depend on the rate at which new projects are implemented and the rate at which disturbances from past and present activities recover.

Timber Harvest on NFS Lands

There have been multiple timber harvests in the Project Area in the past. Those harvest that occurred within the past 30 years are used in the Total Allowable Disturbance calculations. Even-aged management via clearcutting has been the dominant (96%) timber management prescription since the 1950s (McClellan 2004, Tongass Young Growth Report 2013). Most early stands were clearcut using cable or shovel yarding methods, but helicopter yarding also occurred in more recent years.

Timber Harvest on State Lands

Timber harvest has occurred recently in George Inlet and include past and more recent harvest on Cape Fox Corporation lands (including some young growth harvest in George Inlet) and 3,726 acres of recent harvest activity and associated road construction on Alaska Mental Health Trust (AMHT) lands at Leask Lakes. These areas are outside of the project area but are visible from the George Inlet VPR. State land harvest must comply with the Alaska Forest Resources and Practices Act and Regulations, which are not as stringent as Tongass Forest Plan standards and guidelines.

Young-growth Treatments on NFS Lands

Precommercial thinning (PCT, or "thinning") removes excessive stand stocking through the cutting of less desirable trees, while leaving the most desirable trees in a free-to-grow condition. PCT can be used to achieve various residual stand densities depending on the overall resource objectives. PCT is a treatment which not only redistributes stand growth on selected stems, but also delays canopy closure. PCT is a common intermediate silvicultural treatment employed in young-growth stands on the Tongass National Forest.

The first PCT program for young-growth stands in the project area was completed in 1990. A total of 1,094 acres have been thinned between 1990-2012. Stands have been periodically surveyed in the project area to determine the need for thinning. The remaining unthinned acres are not eligible for thinning at this time because: the stands are either too young for thinning to be effective; or competition between trees has not yet developed enough to warrant thinning, due to site conditions (Silviculture Report).

Pre-commercial young-growth thinning in affected watersheds is anticipated in the future but not planned at this time. It is likely that any thinning will result, at most, in short-term canopy changes and will accelerate the growth of large conifers. These actions are not considered to add to the cumulative effects at this time.

Enhancement Activities in the Project Area

All action alternatives would include a fish passage barrier modification to enhance pink salmon runs at lower Salt Creek (ADF&G Anadromous Catalog # 101-45-10380) that would allow pink salmon access to about 5 miles of upstream habitat and 73 acres of lake habitat. Explosives would be used to create a series of low steps and resting pools. This action does not include any infrastructure (Steep Pass, or concrete) to assist with fish passage. Implementation would occur one to five years after the signing of the decision for the Saddle Lakes Timber Sale. The location of this barrier modification is within the Old Growth LUD and therefore is required to meet the High SIO from all areas within 6 months of the project completion.

Ketchikan to Shelter Cove Road (Project #68405)

Alaska Department of Transportation and Public Facilities (ADOT&PF) is in the design phase of the Ketchikan to Shelter Cove Road and funding has been secured for construction. This project would connect the Shelter Cove road system to the community of Ketchikan via Revilla Road and White River and Leask Lake road systems. Alternative II, (the LOW-LOW route) was chosen as the preferred road location (see State of Alaska DOT&PF Reconnaissance Report, August 2012). The road will be 23.6 miles long, require 6.0 miles of new road construction, and would use 17.6 miles of existing logging roads. The proposed road would be a 14 foot wide single lane gravel road with visible turnouts as needed. Ditching and resurfacing of the White River road segment through Cape Fox Corporation lands is scheduled to occur this fall (2013). The existing gate

would be moved to the AMHT boundary making the White River Road accessible by the general public. Construction on the six miles of new road is scheduled to occur Fall 2014.

The connection of the Saddle Lakes Road system to the Ketchikan road system will likely increase visitation to the project area after completion. The road itself is not included in the Total Disturbance calculations, as their will be little, if any, extra disturbance beyond the existing road footprint within the project area. The added visitors will not affect the scenery of the project, however increased use will potentially change the perceived value of the area's scenery.

Swan Lake Powerline Corridor

(Assuming this is the powerline through the project?) (Add some summary of the powerline corridor) The powerline easement through the Project Area is considered in the Total Disturbance calculations.

Alaska Mental Health Trust Authority (AMHTA) Land Exchange

AMHT has proposed a land exchange with the Forest Service which includes a 8,170 acre parcel within the Saddle Lakes project area. Future AMHT plans for this parcel, if approved, are not known at this time. However, revenue-generating uses of Trust land include land leasing and sales; real estate investment and development; commercial timber sales; mineral exploration and production; coal, oil and gas exploration and development; and sand, gravel and rock sales (AMHT Trust Overview brochure – April 2013). "Timber provided most of the Trust's revenue since the late '90s-- almost $40 million total. Since the settlement, it's averaged $2.5 million a year. It's by far the single largest source of principal revenue of all of our resources" (Greg Jones, executive director of the Trust Land Office as quoted in Kalytiak 2012). For example, 3,726 acres were harvested at Leask Lakes out of 5,240 total acres (71% of land base).

