Appendix A: Glossary

AAC. Alaska Administrative Code that includes state regulations.

ACC. Alaska Conservation Corps.

Access. A way or means of approach. Includes transportation, trail, easements, rights-of-way, and public use sites.

Accessible. A term used to describe a site, building, facility, or trail that complies with the Americans with Disabilities Act (ADA) Accessibility Guidelines and can be approached, entered, and used by people with disabilities.

ADA (Americans with Disabilities Act of 1990). A federal law prohibiting discrimination against people with disabilities. Requires public entities and public accommodations to provide accessible accommodations for people with disabilities.

ADEC. The State of Alaska Department of Environmental Conservation.

ADF&G. The State of Alaska Department of Fish and Game.

ADNR or Department. The State of Alaska Department of Natural Resources.

ADOT/PF. The State of Alaska Department of Transportation and Public Facilities.

Airboat. A shallow draft boat driven by an airplane propeller and steered by a rudder (11 AAC 20.990).

Aircraft. Any motorized device under 12,500 pounds gross weight that is used or intended for flight or movement of people or goods in the air (11 AAC 12.340 and 11 AAC 20.990).

All-Terrain Vehicle (ATV). See Off-Road Vehicle.

Anadromous Stream. Those water bodies identified by the Alaska Department of Fish and Game under 5 AAC 95.011.

ANCSA. The Alaska Native Claims Settlement Act.

AS. Alaska Statutes.

Assembly. The gathering or meeting of a group of people for a common purpose (11 AAC 12.340).

Beach. An expanse of pebbles, sand, or other loose particles, along the shore of an ocean, sea, large river, lake, etc., washed by the tide or waves.

Bench (Full, Half, Partial) Cut. The excavation cut into a slope to provide support for the trail tread surface. "Full" refers to the bench being constructed entirely on an excavated surface. "Partial" refers to the bench being constructed in part on compacted fill.

Best Trail Management Practices (BTMPs). A series of management components developed to reflect the current "state-of-the-art" practices for effective and efficient trails management.

BLM. The United States Bureau of Land Management.

Boat or Vessel. A device that is used or designed to be used for the movement of people or goods in or on the water, whether manually or mechanically propelled, but does not include personal floatation devices or other floats such as inner tubes, air mattresses, or surf boards (11 AAC 20.990).

Camp and Camping. To use a vehicle, tent, or shelter, or to arrange bedding, or both, with the intent to stay overnight in a park (11 AAC 12.340).

Campground. An area developed and maintained by the division which contains one or more campsites (11 AAC 12.340).

CIAA. Cook Inlet Aquaculture Association.

CIP. Capital Improvement Project.

Citizen Advisory Board. Appointed by the Director of the Alaska Division of Parks and Outdoor Recreation, this board assists park staff with management and development issues.

Climbing Turn. A wide, ascending curve that gradually reverses the direction of the trail while gaining elevation. Used in favor of switchbacks on side slopes of less than 22% when possible.

Clinometer. A small, hand-held device used to measure grade (or slope) in terms of degrees or percent. In trails and roads, grade or slope is referred to in percent (%).

Commercial Activity. The sale of, delivery of, or soliciting to provide, goods, wares, edibles, or services in exchange for valuable consideration through barter, trade, or other commercial means; a service offered in conjunction with another sale of goods, wares, edibles, or services, which service involves the use of state park land or water, is a

commercial activity whether or not it is incidental to, advertised with, or specifically offered in the original sale; all guide, outfitter, and transportation services are commercial activities if any payment or valuable consideration through barter, trade, cash, or other commercial means is required, expected, or received beyond the normal and customary equally shared costs for food and fuel for any portion of the stay in the park (11 AAC 12.340).

Commissioner. The Commissioner of the Alaska Department of Natural Resources.

Compaction. The compression of aggregate, soil, or fill material by tamping or trail traffic.

Conservation Easement. A restriction placed on a piece of property to protect its associated resources. As defined in statute, a conservation easement is: A nonpossessory interest of a holder in real property imposing limitations or affirmative obligations to retain or protect natural, scenic, or open space values of real property, ensure its availability for agricultural, forest, recreational, or open space use, protect natural resources, maintain or enhance air or water quality, or preserve the historical, architectural, archaeological, or cultural aspects of real property (AS 34.17.060).

Contour Trail (also a Curvilinear or Traverse Trail). Concept whereby the trail is designed to rise and/or descend gradually along natural contours. The alignment crosses the contours at a shallow angle so that the natural drainage patterns are easily maintained during the construction process.

Control Point. A specific point, area, or feature that is important in trail layout. Positive control points are places you want the trail to go to or near (such as trailheads, scenic points, good water crossings, other trails, etc.). Negative control points are places you want to stay away from (such as hazards, sensitive habitat, private property, etc.).

Crib (or Crib Wall). A retaining device used to support the trail tread or backslope, typically composed of wood or rock.

Critical Edge. The outside (downslope) edge of the tread, most pronounced on a bench cut.

Culvert. A pipe or box-like structure of wood, metal, plastic, concrete, or rock that conveys a water course under a tread.

Curvilinear (Trail) Layout. Concept whereby the trail layout is designed to rise or descend gradually along natural contours. The alignment crosses the contours at a shallow angle so that the natural drainage patterns are easily maintained during the construction process. See also Contour Trail.

Design Parameters. Technical specifications for trail construction and maintenance, based on the Designed Use and Trail Class.

Design Turn Radius. The minimum horizontal radius required for various user groups to navigate a curve in a single maneuver; this includes switchbacks, climbing turns, and horizontal turns.
Designed Use. The intended use that controls the desired geometric design of the trail and determines the subsequent maintenance parameters for the trail.

Developed Facility. Includes a building, boat ramp, campground, picnic area, rest area, visitor information center, swim beach, trailhead, parking area, and a developed ski area (11 AAC 12.340 and 11 AAC 20.990).

Difficulty Level. The degree of challenge a trail presents to an average user's physical ability and skill, based on trail condition and route location factors such as alignment, steepness of grades, gain and loss of elevation, and amount and kind of natural barriers that must be crossed.

DMLW. The State of Alaska Department of Natural Resources, Division of Mining, Land and Water.

DPOR or Division. The State of Alaska Department of Natural Resources, Division of Parks and Outdoor Recreation.

Director. The Director of the Division of Parks and Outdoor Recreation, Alaska Department of Natural Resources, or the Director's authorized agent (11 AAC 12.340).

Easement. An interest in land, of specified dimensions, owned by another that entitles its holder to a specific limited use.

EPA. United States Environmental Protection Agency.

EVOS. Exxon Valdez Oil Spill.

Fall-line. The path water flows down a slope under most circumstances.

Full Bench (Construction) Cut. Trail structure used to create a tread along a Contour Trail, whereby the tread is built entirely on an excavated surface (no fill) which is less subject to compaction, erosion, and surface slumping. It is the preferred method of bench construction on trails construction on side slopes >30%. See also Partial Bench Cut.

Firearm. Includes a pistol, rifle, shotgun, revolver, mechanical, gas or air-operated gun (11 AAC 12.340 and 11 AAC 20.990).

GeoBlock. A trademark name structural geogrid material (see Porous Pavement Panel).

Geotextile (Geofabric, Filter Fabric). A pervious, woven or non-woven, petrochemical fabric that provides a stable base and separation layer used in a variety of applications including aggregate capping.

Grade. Relative steepness (rise and fall) of the trail as compared to a flat horizontal plane. Trail steepness is measured in grade as a percentage.

Grade Control. Fundamental part of Sustainable Trail construction whereby strict trail grade restrictions are placed in the design parameters, primarily to minimize erosion due to natural forces and trail users.

Grade Reversals (or Grade Dip). A short change from positive (climbing) grade, to negative (descending) grade for approximately 6 to 12 feet designed into the trail alignment to shed water. Grade reversals are an important component in Contour Trail construction. See also Rolling Grade Dip.

Gravel Bar. An elevated region of sediment in a river (largely comprised of gravel) that has been deposited by water flow. A gravel bar is not a saltwater or freshwater beach.

Green Infrastructure. An interconnected network of green space (hubs + corridors) that conserves natural ecosystem values and functions and provides associated benefits to human populations.

Guideline. A specific course of action that must be followed when a DPOR resource manager permits, leases, or otherwise authorizes use of state lands. Guidelines range from giving general guidance for decision-making or identifying factors that need to be considered, to setting detailed standards for on-the-ground decisions.

Half Rule. A trail's grade should not exceed half the grade of the sideslope. If the grade is steeper than half the grade of the sideslope, it is considered a Fall-line trail.

Hardening. Any number of methods of strengthening a tread surface in response to degradation or to better accommodate a particular type of use. Examples include: aggregate capping, boardwalk or puncheon construction, turnpiking, or the use of porous pavement panel.

HCC. Homer Cycling Club.

HEA. Homer Electric Association.

ILMA. Interagency Land Management Agreement.

Integrated Water Control. Instituting water management into basic trail design, usually during construction. Primary components include Grade Reversals and Outslope.

Invasive Species. Presidential Executive Order 13112 defines an "invasive species" as a non-native species that causes or is likely to cause economic or environmental harm or harm to human health.

Kachemak Bay Water Trail. A 125-mile route extending from the Homer Spit east along Kachemak Bay to the head of the bay, and further along the southern side of the bay to the City of Seldovia.

KBCS. Kachemak Bay Conservation Society.

KBFRFCHA. Kachemak Bay and Fox River Flats Critical Habitat Areas Management Plan (1993).

KBSP. Kachemak Bay State Park.

KBSWP. Kachemak Bay State Wilderness Park.

KEAP. Kenai Area Plan.

Knicks. A semi-circular, shaved down section of trail, about 5-10 feet in length, and canted to the outside with exaggerated outslope. Most commonly employed as a maintenance action on existing low gradient trail sections. A Knick is smooth and subtle, often an unnoticeable feature to users.

KNSC. Kachemak Nordic Ski Club.

Latrine. Vault toilet or bathroom facility.

LDA. Legislatively Designated Area.

Logging Out. Clearing a trail of fallen trees.

LWCF. Land and Water Conservation Fund. A federal program which provides monies and matching grants to federal, state, and local governments for the acquisition and/or development of land and water for public outdoor recreation use.

Managed Trail. A state park trail that has some type or level of Managed Use. To qualify as a Managed Trail, one or more of the following must apply: 1) The trail is depicted on a state park map distributed for public use; 2) The trail is maintained by park staff or volunteers on a regular schedule (up to several years interval) for public use purposes; 3) The trail is, or was, constructed for public use; 4) The trail is abandoned or closed to public use but is used for administrative purposes; or 5) The trail is signed or marked by state parks for public use.

Managed Use. The type of use that is actively managed and appropriate on a trail, considering the design and management intent.

Maximum Trail Grade. A defined maximum tread grade that can be constructed along the trail.

May. Same as "should," see Should.

Motorized Vehicle. A motorized device for carrying persons or objects over land, water, or through the air, and includes automobiles, snowmachines, bicycles, off-road vehicles, boats, and aircraft (11 AAC 21.290).

National Register of Historic Places. The nationwide catalog of significant historic districts, sites, buildings, structures, and objects established by the National Historic Preservation Act of 1966 and maintained by the U.S. Secretary of the Interior (11 AAC 16.900).

Natural Soundscape. Natural Soundscape is the aggregate of all the natural sounds that occur in the parks together with the physical capacity for transmitting natural sounds. Natural sounds occur within and beyond the range of sounds that a human can perceive and can be transmitted thru air, water, or solid materials.

NPS. National Park Service.

Obstacles (Natural). Objects that add challenge by impeding travel. They include: rocks, roots, logs, holes, ledges, drop-offs, etc.

Off-Road Vehicle (ORV). A motorized vehicle designed or adapted for cross-country operation over irregular terrain, consisting of more than one drive wheel or track, having a gross vehicle weight less than 1,500 pounds or exerting less than eight pounds per square inch ground pressure, and that is 64 inches wide or less, and does not include snowmobiles (11 AAC 20.990).

Organic Soils. The term is also used to refer to the uppermost layer of dark surface soil that has a high organic material content. Organic soils have a propensity of readily absorbing and holding water and are poorly suited as a trail tread material.

Outslope. The amount the tread slopes from side-to-side to promote drainage off the trail instead of down the trail.

Partial Bench Cut. A trail structure used to support the tread along a Contour Trail, whereby the tread is partially supported by an excavated bench cut into a side slope and partially supported by a fill section of compacted excavated material. See also Full Bench Cut.

Permit. A written authorization to engage in uses or activities that are otherwise prohibited or restricted (11 AAC 18.200).

Personal Watercraft (PWC). A vessel that is less than 16 feet in length, propelled by a water-jet pump or other machinery as its primary source of motor propulsion, and designed to be operated by a person sitting, standing, or kneeling on the vessel, rather than by a person sitting or standing inside it. (11 AAC 20.990.)

Porous Pavement Panel. A permeable, rigid, multi-pocketed structural geogrid, typically plastic, that is used to harden areas of saturated or unstable soils without the use of gravel infill, bridges, or boardwalks. e.g. GeoBlock.

Protrusion. An object that protrudes from the surface of a trail.

Retaining Wall (Revetment). See Crib.

Rolling Grade Dip. A trail structure that utilizes a ramp-like excavation, a flat-bottomed drain, and a built up compacted soil dam to direct water off the tread. Typically utilized as a maintenance structure on existing trails.

Route. See Social Trail.

ROW. Right-of-way. The legal right to cross the land of another.

RV. Recreational Vehicle, such as a motor home or camper.

SCORP. Statewide Comprehensive Outdoor Recreation Plan.

Shall. Same as "will," see Will.

Short Pitch Maximum. See Maximum Trail Grade.

Should. States intent for a course of action or a set of conditions to be achieved. Guidelines modified by the word "should" state the plan's intent and allow the manager to use discretion in deciding the specific means for best achieving the intent or whether particular circumstances justify deviations from the intended action or set of conditions.

Sideslope. See Slope.

Slope. Refers to the relative steepness of the natural terrain. Slope can be calculated by determining the vertical rise over a given horizontal distance, but, is more often directly read from a slope measurement instrument called a Clinometer. Slope can be expressed in degrees, but for trail use is more commonly expressed as a percentage.

Snow Trails. Trails that have a surface consisting predominantly of snow or ice, which are designed and managed to accommodate use on that surface.

Snowmobile (snowmachine). A self-propelled vehicle intended for off-road travel on snow, having a maximum width of 50 inches and a curb weight of not more than 1,000 pounds, driven by one or more tracks in contact with the snow, and steered by one or more skis in contact with the snow (11 AAC 20.990).

Social Trail (also a Route). An unplanned, usually unmaintained and typically undesirable trail alignment that develops informally as a result of public route pioneering, overuse, degraded trail avoidance, or generally poorly planned trail design.

SRS. State Recreation Site.

State. The State of Alaska.

Surface Protrusions. Surface imperfections that are within the acceptable challenge level for the trail and do not obstruct the managed uses of the trail. Examples include rocks, roots, holes, stumps, or fallen logs.

Sustainable. Capable of being continued with minimal long-term effect on the environment and meets the needs of the present generation without compromising the ability of future generations to meet their needs.

Sustainable Trail. A trail that conforms to its terrain and environment, is capable of handling its intended use without serious degradation, and requires minimal maintenance.

Switchback. A sharp turn in the tread alignment, often 180 degrees, used to gain elevation on steep side slopes (typically required on slopes above 22%).

TBLH. Tutka Bay Lagoon Hatchery.

Ten-Percent Average Grade Guideline. Refers to the practice of keeping the average trail grade or overall trail grade from exceeding 10% along the alignment of the trail.

Terra Trails. Trails that have a tread surface consisting predominantly of native soil or rock, which are designed and managed to accommodate use on that surface. A Terra Trail may also have sections of boardwalk, or other hardened tread.

Tethering. Fastening or restraining an animal so that it can range only within a set radius (11 AAC 20.990).

TMO. See Trail Management Objective.

Traffic Control Device. Any physical barrier, including a boulder, ditch, berm, railing, fence, post, or gate (11 AAC 12.340).

Trail. A linear route managed for human-powered, stock, boats, or ORV forms of transportation or for historic, heritage, or commercial values.

Trail Class. The prescribed scale of trail development, representing the intended design and management standards of the trail.

Trail Corridor. The total cleared area on both sides of a trail.

Trail Hardening. A technique to improve the surface characteristics of a tread. Usually applied in wet or boggy ground or to enhance ADA characteristics.

Trailhead. The point at which a trail starts.

Trail Management Objective (TMO). Documentation of the management intention of a trail based on its Designed Use, Design Parameters, and special considerations. TMOs provide basic reference information for trail planning, management, condition surveys, and reporting.

Trail Segment. A specific section of a trail with identified starting and ending points.

Trail Standards. Trail maintenance specifications that define the level of quality and service the agency intends to provide for the public.

Trail Structures. Any component of a trail that has been purposely constructed. This would include: developed treadway, bench cuts, switchbacks, retaining walls, drainage devices, culverts, bridges, hand railings, boardwalks, trail signs, and posts, etc.

Trail Type. A category that reflects the predominant trail surface and general mode of travel accommodated by a trail. There are three Trail Types: Terra, Water, and Snow Trails.

Tread. The wear surface of the trail upon which a user travels. The tread, or treadway, is the most fundamental component of a trail.

Tread Creep. Areas along a contour trail where the tread is sliding downslope due to compaction, slope failure, or fill failure of a Partial Bench Cut. May be caused by trailside features such as trees, bushes, roots, or another projection that forces traffic onto the Critical Edge, compacting it downslope.

UAV. Unmanned Aerial Vehicle. Also referred to as a drone.

USCG. United States Coast Guard.

USFS. The United States Forest Service.

Vehicle. A mechanical device for carrying persons or objects over land, water, or through the air, including automobiles, motorcycles, snowmachines, bicycles, off-road vehicles, motorized boats, and aircraft. Vehicle does not include non-motorized sailboats, canoes, kayaks, rafts, sailboards, hang gliders, gliders, or parasails (11 AAC 12.340 and 11 AAC 20.990).

Vessel or Boat. A device that is used or designed to be used for the movement of people or goods in or on the water, whether manually or mechanically propelled, but does not include personal floatation devices or other floats such as inner tubes, air mattresses, or surf boards (11 AAC 20.990).

Waterbar. A trail structure typically constructed of wood, rock, or reinforced rubber and soil that is set at an angle across tread to direct water off the treadway. Generally being phased out in favor of Grade Reversals and Outslope integrated into new construction, and Outslope and Rolling Grade Dips retrofit into existing construction.

Water Trail. Trails that have a surface consisting predominantly of water, which are designed and managed to accommodate use on that surface, and which may include land-based portages.

Weapon. Includes a bow and arrow, slingshot, crossbow, and firearm (11 AAC 12.340 and 11 AAC 20.990).

Will. Requires a course of action or a set of conditions to be achieved. A guideline modified by the word “will” must be followed by land managers and users. If such a guideline is not complied with, a written decision justifying the noncompliance is required.

Appendix B: Statutes and Regulations for Kachemak Bay State Park and Kachemak Bay State Wilderness Park

Park Enabling Legislation

Sec. 41.21.131. Kachemak Bay State Park established. (a) The presently state-owned land and water, and all that acquired in the future by the state, lying within the parcels described in this section are designated as the Kachemak Bay State Park. In order to protect and preserve this land and water for its unique and exceptional scenic value, the park is established and shall be managed as a scenic park. The land and water lying within the following described parcels is reserved from all uses incompatible with its primary function as a scenic park and is assigned to the department for control, development, and maintenance:

(1) Township 5 South, Range 10 West, Seward Meridian Chugachik Island
Sections 31 - 32;

(2) Township 5 South, Range 11 West, Seward Meridian
Section 2: Lot 1, excluding Tract A
Section 3: Lots 1 - 8, SW1/4NE1/4, S1/2NW1/4, N1/2SW1/4
Section 4: Lots 1 - 4, S1/2N1/2, SE1/4, E1/2SW1/4
Section 8: E1/2NE1/4, SE1/4
Section 9: Lots 1 and 2, NW1/4NE1/4, NE1/4NW1/4, W1/2NW1/4, N1/2NE1/4SW1/4, SW1/4NE1/4SW1/4, excluding Lot 6
Section 10: Lot 1
Section 16: Lot 1
Section 17: Lots 1, 3, 4, NW1/4SW1/4, S1/2NW1/4
Section 18: Lot 4, SE1/4, E1/2NE1/4
Section 19: Lots 1 - 6, NW1/4NE1/4, NE1/4NW1/4
Section 20: Lot 1
Sections 24 - 25, excluding tide and submerged land within the Kachemak Bay Critical Habitat Area
Section 26: SE1/4, excluding tide and submerged land within the Kachemak Bay Critical Habitat Area
Section 35, excluding tide and submerged land within the Kachemak Bay Critical Habitat Area
Section 36;

(3) Township 6 South, Range 11 West, Seward Meridian;

(4) Township 7 South, Range 11 West, Seward Meridian
Sections 1 - 4
Section 5: N1/2
Sections 7 - 36;
(5) Township 7 South, Range 12 West, Seward Meridian
Section 12, except N1/2NE1/4
Section 13
Sections 19 - 36;
(6) Township 7 South, Range 13 West, Seward Meridian
Sections 25 - 26
Sections 35 - 36;
(7) Township 8 South, Range 11 West, Seward Meridian
Sections 1 - 8
Section 9: N1/2
Section 10: N1/2
Section 11: N1/2
Section 12: N1/2
Sections 17 - 18;
(8) Township 8 South, Range 12 West, Seward Meridian;
(9) Township 8 South, Range 13 West, Seward Meridian
Sections 1 - 2
Sections 10 - 14
Section 15: E1/2
Section 23: N1/2 and SE1/4
Sections 24 - 25
Section 26: E1/2
Section 35: E1/2
Section 36;
(10) Township 9 South, Range 8 West, Seward Meridian
Section 2: W1/2
Section 3 - 10
Sections 15 - 22
Sections 27 - 34;
(11) Township 9 South, Range 9 West, Seward Meridian;
(12) Township 9 South, Range 10 West, Seward Meridian
Sections 10 - 15
Sections 22 - 27
Sections 34 - 36;
(13) Township 9 South, Range 12 West, Seward Meridian
Sections 1 - 6
Section 8: NE1/4
Sections 9 - 12
Section 13: N1/2
Section 14: N1/2;

(14) Township 9 South, Range 13 West, Seward Meridian
Sections 1 - 2;
(15) Township 10 South, Range 8 West, Seward Meridian
Sections 4 - 8
Sections 17 - 19;
(16) Township 10 South, Range 9 West, Seward Meridian
Sections 1 - 4
Sections 10 - 15
Sections 22 - 24.

(b) The following public domain land shall be selected by the state, and classified as scenic park land and designated as part of Kachemak Bay State Park immediately upon receipt of management authority by the state:

(1) Township 6 South, Range 10 West, Seward Meridian: W1/2;
(2) Township 7 South, Range 10 West, Seward Meridian: W1/2;
(3) Township 8 South, Range 10 West, Seward Meridian
Section 6
Section 7: N1/2.

(c) Land lying within the parcels described in (a) and (b) of this section upon which there are valid entries or upon which there are valid applications for lease filed under AS 38.05 before May 9, 1970, is excepted from (a) and (b) of this section. However, if any land excepted under this subsection is subsequently relinquished to the state, it shall be included as part of Kachemak Bay State Park.

Sec. 41.21.132. Incompatible uses.
The commissioner shall designate by regulation incompatible uses within the boundaries of the Kachemak Bay State Park in accordance with the requirements of AS 41.21.130 - 41.21.142, and those incompatible uses designated shall be prohibited or restricted, as provided by regulation.

Sec. 41.21.133. Discharge of firearms. [Repealed, § 2 ch 126 SLA 1984.]

Sec. 41.21.134. Purchase authorized; eminent domain prohibited.
The commissioner may acquire, by purchase in the name of the state, title to or interest in real property lying within the boundaries of the Kachemak Bay State Park. The state may not acquire by eminent domain privately owned land for inclusion in the Kachemak Bay State Park.

Sec. 41.21.140. Kachemak Bay State Wilderness Park established.

(a) The presently state-owned land and water, and all that acquired in the future by the state, lying within the parcels described in this section are designated as the Kachemak Bay State Wilderness Park. In order to protect and preserve this land and water for its unique and exceptional wilderness value, the park is established and shall be managed as a wilderness park. The land and water lying within the following described parcels is reserved from all uses incompatible with its primary function as a wilderness park and is assigned to the department for control and maintenance:

(1) Township 8 South, Range 11 West, Seward Meridian
Section 9: S1/2
Section 10: S1/2
Section 11: S1/2
Section 12: S1/2
Sections 13 - 16
Sections 19 - 36;
(2) Township 9 South, Range 10 West, Seward Meridian
Sections 1 - 3;
(3) Township 9 South, Range 12 West, Seward Meridian
Section 7
Section 8: S1/2 and NW1/4
Section 13: S1/2
Section 14: S1/2
Sections 15 - 36;
(4) Township 9 South, Range 13 West, Seward Meridian
Section 11: NE1/4
Sections 12 - 13;
(5) Township 10 South, Range 9 West, Seward Meridian
Sections 5 - 7;
(6) Township 10 South, Range 10 West, Seward Meridian;
(7) Township 10 South, Range 11 West, Seward Meridian;
(8) Township 10 South, Range 12 West, Seward Meridian;
(9) Township 11 South, Range 10 West, Seward Meridian;
(10) Township 11 South, Range 11 West, Seward Meridian;
(11) Township 11 South, Range 12 West, Seward Meridian
Sections 1 - 10
Section 11: W1/2 and E1/2
Sections 12 - 17
Sections 21 - 24.

(b) The following public domain land shall be selected by the state, and classified as wilderness park land and designated as part of Kachemak Bay State Park immediately upon receipt of management authority by the state:

(1) Township 8 South, Range 10 West, Seward Meridian
Sections 4 - 5
Section 7: S1/2
Sections 8 - 9
Sections 16 - 21
Sections 28 - 33;
(2) Township 9 South, Range 10 West, Seward Meridian: W1/2;
(3) Township 9 South, Range 11 West, Seward Meridian.

Sec. 41.21.141. Certain land excepted.
Land lying within the parcels described in AS 41.21.140 upon which there are valid entries or upon which there are valid applications for leases filed under AS 38.05 before March 9,

1972 or that is withdrawn for or selected by Native village or regional corporations under 43 U.S.C. 1610, 1611 and 1613 (P.L. 92-203, §§ 11, 12 and 14 of the Alaska Native Claims Settlement Act), is excepted from AS 41.21.140. However, if any land excepted under this subsection is subsequently relinquished to the state, it shall be included as part of Kachemak Bay State Wilderness Park.

Sec. 41.21.142. Stream rehabilitation permitted.
Nothing in AS 41.21.140 - 41.21.142 prohibits the Department of Fish and Game from engaging in stream rehabilitation enhancement and development under AS 16.05.092 on land lying within the parcels described in AS 41.21.140.

Sec. 41.21.990. Definitions.
In this chapter,

(1) "scenic park" means relatively spacious areas of outstanding natural significance, where major values are in their natural geological, faunal, or floral characteristics, the purpose of which is directed primarily toward the preservation of its outstanding natural features and where development is minimal and only for the purpose of making the areas available for public enjoyment in a manner consistent with the preservation of the natural values such as camping, picnicking, sightseeing, nature study, hiking, riding, and related activities which involve no major modification of the land, forests, or waters, and without extensive introduction of artificial features or forms of recreational development that are primarily of urban character;

(2) "wilderness park" means an area whose predominant character is the result of the interplay of natural processes, large enough and so situated as to be unaffected, except in minor ways, by what takes place in the nonwilderness around it, a physical condition which activates the innermost emotions of the observer and where development of man-made objects will be strictly limited and depend entirely on good taste and judgment so that the wilderness values are not lost.

Regulations that Apply Specifically to the Park

Article 2
Kachemak Bay State Park

11 AAC 20.100. Use of weapons
The use and discharge of a weapon for the purpose of lawful hunting or trapping is allowed in Kachemak Bay State Park, except within one-half mile of a developed facility.

11 AAC 20.110. Aircraft
(a) The use of aircraft is allowed in Kachemak Bay State Park on saltwater, gravel bars, Emerald Lake, China Poot Lake, Hazelle Lake, and Petrof Lake except for the purpose of practice landings. (b) A person may not land a helicopter in Kachemak Bay State Park without a permit from the director under 11 AAC 18.

11 AAC 20.115. Motorized boats
(a) The use of a boat with a motor, other than a personal watercraft, is allowed in Kachemak Bay State Park only on saltwater, China Poot Lake, Hazelle Lake, or Petrof Lake. (b) A person may not launch or operate a personal watercraft in Kachemak Bay State Park. (c) A person may not operate a motorized boat in excess of "Slow No-wake" speed, five miles per hour maximum, within two hundred feet of a state managed dock, swimming beach, or boat launch, or within an area designated and marked as a "Slow No-wake" zone.

11 AAC 20.120. Campfires
Open fires are allowed on non-vegetated gravel bars below timberline or on saltwater beaches.

Article 3
Kachemak Bay State Wilderness Park

11 AAC 20.200. Use of weapons
The use and discharge of a weapon for the purpose of lawful hunting or trapping is allowed in Kachemak Bay State Wilderness Park.

11 AAC 20.210. Aircraft
The use of aircraft is allowed in Kachemak Bay State Wilderness Park on saltwater and saltwater beaches or where authorized by the director under 11 AAC 18.010.

11 AAC 20.215. Motorized boats
(a) The use of a boat with a motor, other than a personal watercraft, is allowed in Kachemak Bay State Wilderness Park only on saltwater. (b) A person may not launch or operate a personal watercraft in Kachemak Bay State Wilderness Park.

