PEBBLE PROJECT
ENVIRONMENTAL BASELINE DOCUMENT
2004 through 2008

CHAPTER 52.
VISUAL RESOURCES
Cook Inlet Drainages

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ACRONYMS AND ABBREVIATIONS

BG	background (distance zone)
FG	foreground (distance zone)
MG	middle ground (distance zone)
min	minute(s)
NEPA	National Environmental Policy Act
sec	second(s)
USFS	United States Forest Service

52. VISUAL RESOURCES ANALYSIS

52.1 Introduction

This chapter describes work completed during 2004 through 2008 for the visual resources analysis component of the environmental baseline studies for Pebble Project. The work consisted of characterizing visual resources in the Cook Inlet drainages.

This visual resources analysis uses tools and methodologies described in the U.S. Forest Service (USFS) document *Landscape Aesthetics, A Handbook for Scenery Management* (USFS, 1995). The handbook is a recognized and often-used guide for the analysis of landscapes, and the analysis process, while intended primarily for use as a management tool, still provides a useful framework for review of scenic quality. The analysis process employs steps for the definition of landscape units and provides guidance for defining viewer (or constituent) groups, landscape character, scenic integrity, and scenic classes.

For this study, visual characterization included the following:

- Determination of viewed areas.
- Evaluation of constituent viewer groups, and their sensitivities and expected exposure.
- Analysis of the landscape's existing scenic character and quality.

52.2 Study Objectives

Objective of this study is to analyze the existing landscape character and quality in the study area.

52.3 Study Area

The study area encompasses potentially viewed areas in the vicinity of possible Pebble Project components in the Cook Inlet drainages. The study area extends eastward from the boundary between the Bristol Bay and Cook Inlet drainages to the eastern side of the Iniskin Peninsula (Figure 52-1).

52.3.1 Regional Context

Landscape components are the physical elements that make up a landscape, including landform, water, vegetation, and man-made features. The landscape setting of the study area is characterized by mountains of varying topographic relief, fast-flowing rivers, tundra, marshy lowlands, and ponds. Depending on elevation and location, most of this land is covered by alpine tundra, low or tall shrubs, or areas of mixed broadleaf and spruce trees.

52.3.2 Visibility

The study area is potentially visible to users of an existing road, and temporary and permanent residents of cabins and lodges, as well as passengers on aircraft or boats.

52.4 Scope of Work

The scope of work for the visual resources analysis is to characterize and document the visual resources in the study area, particularly with regard to the sensitivities of potentially affected parties. Researchers completed field work for this study during summer of 2004. Other components of the study include mapping and coordination with other consultants for the Pebble Project (specifically those performing subsistence, socioeconomic, and recreation analyses) regarding locations of possible viewers. Work conducted by Land Design North.

52.5 Methods

52.5.1 Research Methods

Researchers communicated with Pebble Project consultants to gain an understanding of the sensitivities of individuals and groups in the study area. Using this information, researchers developed a plan for documenting the existing visual conditions at locations and altitudes that would be of most concern to key parties. Researchers then traveled to the study area to document the existing visual conditions of select areas. Researchers traveled by helicopter to document landscape character and views using a digital camera and global positioning system (GPS). The team then catalogued and mapped the locations of all photographs.

Researchers created initial base maps using a geographic information system (GIS) map that was based on ecological units digitized by Nowaki et al (2001) of the U.S. Geological Survey and derived from units defined by Bailey (1994). That information was combined with the protocol for landscape aesthetics used by the USFS to create mapping that is included in the baseline document (Figures 52-1 to 52-7).

Researchers telephoned airlines that travel to, from, and across the study area to determine flight patterns and areas of interest (Figure 52-3). Iliamna Air Taxi (Hornberger and Laport, pers. comm. 2004) defined its flight paths to help determine the extent of the study area. Researchers coordinated with contractors performing recreation studies for Pebble Project to determine other travel patterns that might afford views of the study area.

52.5.2 Landscape Analysis Units

To provide a framework for analyzing the visual environment, four landscape units were identified for the Cook Inlet study area based on the landform patterns, hydrology, vegetation, and cultural elements (Table 52-1 and Figure 52-2). Each unit was characterized with respect to its scenic attractiveness and scenic integrity. The identification of these units is an important key in analyzing the visual quality of the study area.

TABLE 52-1
Landscape Analysis Units, Cook Inlet Drainages

Unit #	Unit Name	Description	Elevation (in feet)	Hydrology
1	Williams Creek Valley	This unit encompasses the Williams Creek drainage from the Bristol Bay/Cook Inlet hydrological divide to Iliamna Bay.	0 to 3050	Creek, drainages
2	Coastline	This unit comprises the coastline from the north side of the Iniskin Peninsula to south of Iliamna Bay.	0 to 3050	Ocean coast, river mouths/drainages
3	Y Valley	This unit covers the glacial valley on the peninsula between Iliamna and Iniskin bays.	10 to 3100	River valley
4	Iniskin Peninsula	This unit comprises the peninsula between Iniskin Bay and Chinitna Bay, excluding the coastal areas that are in Unit 2.	0 to 3988	Creeks, rivers drainages

For purposes of this study, most of the landscape analysis units have been divided into subunits. Generally, delineation of subunits is based on variations in scenic class, scenic attractiveness, distance zones, concern levels, and scenic integrity; however, in the Cook Inlet study area, the subunits are based solely on distance zone, with the ratings for all other characteristics being the same throughout the study area. Results of the analysis of each of the landscape units are described in Section 52.6 and are depicted on unit maps (Figures 52-4 through 52-7), which show the subunits within each unit.

52.5.3 Identification of Viewer Groups

Researchers identified a number of potentially affected parties and their sensitivity levels through discussions with Pebble Project consultants. Key parties that were identified included residents of local communities, hunters and fishermen (including subsistence users), recreational visitors to Lake Clark National Park and Preserve, and travelers by boat and air. Based on discussions that Pebble Project consultants have had with many of the parties, it appears there is a high level of sensitivity for many in the area, particularly those who operate flightseeing services, fly-in fishing operations, or hunting camps.

Researchers identified four major types of viewer groups or constituents for the study area based on the existing land uses and travel routes. Table 52-2 identifies the viewer groups and their expectations and values for the viewshed of the area.