Discussion of Project Area Cumulative Effects

A "Cumulative impact" is the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions (40 CFR §1508.7). Cumulative effects consider the overall scenic effects expected as a result of past, present, and reasonably foreseeable future development. These effects include timber harvest, roads, rock pits, associated construction activities, and activities on adjacent non-National Forest lands. Previous development in the project area has modified the scenic environment of many areas from a natural condition to a condition where some landscapes appear heavily altered. The effects of past timber harvest would continue to lessen over time, becoming more natural appearing during the reasonably foreseeable future, but consideration must be given to the potential incremental effects of other ongoing and future actions

The scale or spatial extent from which to consider cumulative effects for the scenery resource can be represented as a viewshed, or for the purpose of this analysis the three Value Comparison Units (VCUs), which have similar boundaries. Reasonably foreseeable activities such as thinning, and road maintenance would not add additional scenic effects to the point of changing the overall scenic integrity as cumulative effects change over time (temporal extent) as young-growth stands mature. After a period of 30 years, young-growth stands are considered to have visually recovered.

Percent Allowable Visual Disturbance, or threshold of disturbance, represents an index of cumulative effects modeled as the expected visual consequences of timber harvest during the

analysis, and is described in Appendix B of the Forest Plan FEIS, page B-23. Visual disturbance outcomes vary by the scenic objectives for each of the LUDs available for timber harvest. Using this model it was assumed for viewsheds within the Timber Production LUD, that up to 50 percent of a viewshed may be under development at one time. For viewsheds within the Modified Landscape LUD, up to 25 percent may be under development at one time. This is calculated by adding the past, present, and reasonably foreseeable harvest acres and dividing by the acres of a viewshed or VCU. It is from a "birds-eye" view and not based on the view from specific viewpoints. Table 9 represents a comparison of the expected cumulative visual disturbance by alternative.

As noted above, all harvest areas 30 years old or younger were included as past disturbance, and are assumed to be clearcut. For the action alternatives, any units proposed as uneven-aged 33% removal (UA33) prescriptions are not included because these units should not have visible disruption. Even-aged clearcut (CC) units are included. Young-growth thinning is not included because it often has a minimal effect on scenery. The percentage allowable disturbance is NOT a standard to be met, but merely a criteria for assessment and comparison.

Table 9. Cumulative Visual Disturbance by Alternative

VCU	LUD	Total Acres in VCU w/in project area	Suitable Land (Acres)	Suitable Land (Percentage)	Alt 1 Total Disturbance (% of Suitable Land)	Alt 2 Total Disturbance (% of Suitable Land)	Alt 3 Total Disturbance (% of Suitable Land)	Alt 4 Total Disturbance (% of Suitable Land)	Alt 5 Total Disturbance (% of Suitable Land)	Alt 6 Total Disturbance (% of Suitable Land)
7460		11138	4298	39%	2%	26%	8%	24%	29%	19%
	ML	6108	2424	40%	4%	11%	10%	35%	43%	23%
	TP	4689	1874	40%	0%	9%	5%	10%	12%	7%
7470		19186	6245	33%	9%	11%	10%	17%	21%	15%
	ML	5158	2627	51%	5%	17%	15%	29%	37%	26%
	TP	7279	2820	39%	4%	9%	9%	12%	13%	9%
7530		7686	2683	35%	21%	33%	28%	34%	34%	34%
	ML	4327	1418	33%	18%	26%	21%	28%	29%	29%
	TP	2483	1242	50%	25%	41%	37%	41%	41%	41%
Project Area		30480	12674	42%	7%	16%	14%	24%	28%	21%
	ML	16028	6738	42%	7%	16%	14%	30%	36%	26%
	TP	14452	5935	41%	7%	16%	14%	17%	18%	15%

Source: USDA Forest Service, GIS
Note: Highlighted cells indicate areas over the recommended Total Cumulative Disturbance

Discussion on the Removal of Visual Priority Routes

In the development of the Forest Plan Scenery Standards and Guidelines, incorporated into the Plan Amendment published in 2008, the first step was identifying the VPRs (USDA Forest

Service, 2008b). They were "the major points from which people view the forest." Visibility and Distance Zone mapping was then completed, and used in conjunction with the LUD map for each alternative to develop the SIOs for each alternative. Effects analysis for the Plan Amendment in 2008 was developed using the following three points:

"1. A Forest-wide display of acres of each SIO adopted as a result of each alternative.

2. A display of the number of acres within the three development LUDs [Timber Production, Modified Landscape and Scenic Viewshed] that would be suitable for timber harvest under each alternative. The acres suitable for harvest are listed by their location within the foreground, middleground, background, or seldom seen area.

3. A display of the effects of each alternative on a selected group of viewsheds throughout the Tongass"

(USDA 2008c, 3-406).

In determining the effects on selected viewsheds for the Forest Plan FEIS, Carroll Inlet was one of the selected 23 viewsheds chosen "for their popularity and intensity of public use and travel (USDA 2008c, p. 3-410 and Table 3.16-5)

The creation of viewer locations is an essential step in the Scenery Management System (SMS). The Tongass has further established these locations by identifying them for the entire forest during forest plan development, and publishing them in a Forest Plan Appendix F for easy identification, to facilitate the scenery analysis process, and for public comment during Forest Plan development, amendment and/or revision. There is leeway within the forest plan to remove VPRs when they are identified to have use patterns no longer consistent with being a VPR. For instance, if a cabin is removed with no plans to reconstruct, that point should no longer be used in scenery analysis and the VPR should be removed from the forest plan via a plan amendment. If a road VPR is closed and sees no or minimal other use, then it may also be considered for removal.