11 AAC 20.220. Campfires
Open fires are allowed on non-vegetated gravel bars below timberline or on saltwater beaches.

Appendix C: Mammal List

This list was created as part of the Research Reserve's Kachemak Bay Ecological Characterization CD-ROM project.

Marine Mammals

Common name	Scientific name	Common name	Scientific name
Sea Otter	*Enhydra lutris*	Humpback Whale	*Megaptera novaeangliae*
Steller Sea Lion	*Eumetopias jubatus*	Gray Whale	*Eschrichtius robustus*
California Sea Lion	*Zalophus californianus*	Bering Sea / Stejneger's Beaked Whale	*Mesoplodon stejnegeri*
Northern Fur Seal	*Callorhinus ursinus*	Killer Whale	*Orcinus orca*
Guadalupe Fur Seal	*Arctocephalus townsendi*	Beluga or White Whale	*Delphinapterus leucas*
Harbor Seal	*Phoca vitulina*	Harbor Porpoise	*Phocoena phocoena*
Minke Whale	*Balaenoptera acutorostrata*	Dall's Porpoise	*Phocoenoides dalli*
Fin Whale	*Balaenoptera physalus*		

Terrestrial Mammals

Status
C – common
UC – uncommon
R – reported
E – extirpated
UK - unknown

Common name	Scientific name	Status	Common name	Scientific name	Status
Coyote	*Canis latrans*	C	Little Brown Bat	*Myotis lucifugus*	C
Wolf	*Canis lupus*	C	Hoary Marmot	*Marmota caligata*	C
Red Fox	*Vulpes vulpes*	E	Red Squirrel	*Tamiasciurus hudsonicus*	C

Common name	Scientific name	Status	Common name	Scientific name	Status
Lynx	*Lynx canadensis*	C	Beaver	*Castor canadensis*	UC
River or Canadian Otter	*Lontra canadensis*	C	Northern Red-backed Vole	*Clenthrionomys rutilus*	C
Wolverine	*Gulo gulo*	C	Singing Vole	*Microtus miurus*	UK
Short-tail Weasel or Ermine	*Mustela erminea*	C	Tundra Vole	*Microtus oeconomus*	C
Least Weasel	*Mustela nivalis*	UC	Muskrat	*Ondatra zibethicus*	UC
Mink	*Mustela vison*	UC	Northern Bog Lemming	*Synaptomys borealis*	UK
Black Bear	*Ursus americanus*	C	House Mouse	*Mus musculus*	C
Brown Bear	*Ursus arctos*	C	Norway Rat	*Rattus norvegicus*	E
Marten		R	Dusky or Montane Shrew	*Sorex monticolus*	C
Moose	*Alces alces*	C	Common or Masked Shrew	*Sorex cinereus*	C
Mountain Goat	*Oreamnos americanus*	C	Porcupine	*Erethizon dorsatum*	C
Keen’s myotis		R			
Dall Sheep	*Ovis dalli*	E	Snowshoe Hare	*Lepus americanus*	C

Appendix D: Bird List

Legend

C Common - Easily found in small to large numbers in appropriate habitat.
U Uncommon - Occasionally, but not always, found in small numbers with some effort in appropriate habitat.
R Rare - occurs in very small numbers or in a very limited number of sites and may not be found every year or even with concentrated effort. There are more than a few records of these species in appropriate habitats.
A Accidental - Represents an exceptional occurrence of birds outside their normal range that might not be repeated again for decades.

Status

r - resident
b - confirmed breeder
s - summer resident
w - winter resident
m - migrant - passing through on way to summer or winter grounds, may only be found in narrow migration route
i - introduced species

Sp - spring: March - May
Su - summer: June - Aug.
F - fall: Sept. - Nov.
W - winter: Dec. - Feb.

There are 204 species of birds represented on this list. The area covers the Anchor River drainage, the watersheds draining into Kachemak Bay including all of Kachemak Bay State Park, and the Bay itself. The northern boundary crosses the southern end of the Kenai National Wildlife Refuge; the eastern border coincides with the western boundary of Kenai Fjords National Park and runs in the highlands above the southern drainages to Kachemak Bay down to Point Pogibshi. Some of the species on this list can only be seen on the south side of Kachemak Bay or in other areas off of the road system.

Species	Sp	Su	F	W	Status
Anatidae - Swans, Geese & Ducks					
Greater White-fronted Goose	C	C	U	A	m
Emperor Goose	R	A	-	R	v
Snow Goose	R	-	U	-	m
Ross's Goose	A	-	-	-	v
Cackling Goose	C	U	C	-	m
Brant	C	C	R	A	m
Trumpeter Swan	C	U	C	R	smb
Tundra Swan	U	U	U	-	m
Gadwall	U	R	R	-	m
Eurasian Wigeon	U	R	R	R	m
American Wigeon	C	C	C	U	smb

Species	Sp	Su	F	W	Status
Mallard	C	C	C	C	rmb
Blue-winged Teal	A	-	A	-	m
Northern Shoveler	C	U	U	R	m
Northern Pintail	C	U	C	A	smb
Green-winged Teal	C	C	C	R	s
Canvasback	U	-	R	-	m
Redhead	U	-	R	-	m
Common Pochard	A	-	-	-	v
Ring-necked Duck	U	R	U	-	mb
Greater Scaup	C	C	C	C	rmb
Lesser Scaup	U	-	U	-	m
Steller's Eider	C	R	C	C	w
Spectacled Eider	-	-	-	A	v
King Eider	R	R	R	R	w
Common Eider	C	C	C	U	rb
Harlequin Duck	C	C	C	C	rb
Surf Scoter	C	C	C	C	rm
White-winged Scoter	C	C	C	C	rm
Black Scoter	C	C	C	C	rmb
Long-tailed Duck	C	R	C	C	w
Bufflehead	C	R	C	C	rmb
Common Goldeneye	C	C	C	C	rb
Barrow's Goldeneye	C	C	C	C	rmb
Hooded Merganser	A	-	A	-	v
Common Merganser	C	C	C	C	rb
Red-breasted Merganser	C	C	C	C	rb
Ruddy Duck	-	-	A	-	v
Phasianidae – Pheasants & Grouse					
Ring-necked Pheasant	C	C	C	C	rbi
Spruce Grouse	C	C	C	C	rb
Willow Ptarmigan	U	U	U	U	rb
Rock Ptarmigan	U	U	U	U	rb
White-tailed Ptarmigan	R	R	R	R	rb
Gaviidae - Loons					
Red-throated Loon	C	U	C	U	rm
Pacific Loon	C	U	C	C	rb
Common Loon	C	C	C	C	rb
Yellow-billed Loon	U	U	R	U	wr
Podicipedidae - Grebes					
Horned Grebe	C	U	C	C	rm
Red-necked Grebe	C	C	C	C	rmb
Eared Grebe	-	-	A	-	v
Procellariidae - Shearwaters					
Northern Fulmar	R	R	R	-	sr
Sooty Shearwater	U	C	C	-	v
Short-tailed Shearwater	U	U	U	-	v
Hydrobatidae – Storm-Petrels					
Fork-tailed Storm-Petrel	C	C	C	-	sr
Leach's Storm-Petrel	-	R	R	-	v
Phalacrocoracidae - Cormorants					

Species	Sp	Su	F	W	Status
Brandt's Cormorant	-	A	-	-	v
Double-crested Cormorant	U	U	U	R	r
Red-faced Cormorant	C	C	C	R	rb
Pelagic Cormorant	C	C	C	C	rb
Ardeidae - Herons					
Great Blue Heron	R	R	R	R	v
Cathartidae New World Vultures					
Turkey Vulture	-	-	A	-	v
Accipitridae – Eagle & Hawks					
Osprey	R	R	R	-	m
Bald Eagle	C	C	C	C	rb
Northern Harrier	C	U	U	R	sb
Sharp-shinned Hawk	C	C	C	U	rb
Northern Goshawk	C	C	C	C	rb
Red-tailed Hawk	C	C	C	-	sb
Rough-legged Hawk	U	U	U	-	sb
Golden Eagle	R	R	R	A	s
Falconidae - Falcons					
American Kestrel	R	R	R	-	m
Merlin	U	C	R	R	sb
Gyrfalcon	R	R	R	R	w
Peregrine Falcon	U	U	R	R	sb
Rallidae – Rails, Coots & Gallinules					
American Coot	-	-	A	-	v
Gruidae - Cranes					

Species	Sp	Su	F	W	Status
Sandhill Crane	C	C	C	-	smb
Charadriidae - Plovers					
Black-Bellied Plover	C	U	U	A	m
American Golden-Plover	U	R	U	-	m
Pacific Golden-Plover	C	R	U	-	m
Semipalmated Plover	C	C	C	-	smb
Killdeer	R	R	-	-	v
Haematopodidae - Oystercatchers					
Black Oystercatcher	C	C	U	U	sb
Scolopacidae – Sandpipers & Phalaropes					
Greater Yellowlegs	C	C	C	-	sb
Lesser Yellowlegs	U	U	U	-	sb
Solitary Sandpiper	R	U	R	-	sb
Wandering Tattler	C	C	C	-	s
Spotted Sandpiper	C	C	C	-	sb
Whimbrel	C	C	C	-	sm
Bristle-thighed Curlew	A	-	-	-	m
Hudsonian Godwit	U	R	-	-	m
Bar-tailed Godwit	U	A	R	-	m
Marbled Godwit	U	R	A	-	m
Ruddy Turnstone	U	R	R	-	m
Black Turnstone	C	U	U	-	m
Surfbird	C	C	C	-	sm
Red Knot	U	R	R	-	m
Sanderling	U	U	U	R	m

Species	Sp	Su	F	W	Status
Semipalmated Sandpiper	U	R	U	-	m
Western Sandpiper	C	C	C	-	m
Red-necked Stint	A	A	-	-	v
Temminck's Stint	A	-	-	-	v
Least Sandpiper	C	U	U	-	smb
Baird's Sandpiper	R	R	U	-	m
Pectoral Sandpiper	C	U	C	-	m
Sharp-tailed Sandpiper	-	-	U	-	m
Rock Sandpiper	C	R	U	C	w
Dunlin	C	U	U	R	m
Stilt Sandpiper	-	-	R	-	m
Ruff	A	-	-	-	v
Short-billed Dowitcher	C	C	U	-	m
Long-billed Dowitcher	U	U	U	-	sm
Jack Snipe	-	-	A	-	v
Wilson's Smipe	C	C	C	R	sb
Red-necked Phalarope	C	C	C	-	sb
Red Phalarope	A	A	A	-	v
Laridae – Gulls & Terns					
Franklin's Gull	-	A	-	-	v
Black-headed Gull	-	A	-	-	v
Bonaparte's Gull	C	C	C	R	sb
Black-tailed Gull	-	A	-	-	v
Mew Gull	C	C	C	C	rb
Ring-billed Gull	A	-	-	A	v

Species	Sp	Su	F	W	Status
California Gull	-	-	A	-	v
Herring Gull	C	C	C	C	r
Heermann's Gull	-	A	-	-	v
Thayer's Gull	R	A	R	R	v
Lesser Black-backed Gull	-	A	-	-	v
Slaty-backed Gull	R	A	A	R	v
Western Gull	-	A	-	-	v
Glaucous-winged Gull	C	C	C	C	rb
Glaucous Gull	U	R	U	U	w
Sabine's Gull	R	R	R	-	v
Black-legged Kittiwake	C	C	R	U	sb
Ross's Gull	-	A	-	-	v
Caspian Tern	R	R	-	-	v
Arctic Tern	C	C	R	-	sb
Aleutian Tern	C	C	-	-	sb
White-winged Tern	-	A	-	-	v
Stercorariidae - Jaegers					
Pomarine Jaeger	U	U	R	-	m
Parasitic Jaeger	U	U	R	-	sb
Long-tailed Jaeger	R	R	R	-	v
Alcidae – Auks, Murres & Puffins					
Common Murre	C	C	C	C	rb
Thick-billed Murre	A	A	A	R	w
Pigeon Guillemot	C	C	C	C	rb
Marbled Murrelet	C	C	C	C	rb

Species	Sp	Su	F	W	Status
Kittlitz's Murrelet	C	C	C	U	rb
Ancient Murrelet	R	U	U	R	s
Cassin's Auklet	-	R	R	-	v
Parakeet Auklet	A	A	A	-	v
Crested Auklet	R	A	A	R	v
Rhinoceros Auklet	A	R	R	-	v
Horned Puffin	C	C	C	R	sb
Tufted Puffin	C	C	C	-	sb
Columbidae – Pigeons & Doves					
Rock Pigeon	C	C	C	C	ri
Eurasian Collared-Dove	-	A	-	-	vi
Mourning Dove	-	-	A	A	v
Strigidae - Owls					
Western Screech-Owl	-	A	-	-	v
Great Horned Owl	C	C	C	C	rb
Snowy Owl	R	-	-	R	w
Northern Hawk-Owl	R	R	R	R	ir
Great Gray Owl	R	R	R	R	v
Short-eared Owl	U	U	R	R	sb
Boreal Owl	U	U	U	U	r
Northern Saw-whet Owl	U	U	U	U	rb
Caprimulgidae - Goatsuckers					
Common Nighthawk	A	A	-	-	v
Trochilidae - Hummingbirds					
Anna's Hummingbird	-	-	R	A	v
Rufous Hummingbird	U	U	U	-	smb
Alcedinidae - Kingfishers					
Belted Kingfisher	C	C	C	U	rb
Picidae – Woodpeckers					
Red-breasted Sapsucker	-	-	R	R	v
Downy Woodpecker	C	C	C	C	rb
Hairy Woodpecker	U	U	U	U	rb
American Three-toed Woodpecker	U	U	U	U	rb
Black-backed Woodpecker	R	R	R	R	rb
Northern Flicker	R	R	R	R	r
Tyrannidae - Flycatchers					
Olive-sided Flycatcher	R	U	U	-	sb
Western Wood-Pewee	R	R	-	-	sb
Alder Flycatcher	R	C	C	-	sb
Say's Phoebe	R	R	R	-	m
Laniidae - Shrikes					
Northern Shrike	U	U	U	U	rb
Corvidae – Crows, Magpies & Jays					
Gray Jay	C	C	C	C	rb
Steller's Jay	C	C	C	C	rb
Black-billed Magpie	C	C	C	C	rb
Northwestern Crow	C	C	C	C	rb
Common Raven	C	C	C	C	rb
Alaudidae - Larks					
Horned Lark	R	U	U	A	sb

Species	Sp	Su	F	W	Status
Hirundinidae - Swallows					
Tree Swallow	C	C	C	-	sb
Violet-green Swallow	C	C	C	-	sb
Bank Swallow	C	C	C	-	sb
Cliff Swallow	C	C	C	-	sb
Barn Swallow	-	A	-	-	v
Paridae - Chickadees					
Black-capped Chickadee	C	C	C	C	rb
Boreal Chickadee	C	C	C	C	rb
Chestnut-backed Chickadee	U	U	U	U	rb
Sittidae - Nuthatches					
Red-breasted Nuthatch	C	C	C	C	rb
Certhiidae - Creepers					
Brown Creeper	C	C	C	C	r
Troglodytidae - Wrens					
Pacific Wren	C	C	C	C	rb
Cinclidae – Dippers					
American Dipper	C	C	C	C	rb
Regulidae - Kinglets					
Golden-crowned Kinglet	C	C	C	C	rb
Ruby-crowned Kinglet	C	C	C	R	sb
Turdidae - Thrushes					
Northern Wheatear	R	R	R	-	m
Mountain Bluebird	-	-	A	A	v
Townsend's Solitaire	-	A	R	R	v

Species	Sp	Su	F	W	Status
Gray-cheeked Thrush	U	U	U	-	sb
Swainson's Thrush	C	C	U	-	sb
Hermit Thrush	C	C	C	A	sb
American Robin	C	C	C	U	sb
Varied Thrush	C	C	C	U	sb
Sturnidae - Starlings					
European Starling	-	-	R	R	vi
Matacillidae – Pipits and Wagtails					
Eastern Yellow Wagtail	-	A	-	-	v
White Wagtail	-	A	-	-	v
American Pipit	C	C	C	R	s
Bombycillidae - Waxwings					
Bohemian Waxwing	-	R	C	C	m
Cedar Waxwing	R	R	R	R	rb
Calcariidae – Longspurs and Snow Buntings					
Lapland Longspur	C	R	C	R	m
Smith's Longspur	A	-	-	-	v
Snow Bunting	U	-	-	U	w
McKay's Bunting	-	-	-	A	v
Parulidae – Wood Warblers					
Orange-crowned Warbler	C	C	C	A	sb
Yellow Warbler	C	C	C	-	sb
Yellow-rumped Warbler	C	C	C	-	sb
Townsend's Warbler	C	C	C	-	sb
Blackpoll Warbler	U	U	U	-	s

Species	Sp	Su	F	W	Status
American Redstart	-	A	-	-	v
Northern Waterthrush	U	U	-	-	s
Common Yellowthroat	-	A	-	-	vb
Wilson's Warbler	C	C	U	R	sb
Emberizidae - Sparrows					
Spotted Towhee	A	-	-	-	v
American Tree Sparrow	U	U	U	U	w
Savannah Sparrow	C	C	C	-	sb
Fox Sparrow	C	C	C	R	sb
Song Sparrow	C	C	C	C	rb
Lincoln's Sparrow	C	C	C	R	sb
White-throated Sparrow	A	-	R	R	v
Harris's Sparrow	-	-	A	A	v
White-crowned Sparrow	C	C	C	U	rmb
Golden-crowned Sparrow	C	C	C	U	rmb
Dark-eyed Junco	C	C	C	C	rmb
Rustic Bunting	A	-	-	-	v
Cardinalidae - Tanagers					
Western Tanager	A	-	-	-	v
Icteridae - Blackbirds					
Red-winged Blackbird	R	R	R	-	v
Yellow-headed Blackbird	-	A	-	-	v
Western Meadowlark	A	-	-	-	v
Rusty Blackbird	U	U	U	R	sb
Brown-headed Cowbird	-	-	A	A	v

Species	Sp	Su	F	W	Status
Fringillidae - Finches					
Brambling	R	-	-	R	v
Gray-crowned Rosy Finch	C	A	C	C	w
Pine Grosbeak	C	C	C	C	rb
Purple Finch	A	-	A	A	v
Cassin's Finch	A	-	-	A	v
Red Crossbill	R	R	R	R	v
White-winged Crossbill	C	C	C	C	b
American Goldfinch	-	-	-	A	v
Common Redpoll	C	C	C	C	rb
Hoary Redpoll	R	-	R	R	w
Pine Siskin	C	C	C	C	rb

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Appendix E: Trail Plan

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Appendix E: Trail Plan

Introduction

Background

Much of the trail management effort in Kachemak Bay State Park (KBSP) and Kachemak Bay State Wilderness Park (KBSWP) until recently has been directed to the upkeep of existing trails in a heavily vegetated coastal region. New growth of brush and windfall of old trees is a constant issue and heavy rains and snowfall have caused drainage issues that need to be constantly kept up with. Little funding has been available to expand the system and so the basic trail network in the park in recent times has generally remained the same. Over time many of the trails have been upgraded into a more sustainable design and now it is possible to look forward to the eventual construction of new sustainable trails.

Since the 1995 Kachemak Bay State Park and Kachemak Bay State Wilderness Park Management Plan, the thinking on overall trail construction and management philosophy has evolved nationwide as most trail management agencies, like Alaska State Parks, have struggled to keep trails in acceptable condition. Trails in the Kachemak Bay area are no exception to this. To provide good trail experiences and to protect public safety and welfare, it became clear that best management practices needed to be upgraded to create a system where trails could be managed to enhance recreational opportunities, provide greater resource protection, and most importantly, given the limited availability of trail resources, require minimal maintenance.

In March 2009, the Division of Parks and Outdoor Recreation (DPOR) finalized a Trail Management Policy that provides direction on how DPOR will manage, develop, maintain, and assess the condition of state park trails. The policy provides goals and trail management concepts for sustainable and responsible trail development and management. This trail plan was developed consistent with the concepts in the Trail Management Policy and will serve as the framework for management and trail development within KBSP and KBSWP. The use of sustainable design will create important long-term benefits, principally a reduced need for regular maintenance and repairs into the future. The use of the recently developed interagency trail classification system will enable DPOR to better coordinate with partners, share resources, and allow for greater efficiency and seamless trail connectivity.

Accommodating a variety of recreational uses and trail user groups is a challenge within the park because topography influences use patterns and park users are frequently competing to use the “best” areas. Under this plan, sustainable construction and trail maintenance practices will be utilized on all future trail management activities including both trail-related project work and regular trail maintenance. The trail system will remain multi-use in nature but will

abide by the standards in the new Trail Classification System. This system defines trail standards and design parameters by a trail's designed and managed uses.

Plan Purpose

The Kachemak Bay State Park and Kachemak Bay State Wilderness Park Trail Management Plan is needed as a strategic tool to plot the course of trail management in the coming years. Plan recommendations are based on an analysis of existing access points, trails, the park environment and resources, land ownership and status, and current and anticipated trends in recreational use. The plan identifies management objectives and establishes guidelines for the future use and development of trails in KBSP and KBSWP. The primary purposes of this plan are to provide:

- A trail system which allows for optimum recreational use of the area while protecting the natural resources of the park.
- A consistent set of principles and policies for trail management.
- A basis for future funding.
- A roadmap for the trail building and maintenance efforts.
- A trail system that is user friendly and safe.

Planning Process

The Alaska Department of Natural Resources (ADNR) began the planning process to revise the 1995 Kachemak Bay State Park Management Plan in 2013, and the Trail Plan was started in 2014. Public scoping workshops were held in Anchorage, Homer, and surrounding communities to gather information and identify issues and concerns. Many comments were received during the scoping phase of the process that focused on trails and trail maintenance. To learn more specific details about how people use the park and would like to use the park, additional focus group meetings were held in 2015 and 2016 with a variety of user groups.

The Public Review Draft (PRD) of this plan was released September 19, 2018 with a deadline for public comments to be received by October 19. The public comment period was later extended to November 16. Public meetings on the PRD were held in Homer in October and November of 2018.

Trail Inventory Process

In the Spring of 2011, a Trail Inventory and Assessment Project began in Kachemak Bay State Park and has proven to be a major asset in the development of this plan. The pilot program was initiated by the Kachemak Bay State Park Citizens Advisory Board using the National Park Service's (NPS) River Trails and Conservation Assistance Program resources. It was a collaborative effort between State Parks, the U.S. Forest Service (USFS), and the Alaska Department of Natural Resources' Land Records Information Section. Park staff used Global Positioning System (GPS) and ground station equipment to hike and catalog the condition, features, and exact locations of the trails within the park.

The project plan was to map existing trail centerlines as accurately as possible while recording basic trail condition and associated constructed features found directly adjacent to the trail and processing and archiving these data in a Geographical Information System (GIS). Over two summers the field mapping crew used GPS units with sub-meter accuracy and basic trail inventory equipment to collect data for approximately 265 miles of trails. The crew collected information based on uniform standards like those adopted by the USFS and utilized by the NPS and the Municipality of Anchorage. The data included trail centerlines; trail condition information such as amount of brush, erosion, trail width, grade, and surface type; trail structures such as bridges, culverts, boardwalks, and signs; trailheads and associated features including gates, kiosks, parking, fee stations, and toilets; physical features such as ford sites and viewpoints; and photographs with spatial coordinates to create photo links.

For the first time, accurate trail alignments and distances are known for a large portion of the trails within the park and the condition of the trails and associated structures are documented. In the future, this information can be used to make further assessments and prescription decisions, to generate maps and trail websites, to help in securing grant funding, and for further planning purposes.

Use and Users

Perhaps the most heavily used resource within Kachemak Bay State Park is the trail system and increased focus should be put on the maintenance of these trails. Park trails offer a wide variety of recreational opportunities year-round for residents and out-of-state visitors alike. Summer uses include hiking, mountaineering, bicycling, fishing, running, horseback riding, orienteering, kayaking, rafting, canoeing, pack rafting, paragliding, berry picking, nature walking, sightseeing, and hunting. Winter activities include skiing, snowboarding, snowshoeing, dog mushing, skijoring, winter biking, and trapping. Demands for organized events within the park areas such as bike races, ski races, fund raisers and other gatherings continue to grow as does commercial use of the park. The differing skill levels of park users and the multitude of competing interests and uses often overlap seasonally and geographically. This plan seeks to lay the framework for a network of trails that over time will provide diverse trail opportunities and experiences for a wide variety of park users.

General Trail Policies

The Kachemak Bay area needs a lot of work to improve existing trails and plan for exciting new trail routes through DPOR-managed areas in KBSP and KBSWP. DPOR plans to transform the trail system into a sustainable and functional trail system that meets the needs of user groups while simultaneously providing for the protection of natural resources. Using the new interagency trail classification system, sustainable trail design and proper maintenance, improvements will be made over time to create a functional, high-quality trail system. The following general trail management policies and management concepts apply to trails in the park in conjunction with the trail specific recommendations provided later in this plan.

Sustainable Trail Framework

In complying with the Division of Parks and Outdoor Recreation's Trail Management Policy, this plan implements a Sustainable Design Framework to create a trail system that has minimum impact on natural systems and low maintenance costs. A Sustainable Trail is defined as a trail that conforms to its terrain and environment, can handle its intended use without serious resource degradation, and requires minimal maintenance. Sustainable Trails focus on initial trail design to minimize resource degradation and maximize the user experience. This involves the use of integrated water control, curvilinear layout, grade control and full bench construction. While initial construction costs may be more, reduced future maintenance costs should compensate for those initial investments.

The following guidelines will be considered and integrated when building or improving trails within the park. At times, certain circumstances may make the use of some of these guidelines difficult or impossible to fully implement. In these cases, reasonable measures should be taken while maintaining the spirit of the guidelines. Some segments of the existing park trails do not yet meet the sustainable standards. Where this is the case, a higher level of maintenance is required to keep the trail tread in reasonably good condition while minimizing impacts on park resources. The ultimate result will create a park resource that provides transportation alternatives, recreational opportunities, environmental aesthetics, open space preservation, and increased adjacent property values.

The following six guidelines will be considered and integrated when building or improving trails within the park.

The Six Essential Elements of Sustainable Trails[1]

1. ***The Half Rule*:** Trail grade should not exceed ½ the side slope that the trail traverses, if so, it becomes a Fall-line Trail.
2. ***The 10% Average Guideline*:** The average trail grade, or overall trail grade should not exceed 10% along the alignment of the trail. In many cases, keeping trail grades at about 10% will assure longer term sustainability, and this should be an objective for all trail projects, unless specifically designed at greater grades.
3. ***Maximum Sustainable Grade*:** A defined maximum tread grade that can be constructed along the trail. Typically restricted to runs of less than 50 feet, and no more than 5% of total length of the trail. Determining the Maximum Sustainable Grade for a trail involves many variables that are specific to a region or trail section. For example, soils that have a very high organic content will be less stable than those that are composed of weathered granite. Variables influencing the Maximum Sustainable Grade include:
    - Soil type
    - Presence of surface rock or bedrock

[1] Derived from Alaska Trails Curriculum

- Annual rainfall / intensity
- Type and spacing of integrated water control features
- Types of users
- Numbers of users
- Desired level of difficulty

4. ***Grade Reversals*:** A spot at which a climbing trail levels out and then changes direction, dropping subtly a short distance (6-12 feet) before rising again. Ideally, Grade Reversals are incorporated into a trail's initial design as part of its Curvilinear Layout. Water control features such as Rolling Grade Dips and Knicks can be integrated into an existing trail as a maintenance item. Waterbars are not recommended due to their higher maintenance requirements.
5. ***Outslope*:** As the trail contours across a hillside, the downhill or outer edge of the tread should tilt slightly downhill and away from the uphill trail edge. Under typical circumstances, this "Outslope" should be less than 5%. Anything greater will usually lead to tread creep and user discomfort. Outslope is influenced by the forces of compaction, displacement, and erosion, which collectively reduce the effectiveness of the design element. Even on trails that are constructed with proper outslope, it will often deform through time and routine maintenance is needed to restore a trail tread to its designed Outslope with these forces in mind. The integration of Grade Reversals and Rolling Grade Dips insure that water is managed along the trail if Outslope is compromised.
6. ***Durable Tread Surface*:** Surfacing should take into consideration special characteristics of the soils such as the presence of permafrost, organic/muskeg soils, volcanic ash, saturated soils, or some other environmental challenge. Many trails in Alaska are not sustainable due to flat terrain or the soil characteristics noted above. In these cases, tread surfaces require trail hardening to ensure sustainability. Trail hardening includes techniques such as gravel capping, boardwalk and plank decking, the use of geotextile surfaces and other means to provide a sustainable tread.

Avoid Flat Terrain Trails when Possible

The premise of Trail Sustainability is built around integrated water control. Flat terrain (<3% surface slope) represents a great challenge since often when trails are constructed in these situations, there is no provision for drainage – the trail tread becomes the lowest point and thus collects water. These situations include: valley floors, glacial plains, deltas, and wetlands. This is especially problematic in Alaska where many historic trails which were originally intended for winter use were built across wetlands, but are now being used in the summer.

Common Trail Practices or Structures to Avoid when Possible

- Fall-Line Trails (exceeding the half rule)

- Waterbars (difficult to properly construct, high-maintenance)
- Culverts – installing too small of diameter (difficult to maintain, fish passage issues)
- Grades too steep for sustainability (exceeding 10% average grade)
- Improper bridge location
- Lack of Grade Control along alignment (highly variable grades)
- Improper trail location (or non-curvilinear layout)
- Improper outslope (entrenched tread, <3% or >7%, poorly maintained)
- Failure to identify critical control points during layout
- Improper or failure to acquire proper permits (poor planning)
- Construction in a flood zone (poor planning)
- Construction in a sensitive habitat (poor planning)
- Construction on flat terrain (valley bottoms, ridgelines, etc.)