TABLE 52-2
Viewer Groups, Cook Inlet Drainages

Viewer Group	Description	Expected Values
Residents	Limited number of residents; seasonal occupancy of Williamsport, Camp Point (Iniskin Peninsula), and some cabins/lodges along coasts and creeks	Generally desire protection of visual quality, including views from roadways, waterways, and individual residences. Generally cautious concerning changes to visual environment. High variability in levels of concern.
Tourists and Recreationists	Fishing, hunting, boating, sightseeing	Generally have high appreciation for visual quality of an area and desire for undisturbed areas.
Subsistence Users	Fishing, hunting	Generally have high appreciation for visual quality of an area and desire for undisturbed areas.
Aircraft Passengers	Scheduled carriers and small aircraft serving cabins and Camp Point	High variability in visual values and acceptance of changes to existing visual conditions. Many are sightseers with high degree of sensitivity to visual quality, while destination-oriented travelers are not as sensitive.

52.5.4 Analysis of Visual Character and Quality

Landscape visibility and scenic attractiveness, and their derivative, scenic classes, are used to assess the existing visual conditions in the study area. Mapping for the scenic inventory takes into account the landscape visibility, the concern levels of users/residents, scenic attractiveness, scenic class, and scenic integrity.

52.5.4.1 Landscape Visibility

Landscape visibility addresses the relative importance of and sensitivity of the public to what is seen in the landscape. It consists of three elements:

- Travelways and use areas.
- Concern levels.
- Distance zones.

Landscape visibility is a function of several considerations, including context of viewers, duration of view, degree of discernible detail, seasonal variations, and number of viewers. These factors are considered in the analysis of individual landscape units.

The first area of analysis was whether the study area can be viewed from “travelways” and “use areas.” Travelways represent linear concentrations of public viewing. Use areas are specific locations that receive concentrated public viewing.

Concern level is a function of both the travelway/use areas and interest in the scenery. In general, the USFS recognizes that individuals participating in passive recreational activity have a high concern level for the visual quality of their setting. According to the USFS scenery management handbook (USFS, 1995), primary and secondary travelways/use areas of either high, moderate, or low use in which

constituents have a high interest in scenery are assigned a high concern level. Concern levels are ranked from 1, high concern, to 3, low concern.

The issue of concern is different from that of "seen area." Seen-area analysis deals with the ability of the viewer to see the area and the position of the area with respect to the overall seen landscape. The USFS measures this in terms of distance zones. The distance zones are foreground, middle ground, background, and seldom seen (Table 52-3).

TABLE 52-3
Distance Zones

Distance Zones	Distance	Description
Foreground (FG)	0 to 0.5 miles	Can distinguish vegetative detail, medium to large birds, tree movement; can detect animal/tree sounds and smells
Middle ground (MG)	0.5 to 4 miles	Can distinguish individual tree forms, large boulders, flower fields, small openings in the forest, and small rock outcrops
Background (BG)	4 miles to horizon	Can distinguish groves or stands of trees, large openings in the forest, and large rock outcrops; texture has disappeared and color has flattened
Seldom Seen (SS)	Varies	Seldom seen as a result of topography and/or distance from viewing locations; may be seen from aircraft

Source: USFS, 1995

52.5.4.2 Scenic Attractiveness

Scenic attractiveness measures the scenic importance of a landscape based on human perceptions of the intrinsic beauty of landform, water characteristics, vegetation patterns, and cultural features. Scenic attractiveness is divided into three classes (Table 52-4).

TABLE 52-4
Scenic Attractiveness Classes

Class		Description
A	Distinctive	Areas where landform, vegetative patterns, water characteristics, and cultural features combine to provide unusual, unique, or outstanding scenic quality. These landscapes have strong positive attributes of variety, unity, vividness, mystery, intactness, order, harmony, uniqueness, pattern, and balance.
B	Typical or Common	Areas where landform, vegetative patterns, water characteristics, and cultural features combine to provide ordinary or common scenic quality. These landscapes have generally positive, yet common, attributes of variety, unity, vividness, mystery, intactness, order, harmony, uniqueness, pattern, and balance. Typically they form the basic matrix in the landscape unit.
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 not present. These landscapes have weak or are missing attributes of variety, unity, vividness, mystery, intactness, order, harmony, uniqueness, pattern, and balance.

Source: USFS, 1995

52.5.4.3 Scenic Classes

Scenic classes are used to measure of the value of scenery by looking at the relative importance of discrete landscape areas with similar characteristics with regard to scenic attractiveness and landscape visibility. Scenic classes are determined using the matrix shown in Table 52-5.

TABLE 52-5
Scenic Class Determination Matrix

	Landscape Visibility Distance Zone		
Scenic Attractiveness	**Foreground**	**Middle Ground**	**Background**
A. Distinctive	1	1	1
B. Typical	1	2	2
C. Indistinctive	1	2	3

Scenic class ratings: 1 to 2 = high public value, 3 to 5 = moderate public value, 6 to 7 = low public value

Note: All locations in the study area are considered to be areas of high public concern; thus this table applies specifically to areas of high public concern.

Source: USFS, 1995

Generally, scenic classes one and two have high public value, classes three through five have moderate public value, and six and seven have low public value. Because the entire study area has been deemed of high public concern (Section 52.6.1), all zones in the study area would fall into Classes 1 through 3, as shown in Table 52-5.

52.5.4.4 Scenic Integrity

According to *Landscape Aesthetics, A Handbook for Scenery Management* (USFS, 1995), "scenic integrity" is defined as a measure of the completeness of a landscape. A very high rating would be assigned to landscapes where there is very little or no deviation from the landscape that is valued by constituents for its visual appeal. Conversely, a very low rating would be assigned to those landscapes where the valued landscape has been highly disturbed. Scenic integrity ratings range from very high to very low:

- VH = very high.
- H = high.
- M = moderate.
- L = low.
- VL = very low.

Sometimes architecture or other man-made aspects of an environment can add to the integrity of a landscape because the man-made piece is valued by the constituents. In the study area, however, the natural character is the most valued aspect of the landscape.

52.6 Results and Discussion

52.6.1 Landscape Visibility

There are no primary travelways or use areas in the study area. No communities have year-round residences or are of significant size, and no roadways are specifically designated as important for aesthetic reasons (e.g., scenic byways). There are secondary travelways and use areas in the study area, including Williamsport, which is occupied on a seasonal basis during the summer months, and the access road from Williamsport to Iliamna Lake, which is not open in winter. There are also some occasional use/seasonal camps in the area, including on the Iniskin Peninsula. In addition, because low-flying aircraft and boats use or transit the area, the entire study area would be categorized as a secondary travelway. Regardless of the level of use, those areas within view of travelways/use areas are deemed by the USFS to have high concern levels.