No "need for change" regarding VPRs for the Ketchikan-Misty Fiords Ranger District was identified for the 2008 Forest Plan amendment; all 5 were carried forward from the 1997 Forest Plan Revision, Appendix F. There are no studies to show a decrease in use of the areas listed as VPRs for the project area. While there is not increased use to the "Planned" VPRs such as the Saddle Lakes Recreation Area, there is also no data showing that the use is significantly less than in 2008 when the VPRs and SMS were incorporated into the Forest Plan. It is likely there will be more use in the project area once the Ketchikan to Shelter Cove connection road is built. While removing VPRs in Alternatives 4, 5 and 6 would change the SIOs (Table 12) and therefore enable the project to harvest great volumes of timber, there is no data supporting that change from the scenery analysis perspective. Doing so would eliminate a basic component of the Scenery Management System- the viewer - from the analysis.

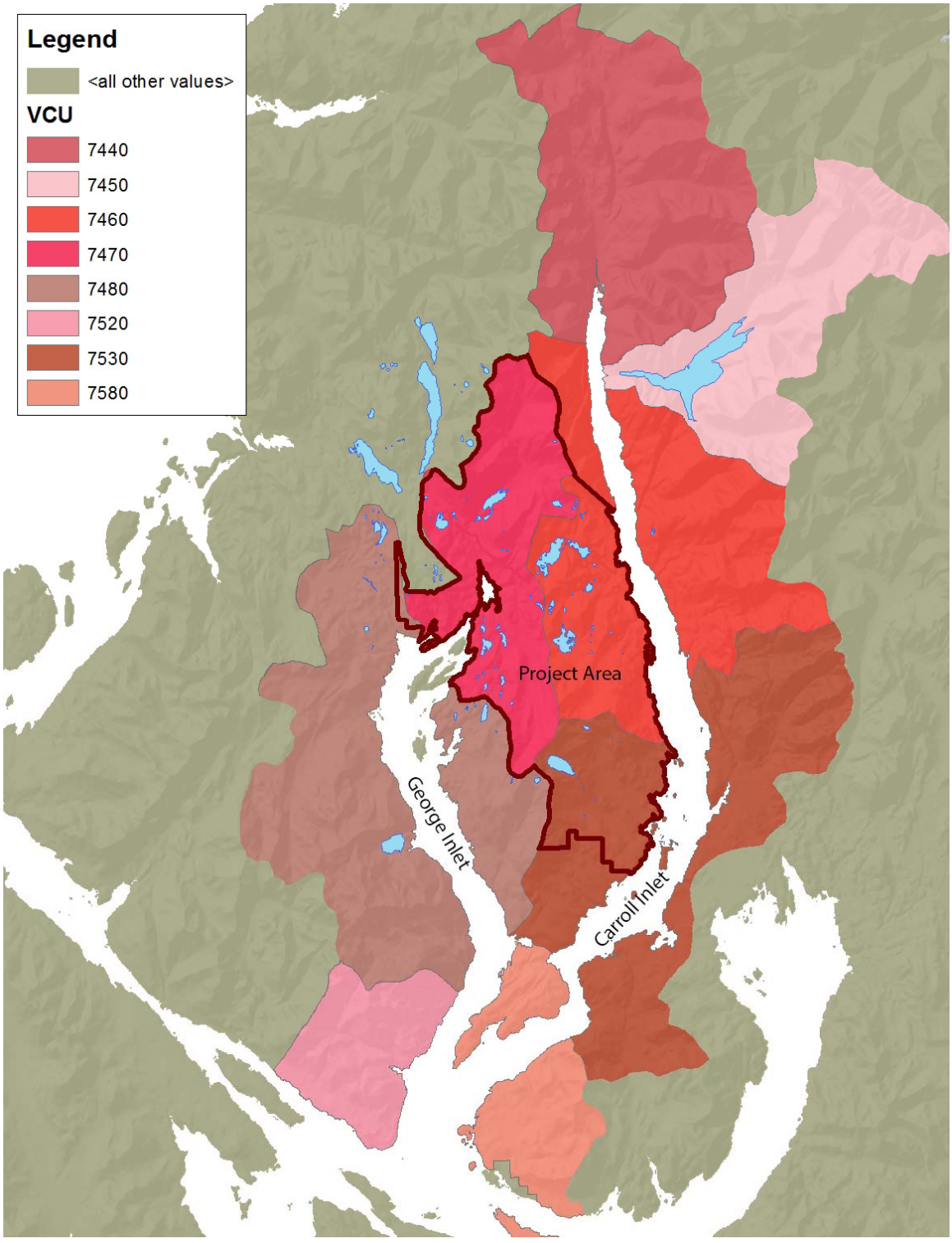

Figure 12. VCUs in the Greater George and Carroll Inlet Viewsheds

Effects Common to All Action Alternatives

State of Alaska Right-of-way on NFS Lands

The proposed State of Alaska Right-of-way is located within Old-Growth Habitat and Modified Landscape LUDs. The SIOs along the proposed alignment are High in Old-Growth Habitat LUD, and Moderate and Very Low in the Modified Landscape LUD. The Ketchikan to Shelter Cove Road ROW Easement is at low elevation, and is not on a very steep slope, therefore will have minimal visual impact on the area. It will meet the SIOs of the area.