Visitor Experience

There are many aspects that contribute to a visitor's experience when visiting an area and especially a trail. Efforts shall be made throughout the trail planning and construction process to consider the visitor's experience. It is important to keep trails interesting, appreciated, well signed and respected to engender stewardship among users. Understanding core values is the key to being able to provide a good visitor experience. There are basic values associated with safety and convenience and recreational values associated with fitness and various transportation methods. Human values are important to recognize, understand and consider. These values include how trails and their surroundings are perceived, and how their shape affects people. An individual perception of how safe and appropriate the trail is to use must be balanced with the reality that a certain amount of risk is also a trail attractor in the context of the trail's designed and managed uses. Humans have a desire for efficiency that translates to making sure a trail is easier to use than to bypass, shortcut, or avoid. The notion that nature's randomness has a playful quality should be represented in the trail experience while considering the concept of harmony that is felt when all the core values work together to support a desired trail experience.

Trail Design and Development

There are several different philosophies and thought processes that need to be considered during the development and design phase for any functional trail. AS 41.21.131(a) states that Kachemak Bay State Park will be managed as a scenic park to protect its exceptional scenic values. AS 41.21.140(a) similarly states that Kachemak Bay State Wilderness Park will be managed as a wilderness park to protect its exceptional wilderness values. This affects trail location, layout, and design for renovations of current trails and any new trails. This plan puts forth new direction in the way trails will be designed and managed. Below you will find trail direction by different categories.

Trail Design Process
Achieving a sustainable trail begins with establishing an integrated design process, which relies on a multidisciplinary team working collaboratively from the pre-design phase through construction to ensure that a site is developed in keeping with the spirit of the trail design. A typical design process entails finding the interesting features that currently exist along a proposed trail alignment. These features become positive control points that are incorporated into the trail design, effectively connecting all the interesting features in a linear fashion.

Trail Layout
While popular destination trails like the Saddle Trail will always be a major trail type in Kachemak Bay State Park, the public has indicated a desire to see more loop trails incorporated within the trail system. Loop trails provide a more diverse experience for park users and can be an important trail management tool when different elevations and terrain configurations are incorporated to take advantage of superior park features. Additionally, greater use can be accommodated using loops in the park's development zones without placing greater impact in backcountry areas or wilderness zones. Where appropriate, construction of connecting links with existing trails or connecting other loops should be incorporated in future trail design to create more loop options within the existing trail infrastructure.

Re-Vegetation
Native and/or self-sustaining plant materials should be used for re-vegetation of disturbed areas. Re-vegetation can be used to provide screening and help to stabilize slopes. Construction techniques to preserve vegetation and trail routing techniques should be used to minimize visual intrusion. Where possible, plants that are removed from the trail corridor for clearance should be transplanted to other locations where re-vegetation is necessary. When possible, native and self-sustaining plant materials will be used for re-vegetation.

Clearing
Clearing widths and heights shall conform to the trail class and design parameter specifications assigned to a trail or trail segment. Deviations to the design parameters may occur only when the deviation is documented in the trail management objective (TMO) form for a trail or trail segment (see Appendix E-1 for a sample TMO). Additional clearing may be done to remove fire or falling hazard trees adjacent to developed areas or to improve views as guided by park zoning and a trail's classification.

Natural Considerations
Where significant wildlife or other natural features exist, special trail routing, construction methods and trail use should be used. Trails should have a natural flow and rhythm that avoids long, straight alignments. Where hazards are present, special trail construction techniques or locations should be used to mitigate the hazard. Hazardous areas, such as steep slopes, avalanche prone areas and rockslide areas should either be avoided or be closed seasonally when hazardous conditions are a problem.

Historic and Cultural Resource Conditions
Like natural resources, cultural resources must be considered when planning and constructing trails. There is a Cultural Zone on Chugachik Island, but the entire region has the potential to contain cultural sites due to the rich sea life and coastal food resources traditionally found in the area. Resource identification and evaluation should occur early in any trail project and possible impacts assessed. As needed and in consultation with the Office of History and Archaeology, special trail routing and construction techniques should be used to reduce adverse impacts to cultural resources.

Environmentally Sensitive Sites
Special location or construction methods may be necessary to reduce impacts and minimize disturbance in environmentally sensitive areas. Examples of environmentally sensitive sites include: wetlands, highly visible hillsides, significant vegetation areas, threatened and endangered species habitat, highly erodible soils, unstable slopes, and ridgelines. Techniques, such as site-specific trail routing, erosion control measures, site-specific adjustment of construction standards, and site-specific construction practices should be implemented to minimize environmental, visual or construction impacts. Construction methods that should reduce impacts include installing retaining walls to reduce cut and fill slopes on a visually prominent hillside, hand construction of the trail, or stabilizing a hazard that is located within or adjacent to a trail corridor.

Special care should be taken in areas close to streams or wetlands. Trails that cross or are located adjacent to wetlands should be designed for minimal impact. Boardwalks or other techniques may be necessary to impose minimal construction impacts. Wildlife needs should also be considered when setting trails near wetlands. Consider decommissioning underutilized trails in sensitive areas to minimize erosion of sediment into streams. Connectivity between drainage ditches and streams should be minimized to reduce sediment delivery potential.

Seasonal Trail Use Opportunities
Many trails in the Kachemak Bay area are used year-round and any new trail renovation or new trail construction should take into account the potential for use in different seasons. DPOR should identify snow retention areas for possible cross-country ski trails. In open areas, trails should be aligned to take advantage of wind protection and shaded canyon areas.

Signage
Sign standards will vary according to park zoning and trail classification. All signs will need to be constructed of materials that will stand up to the inclement weather and high humidity and precipitation of Kachemak Bay. Generally, all trail signage should be kept to a minimum and include only that needed to convey necessary information. Most current signs within the parks have needed replacement for years. Replacement of these should be a priority while maintaining a minimalist approach. Highly developed trails will typically include more directional signage and interpretive information. Locations of signs need to be evaluated on a case-by-case basis and signs should only be posted where necessary to avoid visual pollution.

Trail Closures

Trail closures due to seasonal environmental conditions or trail damage, wildlife considerations, trail construction and other DPOR activity is an important management tool that will be utilized when needed within the DPOR managed areas. Trails may be temporarily closed throughout the year due to other hazardous conditions that may threaten visitor safety and park resources. Trail conditions will be closely monitored by staff and when appropriate, closures will be lifted. Trail closures and openings will be public noticed and well signed.

Health and Fitness

The health benefits derived from recreational activities, such as bicycling and walking, lessen health-related problems and reduce health care costs. Regular, moderate exercise has been proven to reduce the risks of many health problems, such as coronary heart disease, diabetes, certain kinds of cancers, and obesity. Regular exercise can also protect against injury and disability because it builds muscular strength and flexibility. In addition to the health benefits that bicycling, walking and other activities offer, the improvement of physical health reduces health care costs. Trails, including greenbelt-connecting trails, offer adults and children alternative transportation networks that provide an opportunity to integrate moderate, individualized exercise with daily trips to work or school. Health and fitness shall be encouraged throughout the park by looking for opportunities to connect with other trail networks that may offer alternatives to vehicular transportation for day-to-day activities and through the consideration of trail design and trail-related facilities that enhance health and fitness.

Americans with Disabilities Act

In 1990, Congress passed the Americans with Disabilities Act. Among other provisions, the act prohibits state and local governments from discriminating on the basis of disability and requires government services, programs, and activities to be accessible to people with disabilities. This act attempts to remove the physical and social barriers facing the millions of Americans with disabilities. The United States Access Board is developing new guidelines covering access to trails, beaches, and picnic and camping areas. The guidelines will supplement those the Board has issued for the built environment and will address unique constraints specific to outdoor developed areas. Until that time every effort will be made to maximize the accessibility of trails while at the same time recognizing and protecting the unique characteristics of the park. While it is clearly not practical for all types of trails in a mountainous environment to be fully accessible, where appropriate, the trail system should comply with the standards set forth in this law. In addition, not all ADA accessible trails will be of the same difficulty. Information on trail grade, cross-slope, width, and surface will allow individuals with disabilities to decide if they have the ability and interest to use that segment of the trail. The Division of Parks and Outdoor Recreation will strive to create new opportunities for people with disabilities and while they will not necessarily be able to make every existing and new trail ADA accessible, DPOR will make every effort to remove barriers to access for those park users who wish to attempt more difficult routes.

Land Acquisition and Park Additions
Occasionally lands are purchased or donated for addition to the park. These additions are typically important to provide access or protect areas with special features. Trail development in newly acquired areas may need to go through a site-specific planning process if these areas are not addressed in this plan. Trail development in newly acquired areas shall also consider management recommendations provided in the Kachemak Bay State Park Management Plan.

Trail Classification System

The Division of Parks and Outdoor Recreation through the Trail Management Policy has adopted a new Trail Classification System. The Trail Classification System is a close adaptation of the National Trail Classification System that has been formally adopted by most federal land management agencies. Using this system is an important step towards enhancing partnerships with organizations and agencies that border the park and developing resource efficiencies with the use of consistent trail management terminology and standards. The Trail Classification System is similar to past systems in that the scale of trail development is defined by a particular trail class that identifies applicable design parameters and provides management intent for what maintenance standards apply. This new system differs in that the design parameters for a particular class are further refined by the trail type and designed use of the trail. The new system allows for more thorough assessments of trail conditions, an expanded means to record and communicate intended design and management guidelines, and better planning for trail management and maintenance. Below is a brief description of how the Trail Classification System is organized and functions.

Trail Type
There are two trail types used in this plan:

1. Terra Trail.
2. Snow Trail.

Since only one trail type may be used for each trail or trail segment, you may see multiple entries for the same physical location of a trail. For example: trail “X” may have specifications for terra type and different specifications for snow type. The trail is in the same physical location but is described differently for seasonal purposes.

Trail Class
Five trail classes ranging from least developed (Class 1) to highly developed (Class 5) will uniformly apply to all trail types; however, some trail classes may not be applicable to a trail use (such as Class 5 Pack and Saddle). The actively managed uses, user preferences, setting, protection of sensitive resources and other management activities were considered to determine which trail class to apply. Trail classes describe the typical attributes but exceptions may occur. The trail class that most closely matches the managed objective for a

trail is applied. Only one trail class may be applied to a trail or trail segment. See figure E-1 for the general trail class criteria and figure E-2 for photo examples of each trail class.

Figure E-1: General Trail Criteria

General Trail Criteria					
Trail Attributes	**Trail Class 1** Minimal/Undeveloped	**Trail Class 2** Simple/Minor Development	**Trail Class 3** Developed/Improved	**Trail Class 4** Highly Developed	**Trail Class 5** Fully Developed
Tread & Traffic Flow	-Tread intermittent & often indistinct -May require route finding -Native materials only	-Tread discernible & continuous, but narrow and rough -Few or no allowances constructed for passing -Native materials	-Tread obvious & continuous -Width accommodates unhindered one-lane travel, occasional allowances constructed for passing -Typically native materials	-Tread wide & relatively smooth with few irregularities -Width may consistently accommodate two-lane travel -Native or imported materials -May be hardened	-Width generally accommodates two-lane and two-directional travel, or provides frequent passing turnarounds -Commonly hardened with asphalt or other imported material
Obstacles	-Obstacles common -Narrow passages; brush, steep grades, rocks and logs present	-Obstacles occasionally present -Blockages cleared to define route and protect resources -Vegetation may encroach into trailway	-Obstacles infrequent -Vegetation cleared outside of trailway	-Few or no obstacles exist -Grades typically <12% -Vegetation cleared outside of trailway	-No obstacles -Grades typically <8%
Constructed Features & Trail Elements	-Minimal to non-existent -Drainage is functional -No constructed bridges or foot crossings	-Structures are of limited size, scale and number -Drainage is functional -Structures adequate to protect trail infrastructure and resources -Primitive foot crossings and fords	-Trail structures (walls, steps, drainage, raised trail) may be common & substantial -Trail bridges as needed for resources protection and appropriate access -Generally native materials	-Structures frequent and substantial -Substantial trail bridges are appropriate at water crossings -Trailside amenities may be present	-Structures frequent or continuous; may include curbs, handrails, trailside amenities and boardwalks -Drainage structures frequent; may include culverts and road-like designs
Signs	-Minimum required -Generally limited to regulation and resource protection -No destination signs present	-Minimum required for basic direction -Generally limited to regulation and resource protection -Typically very few or no destination signs present	-Regulation, resource protection, user reassurance -Directional signs at junctions, or when confusion is likely -Informational and interpretative signs may be present	-Wide variety of signs likely and present -Informational signs likely -Interpretive signs possible	-Wide variety of signage is present -Information and interpretive signs likely

General Trail Criteria					
Trail Attributes	**Trail Class 1** Minimal/Undeveloped	**Trail Class 2** Simple/Minor Development	**Trail Class 3** Developed/Improved	**Trail Class 4** Highly Developed	**Trail Class 5** Fully Developed
Typical Recreation Environs & Experience	-Natural, unmodified -Primitive setting	-Natural, essentially unmodified -Primitive to Semi-primitive	-Natural, primarily unmodified -Semi-primitive to roaded natural setting -Transition	-May be modified -Typically roaded natural to rural setting -Transition, rarely present in wilderness	-Can be highly modified -Typically rural to urban setting -Commonly associated with visitor centers or high-use recreation sites -Not present in wilderness
Trail Management Typically managed to accommodate:	-Low level use -Highly skilled users, comfortable off trail -Users with high degree of orienteering skill -Some travel modes & ability levels may be impractical or impossible -Water trail users require high level of navigation/orientation and paddling skills	-Low-to-moderate use levels -Mid-to-highly skilled users, capable of traveling over awkward conditions/ obstacles -Users with moderate orienteering skill -Trail suitable for many user types but challenging and involves advanced skills -Water trails: moderate to high level of navigation/orientation and paddling/piloting skills required	-Moderate to heavy use -Users with intermediate skill level and experience -Users with minimal orienteering skills -Moderately easy travel by managed use types -Random potential for accessible use -Water trails: Basic to moderate navigation and paddling/piloting skills required	-Very heavy use -Users with minimal skills and experience -Users with minimal to no orienteering skills -Easy/comfortable travel by managed use types -Maybe or has the potential to be made accessible -Water trails: Basic navigation and paddling/piloting skills required	-Intensive use -Users with limited trail skills and experience -Trail typically meets agency requirements for accessibility

General Trail Criteria					
Trail Attributes	**Trail Class 1** Minimal/Undeveloped	**Trail Class 2** Simple/Minor Development	**Trail Class 3** Developed/Improved	**Trail Class 4** Highly Developed	**Trail Class 5** Fully Developed
Maintenance Indicators & Intensity	-Resource protection or safety commensurate with targeted recreational experience -Infrequent or no scheduled maintenance, usually in response to reports of unusual resource problems requiring repair	-Resource protection or safety commensurate with targeted recreational experience -Maintenance scheduled to preserve trail facility & route location or in response to reports of unusual resource problems	-User convenience -Resource protection or safety commensurate with targeted recreational experience -Trail cleared to make available for use early in use season and to preserve trail integrity -Maintenance typically in response to trail or resource damage or significant obstacles to managed use type and experience level	-User comfort and ease -Resource protection or safety commensurate with targeted recreational experience -Trail cleared to make available for use at earliest opportunity in use season -Maintenance typically performed at least annually	-User comfort and ease -Targeted high level of accessibility to key recreational opportunities -Safety commensurate with targeted recreational experience -Maintenance performed at least annually or as needed to meet posted conditions, major damage or safety concerns typically corrected or posted within 24 hours of notice
Additional Criteria	-Typically not managed for Pack and Saddle and Motorized Trails				-Not managed for Pack and Saddle stock, Watercraft or Motorized use.

Figure E-2: Trail Class Photo Examples

Trail Class 1

- Low level use
- Highly skilled users, comfortable off trail with high degree of orienteering skill
- Some travel modes may be impractical or impossible

Trail Class 2

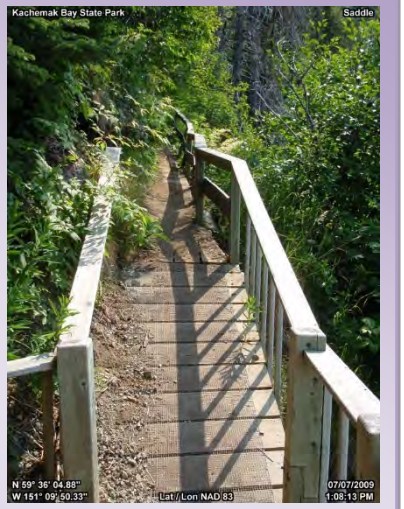
- Low or moderate use levels
- Mid-to-highly skilled users, capable of traveling over awkward conditions/obstacles
- Trail suitable for many types but challenging, involving advanced skills

Trail Class 3

- Moderate to heavy use
- Users with intermediate skill level and trail experience
- Moderately easy travel by managed use types

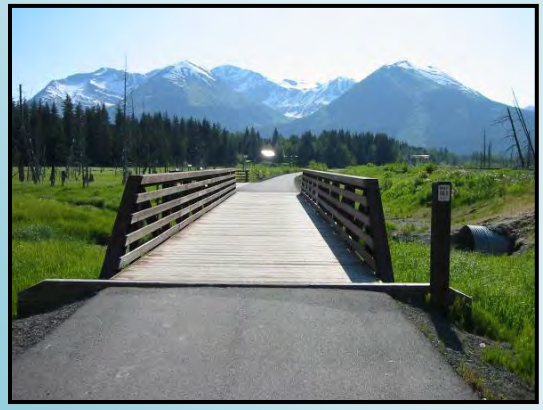
Trail Class 4

- Very heavy use
- Users with minimal skills and trail experience
- Easy/comfortable travel by managed use types



Trail Class 5

- Intensive use
- Users with limited skills and trail experience
- Trail typically meets agency requirements for accessibility



Managed Use

Managed Use is a term that is used to describe the modes of travel that are actively managed and appropriate on a trail considering the design of the trail. There can be many managed uses per trail or trail segment. Managed Use is applied to indicate a management decision or intent to accommodate or encourage a specific type of use but it does not necessarily mean that other uses are prohibited.

Designed Use

Designed Use is the intended use that controls the desired design of the trail and determines the subsequent maintenance parameters for a trail. There can only be one Designed Use per trail or trail segment. Five different designed uses are applied in this plan. They are:

1. Hiker/Pedestrian
2. Bicycle
3. Pack and Saddle
4. Cross Country Ski (Classical/Diagonal)
5. Nordic Ski (Skate)

Design Parameters

Design parameters provide guidance for the assessment, survey, design, construction, repair and maintenance of trails. While the five trail classes apply, the specific design parameters vary under each trail class depending on the designed use. Site-specific circumstances may demand some exceptions or variances to the design parameters based on trail-specific conditions, topography, or other factors, if the deviations are consistent with the general intent of the applicable trail class. Trail design parameters are provided in figures E-3 – E-7 for the designed uses in this plan.

Trail Management Objectives

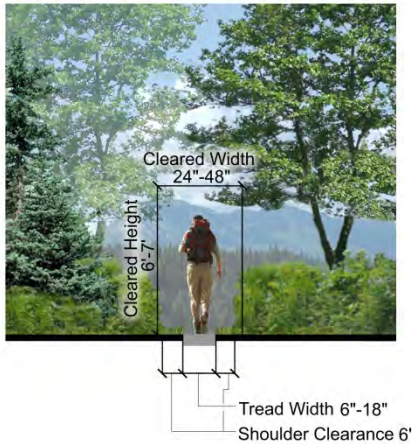
Trail Management Objectives (TMOs) are the mechanisms that link the Trail Classification System and direction given in this plan to on-the-ground trail management. TMOs synthesize and document in one form the management intention for the trail while providing basic reference information for any subsequent trail planning, management, condition surveys, and reporting. A TMO is required for each trail or trail segment as a pre-requisite for completing trail condition assessment surveys and subsequent prescriptions for work needed to meet standard. Each TMO is approved by management staff to ensure that the objectives for the trail are consistent with this plan and anticipated future land management actions. After approval, the TMOs provide the mechanism for trail maintenance staff and volunteers to know how to maintain and bring a trail or trail segment up to standard as needed. A sample TMO is provided in Appendix E-1.

Figure E-3: Hiker/Pedestrian Design Parameters

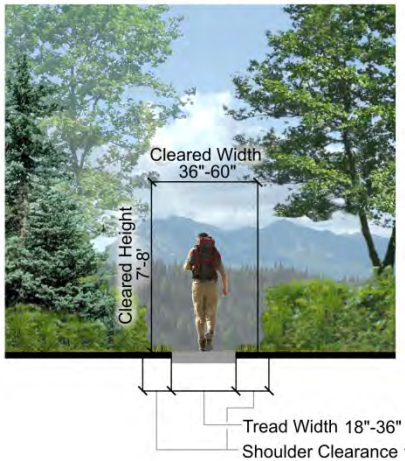
Designed Use HIKER/PEDESTRIAN		**Trail Class 1**	**Trail Class 2**	**Trail Class 3**	**Trail Class 4**	**Trail Class 5**
Design Tread Width	**Single Lane**	0” – 12”	6” – 18”	18” – 36”	24” – 60”	36” – 72”
	Double Lane	36”	36”	36” – 60”	48” – 72”	72” – 120”
	Structures (Minimum Width)	18”	18”	18”	36”	36”
Design Surface	**Type**	Native, ungraded May be continuously rough	Native, limited grading May be continuously rough	Native, with some on-site borrow or imported material where needed for stabilization and occasional grading Intermittently rough	Native with improved sections of borrow or imported material, and routine grading Minor roughness	Likely imported material, and routine grading Uniform, firm, and stable
	Protrusions	≤ 24” Likely common and continuous	≤ 6” May be common and continuous	≤ 3” May be common, not continuous	≤ 3” Uncommon, not continuous	No protrusions
	Obstacles (Maximum Height)	24”	14”	10”	8”	No obstacles
Design Grade	**Target Grade**	5% – 25%	5% – 18%	3% – 12%	2% – 10%	2% – 5%
	Short Pitch Maximum	40%	35%	25%	15%	5% – 12%
	Maximum Pitch Density	20% – 40% of trail	20% – 30% of trail	10% – 20% of trail	5% – 20% of trail	0% – 5% of trail
Design Cross Slope	**Target Cross Slope**	Natural side slope	5% – 20%	5% – 10%	3% – 7%	2% – 3% (or crowned)
	Maximum Cross Slope	Natural side slope	25%	15%	10%	3%
Design Clearing	**Height**	6’	6’ – 7’	7’ – 8’	8’ – 10’	8’ – 10’
	Width	≥ 24” Some vegetation may encroach into clearing area	24” – 48” Some light vegetation may encroach into clearing area	36” – 60”	48” – 72”	60” – 72”
	Shoulder Clearance	3” – 6”	6” – 12”	12” – 18”	12” – 18”	12” – 24”
Design Turn	**Radius**	No minimum	2’ – 3’	3’ – 6’	4’ – 8’	6’ – 8’

Class 1

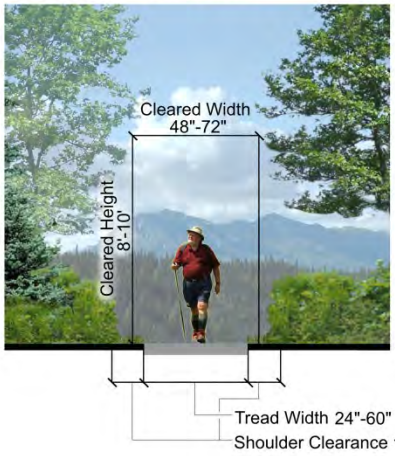
Class 2



Class 3



Class 4



Class 5

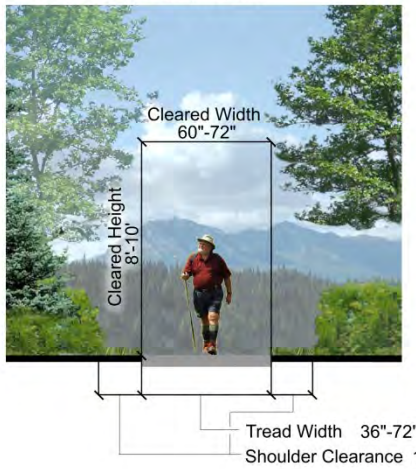
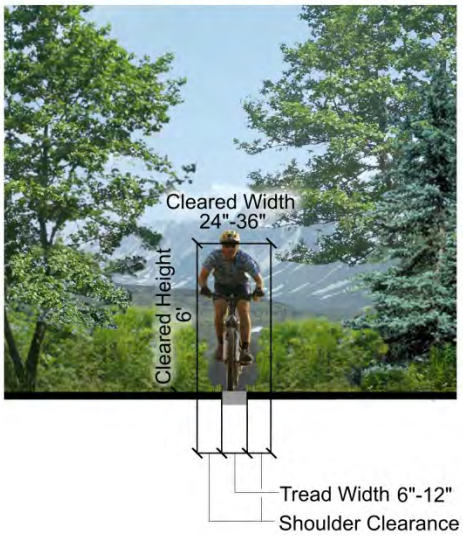


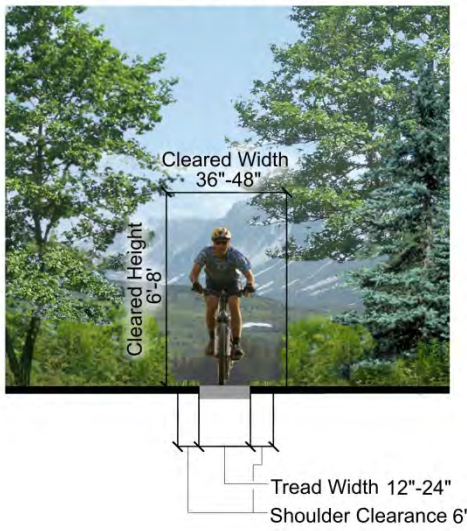
Figure E-4: Bicycle Design Parameters

Designed Use BICYCLE		**Trail Class 1**	**Trail Class 2**	**Trail Class 3**	**Trail Class 4**	**Trail Class 5**
Design Tread Width	**Single Lane**	6” – 12”	12” – 24”	18” – 36”	24” – 48”	36” – 60”
	Double Lane	36” – 48”	36” – 48”	36” – 48”	48” – 84”	72” – 120”
	Structures (Minimum Width)	18”	18”	36”	48”	60”
Design Surface	**Type**	Native, ungraded May be continuously rough Sections of soft or unstable tread on grades < 5% may be common and continuous	Native, with limited grading May be continuously rough Sections of soft or unstable tread on grades < 5% may be common	Native, with some on-site borrow or imported material where needed for stabilization and occasional grading Intermittently rough Sections of soft or unstable tread on grades < 5% may be present, but not common	Native, with improved sections of borrow or imported materials and routine grading Stable, with minor roughness	Likely imported material and routine grading Uniform, firm, and stable
	Protrusions	≤ 24” Likely common and continuous	≤ 6” May be common and continuous	≤ 3” May be common, but not continuous	≤ 3” Uncommon and not continuous	No protrusions
	Obstacles (Maximum Height)	24”	12”	10”	8”	No obstacles
Design Grade	**Target Grade**	5% – 20%	5% – 12%	3% – 10%	2% – 8%	2% – 5%
	Short Pitch Maximum	30% 50% on downhill segments only	25% 35% on downhill segments only	15%	10%	8%
	Maximum Pitch Density	20% – 30% of trail	10% – 30% of trail	10% – 20% of trail	5% – 10% of trail	0% – 5% of trail
Design Cross Slope	**Target Cross Slope**	5% – 10%	5% – 8%	3% – 8%	3% – 5%	2% – 3%
	Maximum Cross Slope	10%	10%	8%	5%	5%
Design Clearing	**Height**	6’	6’ – 8’	8’	8’ - 9’	8’ - 9’
	Width	24” – 36” Some vegetation may encroach into clearing area	36” – 48” Some light vegetation may encroach into clearing area	60” – 72”	72” – 96”	72” – 96”
	Shoulder Clearance	0” – 12”	6” – 12”	6” – 12”	6” – 18”	12” – 18”
Design Turn	**Radius**	2’ – 3’	3’ – 6’	4’ – 8’	8’ – 10’	8’ - 12’