Level of concern for scenery in an area is sometimes measured by polling members of the public. The possible development of the Pebble Project has generated a high level of discussion and has raised the public's awareness of the area. While much of this is political discourse and is centered on fishery resource issues, a higher level of awareness typically translates into a higher level of concern for aesthetics.

52.6.1.1 Residents

This viewer group typically has strong ties to existing visual conditions and responds strongly to negative changes to familiar surroundings. The group is likely to have a high level of concern about changes to existing visual conditions of frequently used areas. This will be particularly true for foreground and middle-ground areas. It is worth noting, however, that there can be high variability in levels of concern based on economic conditions, personal values, and expectations regarding community growth and the nature of that growth.

52.6.1.2 Tourists and Recreationists

Tourists and recreationists typically travel to locations such as rural Alaska in search of an isolated or low-population experience. Travel brochures typically use words such as "pristine" and "wilderness" as enticements to visit the area. This implies an experience without indications of the presence of people. This viewer group is likely to have a high level of concern for aesthetics because expectations of a high-quality visual experience are part of what draws them to the area.

52.6.1.3 Subsistence

Subsistence users typically have a high appreciation for traditional practices and typically enjoy travel to undisturbed locations. For this group, undisturbed areas, particularly those far from roads and other disturbances, often equate to a plentiful harvest that has not been picked over or destroyed; therefore, there is a strong connection to undisturbed areas. This viewer group is likely to have a high level of concern for intrusions into the natural landscape.

It should be noted that the often-used criteria of complexity, used as a measure of vividness in the landscape, may not apply to Native subsistence users as it might to non-Native subsistence users. Because

of their culture, Native subsistence users may be much more attuned to and appreciative of landscapes that yield bountiful berry harvests or that are historical routes for caribou passage, may have less appreciation for dramatic scenery than other groups, and may place higher value on landscapes such as rolling hills with low groundcovers that better equate with traditional subsistence use.

This visual resources analysis considers only the aesthetic issues surrounding subsistence, not cultural values or wildlife issues. Where appropriate, the discussion will address how subsistence user's landscape preferences may differ from those of other groups. This study assumes that subsistence users are present in all landscape units.

52.6.1.4 Aircraft

Users in aircraft have markedly different viewing locations than are identified by other user groups. All aircraft-based views are from relatively high altitudes, and the duration of a view may change dramatically depending on altitude and airspeed. While it is possible to identify the flight paths of scheduled air carriers, it is not possible to accurately predict the flight paths of personal aircraft that transit the area or of guide services that may fly to locations of low use. However, it is believed that the largest amount of air traffic in the area is within scheduled air-traffic corridors, and these corridors receive special consideration with respect to views and mapping.

52.6.2 Viewer Exposure

Viewer exposure is expressed by the level of use, distance to landscape, duration of view, and speed of travel for each of the viewer groups. Level of use addresses the number of viewers. In the study area, viewer numbers are low; however, those viewing the study area have a high level of interest in scenery. The concern level then is considered high regardless of the number of viewers. The exposure period varies within each individual viewer group. For example, those participating in recreational activities or subsistence activities could have views to affected areas that would be measured in hours or days. Viewers from aircraft generally have views measured in seconds or minutes depending on speed and altitude. Residents could have continual access to views, affected by individual orientations, window locations, travel patterns, and seasonal characteristics of vegetation.

52.6.2.1 Residents

There are no known permanent residents in this portion of the study area. The only "residents" would be a small number of temporary residents in the study area on a seasonal basis. Seasonal residents can be found in both Williamsport and Camp Point, which is located on small sand spit on the south shore of Chinitna Bay and which includes a number of cabins and larger structures.

52.6.2.2 Tourists/Recreationists

Tourists and recreationists generally access the study area for fishing/hunting destinations via the Kenai and Anchorage airports. Their exposure time would vary depending on their specific activity. Boaters could have a limited exposure time, depending on whether they were cruising or exploring. Fishermen, on the other hand, could have an exposure period of hours if they were to stay in one location over a long period.

52.6.2.3 Subsistence

There are numbers of locations along stream corridors and the coast where subsistence activities take place. This constituent group is considered to be highly sensitive to changes to the existing environment. As with recreationists and tourists, their exposure time would vary.

52.6.2.4 Aircraft

Preliminary information gathered on aircraft patterns indicate that aircraft travel between lodges near Camp Point on Chinitna Bay and Iliamna or the Kenai Peninsula. These aircraft travel to and from area streams and lakes throughout the fishing season and to and from hunting camps in the autumn.

For those traveling by floatplane, the view would generally transition from background to foreground. Assuming a floatplane would be traveling at an altitude of 500 feet above mean sea level at a speed of 150 to 165 miles per hour cruising speed (for a Cessna 185 or 206), passengers and pilot would have background views for many minutes, middle-ground views for approximately two minutes, and foreground views for approximately 30 seconds. Mountains and hillside areas would have closer views, and depending on the orientation of the viewed hillside or mountain, views could be longer.

For those traveling over the area en route between Anchorage and points southwest, including the western Pacific Rim, passengers would probably be traveling in a Boeing 737 or similar aircraft at a speed around 575 miles per hour and an altitude greater than 20,000 feet. These individuals would have middle-ground to background views (4 miles or greater), and their estimated exposure time would be several minutes for background views and approximately 30 seconds for middle-ground views.

52.6.3 Seasonal Variations

There is a difference between the numbers of viewers that might view the study area in the summer and autumn versus the numbers who might view the area in the winter and spring. The area in general is not viewed by a large number of sportfishers, since more desirable fishing sites are located outside the study area; nevertheless, for visitors, travel generally occurs from May through early October. The visitor population drops after bear viewing, fishing, and hunting seasons are over. Additionally, all the bays in the area freeze over in the winter making them inaccessible by boat. Thus, both the numbers of on-the-ground viewers and the air-traveler populations are much lower during winter and early spring. Air travel on high-altitude jets is less influenced by seasons.

There is not a high level of subsistence use in the area, though it does occur. Subsistence hunting occurs generally in the autumn, but some happens in winter and spring; however, the largest portion of the subsistence use in the area is expected to occur in summer and autumn for berry-picking, fishing, and hunting.

52.6.4 Landscape Analysis by Unit

52.6.4.1 Unit 1, Williams Creek Valley

PHOTO 52-1, Williams Creek Valley viewed from near the top of the pass looking southeast towards Iliamna Bay.

PHOTO 52-2, Williamsport viewed from the upper end of Iliamna Bay looking west-northwest towards the pass.