Fish Passage Barrier Modification and Shelter Cove LTF Reconstruction

No effects are anticipated to the scenery resource as a result of implementing the fish passage barrier modification and the Shelter Cove LTF reconstruction.

Effects Comparison for the Action Alternatives

The following tables are used to display effects for the action alternatives (Alternatives 2 to 6), and will be referred to in the alternative effects analyses that follow. Table 10. Acres of harvest by existing scenic integrity objective (SIO) for the Saddle Lakes Timber Sale Projectsummarizes the silvicultural prescription acres in SIO by alternative. Table 11 summarizes road construction by SIO for each alternative. Table 12 quantifies the effects to SIO distribution of removing VPRs in Alternatives 4, 5 and 6. Table 13 summarizes the harvest within the Saddle Lakes Recreation Area viewshed by prescription for each alternative.

Table 10. Acres of harvest by existing scenic integrity objective (SIO) for the Saddle Lakes Timber Sale Project

Scenic Integrity Objective (SIO)	Alternative 2		Alternative 3		Alternative 4		Alternative 5		Alternative 6	
	CC	UA33	CC	UA33	CC	UA33	CC	UA33	CC	UA33
High	0	0	0	0	0	0	173	4	0	0
Moderate	129	589	171	27	774	148	921	61	530	185
Low	255	187	134	35	427	78	499	109	389	86
Very Low	671	375	512	134	912	85	1001	107	735	213
Totals	1055	1151	817	196	2113	311	2594	281	1654	484

Source: USFS Tongass National Forest GIS. Note: Numbers may not add due to rounding.

Table 11. Miles of proposed roads by alternative and scenic integrity objective (SIO) for the Saddle Lakes Timber Sale Project

Scenic Integrity Objective (SIO)	Alt. 2	Alt. 3	Alt. 4		Alt. 5		Alt. 6	
	Existing SIO	Existing SIO	Existing SIO	Revised SIO	Existing SIO	Revised SIO	Existing SIO	Revised SIO
High	0	0.1	0.2	0.2	0.8	0	0.2	0.2
Moderate	3.8	3.5	11.9	0	12.2	0	9.7	3.7
Low	4.2	2.0	6.8	6.6	6.8	6	5.1	2.9
Very Low	10.3	6.6	11.1	23.2	12.6	26.4	10.6	18.7
Total	18.2	12.1	30		32.4		25.5	

Source: USFS Tongass National Forest GIS. Note: Numbers may not add due to rounding. Revised SIO is after Forest Plan amendments are completed, removing VPRs for that Alternative.

Table 12. Effects of VPR removal (alternatives 4, 5 and 6) for the Saddle Lakes Timber Sale Project

Alternative	Acres of Harvest in Areas that Decrease in SIO	Acres of Harvest in Areas with no change in SIO	Project Area Acres that decrease in SIO	Greater George/Carroll Inlet Area Acres that decrease in SIO
4	1,285	1,139	8,270	13,920
5	1,642	1,233	8,750	14,930
6	743	1,395	6,810	10,900

Table 13. Acres of harvest within Saddle Lakes Recreation Area viewshed[1/], by prescription

Prescription	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6
CC	6	0	462	526	215
UA33	400	32	109	62	132
Total	406	32	571	588	347

Source: USFS Tongass National Forest GIS.

[1/] Viewshed includes the following units, including any variations of them (ie, -1, -2): 18, 19, 21, 27, 28, 29, 30, 31, 40, 46, 47, 48, 50, 51, 52, 75, 80, 114, 115, 116, 118, 122, 123, 125, 126, 134, 138, 147, 154, 156, 157, 158.

Alternative 1 – No Action

Alternative 1 is the no-action alternative. In addition to being an alternative to the proposed action it provides a baseline for evaluation of the impacts associated with the action alternatives, and is required (40 CFR§1502.14(d). Under the no-action alternative, no timber harvest or road construction would be implemented, and current management plans would continue to guide management of the project area. Alternative 1 does not meet the purpose and need because it does not address timber supply and economic concerns.

Direct and Indirect Effects

Alternative 1 will have no direct effects on the scenery resource because no timber harvest or road construction would occur. There would be a continued increase of the Existing Scenic Integrity (ESI) (e.g., from Very Low to Low, or Low to Moderate) because there would be no new harvest. Regrowth in previously harvested areas would lessen the visual disturbances of these older cuts and they would slowly become less noticeable.

Cumulative Effects

No timber harvest or road construction is proposed under Alternative 1 that would result in direct effects. Therefore, no cumulative effects are anticipated. The scenery effects of past timber harvest would continue to lessen over time, particularly in VCU 7530, and the project area would become more natural appearing during the reasonably foreseeable future.

Alternative 2 – Proposed Action

Alternative 2 was designed to harvest timber in the roaded land base in development LUDs (Timber Production and Modified Landscape), and meet all Forest Plan standards and guidelines. The proposed timber harvest would result in approximately 30 million board feet (MMBF) of timber from approximately 2,207 acres.