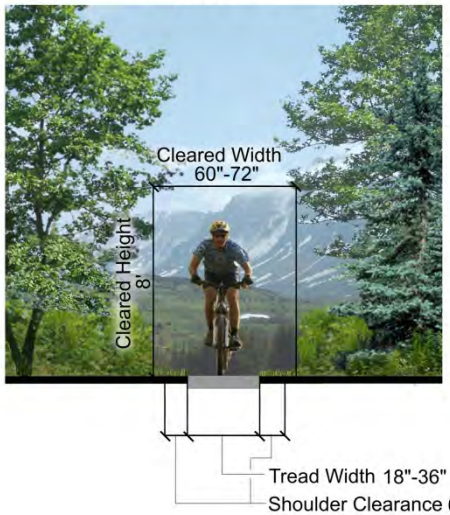
Class 1



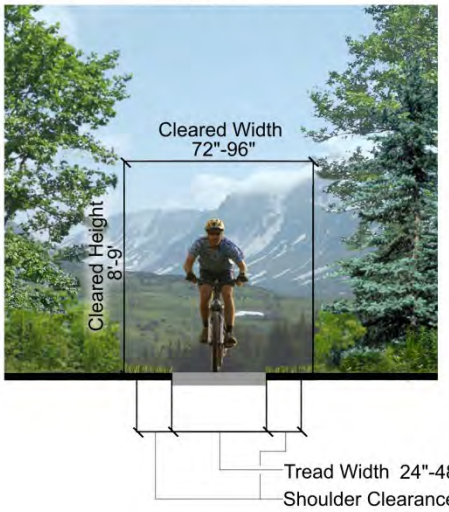
Class 2



Class 3



Class 4



Class 5

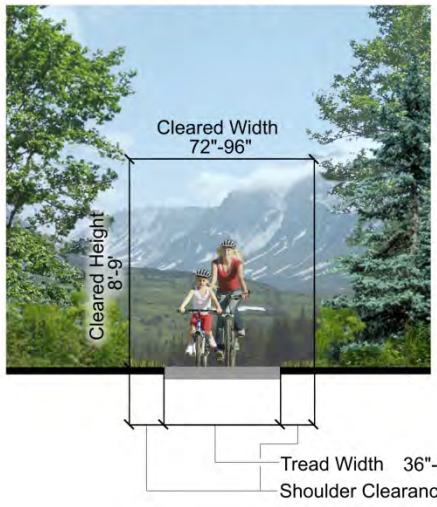
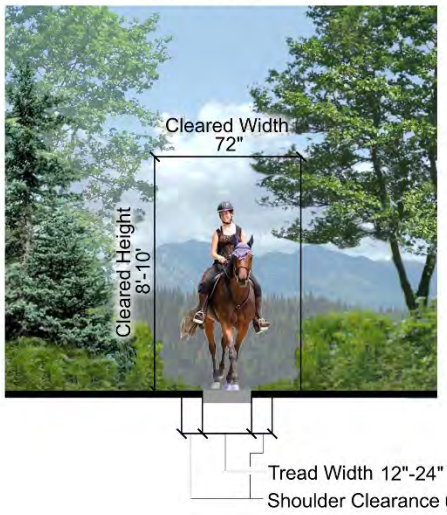


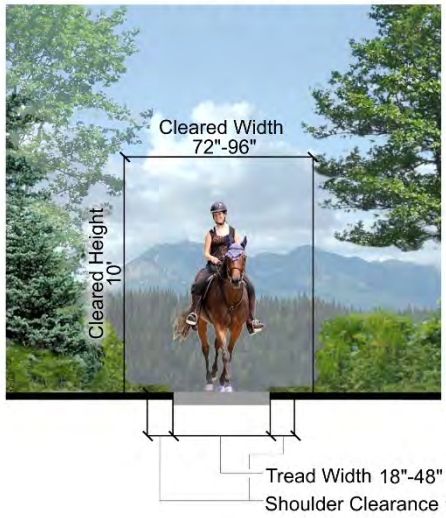
Figure E-5: Pack and Saddle Design Parameters

Designed Use PACK AND SADDLE		**Trail Class 1**	**Trail Class 2**	**Trail Class 3**	**Trail Class 4**	**Trail Class 5**
Design Tread Width	**Single Lane**	Typically not designed or actively managed for equestrians, although use may be allowed	12” – 24” May be up to 48” along steep side slopes 48” – 60” or greater along precipices	18” – 48” 48” – 60” or greater along precipices	24” – 96” 48” – 60” or greater along precipices	Typically not designed or actively managed for equestrians, although use may be allowed
	Double Lane		60”	60” – 84”	84” – 120”	
	Structures (Minimum Width)		Other than bridges: 36” Bridges without handrails: 60” Bridges with handrails: 84” clear width	Other than bridges: 36” Bridges without handrails: 60” Bridges with handrails: 84” clear width	Other than bridges: 36” Bridges without handrails: 60” Bridges with handrails: 84” clear width	
Design Surface	**Type**		Native, with limited grading May be frequently rough	Native, with some on-site borrow or imported material where needed for stabilization and occasional grading Intermittently rough	Native, with improved sections of borrow or imported material and routine grading Minor roughness	
	Protrusions		≤ 6” May be common and continuous	≤ 3” May be common, not continuous	≤ 3” Uncommon, not continuous	
	Obstacles (Maximum Height)		12”	6”	3”	
Design Grade	**Target Grade**		5% – 20%	3% – 12%	2% – 10%	
	Short Pitch Maximum		30%	20%	15%	
	Maximum Pitch Density		15% – 20% of trail	5% – 15% of trail	5% – 10% of trail	
Design Clearing	**Height**		8’ – 10’	10’	10’ – 12’	
	Width		72” Some light vegetation may encroach into clearing area	72” – 96”	96”	
	Shoulder Clearance		6” – 12” Pack clearance: 36” x 36”	12” – 18” Pack clearance: 36” x 36”	12” – 18” Pack clearance: 36” x 36”	
Design Turn	**Radius**		4’ – 5’	5’ – 8’	6’ – 10’	

Class 2



Class 3



Class 4

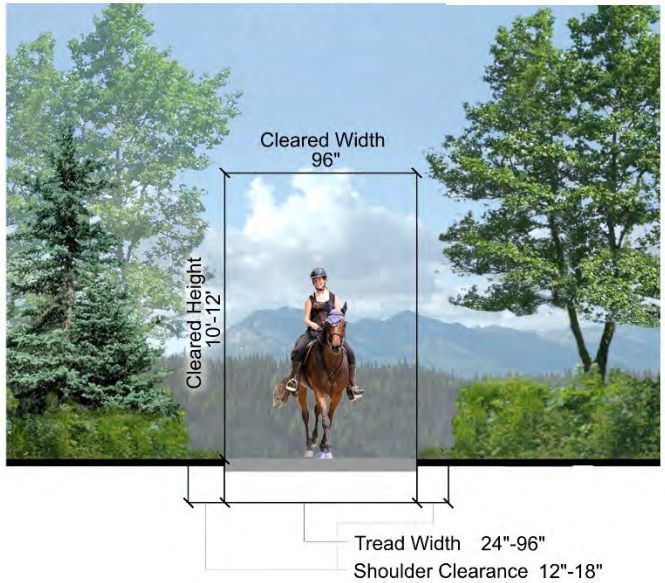
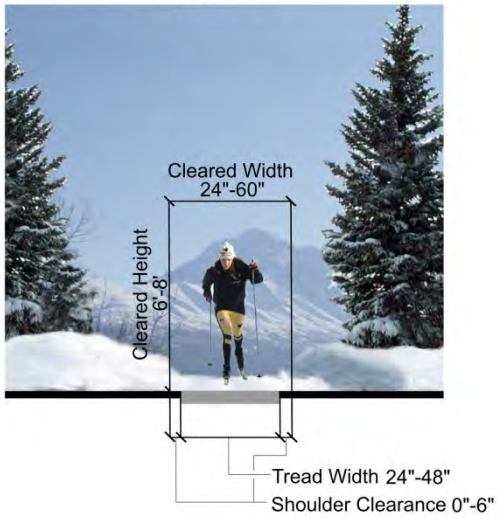


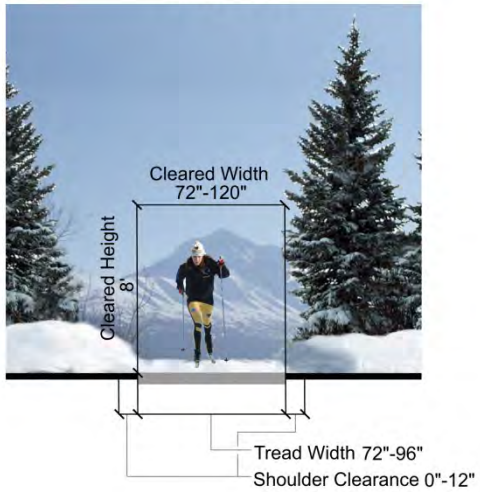
Figure E-6: Cross-Country Ski (Diagonal/Classical) Design Parameters

Designed Use CROSS-COUNTRY SKI (Diagonal/Classic ski)		**Trail Class 1**	**Trail Class 2**	**Trail Class 3**	**Trail Class 4**	**Trail Class 5**
Design Groomed Width	**Single Lane**	Typically not designed or actively managed for cross-country skiing, although use may be allowed	24” – 48” Typically not groomed	72” – 96” Or width of grooming equipment	96” – 120” Or width of grooming equipment	Typically not designed or actively managed for cross-country skiing, although use may be allowed
	Double Lane		72” – 96”	96” – 144”	144” – 192”	
	Structures (Minimum Width)		36”	36”	36”	
Design Grooming and Surface	**Type**		Generally no machine grooming	May receive occasional machine grooming for snow compaction and track setting	Regular machine grooming for snow compaction and track setting	
	Protrusions		No protrusions	No protrusions	No protrusions	
	Obstacles (Maximum Height)		12” Uncommon	8” Uncommon (no obstacles if machine groomed)	No obstacles	
Design Grade	**Target Grade**		5% – 15%	2% – 10%	0% – 8%	
	Short Pitch Maximum		25%	20%	12%	
	Maximum Pitch Density		10% – 20% of trail	5% – 15% of trail	0% – 10% of trail	
Design Cross Slope	**Target Cross Slope**		0% – 10%	0% – 5%	0% – 5%	
	Maximum Cross Slope (For up to 50’)		20%	15%	10%	
Design Clearing	**Height** (Above normal maximum snow level)		6’ – 8’	8’ Or height of grooming equipment	8’ – 10’	
	Width		24” – 60” Light vegetation may encroach into clearing area	72” – 120” Light vegetation may encroach into clearing area	96” – 168” Widen clearing at turns or if increased sight distance needed	
	Shoulder Clearance		0” – 6”	0” - 12”	0” – 24”	
Design Turn	**Radius**		8’ – 10’	15’ – 20’ Or to accommodate grooming equipment	≥ 25’	

Class 2



Class 3



Class 4

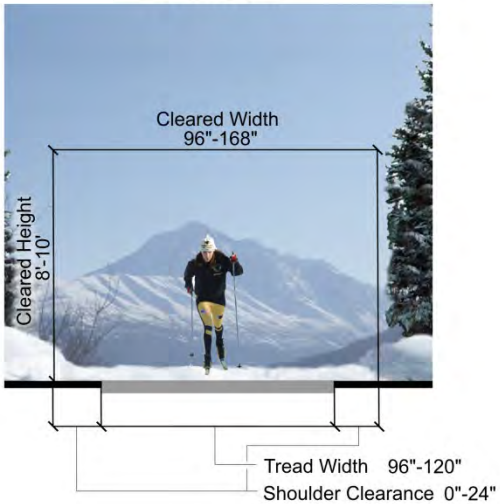
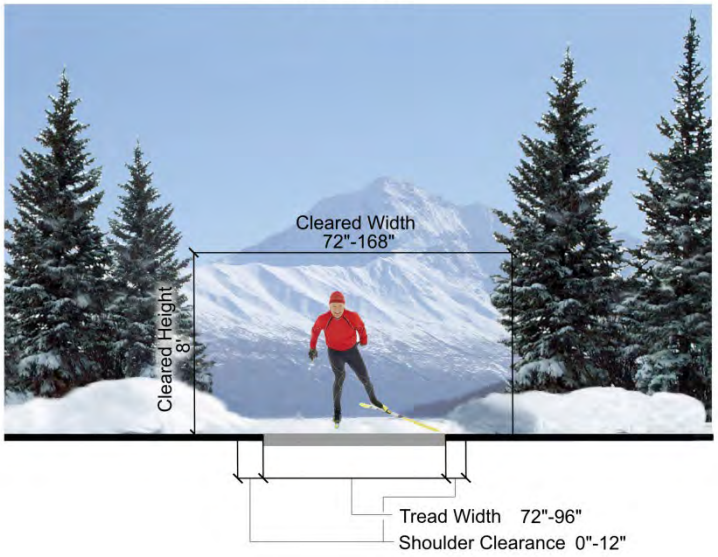


Figure E-7: Nordic Ski (Skate) Design Parameters

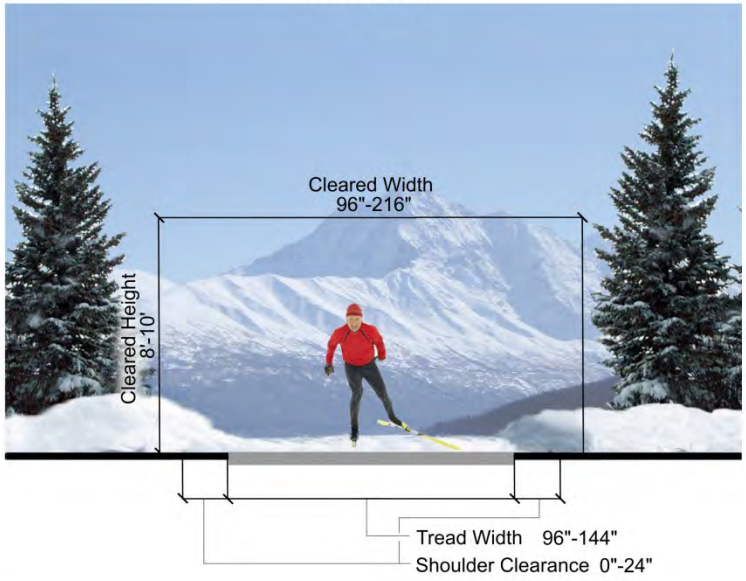
Designed Use NORDIC SKI (Skate Ski)		**Trail Class 1**	**Trail Class 2**	**Trail Class 3**	**Trail Class 4**	**Trail Class 5**
Design Groomed Width	**Single Lane**	Typically not designed or actively managed for skate skiing, although use may be allowed	Typically not designed or actively managed for skate skiing, although use may be allowed	72” – 96” Or width of grooming equipment	96” – 144” Or width of grooming equipment	144” - 192” Or width of grooming equipment
	Double Lane[2] **Structures** (Minimum Width)			96” – 144” 36”	144” – 192” 36”	168” - 288” 36”
Design Grooming and Surface	**Type**			May receive occasional machine grooming for snow compaction and track setting	Smooth compaction using implements designed for creating skate lanes.	Smooth compaction using implements designed for creating skate lanes.
	Protrusions			No protrusions	No protrusions	No protrusions
	Obstacles (Maximum Height)			8” Uncommon (no obstacles if machine groomed)	No obstacles	No obstacles
Design Grade	**Target Grade**			2% – 10%	0% – 8%	0% – 6%
	Short Pitch Maximum			20%	20%	20%
	Maximum Pitch Density			5% – 15% of trail	5% - 10% of trail	5 - 8% of trail
Design Cross Slope	**Target Cross Slope**			0% – 5%	0% – 5%	0% – 5%
	Maximum Cross Slope (For up to 50’)			15%	12% Minimum cross-slope (crowned or one side) should be 2% to promote drainage	10% Minimum cross-slope (crowned or one side) should be 2% to promote drainage
Design Clearing	**Height** (Above normal maximum snow level)			8’ Or height of grooming equipment	8’ – 10’ Or height of grooming equipment	At least 10’ Or height of grooming equipment
	Width			72” – 168” Light vegetation may encroach into clearing area	96” – 216” Widen clearing at turns or if increased sight distance needed	96” – 312” Widen clearing at turns or if increased sight distance needed
	Shoulder Clearance			0” - 12”	0” – 24”	0” – 24”
Design Turn	**Radius**			15’ – 20’ Or to accommodate grooming equipment	≥ 25’ Or to accommodate grooming equipment	25’ - 30’ Or to accommodate grooming equipment

[2] Double lane may accommodate a combination of diagonal and skate ski lanes with room to pass.

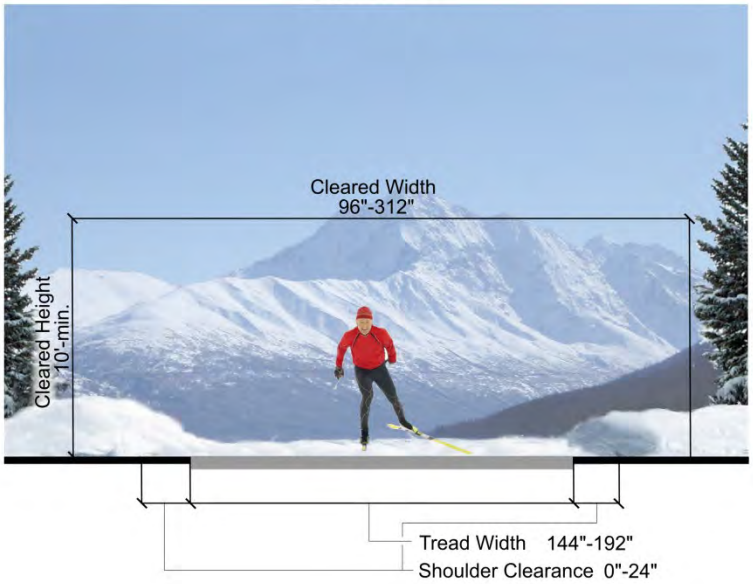
Class 3



Class 4



Class 5



Trail Management Recommendations

In the Kachemak Bay State Park and Kachemak Bay State Wilderness Park Trail Management Plan, the park trail system has been divided into nine management units which correspond roughly with important geographic regions. Each unit will have a brief description and a trail table that will describe the specific management intent for each trail or trail segment within the unit. The exception is the Overlook Park unit, which has no existing or proposed DPOR managed trails. It is important to realize that the recommendations in the tables describe the desired future condition for the trails within the park and not necessarily a trail's current condition or trail class. For example, if an existing class 2 trail is proposed to be upgraded to class 3, the trail will only be shown on the map as a class 3**.** Some trails that span multiple units will be listed in more than one table.

Routes and Unmanaged Trails

The recommendations in the following trail tables pertain to trails where DPOR has identified clear management intent for their future development. Some commonly used areas are not included in these tables. These areas are typically social trails or hunting routes that the park is consciously choosing not to commit resources to or manage for visitor use. This may be for resource protection purposes or to preserve a level of challenge or experience for those with the skills and desire to use these areas.

Trail Tables Organization

The individual fields that make up the trail tables are described below. The maps included with the trail tables are provided to facilitate understanding of the management intent for a particular trail or trail segment and are not intended to be used for any other purpose. The trail alignments depicted on the maps are approximate and may vary as new trails are constructed or as existing trails are improved and rerouted.

Trail Number – Correlates the table description to a trail or trail segment depicted on the maps.

Map Number – Corresponds with the map depicting the trail.

Trail Name/Segment – The name of the trail is entered in this field. Where a trail is segmented for a specific reason (different trail class or design parameter), the name of the trail and trail segment will appear.

Trail Type – This field indicates what type of trail is being discussed. There will always be only one type per trail or trail segment so that managers can assign specific design parameters and management needs for a particular use or season. Where the same trail has various types, the trail will be listed individually for that type.

Trail Class – The class describes the scale of trail development representing the intended design and management standards of a trail. There is only one trail class per trail or trail segment. They define a typical scenario or combined factors and exceptions within the class may occur but the class that most closely fits is chosen.

Designed Use – This describes the intended use that controls the geometric design of the trail and determines the subsequent maintenance parameters for the trail. There is only one designed use per trail or trail segment. A trail may be actively managed for more than one use and various uses may be permitted but it has only one design driver that determines the technical specifications for the trail.

Managed Use – This describes the modes of travel that are actively managed on a particular trail indicating the management decision or intent to accommodate and encourage those uses on a specific trail. Additional uses besides what is listed may be permitted on a trail but this field simply alerts users to the uses that are primarily intended on a trail.

Approximate Distance – The approximate distance of a trail or trail segment will be entered in this field in miles.

Comments – Contains additional information about a trail.

Trail Tables

Trail tables showing existing and proposed trails are included for each management unit (except for Overlook Park) below.

KBSP and KBSWP Management Units

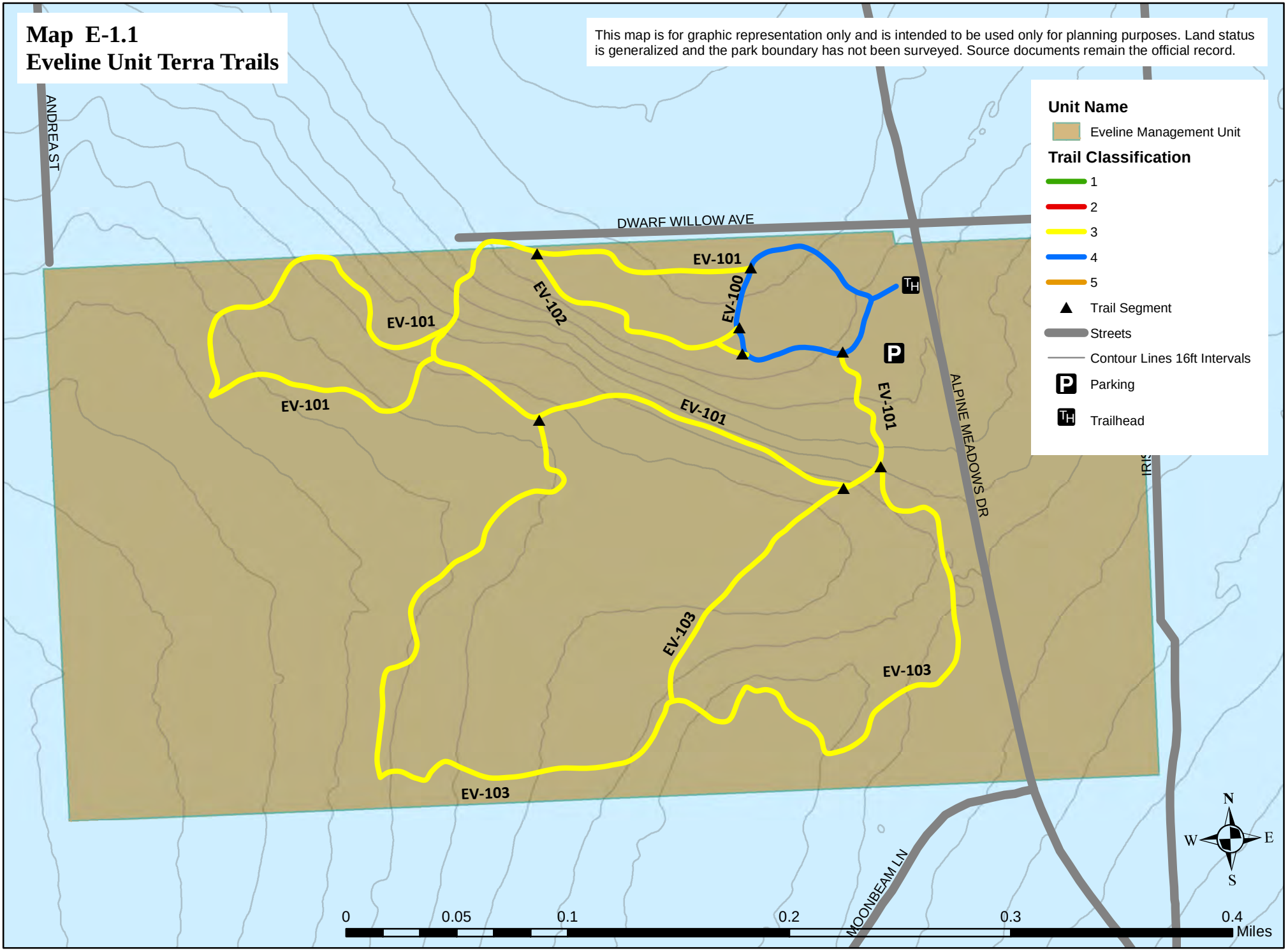
- Eveline SRS Unit
- Diamond Creek SRS Unit
- Overlook Park Unit (no DPOR-managed trails exist or are proposed)
- Cottonwood Eastland Unit
- Northern Unit
- Grewingk Glacier Unit
- Halibut Cove - China Poot Unit
- Sadie - Tutka Unit
- Outer Coast Unit

Eveline Unit

This small unit is a State Recreation Site on donated land and is managed and groomed for skiing cooperatively with Kachemak Nordic Ski Club. Fewer trails are usable in the summer due to wet areas. Figures E-6 and E-7 depict ski trail classes as single-lane trails only; however, some snow trails in this unit may be constructed using double-laned parameters.

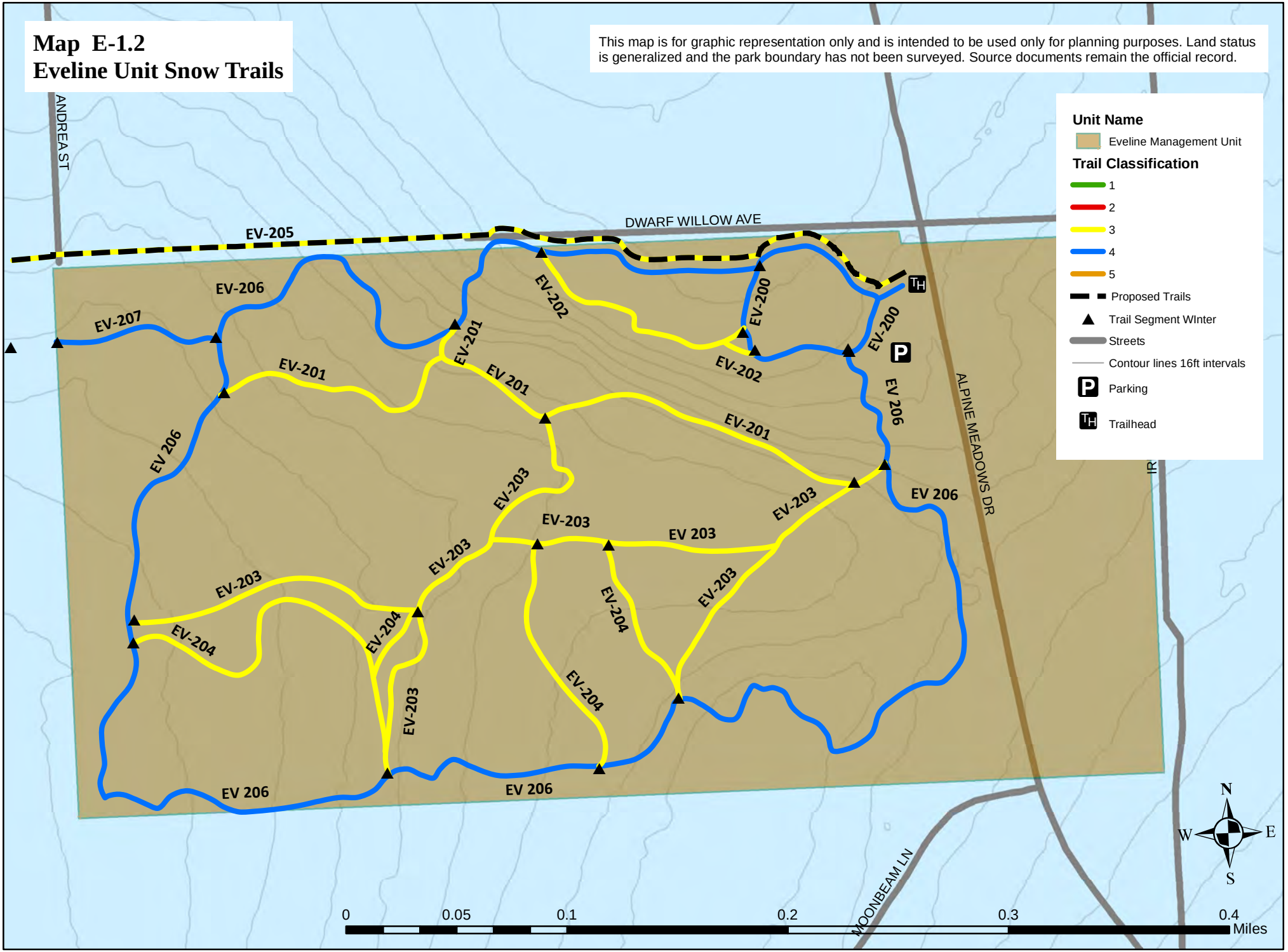
ID #	Map #	Trail Name/Segment	Trail Type	Trail Class	Designed Use	Managed Use	Approx. Distance	Comments
EV-100	E-1.1	Overlook Loop	Terra	4	Hiker-Pedestrian	Hiker	0.2 Miles	Develop to ADA accessible standards.
EV-200	E-1.2	Overlook Loop	Snow	4	Ski (Skate)	Ski; Hiker	0.2 Miles	Develop to ADA accessible standards.
EV-101	E-1.1	Alpine Meadows Loop	Terra	3	Hiker-Pedestrian	Hiker	0.8 Miles	
EV-201	E-1.2	Alpine Meadows Loop	Snow	3	Ski (Diagonal)	Ski; Hiker	0.4 Miles	
EV-102	E-1.1	Alpine Meadows Connector	Terra	3	Hiker-Pedestrian	Hiker	0.1 Miles	
EV-202	E-1.2	Alpine Meadows Connector	Snow	3	Ski (Diagonal)	Ski; Hiker	0.1 Miles	
EV-103	E-1.1	Glacierview Loop	Terra	3	Hiker-Pedestrian	Hiker	0.8 Miles	
EV-203	E-1.2	Glacierview Loop	Snow	3	Ski (Diagonal)	Ski; Hiker	0.6 Miles	
EV-204	E-1.2	Glacierview Connectors	Snow	3	Ski (Diagonal)	Ski; Hiker	0.4 Miles	
EV-205	E-1.2	Winter Multiuse Access (New Trail)	Snow	3	Ski (Diagonal)	Bicycle; Ski; Hiker	0.4 Miles	Winter-only multiuse trail connecting the trailhead with state lands to the west of the unit. Requires a regulation change to allow bicycles.
EV-206	E-1.2	Perimeter Loop	Snow	4	Ski (Skate)	Ski; Hiker	1.2 Miles	

ID #	Map #	Trail Name/Segment	Trail Type	Trail Class	Designed Use	Managed Use	Approx. Distance	Comments
EV-207	E-1.2	Wolf Ridge-Eveline Connector	Snow	4	Ski (Skate)	Ski; Hiker	0.1 Miles	Connects the unit with the Wolf Ridge trails.