Description

This unit is composed of the Williams Creek Valley, a two- mile-long valley oriented in a generally east-west direction (Figure 52-4; Photos 52-1 and 52-2). It includes the entire valley from the Bristol Bay/Cook Inlet drainages divide to Williamsport, at the mouth of Williams Creek on Iliamna Bay. The unit is divided into three subunits based on variations in scenic characteristics.

Viewer Exposure and Concern Level

This area is viewed primarily by boats or barges, by motorized vehicles traveling along the valley on the Williamsport-Pile Bay Road (Photos 52-1 and 52-2), and by aircraft flying between Cook Inlet and Iliamna Lake. Viewer exposure and concern level for each applicable viewer group are summarized in Table 52-6.

TABLE 52-6
Unit 1, Williams Creek Valley, Viewer Exposure and Concern Level

	Aircraft	Motorized Vehicles	Boats
Exposure Period	Small Aircraft: 5 min or more BG, 2 min MG, 30 sec FG	20 min	Varies depending on whether cruising or anchored
Concern Level	High	Varies from low to high	Varies depending on whether recreational or working boats

Notes:
min = minute(s)
sec = second(s)

Aircraft: Small aircraft flying between the Kenai Peninsula and Iliamna Lake pass the Iniskin Peninsula and cross Iliamna Bay, and pass through Williams Creek Valley at low altitudes (1,000 to 5,000 feet) with foreground and middle-ground views to this unit. Flights between the Kenai Peninsula and more southwesterly locations fly approximately 6 miles south of Williamsport with background views to this unit (Figure 52-3; Waring, 2006).

Motorized Vehicles: Williamsport provides access to a roadway used to transport boats and cargo between Iliamna Lake and Cook Inlet. According to the Alaska Department of Transportation and Public Facilities, the 15-mile-long Williamsport-Pile Bay Road gets an average of 10 vehicles per day of traffic when the road is open (ADOT&PF, 2009). This traffic is highly seasonal, however, and for much of the year the road is closed, receiving no traffic whatsoever. Users of this road include freight handlers, hunters, fishermen, and sightseers (Williams, 2008). The concern level of these users varies greatly, and freight handlers would be expected to have a low concern for visual conditions, while hunters, fishermen, and sightseers would be expected to have high concern for visual conditions.

Landscape Character

Williams Creek Valley is a typical U-shaped glacial valley but with a complex mix of vegetation, scree, exposed ridgelines, and creeks, making it distinct. From Williamsport, the road travels through vegetation ranging from shrubs to subalpine tundra. The road follows Williams Creek, gaining elevation as it climbs to the hydrologic divide and offering views of hanging valleys and Iliamna Bay. The presence of a roadway from which to view the landscape is unusual for the area and offers one of the few opportunities to view a distinctive landscape from a roadway. Because of the creek, complex geologic landforms in both the foreground and background, and the views to Iliamna Bay, this landscape is considered distinctive, or of scenic attractiveness Class A.

Scenic Inventory Summary

The study area is considered to be at the high concern level as explained previously. The dramatic topography rising from Iliamna Bay mixed with river and creek hydrology contributes to strongly memorable and positive attributes of variety, uniqueness, and harmony in this unit. Scenic integrity for this unit is very high, and the scenic class is Category 1.

52.6.4.2 Unit 2, Cook Inlet Coastline

PHOTO 52-3, Iliamna Bay, looking south-southeast.

PHOTO 52-4, Coastline between Iliamna Bay and Iniskin Bay, looking eastward to the southern Iniskin Peninsula.

PHOTO 52-5, Eastern shore of Iniskin Bay from the mouth looking north.

PHOTO 52-6, Near the head of Iniskin Bay, looking north.

PHOTO 52-7, Southern Chinitna Bay looking westward toward Camp Point (center of photo).

Description

This unit encompasses the coastline of Cook Inlet from the north side of the Iniskin Peninsula to south of Iliamna Bay, including southern Chinitna Bay, Iniskin Bay, and Iliamna and Cottonwood bays (Figure 52-5; Photos 52-3 through 52-7). The landscapes in the unit vary from protected coves to highly exposed, high-wave-energy shorelines.

Viewer Exposure and Concern Level

This unit is viewed primarily by small numbers of boaters and by occupants of aircraft traveling between Cook Inlet and Iliamna Lake. Both constituencies have high levels of concern. Viewer exposure and concern level for each applicable viewer group are summarized in Table 52-7.

TABLE 52-7
Unit 2, Coastline, Viewer Exposure and Concern Level

	Aircraft	Boaters/ Recreationists
Exposure Period	Small Aircraft: 5 min or more BG, 2 min MG, 30 sec FG	Hours
Concern Level	High	High

Aircraft: Small aircraft flying between the Kenai Peninsula and Iliamna Lake pass the Iniskin Peninsula and cross Iliamna Bay, and pass through Williams Creek Valley at low altitudes (1,000 to 5,000 feet) with foreground and middle-ground views to this unit. Exposure periods for this viewer group range from 30 seconds to two minutes.

Boaters/Recreationists: The coastline is highly complex and from May to October attracts boaters seeking glimpses of bears, sea life, and other wildlife. The intricate coast along Cook Inlet offers excellent opportunities for exploring by boat or on day hikes when weather permits. Exposure periods for this viewer group range from minutes to hours depending on the rate of travel and proximity to the coast.

Landscape Character

Iliamna Bay (Photo 52-3) is surrounded by steep hillsides that rise directly from the water, with various color patterns emerging from the ocean edge, dense vegetation interrupted by vertically cut mountainsides, and broad, sweeping, exposed beaches. This mix of vegetation, hydrology, and geology makes this complex coastline of high visual quality. Iniskin Bay (Photos 52-5 and 6) is similar to Iliamna Bay and is surrounded by jagged peaks and ridgelines and contains various colors of water, from murky brown to deep blue, all of which give this bay variety and complexity. The bay, therefore, is considered distinctive, or Class A for scenic attractiveness.

The coastline between Iliamna and Iniskin bays and along the southwestern side of the Iniskin Peninsula (Photo 52-4) is a high-wave-energy coast with a complex shoreline of islands and peninsulas. The shoreline features exposed rock with isolated vegetative stands and small, perched ponds. Peaks rise quickly to summits of 2800 feet. It is a distinctive landscape with a scenic attractiveness rating of A.

Chinitna Bay (Photo 52-7) features a rugged coast that becomes a tidally influenced delta with a diversity of topography, hydrology, and vegetation. The western portion is open with many small creeks that empty to a tidally influenced, shallow, muddy bay. The only visible evidence of human activity is a few large barrels near the tree line of the bay and dock facilities on the Seal Spit tidelands that once supported oil-drilling operations on Upper Fitz Creek. This area is mostly intact with very high scenic integrity. Foreground and middle-ground views of this area are rated A for scenic attractiveness.