Direct and Indirect Effects

Alternative 2 meets the Forest Plan standards and guidelines for scenery. This alternative would harvest 718 acres (33% of total project acres) within areas of Moderate SIO, of which 129 acres would be clearcut (Table 10). Alternative 2 would require the construction of 3.8 miles of road within areas of Moderate SIO (Table 11). No changes of SIO acreage inside or outside of the project area would occur, as no VPRs are proposed to be removed. Forest visitors in the VPR areas of the Modified Landscape LUD would see a landscape where harvest activities are allowed, but development would be subordinate to the existing landscape character. In other words, as the viewer looks at the scenery, it may not be immediately obvious that timber harvest has occurred within their view. Within the Saddle Lakes Recreation Area VPR viewshed, a total of 406 acres of timber would be harvested with almost all of that being partial harvest (Table 13).

Alternative 2 ranks second highest among the action alternatives in terms of having the least effects to the scenery resource.

Cumulative Effects

Alternative 2 is above the 25 percent disturbance reference point in VCU 7530 at 26 percent, in the Modified Landscape LUD (Table 9). Disturbance within all other VCUs are within the recommended allowances for all LUDs.

Alternative 3

Alternative 3 maintains key wildlife habitat and connectivity corridors and deep snow winter habitat, minimizes visual impacts by applying more conservative (from the scenery perspective) silvicultural prescriptions that meet a higher SIO than required by the Forest Plan, and minimizes the effects of timber harvest on the current and future recreational opportunities available in the project area. The proposed timber harvest would result in approximately 17 MMBF of timber from approximately 1,012 acres. This alternative addresses Issues 2 (Wildlife Habitat and Subsistence Use) and 3 (Scenic Integrity and Recreational Opportunities) by minimizing harvest and road construction in key wildlife habitat, and subsequently by meeting or exceeding Forest Plan scenery standards and guidelines.

Direct and Indirect Effects

Alternative 3 meets the Forest Plan standards and guidelines for scenery. This alternative would harvest 198 acres (20% of total project acres) within areas of Moderate SIO, of which 171 acres are clearcut (Table 10). This alternative would construct 3.5 miles of road within areas of Moderate SIO (Table 11). No changes of SIO acreage inside or outside of the project area occur, as no VPRs are proposed to be removed. Forest visitors in the VPR areas of Modified Landscape LUD would see the landscape where the harvest activities are allowed, but development would be subordinate to the existing landscape character. In other words, as the viewer looks at the scenery, it may not be immediately obvious that timber harvest has occurred within their view. Within the Saddle Lakes Recreation Area VPR viewshed, there would be less harvest occurring than in Alternative 2, with only 32 acres being harvested in that area, all of which is partial harvest (Table 13).

Alternative 3 has the least effects to the scenery resource of all the action alternatives.

Cumulative Effects

As seen in Table 9, the Total Disturbance in all VCUs, for all LUDs, are within the recommended allowances for this alternative.

Alternative 4

Alternative 4 maximizes timber harvest in the roaded land base in the development LUDs (Timber Production and Modified Landscape). This alternative was developed to address Issue 1 (timber economics) by maximizing the timber sale economics for a maximum unit pool. This alternative would result in approximately 51 MMBF of timber from approximately 2,424 acres. This alternative does not meet the Forest Plan Scenic Integrity Objectives for the Modified Landscape LUD. A Forest Plan amendment to remove the 4 of the 5 VPRs in the project area would be needed to change the SIOs to a lower level in the Modified Landscape LUD, to enable this alternative to meet the Forest Plan.

Direct and Indirect Effects

The harvest proposed in Alternative 4 does not meet Forest Plan scenery standards and guidelines without Forest Plan amendment to remove 4 VPRs: George Inlet, Carroll Inlet, Saddle Lakes Recreation Area, and the Harriet Hunt to Shelter Cove Connection Road. Under this Alternative, 922 acres of harvest (38% of total project acres) occurs in areas currently categorized as Moderate SIO, 774 of which are clearcut (Table 10). This is 204 acres more than Alt. 2, with a much different balance of clearcut and partial harvest. Within the Saddle Lakes Recreation Area viewshed, 571 acres will be harvested, 81% which are clearcut (Table 13). This is 165 acres more than Alternative 2, though again this alternative has much more clearcut than partial cut. This alternative would construct 0.2 miles of road in existing areas of High SIO, and 11.9 miles of road in existing areas of Moderate SIO (Table 11). The removal of the VPRs will change the SIOs of 1,285 acres of harvest in the project area, and 8,270 project area acres, all to a lower SIO (Table 12). After the Forest Plan amendment is completed, there will no longer be any areas of Moderate SIO in the project area, and no harvest will occur in areas of Moderate SIO. There will still be 0.2 miles of road constructed in areas of High SIO, but none in areas of Moderate SIO. As an indirect effect of the VPR removal, 13,900 acres in the George and Carroll Inlet viewsheds will change SIO (Table 12). The changes to the SIO will enable more activity that alters the scenery to take place, and will be in effect for any future projects in the George and Carroll Inlet areas, including but not limited to timber harvest, utility corridor expansions, and recreation developments. Alternative 4 has very similar effects to scenery as Alternative 5 and more detail can be found in Alternative 5.

Alternative 4 ranks the second highest among the action alternatives in terms of having the most effects to the scenery resource.