Map E-1.1
Eveline Unit Terra Trails
This map is for graphic representation only and is intended to be used only for planning purposes. Land status is generalized and the park boundary has not been surveyed. Source documents remain the official record.
Unit Name
Eveline Management Unit
Trail Classification
1
2
3
4
5
Trail Segment
Streets
Contour Lines 16ft Intervals
Parking
Trailhead
ANDREA ST
DWARF WILLOW AVE
ALPINE MEADOWS DR
MOONBEAM LN
EV-101
EV-102
EV-100
EV-103
TH
P
N
W
E
S
0
0.05
0.1
0.2
0.3
0.4
Miles

Map E-1.2
Eveline Unit Snow Trails

This map is for graphic representation only and is intended to be used only for planning purposes. Land status is generalized and the park boundary has not been surveyed. Source documents remain the official record.

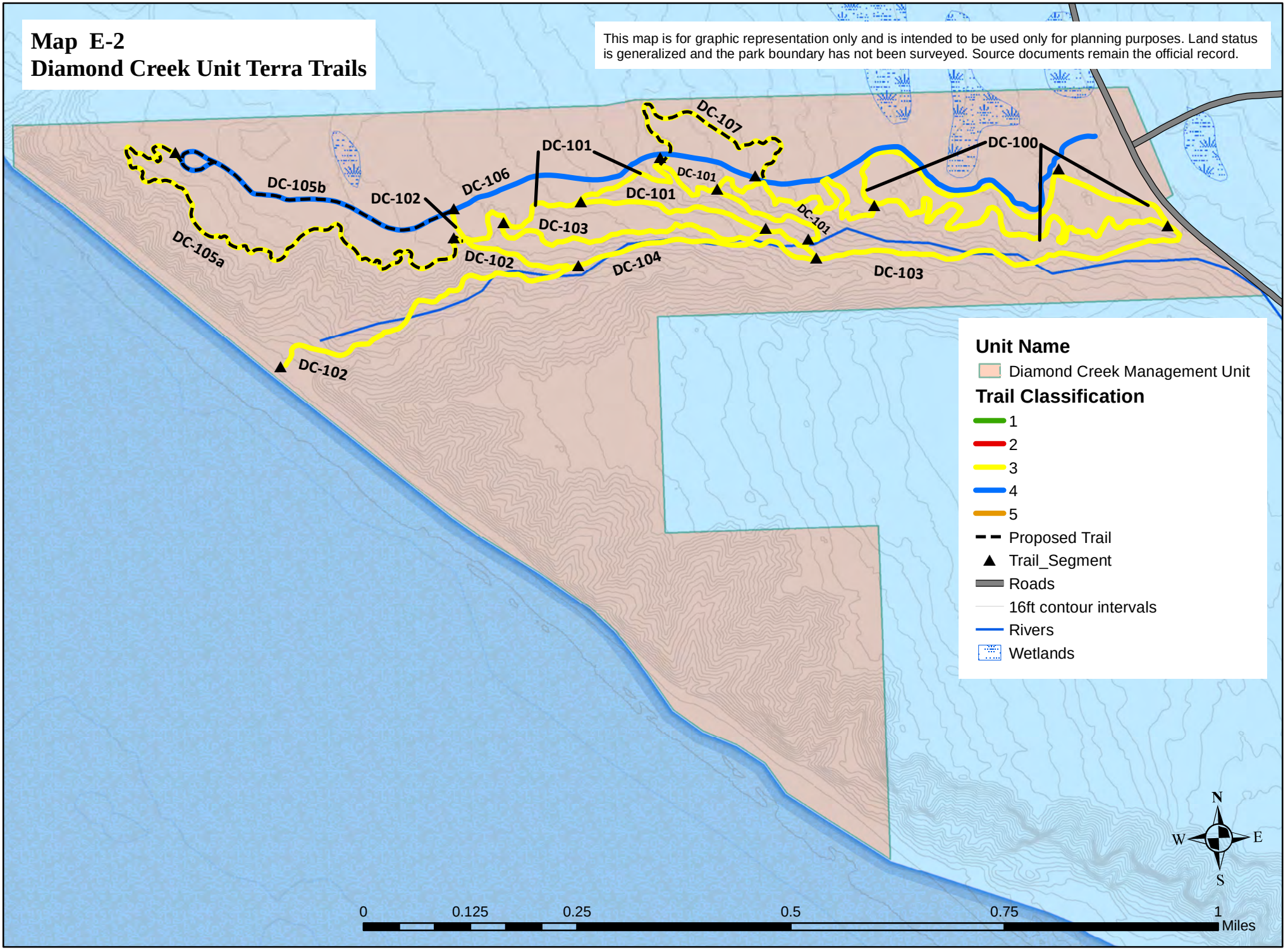


Diamond Creek Unit

This unit includes the mouth of Diamond Creek where it enters Cook Inlet along a bluff. It is a State Recreation Site with access near the intersection of Diamond Ridge Road and the Sterling Highway. Several existing and proposed trails are or will be managed by the Homer Cycling Club.

ID #	Map #	Trail Name/Segment	Trail Type	Trail Class	Designed Use	Managed Use	Approx. Distance	Comments
DC-100	E-2	Rollin' Coal	Terra	3	Bicycle	Bicycle; Hiker	2.2 Miles	
DC-101	E-2	Rollin' Coal Two	Terra	3	Bicycle	Bicycle; Hiker	1.2 Miles	
DC-102	E-2	Beach Access	Terra	3	Pack and Saddle	Bicycle; Pack and Saddle; Hiker	0.6 Miles	This trail extends from the access road to the beach. Redevelop and reroute the existing trail to facilitate pedestrian, bicycle, and equestrian access. About $1 million was requested from FEMA to reconstruct the Diamond Creek Beach Access trail after it was severely eroded by a flood event in 2013. The FEMA funding was scheduled for 2019, but subsequently pushed back indefinitely due to the November 2018 earthquake.
DC-103	E-2	Dozer's Demise	Terra	3	Bicycle	Bicycle; Hiker	0.9 Miles	
DC-104	E-2	Old Cat Road	Terra	3	Bicycle	Bicycle; Hiker	0.3 Miles	
DC-105a	E-2	Bluff Loop (New Trail)	Terra	3	Bicycle	Bicycle; Hiker	0.7 Miles	
DC-105b	E-2	Bluff Loop (New Trail)	Terra	4	Bicycle	Bicycle; Hiker	0.4 Miles	
DC-106	E-2	Old Access Road	Terra	4	Hiker-Pedestrian	Hiker	0.9 Miles	

ID #	Map #	Trail Name/Segment	Trail Type	Trail Class	Designed Use	Managed Use	Approx. Distance	Comments
DC-107	E-2	Proposed Loop Trail (New Trail)	Terra	3	Bicycle	Bicycle; Hiker	0.3 Miles	Loop trail in the area of the proposed campground.

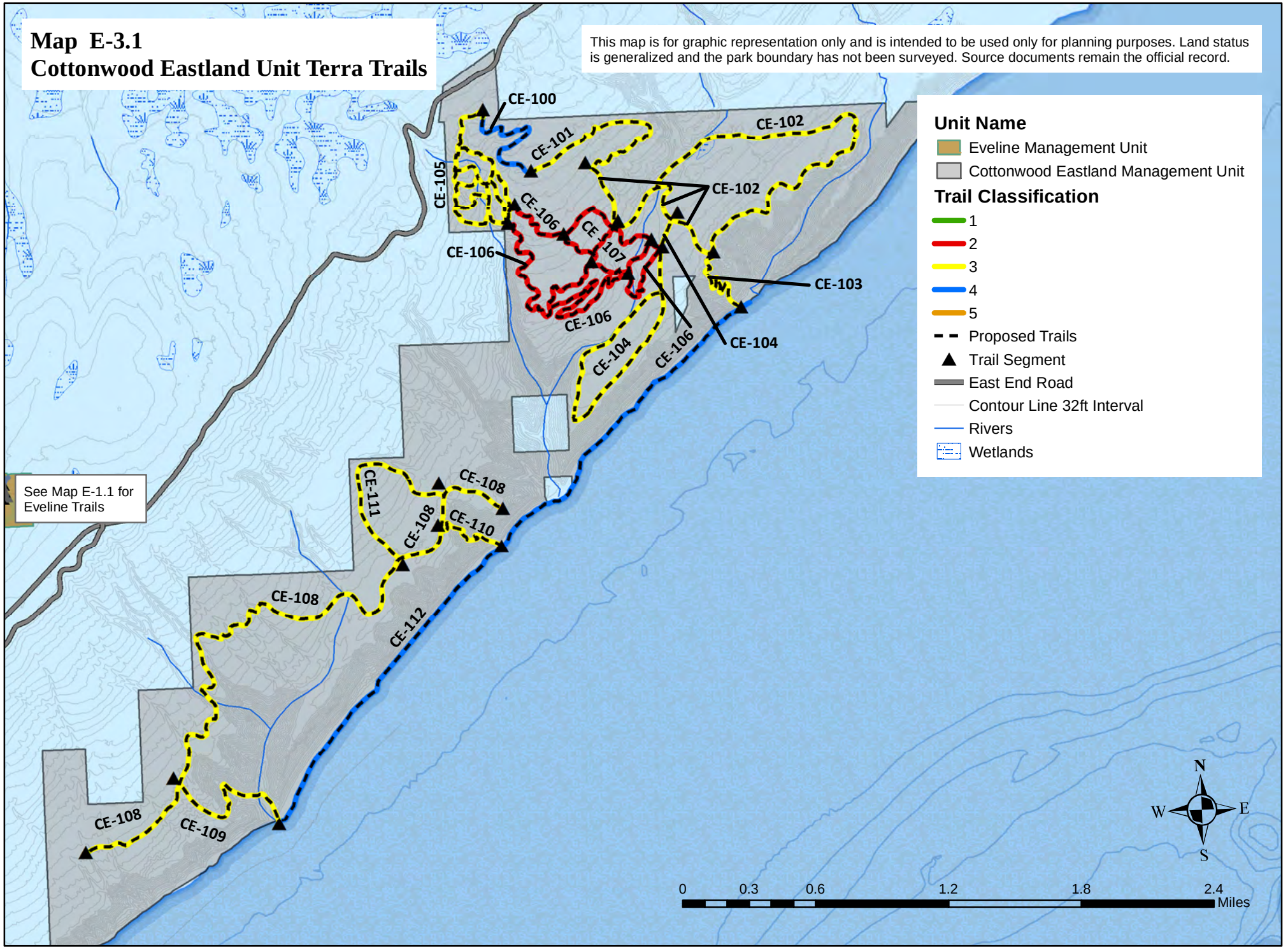

Map E-2
Diamond Creek Unit Terra Trails
This map is for graphic representation only and is intended to be used only for planning purposes. Land status is generalized and the park boundary has not been surveyed. Source documents remain the official record.
DC-105b
DC-102
DC-106
DC-101
DC-107
DC-101
DC-101
DC-100
DC-105a
DC-103
DC-101
DC-102
DC-104
DC-103
DC-102
Unit Name
Diamond Creek Management Unit
Trail Classification
1
2
3
4
5
Proposed Trail
Trail_Segment
Roads
16ft contour intervals
Rivers
Wetlands
N
W
E
S
0
0.125
0.25
0.5
0.75
1
Miles

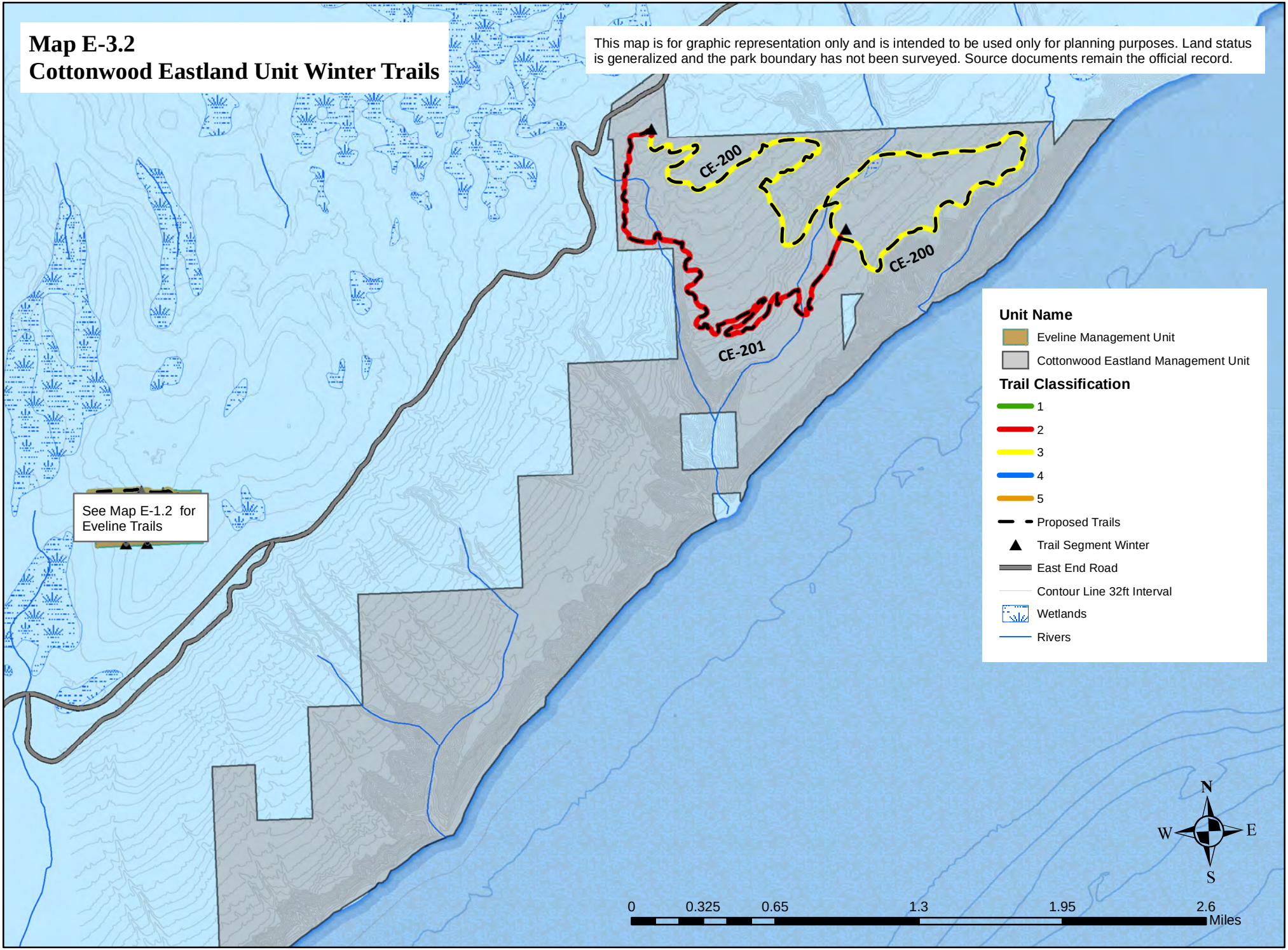
Cottonwood Eastland Unit

This unit includes the newer portion of Kachemak Bay State Park and is located on the north side of Kachemak Bay near East End Road and includes portions of the Cottonwood Creek and Eastland Creek drainages. It is surrounded mainly by private homes to the west and north, and Kachemak Bay to the south. No DPOR constructed or maintained trails currently exist in this unit. All the proposed trails below that are listed for pack & saddle or bicycle use (marked with *) will require a regulation change before the use is allowed.

ID #	Map #	Trail Name/Segment	Trail Type	Trail Class	Designed Use	Managed Use	Approx. Distance	Comments
CE-100	E-3.1	Eastland Express* (New Trail)	Terra	4	Pack and Saddle	Pack and Saddle; Bicycle; Hiker	0.7 Miles	From trailhead to the proposed overlook.
CE-101	E-3.1	Falls Flats Connector* (New Trail)	Terra	3	Pack and Saddle	Pack and Saddle; Bicycle; Hiker	1.0 Miles	
CE-102	E-3.1	Falls Flats Loop* (New Trail)	Terra	3	Pack and Saddle	Pack and Saddle; Bicycle; Hiker	3.2 Miles	
CE-200	E-3.2	Falls Flats Loop (New Trail)	Snow	3	Ski (Diagonal)	Ski; Hiker	5.0 Miles	
CE-103	E-3.1	Falls Nose Beach Access (New Trail)	Terra	3	Hiker-Pedestrian	Hiker	0.6 Miles	
CE-104	E-3.1	Eastland Creek Loop* (New Trail)	Terra	3	Pack and Saddle	Pack and Saddle; Bicycle; Hiker	1.8 Miles	
CE-105	E-3.1	Singletrack Concepts* (New Trail)	Terra	3	Bicycle	Bicycle; Hiker	2.3 Miles	
CE-106	E-3.1	Eastland Gully Loop* (New Trail)	Terra	2	Bicycle	Bicycle; Hiker	3.1 Miles	

ID #	Map #	Trail Name/Segment	Trail Type	Trail Class	Designed Use	Managed Use	Approx. Distance	Comments
CE-107	E-3.1	Falls Flats - Eastland Connector* (New Trail)	Terra	2	Bicycle	Bicycle; Hiker	1.4 Miles	
CE-108	E-3.1	Lower Bluff Express (New Trail)	Terra	3	Pedestrian-Hiker	Hiker	3.5 Miles	
CE-109	E-3.1	South Beach Access (New Trail)	Terra	3	Pedestrian-Hiker	Hiker	0.8 Miles	
CE-110	E-3.1	Middle Beach Access (New Trail)	Terra	3	Pedestrian-Hiker	Hiker	0.4 Miles	
CE-111	E-3.1	Gentle Meadows (New Trail)	Terra	3	Pedestrian-Hiker	Hiker	0.9 Miles	
CE-112	E-3.1	Open Beach Connector* (New Trail)	Terra	4	Pack and Saddle	Pack and Saddle; Bicycle; Hiker	3.2 Miles	There is no equestrian access from park uplands.
CE-201	E-3.2	Eastland Loop (New Trail)	Snow	2	Ski (Diagonal)	Ski; Hiker	3.2 Miles	

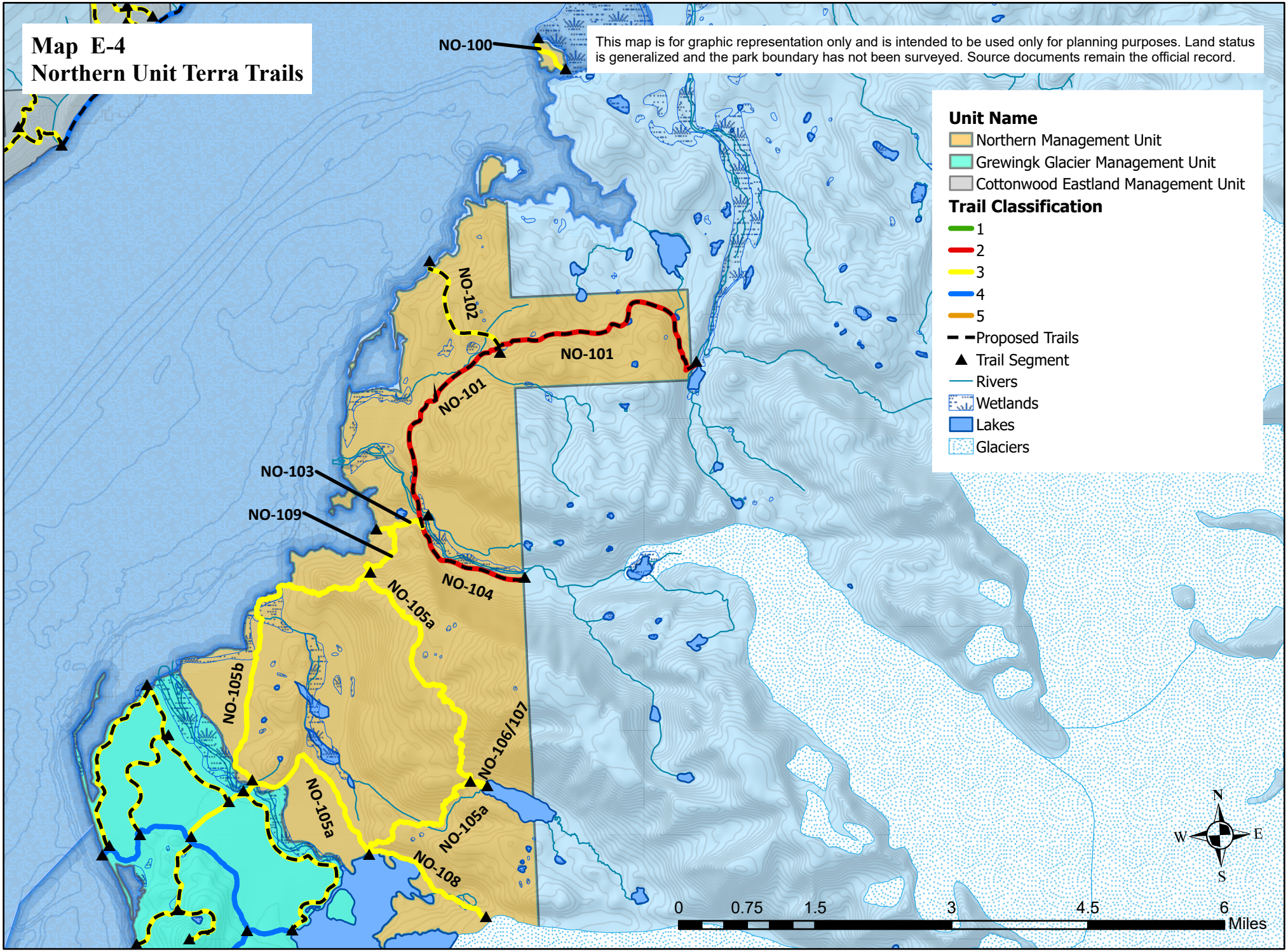

Map E-3.1
Cottonwood Eastland Unit Terra Trails
This map is for graphic representation only and is intended to be used only for planning purposes. Land status is generalized and the park boundary has not been surveyed. Source documents remain the official record.
CE-100
CE-101
CE-102
CE-102
CE-103
CE-104
CE-104
CE-105
CE-106
CE-106
CE-106
CE-106
CE-107
CE-108
CE-108
CE-108
CE-108
CE-109
CE-110
CE-111
CE-112
See Map E-1.1 for Eveline Trails
Unit Name
Eveline Management Unit
Cottonwood Eastland Management Unit
Trail Classification
1
2
3
4
5
Proposed Trails
Trail Segment
East End Road
Contour Line 32ft Interval
Rivers
Wetlands
N
W
E
S
0
0.3
0.6
1.2
1.8
2.4
Miles


Map E-3.2
Cottonwood Eastland Unit Winter Trails
This map is for graphic representation only and is intended to be used only for planning purposes. Land status is generalized and the park boundary has not been surveyed. Source documents remain the official record.
CE-200
CE-200
CE-201
See Map E-1.2 for Eveline Trails
Unit Name
Eveline Management Unit
Cottonwood Eastland Management Unit
Trail Classification
1
2
3
4
5
Proposed Trails
Trail Segment Winter
East End Road
Contour Line 32ft Interval
Wetlands
Rivers
N
W
E
S
0
0.325
0.65
1.3
1.95
2.6
Miles

Northern Unit
This unit is the northernmost portion of the original park on the south side of Kachemak Bay and goes from Bear Cove to Mallard Bay. There are many private parcels along the coastline and this unit is adjacent to the community of Bear Cove.

ID #	Map #	Trail Name/Segment	Trail Type	Trail Class	Designed Use	Managed Use	Approx. Distance	Comments
NO-100	E-4	Chugachik Island Trail	Terra	3	Hiker-Pedestrian	Hiker	0.4 Miles	
NO-101	E-4	Martin Portlock Connector (New Trail)	Terra	2	Bicycle	Bicycle; Hiker	5.5 Miles	Provides access for those wishing to leave KBSP and packraft out the Martin River. This segment includes part of the proposed Coast to Coast trail route. Requires a regulation change to allow bicycles.
NO-102	E-4	Kachemak Bay Access (New Trail)	Terra	3	Hiker-Pedestrian	Hiker	1.4 Miles	This segment includes part of the proposed Coast to Coast trail route.
NO-103	E-4	Mallard Bay	Terra	3	Bicycle	Bicycle-Hiker	0.5 Miles	This segment includes part of the proposed Coast to Coast trail route. Requires a regulation change to allow bicycles.
NO-104	E-4	Portlock River (New Trail)	Terra	2	Hiker-Pedestrian	Hiker	1.4 Miles	DPOR may work with the US Fish & Wildlife Service in future to extend this trail into the Kenai National Wildlife Refuge to Portlock Lake.
NO-105a	E-4	Emerald Lake Loop	Terra	3	Hiker-Pedestrian	Hiker	7.9 Miles	

ID #	Map #	Trail Name/Segment	Trail Type	Trail Class	Designed Use	Managed Use	Approx. Distance	Comments
NO-105b	E-4	Humpy Creek	Terra	3	Bicycle	Bicycle; Hiker	4.0 Miles	The western portion of Emerald Lake Loop. This segment includes part of the proposed Coast to Coast trail route. Requires a regulation change to allow bicycles.
NO-106	E-4	Emerald Lake Spur	Terra	3	Hiker-Pedestrian	Hiker	0.1 Miles	From NO-105 to the lake.
NO-107	E-4	Emerald Lake Camp	Terra	3	Hiker-Pedestrian	Hiker	0.1 Miles	From NO-106 to the camp.
NO-108	E-4	Blue Ice	Terra	3	Hiker-Pedestrian	Hiker	1.7 Miles	
NO-109	E-4	Mallard-Emerald Connector	Terra	3	Hiker-Pedestrian	Hiker	1.1 Miles	This segment includes part of the proposed Coast to Coast trail route.

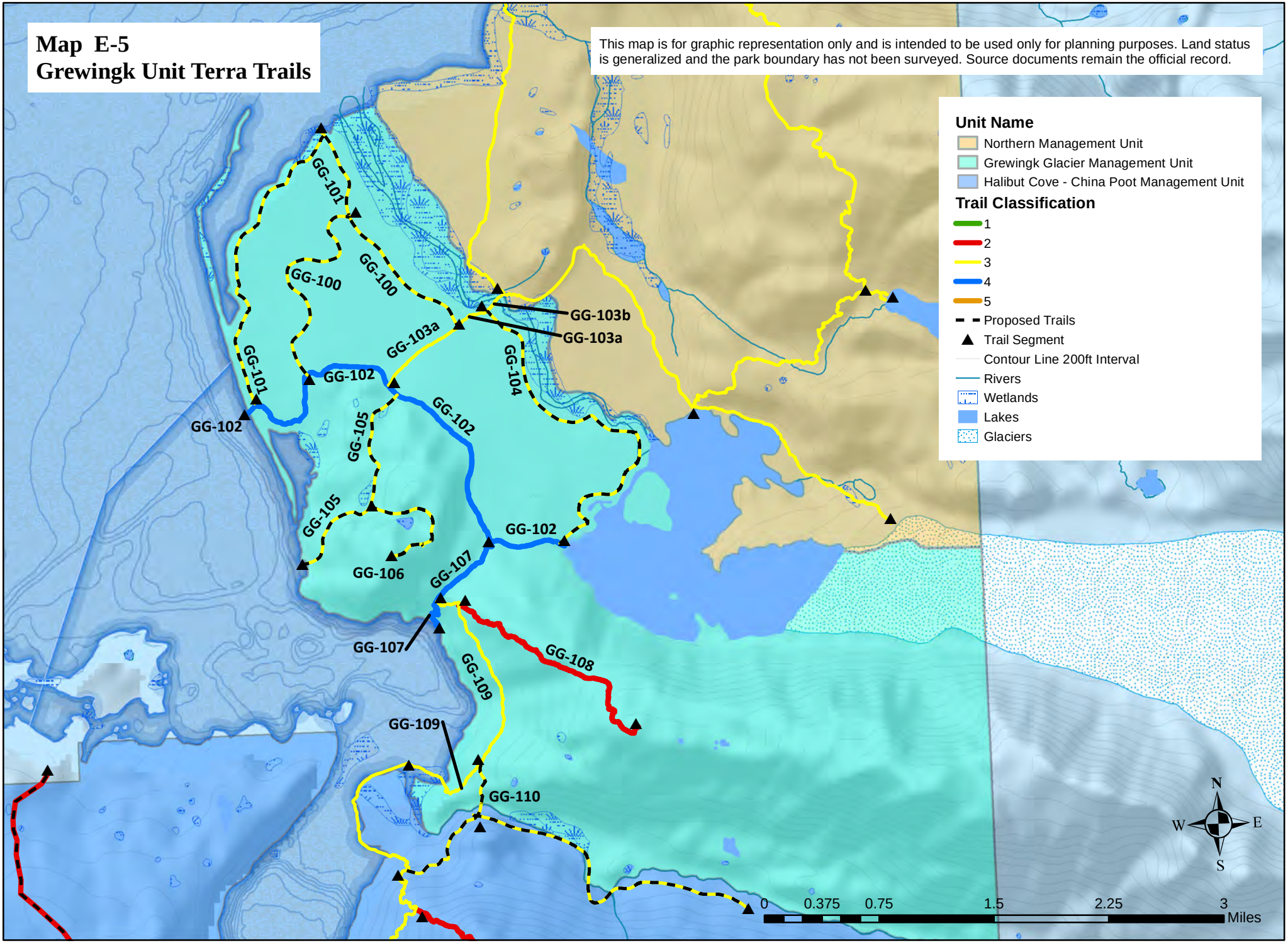

Map E-4
Northern Unit Terra Trails
This map is for graphic representation only and is intended to be used only for planning purposes. Land status is generalized and the park boundary has not been surveyed. Source documents remain the official record.
NO-100
NO-102
NO-101
NO-101
NO-103
NO-109
NO-104
NO-105a
NO-105b
NO-106/107
NO-105a
NO-105a
NO-108
Unit Name
Northern Management Unit
Grewingk Glacier Management Unit
Cottonwood Eastland Management Unit
Trail Classification
1
2
3
4
5
Proposed Trails
Trail Segment
Rivers
Wetlands
Lakes
Glaciers
N
W
E
S
0
0.75
1.5
3
4.5
6
Miles

Grewingk Glacier Unit

The coastline of this unit extends north from the entrance of Halibut Cove Lagoon almost to Mallard Bay. With numerous homes and lodges in the Halibut Cove community and ready access from Homer Spit, this area sees a lot of use. It is anticipated to remain the busiest area of the park.