Scenic Inventory Summary

The entire study area is considered to be of high concern level as explained previously. The dramatic topography rising from the ocean combined with a complex shoreline contributes to strong memorable and positive attributes of variety, uniqueness, and harmony. The scenic class for this unit is Category 1.

52.6.4.3 Unit 3, Y Valley

PHOTO 52-8, Entry to Y Valley from Cook Inlet, looking north-northeast.

PHOTO 52-9, Y Valley, looking north-northwest from Cook Inlet.

PHOTO 52-10, View to the north up Y Valley.

Description

The Y Valley unit is the inland portion of the peninsula between Iliamna Bay and Iniskin Bay (Figure 52-6, Photos 52-8 through 52-10). The valley is oriented in a generally north-south direction and drains to Cook Inlet (the mouth of the valley is in Unit 2). The unit is divided into five subunits based on variations in view distances.

Viewer Exposure and Concern Level

While ridges surrounding the valley can be seen from the water as middle-ground views, and peaks are seen as background views, the majority of this unit is categorized as seldom seen (Figure 52-6). The peaks at the upper extents of the valley would be viewed primarily by aircraft for short durations as background views, and the peaks nearer the mouth of the valley would be middle-ground views also of relatively short duration. Viewer exposure and concern level for each applicable viewer group are summarized in Table 52-8.

TABLE 52-8
Unit 3, Y Valley, Viewer Exposure and Concern Level

	Aircraft	Boaters/Recreationists
Exposure Period	Small Aircraft: 5 min or more BG, 2 min MG	Short to lengthy, depending on extent of stay
Concern Level	High	High

Landscape Character

The Y Valley is composed of a relatively short drainage that is fed from three smaller valleys. This valley complex is approximately five miles long from the upper extents of the smaller valleys to where the drainage discharges into Cook Inlet. The valley is guarded by shrub-covered to barren hillsides (Photo 52-8) that rise to elevations of 2,800 feet above mean sea level. The main valley is characterized by alder and willow shrub vegetation with some spruce and cottonwood. The branches to the three valleys are defined by vegetated shoulders that rise to barren, rocky alpine peaks (Photo 52-9). The peaks surrounding the valley are typical of the area, with high cirques where snow lingers late into the summer. These peaks are backed by higher mountains with snow highly visible (Photo 52-10).

Scenic Inventory Summary

The entire study area is considered to be of high concern level as previously explained, though much of this unit is seldom seen. Landform, water, and vegetation provide a collection of highly scenic patterns, though topographical characteristics are relatively typical of the area. There is no visible evidence of land use patterns. This unit is highly complex and fully intact, with very high scenic integrity, scenic attractiveness of Class A, and scenic class of Category 1.

52.6.4.4 Unit 4, Iniskin Peninsula

PHOTO 52-11, View of Iniskin Peninsula from mouth of Iniskin Bay, looking east towards Oil Bay, with Mount Pomeroy to the right (ridge at extreme right of photo).

PHOTO 52-12, View of Iniskin Peninsula from near the head of Chinitna Bay, looking west.

PHOTO 52-13, Looking northwest from south of the head of Chinitna Bay (visible on the right).

PHOTO 52-14, Looking westward from south of the head of Chinitna Bay with Portage Creek Valley in the foreground.

Description

This unit is on the Iniskin Peninsula between Iniskin Bay on the west, Cook Inlet on the south and east, and Chinitna Bay on the north (Figure 52-7, Photos 52-11 through 52-14). The unit is divided into one large and two small subunits based on variations in distance zones. It includes peaks with 2,000- to 3,000-foot elevations near the coast and lowlands with rolling landforms and shrub- and tree-covered valleys. Two main valleys trend southeast to northwest and are drained by Fitz Creek and Bowser Creek in one valley and Portage Creek and Trail Creek in the other. The northwestern portions of the peninsula, near the isthmus, feature peaks near the 4,000-foot elevation.

There is a small settlement that is seasonally occupied at Camp Point on Chinitna Bay, and there are lodges on the southeastern shoreline of the peninsula. Dock facilities that once supported oil-drilling operations are present on Upper Fitz Creek, and cultural sites are still present.

Viewer Exposure and Sensitivity

This area is viewed primarily by small numbers of seasonal residents of Camp Point and six lodges that exist along the northern coast of Chinitna Bay. These viewers are either in Unit 2 or are not in the study area. Also, the area is visible to the occupants of aircraft flying to and from Camp Point and Iliamna Lake. Air access to the bay is by charter planes from Kenai. Viewer exposure and level of concern for each applicable viewer group are summarized in Table 52-9.

TABLE 52-9
Unit 3 Viewer Exposure and Concern Level

	Aircraft	Tourists/ Recreationists	Residents
Exposure Period	Small Aircraft: 5 min or more BG, 2 min MG, 30 sec FG	Varies	Continual when present
Concern Level	High	High	High

Aircraft: This area is not generally a high-traffic flight pathway, although there are a few residents or visitors going to and from Camp Point or lodges, as well as some charter planes from the Kenai Peninsula that hug the outer coastline of the peninsula at low altitudes from 2,000 to 5,000 feet (Waring, 2006). A growing number of air taxi operators are flying clients into the area for aerial bear watching (ADNR, 2001).

Residents: There are a small number of seasonal residents at Camp Point and on the shoreline of the north coast of Chinitna Bay (outside this unit). Though residency is for a short period of time, the residents have chosen the setting, to some degree, because of its visual attributes; thus, this group has a high level of concern for changes to this setting.

Tourists/Recreationists: Visitors travel to the Iniskin Peninsula to fish and to view bears. Areas within the study area that are visited by these recreationists are generally restricted to the tidelands around Chinitna Bay (ADNR, 2001).

Landscape Character

The Iniskin Peninsula is a fist-shaped peninsula extending from the mainland into the western side of Cook Inlet. The peninsula features three mountainous areas which are separated by two valleys that trend southwest to northeast—Portage Creek valley and Bowser Creek/Fitz Creek valley. The mountains are typical of the area and feature gradations in vegetation from forested valley floors to alpine vegetation and rock at upper elevations. Snow remains at upper elevations, particularly on the northwestern portions of the peninsula. In addition to the two creek valleys mentioned above, other drainages include Brown Creek and Bow Creek, which drain to Cook Inlet, as well as numerous other creeks. The mountains tend to be serrated ridges rising to distinct peaks that reach between 2,000 and 3,000 feet above mean sea level. The area has distinctive scenic attractiveness.