Cumulative Effects

Alternative 4 would exceed the 25 percent recommended allowance for Total Disturbance in the Modified Landscape LUD in all VCUs, with 35 percent Total Disturbance in VCU 7460, 29 percent in VCU 7470, and 28 percent in VCU 7530 (Table 9). All VCUs are under the 50 percent mark for Timber Production LUD areas.

Alternative 5

The objective of Alternative 5 is to maximize timber harvest including harvest within the small Old Growth Reserve in Value Comparison Unit (VCU) 7470 in the Project Area. This alternative was developed to address Issue 4 (timber availability). The proposed timber harvest would result in approximately 61 MMBF of timber from approximately 2,875 acres. This alternative does not meet the scenery and wildlife Forest Plan standards and guidelines and would require two Forest Plan amendments; one amendment to remove the 5 VPRs in order to change the target Scenic

Integrity Objectives, and one amendment to modify the Old Growth Habitat LUD (move OGR to another location). The vacated OGR location would be changed to Modified Landscape LUD.

Alternative 5 has the largest acreage of harvest of the action alternatives, and to enable better understanding of the scope of this alternative, three viewpoints were used to illustrate some of the more visible effects. The maps in Figure 12 show the location from which the photograph was taken, the direction of the view shown, and the existing SIO for the area. The SIO of the areas would change to Low and Very Low before these units would be harvested, as a result of the recommended forest plan amendment. The following photos (Figures 13 -18) show both the existing view and the location of proposed units on the same view. The white overlay shows the unit locations but is not intended to be a photorealistic depiction of the future view. The maps in Figure 12 indicate the prescription of the units. Not all units shown have clearcut prescriptions.

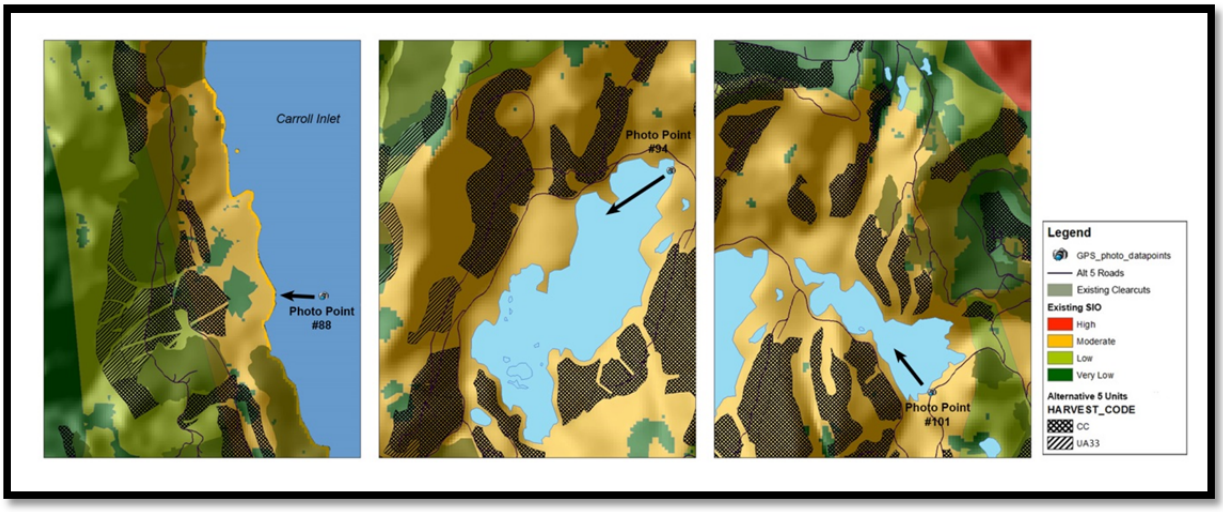

Figure 13. Map of Photo Point Locations and Direction of View

Figure 13 shows the existing view from Carroll Inlet. Two existing clearcuts are very visible to boaters on the inlet. The units planned for between the clearcuts are a mix of UA33 and clearcut, with the more visible units as UA33, as shown in Figure 14. The UA33 prescription should have far less visual impact than clearcuts, and should not be noticeable to a casual observer. The view from Carroll Inlet will not be highly impacted because of the use of the UA33 prescription for these units.

Figure 15 shows the existing view at the eastern lake within the Saddle Lake Recreation Area, with Figure 16 showing the proposed units superimposed on the existing view. All units seen from this view are planned as clearcuts.

Figure 17 shows the existing view across the western lake within the Saddle Lakes Recreation Area. Figure 18 shows the proposed units superimposed on the existing view. The prescriptions of the units can be seen in Figure 12(?), with the majority of the visible units as clearcuts. The roads included in this alternative are not represented in these figures but may also be visible in some locations.

Figure 14. (Photo Point 88) Existing View from Carroll Inlet, looking West

Figure 15. (Photo Point 88), with proposed Alternative 5 units shown as an overlay

Figure 16. (Photo Point 94) existing view at Saddle Lakes, northeast to southwest

Figure 17. (Photo Point 94), with proposed Alternative 5 units shown as an overlay

Figure 18. (Photo point 101), existing view looking from Saddle Lakes, southwest to northwest

Figure 19. (Photo point 101), with proposed Alternative 5 units shown as an overlay

Direct and Indirect Effects
The harvest proposed in Alternative 5 does not meet Forest Plan scenery standards and guidelines without a Forest Plan amendment to remove 5 VPRs: George Inlet, Carroll Inlet, Saddle Lakes Recreation Area, the Harriet Hunt to Shelter Cove Connection Road, and the Shelter Cove Boat Ramp. Alternative 5 harvests 669 acres more than Alternative 2, or 30% more acres than Alternative 2. The difference in unit prescriptions, however, means that Alternative 5 harvests 1539 more acres of clearcut than Alternative 2 (145% more than Alternative 2).