ID #	Map #	Trail Name/Segment	Trail Type	Trail Class	Designed Use	Managed Use	Approx. Distance	Comments
GG-100	E-5	Lower Glacier Flats (New Trail)	Terra	3	Bicycle	Bicycle; Hiker	2.6 Miles	Requires a regulation change to allow bicycles.
GG-101	E-5	Glacier Spit Beach (New Trail)	Terra	3	Hiker-Pedestrian	Hiker	2.7 Miles	
GG-102	E-5	Glacier Lake	Terra	4	Bicycle	Bicycle; Hiker	3.3 Miles	This segment includes part of the proposed Coast to Coast trail route. Requires a regulation change to allow bicycles.
GG-103a	E-5	Grewingk Tram Spur	Terra	3	Bicycle	Bicycle; Hiker	.9 Miles	This segment includes part of the proposed Coast to Coast trail route. Requires a regulation change to allow bicycles.
GG-103b	E-5	Grewingk Tram Spur	Terra	3	Bicycle	Bicycle; Hiker	0.1 Miles	Short trail from Glacier Creek Loop to the hand tram. This segment includes part of the proposed Coast to Coast trail route.
GG-104	E-5	Glacier Creek (New Trail)	Terra	3	Bicycle	Bicycle; Hiker	2.6 Miles	Requires a regulation change to allow bicycles.
GG-105	E-5	Right Beach (New Trail)	Terra	3	Hiker-Pedestrian	Hiker	1.5 Miles	
GG-106	E-5	Right Beach Overlook (New Trail)	Terra	3	Hiker-Pedestrian	Hiker	0.9 Miles	

ID #	Map #	Trail Name/Segment	Trail Type	Trail Class	Designed Use	Managed Use	Approx. Distance	Comments
GG-107	E-5	Saddle	Terra	4	Hiker-Pedestrian	Hiker	1.0 Miles	This segment includes part of the proposed Coast to Coast trail route.
GG-108	E-5	Alpine Ridge	Terra	2	Hiker-Pedestrian	Hiker	1.8 Miles	
GG-109	E-5	Lagoon	Terra	3	Hiker-Pedestrian	Hiker	2.1 Miles	This trail has segments in two different units. This segment includes part of the proposed Coast to Coast trail route.
GG-110	E-5	Lagoon Trail Bypass - Hand Tram (New Trail)	Terra	3	Hiker-Pedestrian	Hiker	0.3 Miles	This trail has segments in two different units. This segment includes part of the proposed Coast to Coast trail route.


Map E-5
Grewingk Unit Terra Trails
This map is for graphic representation only and is intended to be used only for planning purposes. Land status is generalized and the park boundary has not been surveyed. Source documents remain the official record.
Unit Name
Northern Management Unit
Grewingk Glacier Management Unit
Halibut Cove - China Poot Management Unit
Trail Classification
1
2
3
4
5
Proposed Trails
Trail Segment
Contour Line 200ft Interval
Rivers
Wetlands
Lakes
Glaciers
GG-101
GG-100
GG-100
GG-103b
GG-103a
GG-103a
GG-104
GG-101
GG-102
GG-102
GG-102
GG-105
GG-105
GG-102
GG-106
GG-107
GG-107
GG-108
GG-109
GG-109
GG-110
N
W
E
S
0
0.375
0.75
1.5
2.25
3
Miles

Halibut Cove - China Poot Unit

This unit extends from Halibut Cove Lagoon west to Anisom Point and includes the trails in the China Poot Bay area and along the Wosnesenski River. There is the Ranger Station, several public use cabins, tent areas, and some private yurts for rent. The community of Halibut Cove borders this unit.

ID #	Map #	Trail Name/Segment	Trail Type	Trail Class	Designed Use	Managed Use	Approx. Distance	Comments
HC-100	E-6	Lagoon	Terra	3	Hiker-Pedestrian	Hiker	3.7 Miles	This trail has segments in two different units. This segment includes part of the proposed Coast to Coast trail route.
HC-101	E-6	Dead Valley (New Trail)	Terra	3	Hiker-Pedestrian	Hiker	2.2 Miles	All or part of this trail may be sited in the bordering Grewingk Glacier Unit, depending on the final trail design process.
HC-102	E-6	Lagoon Trail Bypass - Hand Tram (New Trail)	Terra	3	Hiker-Pedestrian	Hiker	0.8 Miles	This trail has segments in two different units. This segment includes part of the proposed Coast to Coast trail route.
HC-103	E-6	Goat Rope Spur	Terra	2	Hiker-Pedestrian	Hiker	0.7 Miles	
HC-104	E-6	Lagoon Facilities Trails	Terra	4	Hiker-Pedestrian	Hiker	0.6 Miles	Mostly boardwalks connecting Halibut Cove Lagoon dock, cabins, and associated facilities. This segment includes part of the proposed Coast to Coast trail route.
HC-105	E-6	Coalition Loop	Terra	3	Hiker-Pedestrian	Hiker	5.2 Miles	
HC-106	E-6	China Poot Lake	Terra	3	Hiker-Pedestrian	Hiker	2.7 Miles	This segment includes part of the proposed Coast to Coast trail route.

ID #	Map #	Trail Name/Segment	Trail Type	Trail Class	Designed Use	Managed Use	Approx. Distance	Comments
HC-107	E-6	Halibut Spur (New Trail)	Terra	2	Hiker-Pedestrian	Hiker	2.9 Miles	From community of Halibut Cove to Coalition Loop Trail.
HC-108	E-6	Moose Valley	Terra	3	Hiker-Pedestrian	Hiker	6.4 Miles	This segment includes part of the proposed Coast to Coast trail route.
HC-109	E-6	Moose Valley Cabin Spur	Terra	3	Hiker-Pedestrian	Hiker	0.1 Miles	
HC-110	E-6	Poot Peak	Terra	2	Hiker-Pedestrian	Hiker	3.7 Miles	
HC-111	E-6	Poot Peak Summit	Terra	2	Hiker-Pedestrian	Hiker	0.3 Miles	
HC-112	E-6	Wosnesenski River	Terra	3	Hiker-Pedestrian	Hiker	11.1 Miles	
HC-113	E-6	Wosnesenski Lake (New Trail)	Terra	2	Hiker-Pedestrian	Hiker	3.6 Miles	This segment includes part of the proposed Coast to Coast trail route.

Map E-6
Halibut Cove - China Poot Unit Terra Trails

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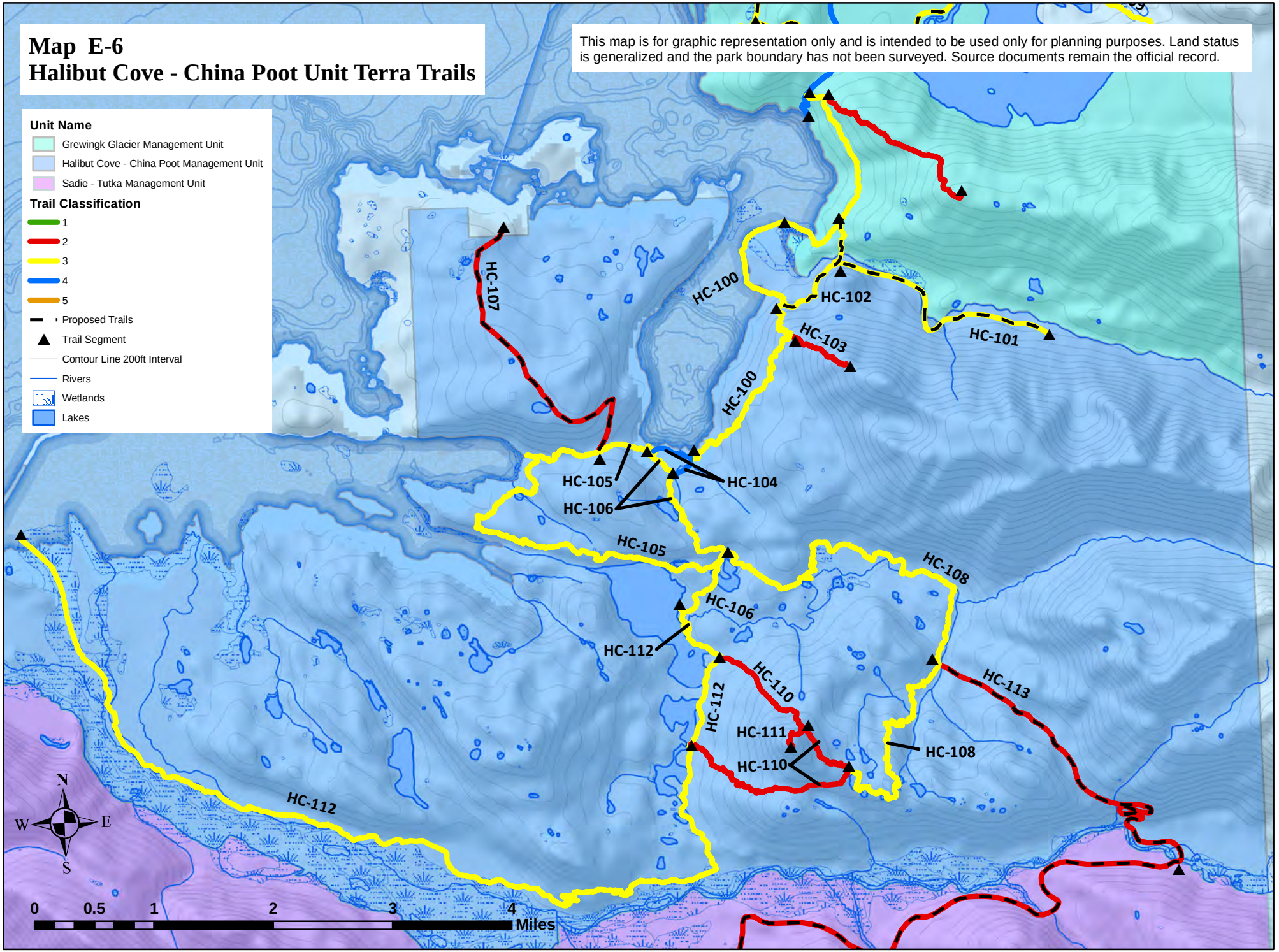
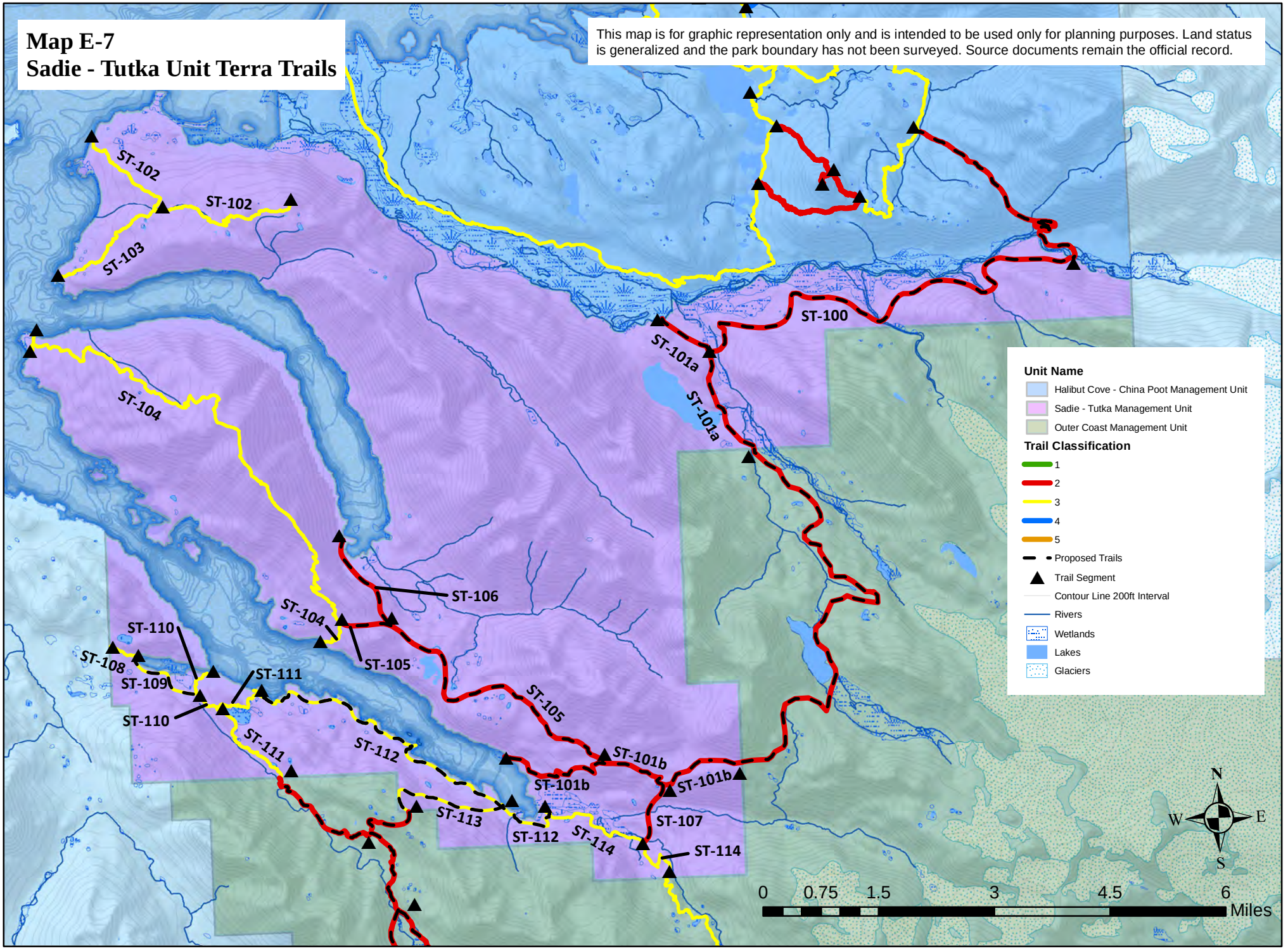


Sadie - Tutka Unit
This unit extends from Anisom Point to the head of Tutka Bay and includes Sadie Cove, Grace Ridge and Tutka Bay Lagoon.

ID #	Map #	Trail Name/Segment	Trail Type	Trail Class	Designed Use	Managed Use	Approx. Distance	Comments
ST-100	E-7	Woz Grace (New Trail)	Terra	2	Hiker-Pedestrian	Hiker	6.3 Miles	This segment includes part of the proposed Coast to Coast trail route.
ST-101a	E-7	Hazelle Lakes (New Trail)	Terra	2	Hiker-Pedestrian	Hiker	2.3 Miles	This trail has segments in two different units. This segment includes part of the proposed Coast to Coast trail route.
ST-101b	E-7	Hazelle Lakes (New Trail)	Terra	2	Hiker-Pedestrian	Hiker	3.8 Miles	This trail has segments in two different units. This segment includes part of the proposed Coast to Coast trail route.
ST-102	E-7	Sadie Knob	Terra	3	Hiker-Pedestrian	Hiker	4.1 Miles	
ST-103	E-7	South Eldred	Terra	3	Hiker-Pedestrian	Hiker	1.9 Miles	
ST-104	E-7	Grace Ridge	Terra	3	Hiker-Pedestrian	Hiker	9.1 Miles	Accessed from Kayak Beach or Quarry Beach trailheads.
ST-105	E-7	Grace Hazelle Connector (New Trail)	Terra	2	Hiker-Pedestrian	Hiker	4.6 Miles	
ST-106	E-7	Sadie Cove Connector (New Trail)	Terra	2	Hiker-Pedestrian	Hiker	1.4 Miles	
ST-107	E-7	Tutka Cutoff (New Trail)	Terra	2	Hiker-Pedestrian	Hiker	0.8 Miles	This segment includes part of the proposed Coast to Coast trail route.

ID #	Map #	Trail Name/Segment	Trail Type	Trail Class	Designed Use	Managed Use	Approx. Distance	Comments
ST-108	E-7	Tutka-Jakalof	Terra	3	Hiker-Pedestrian	Hiker	0.4 Miles	This segment is from Tutka Bay Lagoon to park boundary, but trail continues to Jakalof Bay Road.
ST-109	E-7	Tutka Lagoon (New Trail)	Terra	3	Hiker-Pedestrian	Hiker	1.1 Miles	
ST-110	E-7	Hatchery	Terra	3	Hiker-Pedestrian	Hiker	0.8 Miles	
ST-111	E-7	Tutka Lake	Terra	3	Hiker-Pedestrian	Hiker	2.6 Miles	
ST-112	E-7	Tutka Bay (New Trail)	Terra	3	Hiker-Pedestrian	Hiker	5.0 Miles	
ST-113	E-7	Upper Tutka (New Trail)	Terra	3	Hiker-Pedestrian	Hiker	1.8 Miles	This trail has segments in two different units.
ST-114	E-7	Tutka Ascent	Terra	3	Hiker-Pedestrian	Hiker	2.7 Miles	This trail has segments in two different units. This segment includes part of the proposed Coast to Coast trail route.

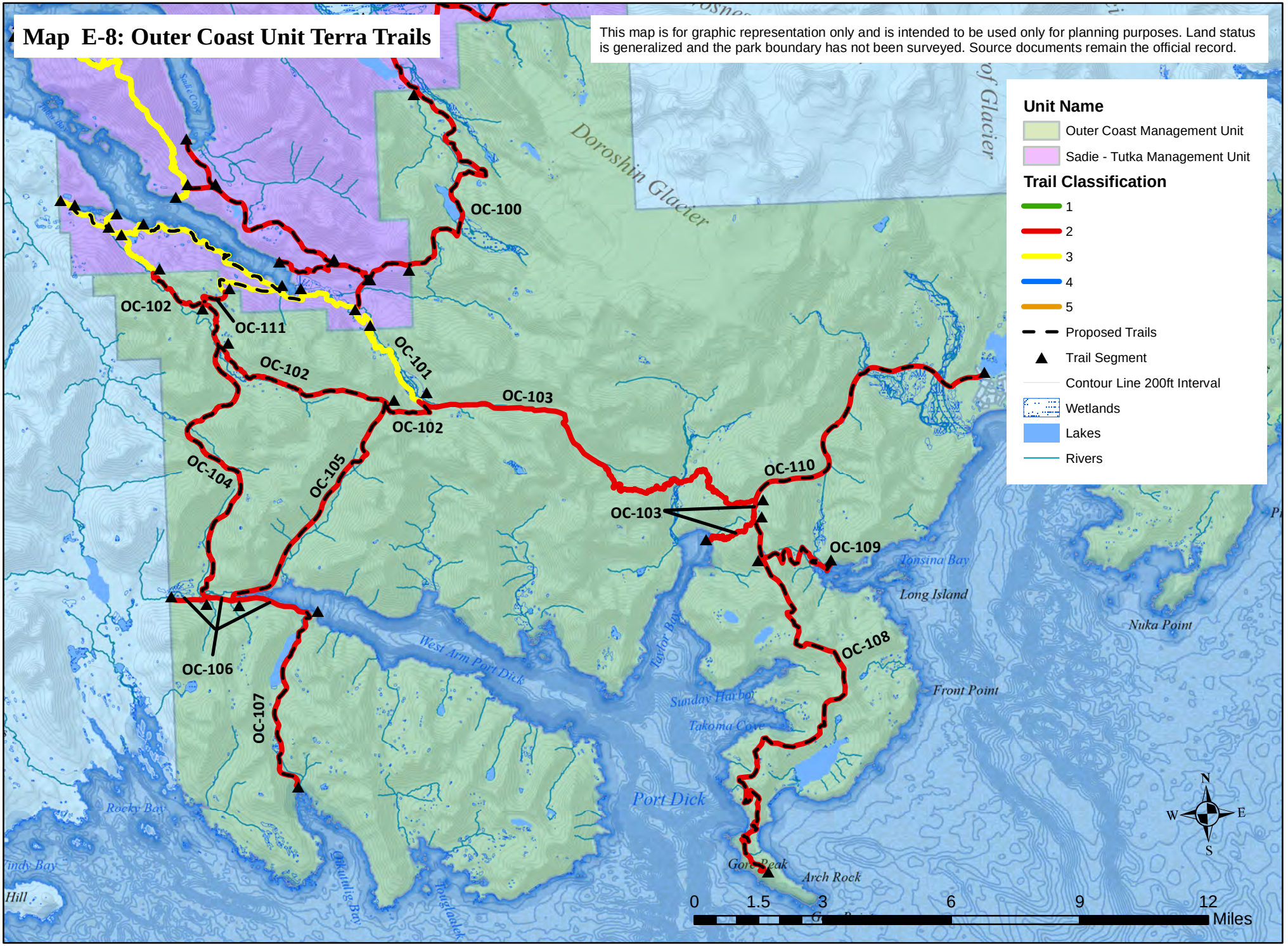

Map E-7
Sadie - Tutka Unit Terra Trails
This map is for graphic representation only and is intended to be used only for planning purposes. Land status is generalized and the park boundary has not been surveyed. Source documents remain the official record.
ST-102
ST-102
ST-103
ST-104
ST-100
ST-101a
ST-101a
ST-106
ST-104
ST-105
ST-110
ST-108
ST-109
ST-110
ST-111
ST-111
ST-112
ST-105
ST-101b
ST-101b
ST-101b
ST-113
ST-112
ST-114
ST-107
ST-114
Unit Name
Halibut Cove - China Poot Management Unit
Sadie - Tutka Management Unit
Outer Coast Management Unit
Trail Classification
1
2
3
4
5
Proposed Trails
Trail Segment
Contour Line 200ft Interval
Rivers
Wetlands
Lakes
Glaciers
N
W
E
S
0
0.75
1.5
3
4.5
6
Miles

Outer Coast Unit
This Unit includes Kachemak Bay State Wilderness Park and the Nuka Passage area of Kachemak Bay State Park. It borders the Tutka Bay area, where some of these trails originate.

ID #	Map #	Trail Name/Segment	Trail Type	Trail Class	Designed Use	Managed Use	Approx. Distance	Comments
OC-100	E-8	Hazelle Lakes (New Trail)	Terra	2	Hiker-Pedestrian	Hiker	7.1 Miles	This trail has segments in two different units. This segment includes part of the proposed Coast to Coast trail route.
OC-101	E-8	Tutka Ascent	Terra	3	Hiker-Pedestrian	Hiker	2.7 Miles	This trail has segments in two different units. This segment includes part of the proposed Coast to Coast trail route.
OC-102	E-8	High Pass (New Trail)	Terra	2	Hiker-Pedestrian	Hiker	9.0 Miles	
OC-103	E-8	Tutka Alpine Traverse (AKA Backdoor)	Terra	2	Hiker-Pedestrian	Hiker	13.7 Miles	This trail was developed in partnership with a local non-profit group – Ground Truth Trekking. This segment includes part of the proposed Coast to Coast trail route.
OC-104	E-8	Port Dick (New Trail)	Terra	2	Hiker-Pedestrian	Hiker	8.0 Miles	
OC-105	E-8	Slide Creek (New Trail)	Terra	2	Hiker-Pedestrian	Hiker	6.3 Miles	
OC-106	E-8	Port Dick Byway	Terra	2	Bicycle	Bicycle; Hiker	3.3 Miles	From Rocky River Road to Port Dick. Requires a regulation change to allow bicycles.
OC-107	E-8	Port Dick Lake (New Trail)	Terra	2	Hiker-Pedestrian	Hiker	4.8 Miles	

ID #	Map #	Trail Name/Segment	Trail Type	Trail Class	Designed Use	Managed Use	Approx. Distance	Comments
OC-108	E-8	Gore Ridge (New Trail)	Terra	2	Hiker-Pedestrian	Hiker	13.7 Miles	This segment includes part of the proposed Coast to Coast trail route.
OC-109	E-8	Tonsina Bay (New Trail)	Terra	2	Hiker-Pedestrian	Hiker	3.1 Miles	
OC-110	E-8	Taylor Petrof (New Trail)	Terra	2	Hiker-Pedestrian	Hiker	7.8 Miles	
OC-111	E-8	Upper Tutka (New Trail)	Terra	2	Hiker-Pedestrian	Hiker	0.8 Miles	This trail has segments in two different units.

Map E-8: Outer Coast Unit Terra Trails



Kachemak Bay Water Trail Route

This 125-mile route that extends from the Homer Spit, northeast along Kachemak Bay, around the head of the bay, and then along the southern side of the bay all the way to the City of Seldovia. The trail includes points of interest, access locations, day-use sites, and camping areas. The water route passes by public and private land, diverse habitat from intertidal areas to alpine trails, and spectacular wildlife viewing opportunities. Most the Water Trail route does not pass through park waters. The route is provided for reference because the Park Management Plan calls for additional facilities (including public use cabins, tent platforms, and mooring buoys) that would support the water trail. See Map E-9: Kachemak Bay Water Trail Route.[3]

Proposed Coast to Coast Trail Route

An approximately 74-mile long "Coast to Coast Trail" from Kachemak Bay Access trail north of Mallard Bay on the south side of Kachemak Bay to Gore Point on the Outer Coast could be formed by linking existing and proposed trails. The Coast to Coast Trail would start in the Northern Management Unit; pass through the Grewingk Glacier, Halibut Cove - China Poot, and Sadie - Tutka Units; and continue over the mountains on the Tutka Alpine Traverse to end in the Outer Coast Unit. If any portion of a trail segment is part of the Coast to Coast trail route, it is noted in the trail tables. Additionally, a map is provided to facilitate understanding of how the various segments would form the route. See Map E-10: Coast to Coast Trail Route.