Camp Point is the only recognized community in the area and is characterized by a handful of small or moderately sized cabins and other buildings dotting the northeast corner of the Iniskin Peninsula. The structures are architecturally similar to those of other remote communities, with some log structures and some built with metal materials that stand out because of reflectivity. Though the structures are relatively small, the contrasting bright blue, white, brown, and metal of the buildings and their proximity to the flats makes them highly visible from the air. A few are located further inland among taller conifers, but their bright colors in no way borrow from the landscape. Narrow roads are visible through the alder and mixed-shrub vegetation behind or surrounding the dwellings but are unseen from the air when located in the taller spruce trees farther inland. A larger road travels from a dock on Seal Spit to the interior of the Iniskin Peninsula along Fitz Creek. Many old roads or trails from previous oil-drilling operations still exist, but they are overgrown and/or washed out. The presence of human activity is apparent in this unit, but is a minor element in the natural landscape, giving this unit a very high level of scenic integrity.

Scenic Inventory Summary

As previously stated, the entire study area is considered to be of high concern level. The scenic attractiveness for this unit is considered to be high, or Class A. Landform, water, and vegetation provide highly scenic patterns, with distinguishing hydrologic and topographical characteristics such as dramatic topographic changes, wide and narrow river valleys, and diverse hydrologic features that contribute strong positive scenic attributes. The scenic class in all subunits is Category 1.

52.7 Summary

The visual resources analysis has involved documentation of existing conditions. Landscape units have been delineated based on vegetation and ecological unit descriptions as described by biological study and in-house analysis. The landscape units and their respective subunits, as well as the locations of photographs for the study, have been mapped.

The Cook Inlet drainages study area is of distinctive scenic attractiveness and is almost fully intact, with a few exceptions, providing very high scenic integrity. The users, though limited in number, are expected to have a high level of concern with regard to visual characteristics and to changes to the landscape; however, based on observations, most of this study area is visible only from the air and as only background views.

52.8 References

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Waring, K. 2006. Map of flight patterns from Iliamna pilots. Unpublished map prepared for Pebble Project environmental baseline studies.

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52.9 Glossary

Following are definitions used in this report and based on the U.S. Forest Service document *Landscape Aesthetics, A Handbook for Scenery Management* (USFS, 1995).

Concern level—a measure of the degree of the public importance placed on a landscape and the landscape's visibility from travelways and use areas.

Constituents—those who may view a landscape and their expectations, desires, preferences, acceptable levels of quality, behaviors, and values.

Distance zones—the distance of potential viewers from a landscape, usually measured as foreground (0 to 0.5 miles), middle ground (0.5 to 4 miles), background (4 miles to horizon), or seldom seen.

Landscape analysis units—geographical areas that can be distinguished by common characteristics of landform, vegetation, and hydrology and cultural elements, where present. These are often based on ecological units that have been defined by land managers and ecologists (see Section 52.5, Methods).

Landscape character—a description of key attributes found to be consistent throughout a mapped landscape analysis unit; the description conveys an image of the landscape based on landform patterns, water characteristics, vegetation patterns, and cultural elements.

Landscape visibility—a function of the context of the viewer, the number of viewers, the duration of view, the degree of discernible detail, and any seasonal variations.

Scenic attractiveness—a primary measurement of the intrinsic scenic beauty of a landscape and of the positive responses it evokes in people; based on commonly held perceptions of the beauty of landform, vegetation patterns, composition, surface-water characteristics, land-use patterns, and cultural features.

Scenic class—a measure of the relative importance (public value) of discrete landscape areas with similar characteristics with regard to scenic attractiveness and landscape visibility.

Scenic integrity—an indication of the degree of intactness and wholeness of a landscape's character.

FIGURES

1,650,000 1,700,000 1,750,000 1,800,000 1,850,000

2,150,000

2,100,000

2,050,000

Bristol Bay Drainages Studies

Cook Inlet Drainages Studies

Chinitna Bay

Camp Point

Iliamna Lake

Pile Bay

Iniskin

Iniskin Peninsula

Williams Creek Valley

Williamsport

Y Valley

Iniskin Bay

Iliamna Bay

Cook Inlet

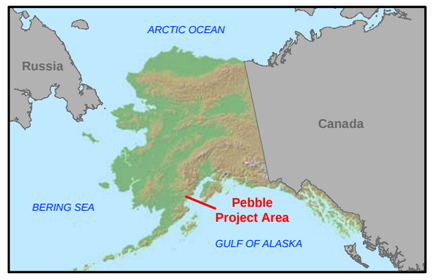
1,650,000 1,700,000 1,750,000 1,800,000 1,850,000

THE pebble PARTNERSHIP

Figure 52-1
Cook Inlet Drainages, Visual Analysis Study Area

Legend

- Communities
- Study Area
- Bristol Bay / Cook Inlet Drainages Boundary
- Existing Road



0 2 4 6 8 Miles

0 3 6 9 12 Kilometers

N

Scale 1:210,000

Alaska State Plane Zone 5 (units feet)
1983 North American Datum

File: 52-1.mxd	**Date: July 29, 2010**
Version: 6	**Author: LDN**

1,700,000 1,750,000 1,800,000 1,850,000

2,150,000

2,100,000

2,050,000

Bristol Bay Drainages Studies

Cook Inlet Drainages Studies

Chinitna Bay

Iliamna Lake

Unit 4
Iniskin Peninsula

Unit 1
Williams Creek Valley

Unit 3
Y Valley

Iniskin Bay

Iliamna Bay

Unit 2
Coastline

Cook Inlet

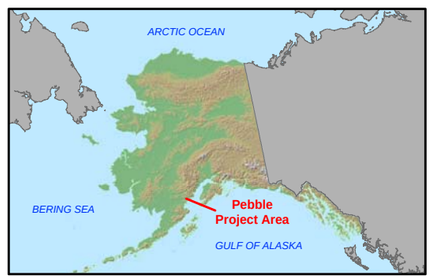
1,700,000 1,750,000 1,800,000 1,850,000

THE pebble PARTNERSHIP

Figure 52-2
Cook Inlet Drainages, Visual Analysis Landscape Units

Legend

- Landscape Analysis Units
- Bristol Bay / Cook Inlet Drainages Boundary
- Existing Roads