Under this Alternative, 982 acres of harvest (34% of project area acres) occurs in areas currently categorized as Moderate SIO, 921 of which are clearcut (Table 10). This is 264 acres more than Alt. 2, with a much different balance of clearcut and partial harvest. Alternative 5 is the only alternative that harvests from areas currently categorized as High SIO, with 173 acres of clearcut and 4 acres of UA33. Within the Saddle Lakes Recreation Area viewshed, 588 acres are harvested, 89% of which are clearcut (Table 13). This is 182 acres more than Alternative 2, though again Alternative 5 has much more clearcut than partial cut. This Alternative would construct 0.8 miles of road in existing areas of High SIO, and 12.2 miles of road in areas currently categorized as Moderate SIO, compared to the 3.8 miles constructed in Moderate SIO in Alternative 2(Table 11). To enable this Alternative to comply with the Forest Plan scenery objectives, it is proposed to remove 5 VPRs. The removal of VPRs will change the SIOs of 1,642 acres of harvest in the project area, and 8750 project area acres, all to a lower SIO (Table 12). After the Forest Plan amendment is completed, there will no longer be any areas of Moderate SIO in the project area. After these changes, no harvest will occur in areas of Moderate SIO, nor will there be any road construction in areas of High or Moderate SIO. This Alternative also has a Forest Plan amendment to change the Old Growth Habitat LUD, with a net decrease in Old Growth Habitat LUD acreage of just over 400 acres. This reduces the High SIO acreage by the same amount. These changes are a part of the 14,900 acres of SIO change that will occur in the George and Carroll Inlet watersheds as an indirect effect of this project (Table 12). The changes to SIO will enable more activity that alters the scenery to take place, and will be in effect for any future projects in the George and Carroll Inlet areas, including but not limited to timber harvest, utility corridor expansions and recreation developments.

The main difference between Alternative 5 and Alternative 4 is the result of The Old Growth Habitat LUD change and the slightly increased harvest. They will have very similar visual effects. The largest impacts will be seen from Saddle Lakes (i.e., the “Saddle Lakes Recreation Area”), which are currently Very High and High ESI. Forest visitors in these areas will be seeing landscapes where the harvest activities are allowed to dominate the scenery.

Impacts from the VPR removal will also be noticeable along the Connection Road and Carroll Inlet, where Forest visitors will be viewing landscapes where harvest activities are allowed to dominate the scenery. The visual impact will be less than at the Saddle Lakes Recreation Area because the Connection Road and Carroll Inlet already have existing clearcuts, many of which are already noticeable to the casual observer, while the Saddle Lakes Recreation Area viewshed is currently visually intact.

Alternative 5 has the most effects to the scenery resource of all the action alternatives.

Cumulative Effects

Alternative 5 exceeds the 25 percent recommended allowance for Total Disturbance in the Modified Landscape LUD in VCUs 7460 and 7470 by 43 percent and 37 percent, respectively.

The remaining VCU (7530) slightly exceeds the 25 percent mark, at 29 percent. All VCUs are under the 50 percent mark for Timber Production LUD areas (Table 9).

Alternative 6

The objective of Alternative 6 is to maximize timber harvest while reducing impacts to the Saddle Lakes Recreation Area, which the Forest Plan identifies as a Visual Priority Route and Use Area, as a future recreation area. This alternative leaves the majority of timber within the recreation area out of this sale, but available for potential future harvest. The proposed timber harvest would result in approximately 41 MMBF of timber from approximately 2,138 acres.

This alternative was designed to address Issue 3 (Scenic Integrity and Recreational Opportunities). It meets and exceeds the Scenic Integrity Objectives in the current Forest Plan ONLY for lands visible from the Saddle Lakes Recreation Area VPR. It does not meet the standards and guidelines in the current Forest Plan for lands visible from the following three VPRs: Carroll Inlet, George Inlet, and Harriet Hunt to Shelter Cove Connection Road. A Forest Plan amendment to remove those three VPRs would enable this alternative to meet Forest Plan Scenery Standards and Guidelines.

Direct and Indirect Effects

The harvest proposed in Alternative 6 does not meet Forest Plan scenery standards and guidelines without a Forest Plan amendment to remove 3 VPRs: George Inlet, Carroll Inlet, and the Harriet Hunt to Shelter Cove Connection Road. Alternative 6 would harvest 715 acres within existing areas of Moderate SIO, of which 191 acres are clearcut (Table 10). This is 3 acres total less than Alt. 2, but has 62 acres more of clearcut than Alt. 2. This alternative would also construct 0.2 miles of road within existing areas of High SIO, and 9.68 miles of road within existing areas of Moderate SIO (Table 11). Within the Saddle Lakes Recreation Area viewshed, 347 acres of harvest will occur, with 62% of it clearcut (Table 13). This is 59 acres less than Alt 2, but again has a larger number of acres of clearcut than that Alternative. After the Forest Plan amendment is completed, 350 acres of harvest will occur in areas of Moderate SIO. About 0.2 miles of road will still be constructed within areas of High SIO, while 3.7 miles of road will be constructed in areas of Moderate SIO. The removal of the 3 VPRs will change the SIOs of 743 acres of harvest in the project area, and 6810 project area acres, all to a lower SIO. These changes are a part of the 10,900 acres of SIO change that will occur in the George and Carroll Inlet viewsheds as an indirect effect of this project (Table 12). The changes to SIO will enable more activity that alters the scenery to take place, and will be in effect for any future projects in the George and Carroll Inlet areas, including but not limited to timber harvest, utility corridor expansions, and recreation developments.