[3] http://www.kachemakbaywatertrail.org/index.htm

Map E-9 Kachemak Bay Water Trail Route

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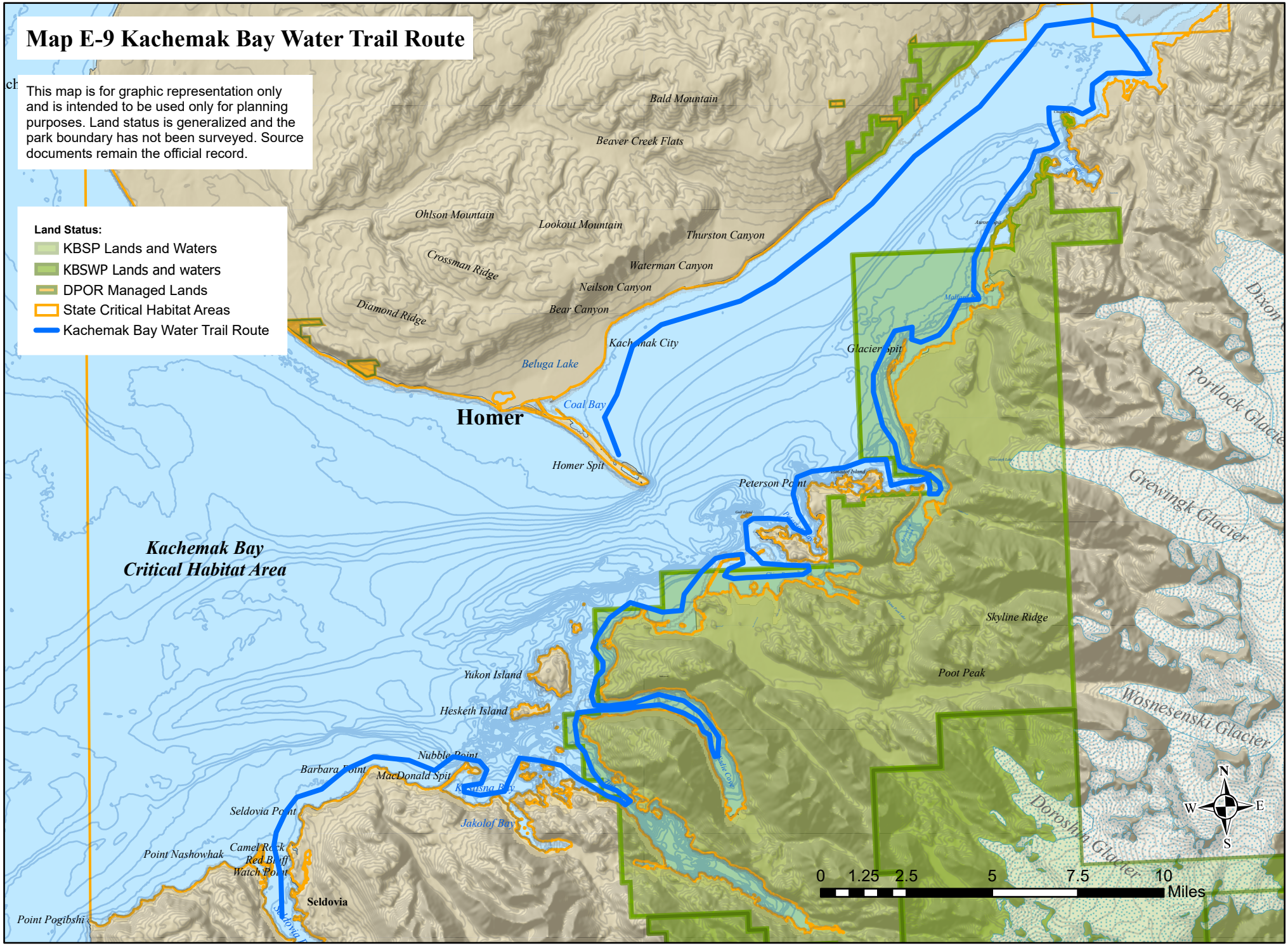

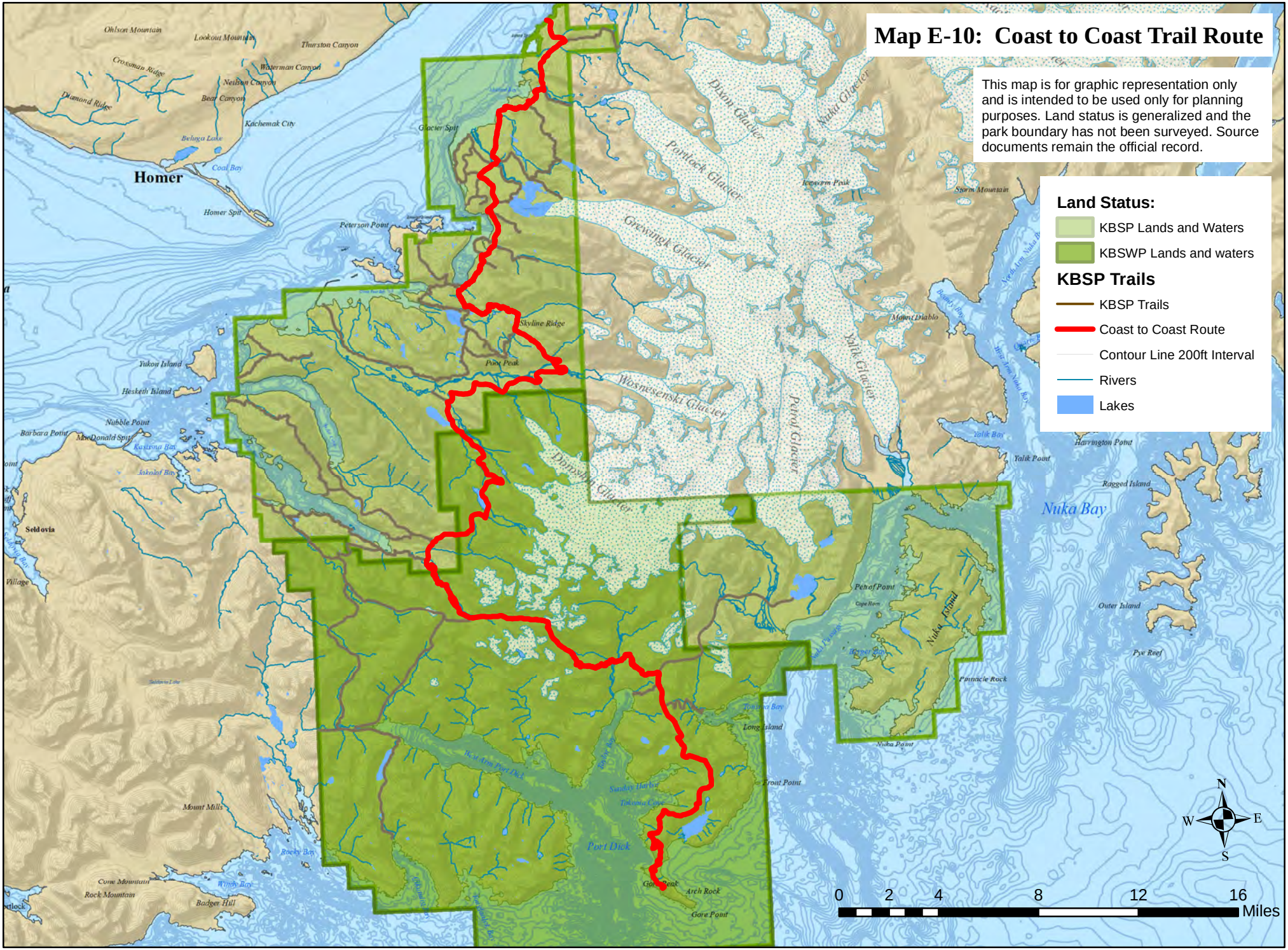
Map E-10: Coast to Coast Trail Route
This map is for graphic representation only and is intended to be used only for planning purposes. Land status is generalized and the park boundary has not been surveyed. Source documents remain the official record.
Land Status:
KBSP Lands and Waters
KBSWP Lands and waters
KBSP Trails
KBSP Trails
Coast to Coast Route
Contour Line 200ft Interval
Rivers
Lakes
Homer
Seldovia
Nuka Bay
Port Dick
Mount Mills
Skyline Ridge
Pony Peak
Peterson Point
Glacier Spit
Homer Spit
Coal Bay
Beluga Lake
Kachemak City
Bear Canyon
Nelson Canyon
Waterman Canyon
Thurston Canyon
Lookout Mountain
Ohlson Mountain
Crossman Ridge
Diamond Ridge
Yukon Island
Hesketh Island
Nubble Point
Barbara Point
MacDonald Spit
Jakolof Bay
Kasitsna Bay
Village
Rocky Bay
Windy Bay
Rock Mountain
Core Mountain
Badger Hill
Pandora Peak
Dixon Glacier
Nukat Glacier
Pamlock Glacier
Grewingk Glacier
Wosnesenski Glacier
Petrof Glacier
Yalik Glacier
Dinglestadt Glacier
Icepearm Peak
Storm Mountain
Mount Diablo
Yalik Bay
Yalik Point
Harrington Point
Ragged Island
Outer Island
Pye Reef
Pinnacle Rock
Nuka Island
Petrof Point
Cape Horn
Nuka Point
Long Island
Front Point
Arch Rock
Gore Point
Sandy Harbor
Tidewater Cove
West Arm Port Dick
Tidewater Bay
Homer Spit
N
W
E
S
0
2
4
8
12
16
Miles

Implementation

Recommended Regulation Changes

The trail management recommendations made in this plan represent the desired future condition for trails within the park and the general trail policies provide the direction for achieving the desired future condition. Many of the Design Uses identified for a trail or trail segment in this plan represent a standard that may require a change in park regulations to fully facilitate. Other unanticipated changes to regulations may also be needed to implement this plan. These regulation changes will be promulgated over time as the Division of Parks and Outdoor Recreation updates park regulations.

Priorities

The purpose of this Trail Management Plan is to create a strategic tool to plot the course of trail management in the coming years. The main priorities addressed by the plan include: the design of a trail system which allows for optimum recreational use of the area while protecting the natural resources of the park; a consistent set of principles and policies for trail management; a basis for future funding; and a roadmap for the trail building and maintenance efforts.

Due to the extreme precipitation levels and moderate climate in the area, grasses and understory vegetation grows extremely fast and a trail can become completely impassable within a single season. DPOR trail crews work as efficiently as possible to maintain the existing trails. Due to these special conditions, trail maintenance in this area will continue to be a challenge. With uncertain economic times, funding for new trail construction should be secondary to maintaining the existing trail network. Maintenance is a huge expense, both in labor hours and in dollars. A solution to the maintenance issue may be to involve the local community more. During the summer, DPOR publishes a weekly KBSP trail conditions report on their website. This lets the public know where maintenance needs are greatest. Trail clearing uses the largest amount of trail staff resources and having more volunteer involvement would allow the DPOR staff to work with trail crews and/or volunteer crews to focus on more detailed work, such as maintaining and rebuilding trail surfaces and structures. Community involvement in this process creates a sense of ownership with the participating individuals and will lend more public support of DPOR trails initiatives.

Trail Management Objectives (TMO)

Rev. Date: 4/25/2010

Area: DNR **Park Unit:** Chugach **District:**

Trail Name: **Trail ID:**

Trail Beginning Termini: **Beg. Milepost:**

Trail Ending Termini: **End. Milepost:**

Trail Inventory Length: Miles **Trail Mileage Source:** Wheel GPS Map Unknown

TMO Trail Section (if applicable)

Sec.#

Section Beg. Termini: **Beg. Milepost:**

Section End. Termini: **End. Milepost:**

Designed Use Objectives

Trail Type (Check one)

- Terra Trail
- Snow Trail
- Water Trail

Trail Class (Check one)

- 1 (Primitive/Undeveloped)
- 2 (Simple/Minor Development)
- 3 (Developed/Improved)
- 4 (Highly Developed)
- 5 (Fully Developed)

Difficulty Rating

(Check one)

- Easiest (white circle)
- Easy (green circle)
- Intermediate (blue square)
- Difficult (black diamond)
- Most Difficult (dbl diamond)
- _____

Elevation Chg

+ or - Feet

Level of Use

- Low (0-10 per day)
- Moderate (10-100 / day)
- High (100+ per day)

Est Act Counter

Designed Use

(Check one)

- Hiker / Pedestrian
- Pack & Saddle
- Bicycle
- Wheelchair (ADA stds)
- Motorcycle
- All Terrain Vehicle (ATV)
- _____

- Cross-Country Ski
- Snowmachine
- Snowshoe
- Dog Sled
- Skijoring

- Watercraft - Non Motorized
- Watercraft - Motorized
- _____

Design Parameters

(Fill in all that apply)

- Basic Tread Width, inches
- Clearing Width, feet
- Clearing Height, feet
- Backslope: 1/1, 2/1, 1/2
- Target Grade, % (>90% of trail)
- Max. Sustainable Grade, % for distance (ft) _____
- Turn Radius Min, ft
- _____

Target Frequency

Maintenance per Year

(Fill in all that apply)

- Trail Opening
- Tread Repair
- Drainage Cleanout
- Logging Out
- Brushing
- Snow Trail Grooming
- Condition Survey
- _____

Trail Management Objectives (TMO) Part 2

Rev. Date: 4/25/2010

Trail Use Strategies

Managed Use

(Fill in all that apply)

	From Season (mm/dd)	To Season (mm/dd)
☐ Hiker / Pedestrian		
☐ Pack & Saddle		
☐ Bicycle		
☐ Wheelchair		
☐ Motorcycle		
☐ All Terrain Vehicle (ATV)		
☐ _____		
☐ Cross-Country Ski		
☐ Snowmobile		
☐ Dog Sled		
☐ Skijoring		
☐ _____		
☐ Watercraft - NonMotorized		
☐ Watercraft - Motorized		

Prohibited Use

(Check if applicable)

	From Date (mm/dd)	To Date (mm/dd)
☐ All Motorized Use		

(Or, fill in all that apply)

☐ Hiker / Pedestrian		
☐ Pack & Saddle		
☐ Bicycle		
☐ Wheelchair		
☐ Motorcycle		
☐ All Terrain Vehicle (ATV)		
☐ _____		
☐ Cross-Country Ski		
☐ Snowmobile		
☐ Dog Sled		
☐ Skijoring		
☐ _____		
☐ Watercraft - NonMotorized		
☐ Watercraft - Motorized		

Other Use

(Optional: Check any that apply)

	Accept	Discourage	Eliminate
☐ Hiker / Pedestrian			
☐ Pack & Saddle			
☐ Bicycle			
☐ Wheelchair			
☐ Motorcycle			
☐ All Terrain Vehicle (ATV)			
☐ _____			
☐ Cross-Country Ski			
☐ Snowmobile			
☐ Dog Sled			
☐ Skijoring			
☐ _____			
☐ Watercraft - NonMotorized			
☐ Watercraft - Motorized			

Special Considerations

(Check any that apply. Underline appropriate clarifier in parenthesis. Provide specifics and reference information below.)

- ☐ Accessible per Current Agency Guidelines
- ☐ Mechanized Tools or Equipment Prohibited
- ☐ Threat, Endang or Sens Species (Plant / Wildl)
- ☐ Cultural Resource Present
- ☐ Easement across Non-Park Land (Existing / Needed)
- ☐ Existing Permit or Agreement (Trail-Specific / Area)
- ☐ _____

Remarks / Reference Information

Completed by: _____ Title: _____ Date:_____

Approved by: _____ Title: _____ Date:_____

Trail Management Objectives (FIELD NOTES)

Trail Name _____ **Trail ID:** _____

Remarks / Reference Information (Continuation Sheet)

COOPERATIVE AGREEMENT
between the
Alaska Department of Fish and Game,
Habitat Division
and the
Alaska Department of Natural Resources,
Division of Parks and Outdoor Recreation

This cooperative agreement is designed to assist the agencies in cooperatively managing the area of overlap of the Kachemak Bay State Park and the Kachemak Bay Critical Habitat Area. The agreement pertains to the responsibilities of the Alaska Department of Fish and Game, Habitat Division and the Alaska Department of Natural Resources, Division of Parks and Outdoor Recreation within Kachemak Bay and in no way alters existing authorities and responsibilities either between or within the agencies.

WHEREAS, the Alaska Department of Fish and Game (ADF&G) has a legislatively mandated responsibility to manage the Kachemak Bay Critical Habitat Area (AS 16.20.590); and

WHEREAS, the Alaska Department of Natural Resources (ADNR) has a legislatively mandated responsibility to manage th Kachemak Bay State Park (AS 41.21.130-143); and

WHEREAS, portions of Kachemak Bay are designated as both state critical habitat area and state park; and

WHEREAS, it is desirable to have maximum consistency between state park and state critical habitat area regulation and administration; and

WHEREAS, it is the intention of the ADNR/Division of Parks and Outdoor Recreation (DPOR) and the ADF&G/Habitat Division to coordinate administrative efforts in managing overlapping portions of the state park and state critical habitat area;

NOW, THEREFORE, the parties hereto agree as follows:

THE DEPARTMENT OF NATURAL RESOURCES, DIVISION OF PARKS AND OUTDOOR RECREATION AGREES:

1. To consult with ADF&G, through the Habitat Division, in the development of a management plan for Kachemak Bay State Park.

2. To seek the advice of ADF&G, through the Habitat Division, on regulations and major park policies o decisions which apply to the portions of Kachemak Ba which are designated both state park and state critical

habitat area. These include the management of mariculture, sport fishing charters or other commercial operations, and the development of park facilities when habitat values or use conflicts can reasonably be anticipated to be affected.

3. To monitor tideland and water use activities, to report any special area permit violations or other resource management problems within the area covered by this agreement promptly to the Habitat Division, and to coordinate compliance operations where appropriate.

4. To review and comment on state critical habitat area management plans, regulations, major policies, or decisions and permits for that portion of the critical habitat area which is in the state park.

5. Comply with the notice and, if applicable, ADF&G special area permit requirements of AS 16.20.520-530 and 5 AAC 95 for park developments, uses, and activities in the critical habitat area.

THE DEPARTMENT OF FISH AND GAME, THROUGH ITS HABITAT DIVISION, AGREES:

1. To consult with DPOR in the development of a management plan for the state critical habitat area.

2. To monitor multiple use activities, to report state park permit violations or other resource management problems in the portion of Kachemak Bay which is a state park to DPOR, and to coordinate compliance operations where appropriate.

3. To review and comment on state park management plans, regulations, major policies or decisions, and permits for the portion of the state park which is in the critical habitat area.

4. To seek the advice of DPOR on regulations and major policies or decisions which apply to the portion of the critical habitat area that is in the state park (such as mariculture, habitat enhancement activities, introduction of non-native species or placement of structures or facilities).

5. To apply for a park use permit when required under 11 AAC 18.010 for developments or uses and activities in the state park.

THE DEPARTMENT OF NATURAL RESOURCES AND DEPARTMENT OF FISH AND GAME MUTUALLY AGREE:

1. Nothing in this cooperative agreement alters the obligation of DPOR and the ADF&G resource management divisions (Wildlife Conservation; Sport Fish; Commercial Fisheries; Fisheries Rehabilitation, Enhancement, and Development; and Subsistence) to work with each other on issues regarding management of fish and wildlife populations and harvest.

2. Nothing in the cooperative agreement shall obligate any party in the expenditure of funds or for future payments of money in excess of appropriations authorized by law.

3. Each party agrees that it will be responsible for its own acts and the results thereof, and each party shall not be responsible for the acts of the other party, and each party agrees it will assume to itself risk and liability resulting in any manner under this agreement.

4. Each party will comply with all applicable laws, regulations, and executive orders relative to equ employment opportunity.

5. Nothing herein is intended to conflict with federal, state, or local laws or regulations. If there are conflicts, the laws and regulations shall prevail; this agreement will be amended at the first opportunity to bring it into conformance with conflicting laws or regulations.

6. Either the ADNR or the ADF&G may terminate its participation in this cooperative agreement by providing to the other party notice in writing 60 days in advance of the date on which its termination becomes effective.

7. A free exchange of research and information between agencies is encouraged and is necessary to attain the management goals of the state.

8. To follow permit consultation procedures that are in compliance with state regulations governing notice and review periods.

9. Amendments to this agreement may be proposed by either agency and shall become effective upon approval of both agencies.

10. The effective date of this agreement shall be from the date of final signature.

Don W. Collinsworth — 1-11-89
Don W. Collinsworth
Commissioner
Alaska Department of Fish and Game
Date

Lennie Gorsuch — 7/24/89
Lennie Gorsuch
Commissioner
Alaska Department of Natural Resources
Date

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Appendix H: Flora Species

Flora species list provided by Kachemak Bay National Estuarine Research Reserve.

Terrestrial Plants

Common name	Scientific name	Common name	Scientific name
Family Lycopodiaceae (Clubmosses)			
Fir clubmoss	*Huperzia selago*	Creeping Jenny / Christmas green / Groundcedar	*Lycopodium complanatum*
Stiff clubmoss	*Lycopodium annotinum*	Alpine clubmoss	*Lycopodium alpinum*
Stiff clubmoss	*Lycopodium annotinum* var. *pungens*	Clubmoss	*Lycopodium* sp.
Running clubmoss	*Lycopodium clavatum*		
Family Equisetaceae (Horsetails)			
Variegated scouringrush / Northern scouringrush	*Equisetum variegatum*	Woodland horsetail / Wood horsetail	*Equisetum sylvaticum*
Swamp horsetail / Water horsetail	*Equisetum fluviatile*	Meadow horsetail	*Equisetum pratense*
Marsh horsetail	*Equisetum palustre*	Field horsetail / Common horsetail	*Equisetum arvense*
Family Equisetaceae (Horsetails) continued			
Horsetail	*Equisetum* sp.		
Family Ophioglossaceae (Adder's Tongues)			
Common moonwort	*Botrychium lunaria*	Lance-leaved moonwort / Lanceleaf grape fern	*Botrychium lanceolatum*
Northwestern moonwort / Northern moonwort	*Botrychium pinnatum*	Rattlesnake fern	*Botrychium virginianum*
Family Adiantaceae (Maidenhair Ferns)			
Northern maidenhair fern	*Adiantum pedatum*		
Family Cryptogrammaceae (Mountain Parsleys)			
American rockbrake	*Cryptogramma acrostichoides*	Parsley fern / Mountain parsley / Rock brake fern	*Cryptogramma* sp.

Common name	Scientific name	Common name	Scientific name
Family Thelypteridaceae (Marsh Ferns)			
Narrow beech fern / Long beech fern	*Phegopteris connectilis*		
Family Dryopteridaceae (Lady Ferns)			
Lady fern / Common lady fern	*Athyrium filix-femina*	Rusty woodsia	*Woodsia ilvensis*
Fragile fern / Brittle bladder fern	*Cystopteris fragilis*	Ostrich fern	*Matteuccia struthiopteris*
Mountain bladder fern	*Cystopteris montana*	Shield fern / Trailing wood fern / Spreading wood fern	*Dryopteris expansa*
Rocky Mountain woodsi	*Woodsia scopulina*	Western oak fern	*Gymnocarpium dryopteris*
Family Aspidiaceae (Sheild Ferns)			
Mt. holly fern / Northern holly fern	*Polystichum lonchitis*	Braun's holly fern	*Polystichum braunii*
Family Pinaceae (Pines / Spruces / Hemlocks)			
White spruce	*Picea glauca*	Spruce	*Picea* spp.
Sitka spruce	*Picea sitchensis*	Western hemlock	*Tsuga heterophylla*
Lutz spruce	*Picea* X *lutzii*	Mountain hemlock	*Tsuga mertensiana*
Black spruce	*Picea mariana*		
Family Cupressaceae (Cypresses / Junipers)			
Common mountain juniper / Common juniper	*Juniperus comunnis*		
Family Sparganiaceae (Bur-Reeds)			
Narrowleaf bur-reed	*Sparganium angustifolium*	Northern bur-reed	*Sparganium hyperboreum*
Family Potamogetonaceae (Pondweeds)			
Eelgrass / Seawrack	*Zostera marina*	Sago pondweed	*Stuckenia pectinatus*
Floating pondweed / Floating-weed pondweed	*Potamogeton natans*	Fineleaf pondweed	*Stuckenia filiformis*
Ribbonleaf pondweed	*Potamogeton epihydrus*	Sheathed pondweed	*Stuckenia vaginatus*
Variable pondweed	*Potamogeton gramineus*		
Family Zannichelliaceae (Horned Pondweeds)			
Horned pondweed	*Zannichellia palustris*		
Family Juncaginaceae (Arrow Grasses)			
Sea arrow grass / Seaside arrow grass	*Triglochin maritimum*	Marsh arrow grass	*Triglochin palustre*

Common name	Scientific name	Common name	Scientific name
Family Poaceae - (Grasses)			
Reed canary grass / Canary reed grass	*Phalaris arundinacea*	Bentgrass / Ticklegrass	*Agrostis* sp.
Alpine holy grass / Alpine sweet grass	*Hierochloe alpina*	Bluejoint / Bluejoint reedgrass	*Calamagrostis canadensis*
Vanilla grass	*Hierochloe odorata*	Slimstem reedgrass	*Calamagrostis stricta*
Arctic sweet grass / Arctic holy grass	*Hierochloe pauciflora*	Circumpolar reedgrass	*Calamagrostis deschampsioides*
Alpine timothy / Mountain timothy	*Phleum alpinum*	Tufted hairgrass	*Deschampsia cespitosa*
Timothy	*Phleum pratense*	Bering's tufted hairgrass	*Deschampsia beringensis*
Field foxtail / Meadow foxtail	*Alopecurus pratensis*	Hairgrass	*Deschampsia* sp.
Alpine foxtail / Boreal alopecurus	*Alopecurus alpinus*	Purple mountain hairgrass / Mountain hairgrass	*Vahlodea atropurpurea*
Shortawn foxtail	*Alopecurus aequalis*	Spiked trisetum / Spike trisetum	*Trisetum spicatum*
Redtop	*Agrostis gigantea*	Timber oat grass / Downy oat grass	*Danthonia intermedia*
Spike bentgrass / Alaska bentgrass	*Agrostis exarata*	Arctic bluegrass	*Poa arctica*
Rough bentgrass	*Agrostis scabra*	Arctic bluegrass	*Poa arctica* ssp. *arctica*
Merten's bentgrass / Northern bentgrass	*Agrostis mertensii*	Arctic bluegrass	*Poa arctica* ssp. *lanata*
Family Poaceae - (Grasses) continued			
Eminent bluegrass / Large-flower bluegrass / Largeflower speargrass	*Poa eminens*	Alpine fescue	*Festuca brachyphylla*
Largeglume bluegrass	*Poa macrocalyx*	Red fescue	*Festuca rubra*
Kentucky bluegrass	*Poa pratensis*	Fescue	*Festuca* sp.
Glaucous bluegrass	*Poa glauca*	Fringed brome	*Bromus ciliatus*
Fowl bluegrass	*Poa palustris*	Smooth brome	*Bromus inermis*
Northern bluegrass	*Poa stenantha*	Pumpelly's brome / Smooth brome	*Bromus inermis* ssp. *pumpellianus*
Annual bluegrass	*Poa annua*	Alaska brome / Sitka brome	*Bromus sitchensis*
Alaska bluegrass	*Poa paucispicula*	Italian rye grass	*Lolium perenne*
Bluegrass	*Poa* spp.	Meadow barley	*Hordeum brachyantherum*

Common name	Scientific name	Common name	Scientific name
Weak alkali grass / Pale false manna grass	*Torreyochloa pallida*	Squirreltail grass / Foxtail barley	*Hordeum jubatum*
Creeping alkali grass	*Puccinellia phryganodes*	Barley	*Hordeum* sp.
Nootka alkali grass	*Puccinellia nutkaensis*	Beach rye grass / Lyme grass/ Seabeach lyme grass / American dune grass	*Leymus mollis* ssp. *mollis*
Dwarf alkali grass	*Puccinellia pumila*	Quackgrass / Slender wheat grass	*Elymus trachycaulus* ssp. *trachycaulus*
Hulten's alkali grass	*Puccinellia hultenii*	Alaskan wheat grass	*Elymus alaskanus* ssp. *latiglumis*
Anderson's alkali grass	*Puccinellia andersonii*	Siberian wild rye	*Elymus sibiricus*
Altai fescue	*Festuca altaica*	Wheat grass	*Elymus* sp.
Family Cyperaceae (Sedges)			
Narrow-leaved cotton grass / Tall cotton grass	*Eriophorum angustifolium*	Chamisso's cotton grass / Red cotton grass	*Eriophorum russeolum*
Tall cotton grass	*Eriophorum angustifolium* ssp. *subarcticum*	Red cotton grass	*Eriophorum russeolum* var. *albidum*
Tall cotton grass	*Eriophorum angustifolium* ssp. *triste*	Arctic cotton grass	*Eriophorum brachyantherum*
Slender cotton grass	*Eriophorum gracile*	Cotton grass	*Eriophorum* sp.
White cotton grass	*Eriophorum scheuchzeri*	Alpine cotton grass / Alpine bulrush	*Trichophorum alpinum*
Family Cyperaceae (Sedges) continued			
Tufted clubrush / Tufted bulrush	*Trichophorum caespitosum*	Gray sedge / Silvery sedge	*Carex canescens*
Creeping spike rush / Common spike rush	*Eleocharis palustris*	Soft-leaved sedge / Softleaf sedge	*Carex disperma*
Kamchatka spike rush	*Eleocharis kamtschatica*	Sparseflower sedge	*Carex tenuiflora*
Needle spike rush	*Eleocharis acicularis*	Rye grass sedge	*Carex loliacea*
Spikenard sedge / Spike sedge	*Carex nardina*	Smooth sedge / Smoothstem sedge	*Carex laeviculmis*
Yellow bog sedge / Northern bog sedge	*Carex gynocrates*	Bigelow's sedge	*Carex bigelowii*
Single-spike sedge / Northern singlespike sedge	*Carex scirpoidea*	Kellogg's sedge	*Carex lenticularis* var. *lipocarpa*
Bristle-stalked sedge / Bristly-stalked sedge	*Carex leptalea*	Water sedge	*Carex aquatilis*

Common name	Scientific name	Common name	Scientific name
Yellow-flowered sedge / Grassy slope arctic sedge	*Carex anthoxanthea*	Sitka sedge	*Carex aquatilis* var. *dives*
Coiled sedge	*Carex circinata*	Hoppner's sedge	*Carex subspathacea*
Pyrenean sedge	*Carex pyrenaica* ssp. *micropoda*	Ramenski's sedge / Ramensk's sedge	*Carex ramenskii*
Few-seeded bog sedge	*Carex microglochin*	Lyngby's sedge / Lyngbye's sedge	*Carex lyngbyaei*
Few-flowered sedge / Fewflower sedge	*Carex pauciflora*	Golden sedge	*Carex aurea*
Creeping sedge	*Carex chordorrhiza*	Long-styled sedge / Variegated sedge	*Carex stylosa*
Lesser panicled sedge	*Carex diandra*	Gmelin's sedge	*Carex gmelinii*
Large-headed sedge / Largehead sedge	*Carex macrocephala*	Mertens' sedge	*Carex mertensii*
Thick-headed sedge / Chamisso sedge	*Carex pachystachya*	Long-awned sedge /	*Carex macrochaeta*
Presl's sedge	*Carex preslii*	Shortstalk sedge	*Carex podocarpa*
Dunhead sedge	*Carex phaeocephala*	Showy sedge	*Carex spectabilis*
Liddon sedge	*Carex petasata*	Small-awned sedge	*Carex michrochaeta*
Meadow sedge	*Carex praticola*	Bering Sea sedge	*Carex michrochaeta* ssp. *nesophila*
Closedhead sedge	*Carex norvegica* ssp. *inferalpina*	Several-flowered sedge / Manyflower sedge	*Carex pluriflora*
Family Cyperaceae (Sedges) continued			
Shore sedge / Mud sedge	*Carex limosa*	Northwest Territory sedge	*Carex utriculata*
Poor sedge / Bog sedge / Boreal bog sedge	*Carex magellanica*	Rock sedge	*Carex saxatilis*
Pale sedge / Livid sedge	*Carex livida*	Round sedge	*Carex rotundata*
Beaked sedge / Swollen beaked sedge	*Carex rostrata*	Sedge	*Carex* spp.
Family Araceae (Arums)			
Yellow skunk cabbage	*Lysichiton americanum*		
Family Juncaceae (Rushes)			
Arctic rush	*Juncus arcticus*	Toad rush	*Juncus bufonius*
Drummond's rush	*Juncus drummondii*	Small-flowered woodrush	*Luzula parviflora*