0 2 4 6 8 Miles

0 3 6 9 12 Kilometers

N

Scale 1:210,000

Alaska State Plane Zone 5 (units feet)
1983 North American Datum

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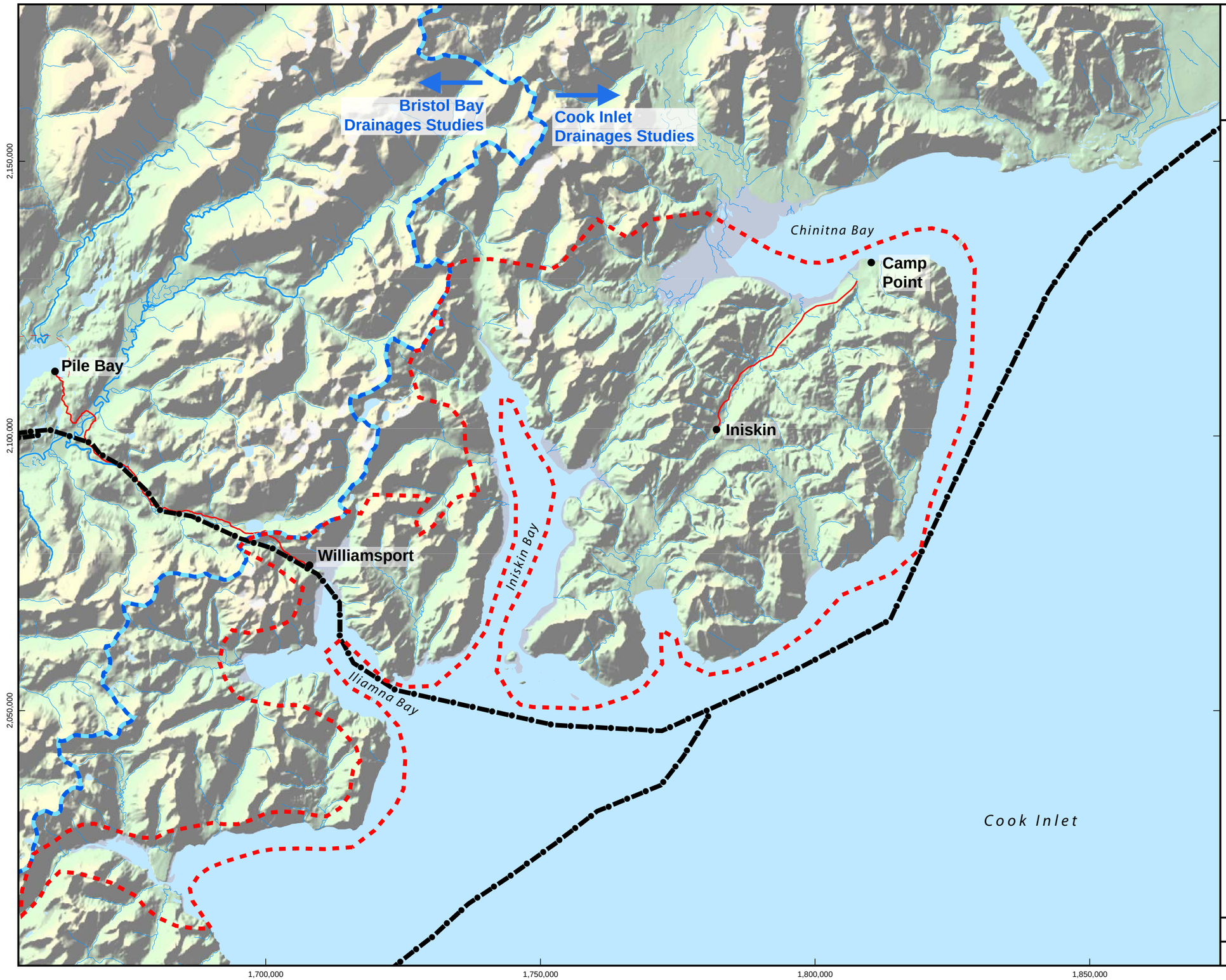
Version: 6	**Author: LDN**

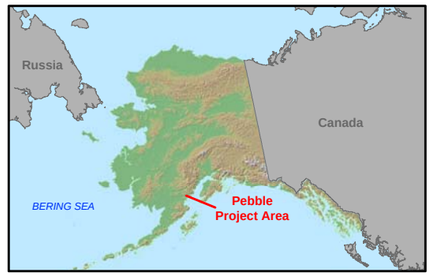


THE pebble PARTNERSHIP

Figure 52-3
Cook Inlet Drainages Study Area, Aircraft Flight Patterns

Legend

- Communities
- Study Area
- Flight Paths
- Bristol Bay / Cook Inlet Drainages Boundary
- Existing Roads



Miles
0 0.5 1 2 3 4

Kilometers
0 1.25 2.5 5 7.5 10

N

Scale 1:210,000

Alaska State Plane Zone 5 (units feet)
1983 North American Datum

File: 52-3.mxd	**Date: July 29, 2010**
Version: 7	**Author: LDN**

1,700,000

Bristol Bay
Drainages Studies

Cook Inlet
Drainages Studies

WILLIAMSPORT-PILE BAY ROAD

Chinkelyes River

Summit Lakes

Unit 1
Williams Creek Valley

52-1

MG 1 A

1-VH

FG 1 A

1-VH

Williams Creek

Williamsport

52-2

MG 1 A

1-VH

Unit 3
Y Valley

Iliamna
Bay

Cottonwood Bay

Unit 2
Coastline

Cook Inlet

2,050,000

1,700,000

THE pebble PARTNERSHIP

Figure 52-4
Cook Inlet Drainages Scenic Inventory,
Unit 1,
Williams Creek Valley

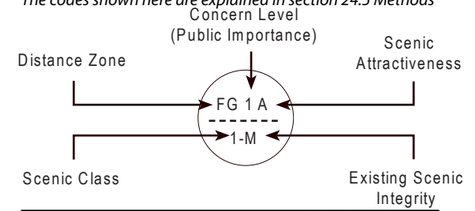
Legend

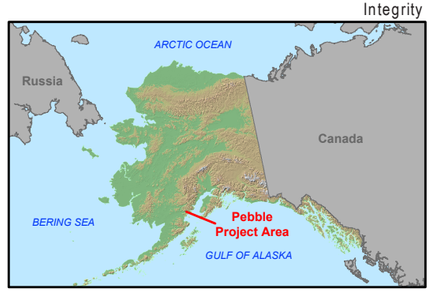
- Landscape Unit Boundary
- Scenic Inventory Subunits
- Bristol Bay / Cook Inlet Drainages Boundary
- Existing Road
- 1 Direction of Photograph & Photograph Reference Number