The largest impacts of this project will be seen in Carroll Inlet and along the Ketchikan to Shelter Cove connection road. Forest visitors in these areas will be seeing landscape where the harvest activities are allowed to dominate the scenery. This Alternative does, however, keep the Saddle Lakes Recreation Area VPR and have significantly reduced harvest in that viewshed compared to Alternatives 4 and 5. Much of the Recreation Area viewshed will remain managed as Moderate SIO, and appear relatively unaltered, preserving the potential recreation value of the area in light of the proposed road connection to Ketchikan, and the likelihood that residents of Ketchikan will value the visually intact landscape of the lake area.

Alternative 6 ranks third highest among the action alternatives in terms of having the least effects to the scenery resource.

Cumulative Effects

Alternative 6 exceeds the 25 percent recommended allowance for Total Disturbance in the Modified Landscape LUD in two VCUs, 26 percent in VCU 7470 and 29 percent in VCU 7530. All VCUs are under the 50 percent mark for Timber Production LUD areas (Table 9).

Compliance with Forest Plan and Other Relevant Laws, Regulations, Policies and Plans

Alternatives 2 and 3 were designed to meet or exceed the Scenic Integrity Objectives (SIOs) specified by the Forest Plan Standards and Guidelines. Alternatives 4, 5, and 6 do not meet the current Forest Plan standards and guidelines for scenery and would require a Forest Plan amendment to remove VPRs in order to change the standards and guidelines for the project area. With an amendment, Alternatives 4, 5 and 6 would meet these proposed SIOs.

Alternatives 4, 5, and 6 do not meet the goal of the Modified Landscape LUD (Forest Plan 3-109) to "recognize the scenic value of suitable forest lands views from identified popular roads, trails, marine travel routes, recreation sites, bays, and anchorages, and to modify timber harvest practices accordingly."

Removing VPRs without supporting use data is not consistent with guidelines for application of the SMS since it would eliminate the viewer from the analysis in spite of evidence in the 2008 Forest Plan and more recent observations of visitor presence in and along these VPRs.

Other Relevant Mandatory Disclosures

Unavoidable Adverse Effects

Much of this project takes place in areas categorized as having Very Low, Low, and Moderate Existing Scenic Integrity. Generally, harvest within this project will keep the scenic integrity of the areas at the existing level or lower it a level or two. One area of the project has a much higher Existing Scenic Integrity, the Saddle Lakes Recreation Area viewshed. This is 1890 acres of Very High and High ESI. In Alternatives 4 and 5, harvest activities will change the scenic integrity of the area to Very Low. This drop of 4 to 5 levels of Scenic Integrity is an adverse effect to the scenery of the area, and due to managing for timber volume and timber economy issues. The area will change from one where the scenery is or appears visually intact, to one where harvest activities dominate the view.

Summary of Effects

Alternative 3 would rank highest as having the least effects to the scenery resource of the Action Alternatives, followed by Alternative 2 as the second highest, and then Alternative 6 in the middle. Alternative 5 ranks highest as having the most effects to the scenery resource of the Action Alternatives, and Alternative 4 ranks second highest as having the most effects.

Alternatives 2 and 3 meet the Forest Plan standards and guidelines for scenery. Areas of the project that are likely to be viewed closely by the public may appear slightly altered, but the impacts of the project will be subordinate to the view and will blend with the surrounding landscape.

Alternatives 4, 5, and 6 do not meet the current Forest Plan standards and guidelines for scenery, and include amendments to alter the standards and guidelines. With the implementation of the proposed amendments, these alternatives will meet the Forest Plan. These three alternatives do

not meet the goal of the Modified Landscape LUD to recognize scenic value in the project area, and all exceed the recommended allowances for Total Disturbance in Modified Landscape LUDs (Table 9).

Mitigation and Monitoring

For the Saddle Lakes project, mitigation to reduce scenery effects has been incorporated into harvest unit design and harvest unit prescriptions. Units with moderate SIOs were given priority for mitigation. Primary measures included: 1) deferring harvest of a setting or group of settings; 2) modifying unit size and/or shape; and 3) changing prescription to partial harvest with 33 to 50 percent removal. Some areas of Low and Very Low SIO were mitigated using the same measures in order to keep the area from falling below the required SIO.

Forest-wide BMP implementation monitoring has consistently reported a high level of compliance (USDA Forest Service 2012). BMP implementation monitoring will continue to occur annually on a representative basis across the forest as part of Forest Plan monitoring and is likely to occur in the Saddle Lakes Timber area. In addition, a range of Forest Plan monitoring measures will occur at the forest level and may or may not take place in the Saddle Lakes Timber Sale area.

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