Key

Viewer Exposure/Scenic Class

The codes shown here are explained in section 24.5 Methods





Miles 0 0.25 0.5 1 1.5 2 N

Kilometers 0 0.5 1 2

Scale 1:60,000

Alaska State Plane Zone 5 (units feet)
1983 North American Datum

File: 52-4.mxd	**Date: July 29, 2010**
Version: 7	**Author: LDN**

1,650,000 1,700,000 1,750,000 1,800,000

2,100,000 2,050,000 2,000,000

Pile Bay

WILLIAMSPORT-PILE BAY ROAD

Unit 1
Williams Creek Valley

Williamsport

52-3

Unit 3
Y Valley

52-6

Iniskin Bay

FG 1 A

1-VH

Camp Point

52-7

Unit 4
Iniskin Peninsula

Iniskin

Cottonwood Bay

Iliamna Bay

52-4

52-5

FG 1 A

1-VH

Unit 2
Coastline

Bristol Bay
Drainages Studies

Cook Inlet
Drainages Studies

Cook Inlet

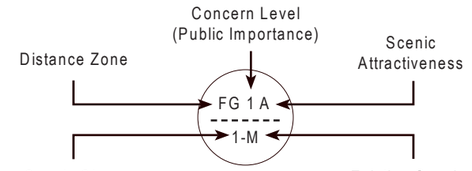
THE pebble PARTNERSHIP

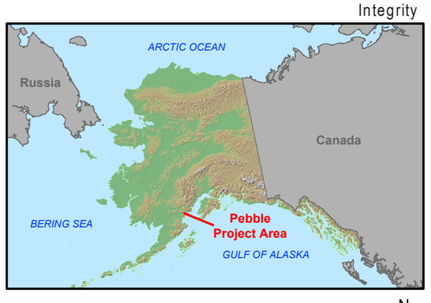
Figure 52-5
Cook Inlet Drainages Scenic Inventory, Unit 2, Coastline

Legend

- Landscape Unit Boundary
- Scenic Inventory Subunits
- Bristol Bay / Cook Inlet Drainages Boundary
- Existing Roads
- 1 — Direction of Photograph & Photograph Reference Number

Key
Viewer Exposure/Scenic Class
The codes shown here are explained in section 24.5 Methods





Miles 0 1 2 3 4

Kilometers 0 2 4 6 8

N

Scale 1:180,000

Alaska State Plane Zone 5 (units feet)
1983 North American Datum

File: 52-5.mxd	Date: July 29, 2010
Version: 6	Author: LDN

1,700,000

1,750,000

Bristol Bay
Drainages Studies

Cook Inlet
Drainages Studies

BG 1 A

1-VH

Unit 1
Williams
Creek
Valley

WILLIAMSPORT-
PILE BAY ROAD

Williamsport

Unit 3
Y Valley

Iniskin Bay

SS 1 A

1-VH

52-10

Iliamna Bay

MG 1 A

1-VH

52-9

52-8

MG 1 A

1-VH

Cottonwood Bay

Unit 2
Coastline

Cook Inlet

2,050,000

1,700,000

1,750,000

THE pebble PARTNERSHIP

Figure 52-6
Cook Inlet Drainages Scenic Inventory, Unit 3, Y Valley

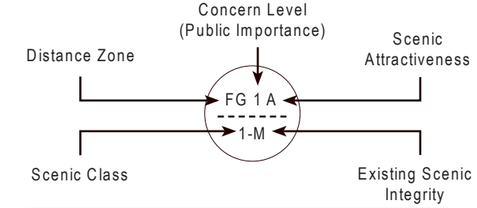
Legend

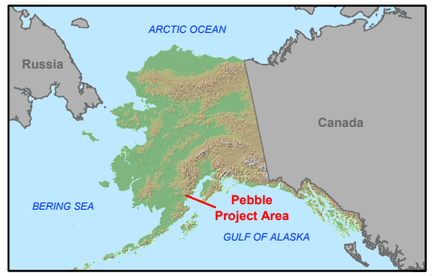
- Landscape Unit Boundary
- Scenic Inventory Subunits
- Bristol Bay / Cook Inlet Drainages Boundary
- Existing Road
- 1 — Direction of Photograph & Photograph Reference Number

Key

Viewer Exposure/Scenic Class

The codes shown here are explained in section 24.5 Methods





0 0.25 0.5 1 1.5 2 Miles

0 0.5 1.5 2 3 Kilometers

N

Scale 1:60,000

Alaska State Plane Zone 5 (units feet)
1983 North American Datum

File: 52-5.mxd	**Date: July 29, 2010**
Version: 5	**Author: LDN**

1,750,000

1,800,000

2,100,000

Cook Inlet Drainages Studies

Bristol Bay Drainages Studies

Chinitna Bay

FG 1 A

1-VH

Camp Point

Seal Spit

52-12

52-13

52-14

Unit 4
Iniskin Peninsula

Fitz Creek

Portage Creek

Bow Creek

Iniskin

MG 1 A

1-VH

Right Arm

Bowser Creek

Brown Creek

Unit 3
Y Valley

Iniskin Bay

52-11

Oil Bay

Mt. Pomeroy

Bald Hill

Dry Bay

Unit 2
Coastline

Cook Inlet

1,750,000

1,800,000

THE pebble PARTNERSHIP

Figure 52-7
Cook Inlet Drainages Scenic Inventory, Unit 4, Iniskin Peninsula

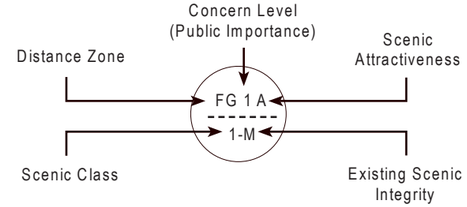
Legend

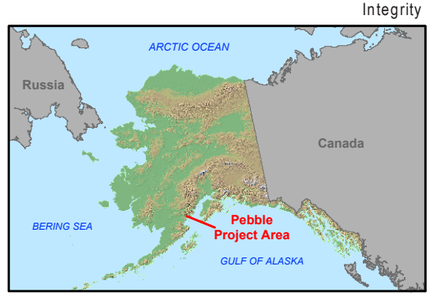
- Landscape Unit Boundary
- Scenic Inventory Subunits
- Bristol Bay / Cook Inlet Drainages Boundary
- Existing Road
- 1 — Direction of Photograph & Photograph Reference Number

Key

Viewer Exposure/Scenic Class

The codes shown here are explained in section 24.5 Methods





Miles
0 0.5 1 2 3 4

Kilometers
0 1 2 4 6 8

N

Scale 1:110,000

Alaska State Plane Zone 5 (units feet)
1983 North American Datum

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Version: 7	**Author: LDN**