Common name	Scientific name	Common name	Scientific name
Mertens' rush	*Juncus mertensianus*	Many-flowered wood rush / Common wood rush	*Luzula multiflora* ssp. *multiflora*
Chestnut rush	*Juncus castaneus*	Many-flowered wood rush / Common wood rush	*Luzula multiflora*
Spreading rush / Hairyleaf rush	*Juncus supiniformis*	Spiked wood rush	*Luzula spicata*
Northern green rush	*Juncus alpinoarticulatus* ssp. *nodulosus*	Wood rush	*Luzula* sp.
Bog rush / Moor rush	*Juncus stygius*		
Family Liliaceae (Lilies)			
Northern asphodel	*Tofieldia coccinea*	Wild chives	*Allium schoenoprasum* var. *sibiricum*
Scotch false asphodel	*Tofieldia pusilla*	Chocolate lily / Kamchatka fritillary / Indian rice	*Fritillaria camschatcensis*
False asphodel / Sticky false asphodel / Sticky tofieldia	*Tofieldia glutinosa*	Common alp lily	*Lloydia serotina*
Green false Hellebore / Corn Lily	*Veratrum viride*	False lily-of-the-valley	*Maianthemum dilatatum*
Wild chives	*Allium schoenoprasum*	Watermelon berry / Clasping twisted stalk / Wild cucumber / Claspleaf twisted stalk	*Streptopus amplexifolius*
Family Iridaceae (Irises)			
Wild iris / Wild flag / Beachhead iris	*Iris setosa*	Blue-eyed grass	*Sisyrinchium* sp.
Alaska blue-eyed grass	*Sisyrinchium littorale*		
Family Orchidaceae (Orchids)			
Lady's slipper orchid / Spotted lady's slipper	*Cypripedium guttatum*	Blunt-leaved orchid	*Platanthera obtusata*
Keyflower	*Dactylorhiza aristata*	Fringed orchid / Bog orchid	*Platanthera* sp.
Frog orchis / Longbract frog orchid	*Coeloglossum viride*	Ladies' tresses / Hooded ladies' tresses	*Spiranthes romanzoffiana*
Bog orchis	*Platanthera convallariiefolia*	Twayblade orchid / Heart-leafed twayblade / Heartleaf twayblade	*Listera cordata*
Green-flowered bog orchid / Northern rein orchid / Northern green orchid	*Platanthera hyperborea*	Lesser rattlesnake plantain	*Goodyera repens*
White bog orchid / White rein orchid / Bog candle / Scent bottle	*Platanthera dilatata*	Yellow coralroot	*Corallorrhiza trifida*

Common name	Scientific name	Common name	Scientific name
Family Salicaceae (Willows)			
Balsam poplar / Cottonwood	*Populus balsamifera*	Barclay's willow	*Salix barclayi*
Balsam poploar / Cottonwood	*Populus balsamifera* ssp. *balsamifera*	Undergreen willow	*Salix commutata*
Black Cottonwood	*Populus balsamifera* ssp. *trichocarpa*	Feltleaf willow / Alaska willow	*Salix alaxensis*
Quaking aspen/American aspen	*Populus tremuloides*	Feltleaf willow / Alaska willow	*Salix alaxensis* var. *alaxensis*
Netleaf willow	*Salix reticulata*	Bebb willow	*Salix bebbiana*
Netleaf willow	*Salix reticulata* ssp. *reticulata*	Tealeaf willow	*Salix pulchra*
Least willow	*Salix rotundifolia*	Scouler's willow	*Salix scouleriana*
Arctic willow	*Salix arctica*	Sitka willow	*Salix sitchensis*
Alaska bog willow	*Salix fuscescens*	Littletree willow	*Salix arbusculoides*
Grayleaf willow	*Salix glauca*	Willow	*Salix* spp.
Low blueberry willow / Blueberry willow	*Salix myrtillifolia*		
Family Myricaceae (Wax Myrtles)			
Sweet gale	*Myrica gale*		
Family Betulaceae (Birches)			
Dwarf birch	*Betula nana*	Kenai birch	*Betula papyrifera* var. *kenaica*
Family Betulaceae (Birches) continued			
Paper birch	*Betula papyrifera*	Sitka alder	*Alnus viridus* ssp. *sinuata*
Birch	*Betula* spp.	Thin-leaf alder	*Alnus incana* ssp. *tenuifolia*
Mountain alder	*Alnus viridis* ssp. *crispa*	Alder	*Alnus* sp.
Family Urticaceae (Nettles)			
California nettle / Stinging nettle	*Urtica dioica* ssp. *gracilis*		
Family Santalaceae (Sandalwoods)			
Bastard toad flax / False toad flax	*Geocaulon lividum*		
Family Polygonaceae (Buckwheats)			
Common sheep sorrel	*Rumex acetosella*	Alpine mountain sorrel	*Oxyria digyna*

Common name	Scientific name	Common name	Scientific name
Arctic dock	*Rumex arcticus*	Alpine bistort	*Polygonum viviparum*
Western dock	*Rumex aquaticus* var. *fenestratus*	Meadow bistort	*Polygonum bistorta*
Dock	*Rumex* spp.	Prostrate knotweed	*Polygonum aviculare*
Family Chenopodiaceae (Goosefoots)			
Blite goosefoot	*Chenopodium capatatum*	Alaska orach	*Atriplex alaskensis*
Pigweed / Lamb's quarter	*Chenopodium album*	Orach / Saltbush / Seascale / Shadscale / Sea purslane	*Atriplex* spp.
Salt orach / Spearscale / Seashore saltbush	*Atriplex drymarioides*	Glasswort / Chicken's claw / Slender grasswort	*Salicornia maritima*
Gmelin's saltbush	*Atriplex gmelinii*	Saltwort / Sea pickle / Pursh seepweed / Sea blite	*Suaeda calceoliformis*
Family Portulacaceae (Purslanes)			
Siberian spring beauty / Candy flower	*Claytonia sibirica*	Water blinks / Annual water miners lettuce	*Montia fontana*
Chamisso's spring beauty / Chamisso's montia / Water miners lettuce	*Montia chamissoi*		
Family Caryophyllaceae (Pinks)			
Common garden chickweed / Common chickweed	*Stellaria media*	Saltmarsh starwort	*Stellaria humifusa*
Crisp sandwort / Curled starwort	*Stellaria crispa*	Northern sandwort / Northern starwort	*Stellaria calycantha*
Family Caryophyllaceae (Pinks) continued			
Boreal starwort	*Stellaria borealis*	Twinflower sandwort	*Minuartia obtusiloba*
Sitka starwort	*Stellaria borealis* ssp. *sitchana*	Boreal sandwort / Reddish sandwort / Beautiful sandwort	*Minuartia rubella*
Boreal startwort	*Stellaria borealis* ssp. *borealis*	Stitchwort	*Minuartia* spp.
Long-stalked starwort / Longstalk starwort	*Stellaria longipes*	Beach greens / Seabeach sandwort / Sea purslane / Seaside sand plant	*Honckenya peploides*
Chickweed / Starwort	*Stellaria* sp.	Slender mountain sandwort	*Arenaria capillaris*
Fischer’s chickweed	*Cerastium fischerianum*	Grove sandwort / Blunt-leaved sandwort / Bluntleaf sandwort	*Moehringia lateriflora*
Field chickweed	*Cerastium arvense*	Merckia	*Wilhelmsia physodes*

Common name	Scientific name	Common name	Scientific name
Mouse-ear chickweed	*Cerastium* spp.	Canadian sandspurry	*Spergularia canadensis*
Arctic pearlwort	*Sagina saginoides*	Moss campion / Cushion pink	*Silene acaulis*
Stickystem pearlwort	*Sagina maxima* ssp. *crassicaulis*	Apetalous catchfly	*Silene uralensis* ssp. *uralensis*
Pearlwort	*Sagina* sp.	Arctic catchfly	*Silene involucrata* ssp. *involucrata*
Sandwort / Longpod stitchwort	*Minuartia macrocarpa*	Bladder campion	*Silene* sp.
Arctic stitchwort	*Minuartia arctica*	Wild carnation / Boreal carnation	*Dianthus repens*
Family Nymphaeaceae (Water Lilies)			
Yellow pond lily / Yellow water lily / Spatterdock / Rocky Mountain pond lily	*Nuphar lutea* ssp. *polysepala*		
Family Ceratophyllaceae (Hornworts)			
Hornwort / Coon's tail	*Ceratophyllum demersum*		
Family Ranunculaceae (Crowfoots / Buttercups)			
Alpine white marsh marigold / White marsh marigold	*Caltha leptosepala*	Yellow marsh marigold	*Caltha palustris* var. *radicans*
Yellow marsh marigold	*Caltha palustris*	Fern-leaved goldthread / Fernleaf goldthread	*Coptis aspleniifolia*
Yellow marsh marigold	*Caltha palustris* var. *palustris*	Three-leaved goldthread / Threeleaf goldthread	*Coptis trifolia*
Family Ranunculaceae (Crowfoots / Buttercups) continued			
Red baneberry / Snakeberry	*Actaea rubra*	Lapland buttercup	*Ranunculus lapponicus*
Red baneberry / Snakeberry	*Actaea rubra* ssp. *arguta*	Shore buttercup / Alkali buttercup / Marsh buttercup	*Ranunculus cymbalaria*
Western columbine	*Aquilegia formosa*	Mountain buttercup / Subalpine buttercup / Snowpatch buttercup / Eschscholtz's buttercup	*Ranunculus eschscholtzii*
Tall larkspur / Glaucous larkspur / Sierra larkspur	*Delphinium glaucum*	Snow buttercup	*Ranunculus nivalis*
Mountain monkshood / Larkspurleaf monkshood	*Aconitum delphiniifolium*	Littleleaf buttercup	*Ranunculus abortivus*
Larkspurleaf monkshood	*Anconitum delphiniifolium* ssp. *delphiniifolium*	Little buttercup / Small-flowered buttercup / Idaho buttercup	*Ranunculus uncinatus* var. *parviflorus*

Common name	Scientific name	Common name	Scientific name
Yellow anemone / Richardson's anemone / Yellow thimbleweed	*Anemone richardsonii*	Western buttercup	*Ranunculus occidentalis*
Northern anemone / Small-flowered anemone	*Anemone parviflora*	Buttercup	*Ranunculus* spp.
Narcissus anemone / Narcissus-flowered anemone	*Anemone narcissiflora*	Alpine meadow rue	*Thalictrum alpinum*
Narcissus anemone	*Anemone narcissiflora* var. *monantha*	Few-flowered meadow rue / Fewflower meadow rue	*Thalictrum sparsiflorum*
Cut-leaf anemone / Pacific anemone	*Anemone multifida*	Hulten's meadow rue	*Thalictrum hultenii*
Drummond's anemone	*Anemone drummondii*	Meadow rue	*Thalictrum* sp.
High northern buttercup	*Ranunculus hyperboreus*		
Family Papaveraceae (Poppies)			
White poppy / Pale poppy	*Papaver alboroseum*		
Family Fumariaceae (Earth Smokes)			
Blue corydalis / Fewflower fumewort	*Corydalis pauciflora*		
Family Brassicaceae - was Cruciferae (Mustards)			
Arctic pennycress	*Thlaspi arcticum*	Bird's rape / Field mustard	*Brassica rapa*
Danish scurvy grass	*Cochlearia groenlandica*	Winter cress / American yellow rocket	*Barbarea orthoceras*
American sea rocket	*Cakile edentula*	Yellow cress	*Rorippa* sp.
Family Brassicaceae - was Cruciferae (Mustards) continued			
Hispid yellow cress	*Rorippa palustris* ssp. *hispida*	Alaska draba	*Draba stenoloba*
Hoary yellow cress	*Rorippa barbareifolia*	White draba / Boreal draba	*Draba borealis*
Alpine bitter cress	*Cardamine bellidifolia*	Golden draba	*Draba aurea*
Pennsylvania bitter cress	*Cardamine pensylvanica*	Woodland draba	*Draba nemorosa*
Cuckoo flower	*Cardamine pratensis*	Arctic draba / North Pacific draba	*Draba hyperborea*
Cuckoo flower	*Cardamine pratensis* var. *angustifolia*	Draba	*Draba* spp.
Kamchatka rock cress / Few-seeded bitter cress / Little western bitter cress / Wild water cress / Umbel bitter cress	*Cardamine oligosperma*	Kamchatka rockcress	*Arabis kamchatica*

Common name	Scientific name	Common name	Scientific name
Shepherd's purse	*Capsella bursa-pastoris*	Hairy arabis / Eschscholtz's rockcress	*Arabis eschscholtziana*
Yellow arctic draba	*Draba nivalis*	Creamflower rockcress	*Arabis hirsuta* var. *pycnocarpa*
Lance-fruited draba / Lancepod draba	*Draba lonchocarpa*	Spreadingpod rockcress	*Arabis divaricarpa*
Rainier draba	*Draba ruaxes*	Holboell's rockcress	*Arabis holboellii*
Palander's draba	*Draba palanderiana*	Wormseed mustard / Wormseed wallflower	*Erysimum cheiranthoides*
Yellowstone draba	*Draba incerta*	Shy wallflower	*Erysimum inconspicuum*
Alpine draba	*Draba alpina*	Yellow Rocket / Wallflower	*Erysimum* sp.
Milky draba	*Draba lactea*		
Family Droseraceae (Sundews)			
Great sundew / English sundew	*Drosera anglica*	Round-leaved sundew / Roundleaf sundew	*Drosera rotundifolia*
Family Crassulaceae (Stonecrops)			
Roseroot / Ledge stonecrop	*Rhodiola integrifolia* ssp. *integrifolia*		
Family Saxifragaceae (Saxifrages)			
Leather-leaved saxifrage Fireleaf leptarrhena	*Leptarrhena pyrolifolia*	Cushion saxifrage / Ciliate saxifrage	*Saxifraga eschscholtzii*
Purple mountain saxifrage	*Saxifraga oppositilofia*	Thymeleaf saxifrage	*Saxifraga serpyllifolia*
Family Saxifragaceae (Saxifrages) continued			
Bog saxifrage / Yellow marsh saxifrage	*Saxifraga hirculus*	Tufted alpine saxifrage	*Saxifraga caespitosa*
Spotted saxifrage / Yellowdot saxifrage	*Saxifraga bronchialis*	Foam flower / Lace flower / Threeleaf foamflower	*Tiarella trifoliata*
Funston's saxifrage	*Saxifraga bronchialis* ssp. *funstonii*	Smooth alum root / Alpine heuchera	*Heuchera glabra*
Prickly saxifrage / Three-toothed saxifrage	*Saxifraga tricuspidata*	Fringe cups / Bigflower tellima	*Tellima grandiflora*
Heart-leaved saxifrage / Cordate-leaved saxifrage / Heartleaf saxifrage	*Saxifraga nelsoniana* ssp. *nelsoniana*	Five-stamened mitrewort /	*Mitella pentandra*
Cordate-leaved saxifrage / Pacific saxifrage	*Saxifraga nelsoniana* ssp. *pacifica*	Northern water carpet / Northern golden saxifrage	*Chrysosplenium tetradrum*
Brook saxifrage / Weak saxifrage	*Saxifraga rivularis*	Water carpet	*Chrysosplenium* sp.

Common name	Scientific name	Common name	Scientific name
Red-stemmed saxifrage / Redstem saxifrage	*Saxifraga lyallii*	Grass-of-Parnassus	*Parnassia palustris*
Snow saxifrage / Alpine saxifrage	*Saxifraga nivalis*	Northern grass-of-Parnassus / Bog star / Marsh grass-of-Parnassus	*Parnassia palustris* var. *tenuis*
Coast saxifrage / Coastal saxifrage / Russethair saxifrage	*Saxifraga ferruginea*	Kotzebue's grass-of-Parnassus	*Parnassia kotzebuei*
Grained saxifrage / Leafystem saxifrage	*Saxifraga foliolosa*		
Family Grossulariaceae (Currents)			
Stink currant	*Ribes bracteosum*	Trailing black currant / Trailing currant	*Ribes laxiflorum*
Northern black currant	*Ribes hudsonianum*	Northern red currant / Red currant	*Ribes triste*
Skunk currant	*Ribes glandulosum*	Currant	*Ribes* spp.
Family Rosaceae (Roses)			
Alaska spiraea / Beauverd's spiraea	*Spiraea stevenii*	Greene's mountain ash	*Sorbus scopulina*
Partridgefoot	*Luetkea pectinata*	Native mountain ash / Western mountain ash	*Sorbus sitchensis*
Goatsbeard / Bride's feathers	*Aruncus dioicus* var. *vulgaris*	Serviceberry / Saskatoon serviceberry	*Amelanchier alnifolia*
Oregon crab apple	*Malus fusca*	Pacific serviceberry	*Amelanchier florida*
Family Rosaceae (Roses) continued			
Serviceberry	*Amelanchier* sp.	Diverse-leaved cinquefoil / Varileaf cinquefoil	*Potentilla diversifolia*
Trailing Raspberry / Strawberryleaf raspberry	*Rubus pedatus*	Cinquefoil	*Potentilla* sp.
Cloudberry	*Rubus chamaemorus*	Silverweed cinquefoil	*Argentina anserina*
Nagoonberry / Arctic blackberry / Dewberry	*Rubus arcticus*	Pacific silverweed	*Argentina egedii* ssp. *egedii*
Arctic blackberry	*Rubus arcticus* ssp. *arcticus*	Creeping sibbaldia	*Sibbaldia procumbens*
Dwarf raspberry	*Rubus arcticus* ssp. *acaulis*	Yellow geum / Large-leaved avens / Largeleaf avens	*Geum macrophyllum*
Common raspberry / American red raspberry	*Rubus idaeus*	Caltha-leaved avens / Calthaleaf avens	*Geum calthifolium*
Salmonberry	*Rubus spectabilis*	Ross' geum / Ross' avens	*Geum rossii*

Common name	Scientific name	Common name	Scientific name
Coastal strawberry / Pacific beach strawberry	*Fragaria chiloensis* ssp. *pacifica*	Yellow dryas / Yellow mountain avens / Drummond's mountain avens	*Dryas drummondii*
Strawberry	*Fragaria* sp.	White dryas / Eightpetal mountain avens	*Dryas octopetala*
Marsh five-finger / Purple marsh locks	*Comarum palustre*	Entire-leaved mountain avens / Entireleaf mountain avens	*Dryas integrifolia*
Tundra rose / Shrubby cinquefoil	*Dasiphora floribunda*	Entireleaf mountain avens	*Dryas integrifolia* ssp. *integrifolia*
Villous cinquefoil	*Potentilla villosa*	Menzies' burnet	*Sanguisorba menziesii*
One-flowered cinquefoil	*Potentilla uniflora*	Sitka burnet / Sitka great burnet / Canadian burnet	*Sanguisorba canadensis*
Arctic cinquefoil	*Potentilla nana*	Burnet	*Sanguisorba* sp.
Norwegian cinquefoil	*Potentilla norvegica*	Prickly rose / Wild rose	*Rosa acicularis*
Hooker's cinquefoil	*Potentilla hookeriana* ssp. *hookeriana*	Nootka rose	*Rosa nutkana*
Staghorn cinquefoil	*Potentilla bimundorum*		
Family Leguminosae / Fabaceae (Peas)			
Arctic lupine	*Lupinus arcticus*	White clover	*Trifolium repens*
Nootka lupine	*Lupinus nootkatensis*	Red clover	*Trifolium pratense*
Alsike clover	*Trifolium hybridum*	Clover	*Trifolum* spp.
Family Leguminosae / Fabaceae (Peas) continued			
Alpine milk vetch	*Astragalus alpinus*	Alpine sweet vetch	*Hedysarum alpinum*
Blackish oxytrope / Purple oxytrope	*Oxytropis nigrescens*	Beach peavine / Beach pea	*Lathyrus japonicus*
Field locoweed	*Oxytropis campestris*	Vetchling / Marsh pea	*Lathyrus palustris*
Field locoweed	*Oxytropis campestris* var. *varians*		
Family Geraniaceae (Geraniums)			
Wild geranium / Woolly geranium / Sticky geranium	*Geranium erianthum*		
Family Balsaminaceae (Touch-Me-Nots)			
Western touch-me-not / Common touch-me-not / Jewelweed	*Impatiens noli-tangere*		

Common name	Scientific name	Common name	Scientific name
Family Violaceae (Violets)			
Pioneer violet / Stream violet / Yellow wood violet	*Viola glabella*	Selkirk's violet	*Viola selkirkii*
Aleutian violet / Alaska violet	*Viola langsdorfii*	Dwarf marsh violet	*Viola epipsila* ssp. *repens*
Hookedspur violet / Western dog violet / Early blue violet	*Viola adunca*	Violet	*Viola* sp.
Family Elaeagnaceae (Oleasters)			
Soapberry / Russet buffalo berry	*Shepherdia canadensis*		
Family Onagraceae (Evening Primroses / Fireweeds)			
Tall fireweed	*Chamerion angustifolium* ssp. *angustifolium*	Hornemann's willow herb	*Epilobium hornemannii* ssp. *behringianum*
Dwarf fireweed / River beauty	*Chamerion latifolium*	Small-leaved fireweed / Fringed willow herb	*Epilobium ciliatum* ssp. *ciliatum*
Marsh willow herb	*Epilobium palustre*	Fringed willow herb / Glandular willow herb	*Epilobium ciliatum* ssp. *glandulosum*
Pimpernel willow herb	*Epilobium anagallidifolium*	Willow herb	*Epilobium* sp.
Willow herb	*Epilobium behringianum*	Small enchanter's nightshade	*Circaea alpina*
Family Hippuridaceae - was Haloragaceae (Water Milfoils)			
Common mare's tail	*Hippuris vulgaris*	Four-leaved mare's tail / Fourleaf mare's tail	*Hippuris tetraphylla*
Family Araliaceae (Ginsengs)			
Devil's club	*Oplopanax horridus*		
Family Apiaceae - was Umbelliferae (Parsleys)			
Purple sweet cicely / Purple sweet root	*Osmorhiza purpurea*	Beach lovage / Scotch lovage / Sea lovage / Scotch licorice root / Scottish licorice root	*Ligusticum scoticum*
Blunt-fruited sweet cicely / Bluntseed sweet root	*Osmorhiza depauperata*	Hulten's licorice root	*Ligusticum scoticum* ssp. *hultenii*
Thoroughwax / American thorow wax	*Bupleurum americanum*	Pacific hemlock parsley	*Conioselinum gmelinii*
Western water hemlock / Douglas' water hemlock	*Cicuta douglasii*	Angelica / Seawatch angelica / Seacoast angelica	*Angelica lucida*
Mackenzie's water hemlock	*Cicuta virosa*	Kneeling angelica	*Angelica genuflexa*
Jakutsk snow parsley	*Cnidium cnidiifolium*	Common cow parsnip / Pushki or Pootschki	*Heracleum maximum*

Common name	Scientific name	Common name	Scientific name
Family Cornaceae (Dogwoods)			
Swedish dwarf cornel / Lapland cornel	*Cornus suecica*	Hybrid dwarf dogwood	*Cornus canadensis* x *suecica*
Bunchberry / Dwarf dogwood / Canadian dwarf cornel / Bunchberry dogwood	*Cornus canadensis*		
Family Pyrolaceae (Wintergreens)			
Pipsissewa	*Chimaphila umbellata* ssp. *occidentalis*	Round-leafed pyrola / Green-flowered wintergreen	*Pyrola chlorantha*
Pink wintergreen / Pink pyrola / Liverleaf wintergreen / Woodland wintergreen	*Pyrola asarifolia*	Pyrola / Wintergreen	*Pyrola* sp.
Large-flowered wintergreen / Arctic wintergreen	*Pyrola grandiflora*	One-sided wintergreen / Sidebells wintergreen	*Orthilia secunda*
Small pyrola / Snowline wintergreen	*Pyrola minor*	Shy maiden / Single delight	*Moneses uniflora*
Family Empetraceae (Crowberries)			
Black crowberry / Moss berry	*Empetrum nigrum*		
Family Ericaceae (Heaths)			
Copper flower / Copperbush	*Cladothamnus pyrolaeflorus*	Northern Labrador tea / Marsh Labrador tea	*Ledum palustre* ssp. *decumbens*
Family Ericaceae (Heaths) continued			
Bog Labrador tea	*Ledum groenlandicum*	Cassandra / Leatherleaf	*Chamaedaphne calyculata*
Kamchatka rhododendron	*Rhododendron camtschaticum*	Kinnikinnick / Chipmunk's apples / mealberry	*Arctostaphylos uva-ursi*
Kamchatka rhododendron	*Rhododendron camtschaticum* ssp. *camtschaticum*	Alpine bearberry / Black bear's grapes / Alpine bear grapes	*Arctostaphylos alpina*
False azalea / Rusty menzesia	*Menziesia ferruginea*	Red fruit bearberry / Red bear's grape	*Arctostaphylos rubra*
Alpine azalea	*Loiseleuria procumbens*	Lingonberry / Lowbush cranberry	*Vaccinium vitis-idaea*
Yellow mountain heather / Aleutian mountain heath	*Phyllodoce glanduliflora*	Dwarf blueberry / Dwarf bilberry	*Vaccinium cespitosum*
White arctic mountain heather	*Cassiope tetragona*	Oval-leaved blueberry / Oval-leaf blueberry / Early blueberry	*Vaccinium ovalifolium*

Common name	Scientific name	Common name	Scientific name
Alaska moss heather / Alaska mountain heather / Alaska bell heather	*Cassiope harrimanella*	Bog blueberry	*Vaccinium uliginosum*
Clubmoss mountain heather	*Cassiope lycopodioides*	Bog cranberry / True cranberry / Small cranberry	*Vaccinium oxycoccos*
Bog rosemary	*Andromeda polifolia*		
Family Diapensiaceae (Diapensias)			
Lapland diapensia / Pincushion plant	*Diapensia lapponica*		
Family Primulaceae (Primroses)			
Pixie eyes / Wedgeleaf primrose	*Primula cuneifolia*	Few-flowered shooting star / Pretty shooting star / Darkthroat shooting star	*Dodecatheon pulchellum*
Wedgeleaf primrose	*Primula cuneifolia* ssp. *saxifragifolia*	Shooting star	*Dodecatheon* sp.
Pygmy flower rock jasmine	*Androsace septentrionalis*	Arctic starflower	*Trientalis europaea*
Alaska androsace / Alaska douglasia	*Douglasia alaskana*	Arctic starflower	*Trientalis europaea* ssp. *arctica*
Rock jasmine	*Androsace* spp.	Sea milkwort	*Glaux maritima*
Family Plumbaginaceae (Leadworts)			
Thrift / Thrift sea pink	*Armeria maritima*		
Family Gentianaceae (Gentians)			
Whitish gentian	*Gentian algida*	Autumn dwarf gentian / Northern gentian	*Gentiana amarella* ssp. *acuta*
Broad-petaled gentian	*Gentiana platypetala*	Fourpart dwarf gentian	*Gentiana propinqua* ssp. *propinqua*
Inky gentian / Glaucous gentian / Pale gentian	*Gentiana glauca*	Star gentian / Marsh felwort	*Lomatogonium rotatum*
Swamp gentian	*Gentiana douglasiana*	Alpine bog swertia / Felwort	*Swertia perennis*
Family Menyanthaceae (Buckbeans)			
Buckbean / Bogbean	*Menyanthes trifoliata*		
Family Polemoniaceae (Polemoniums)			
Tall jacob's ladder	*Polemonium acutiflorum*	Short jacob's ladder / Beautiful jacob's ladder	*Polemonium pulcherrimum*
Northern jacob's ladder	*Polemonium boreale*		

Common name	Scientific name	Common name	Scientific name
Family Hydrophyllaceae (Waterleafs)			
Sitka mistmaiden / Sitka romanzoffia	*Romanzoffia sitchensis*		
Family Boraginaceae (Borages)			
Alpine forget-me-not / Asian forget-me-not	*Myosotis asiatica*	Tall bluebells / Lungwort	*Mertensia paniculata*
Oysterleaf / Sea Lungwort	*Mertensia maritima*		
Family Lamiaceae - was Labiatae (Mints)			
Common self-heal / Heal-all	*Prunella vulgaris*	Splitlip hemp nettle	*Galeopsis bifida*
Family Scrophulariaceae (Figworts)			
Yellow monkeyflower / Seep monkeyflower	*Mimulus guttatus*	Yellow rattle / Arctic rattlebo	*Rhinanthus minor* ssp. *groenlandicus*
American speedwell	*Veronica americana*	Verticulate lousewort / Whorled lousewort	*Pedicularis verticillata*
American alpine speedwell	*Veronica wormskjoldii*	Common yellow lousewort / Labrador lousewort	*Pedicularis labradorica*
Yellow paintbrush / Unalaska paintbrush / Alaska Indian paintbrush	*Castilleja unalaschcensis*	Big-toothed lousewort / Muskeg lousewort	*Pedicularis macrodonta*
Subalpine eyebright	*Euphrasia mollis*	Langsdorf's lousewort	*Pedicularis langsdorfii*
Eyebright	*Euphrasia disjuncta*	Sudetic lousewort	*Pedicularis sudetica* ssp. *interior*
Family Scrophulariaceae (Figworts) continued			
Capitate lousewort	*Pedicularis capitata*	Woolly lousewort / Kenai lousewort	*Pedicularis kanei*
Oeder's lousewort	*Pedicularis oederi*	Lousewort	*Pedicularis* sp.
Family Orobanchaceae (Broomrapes)			
Northern groundcone / Broomrape	*Boschniakia rossica*		
Family Lentibulariaceae (Bladderworts)			
Common butterwort	*Pinguicula vulgaris*	Flat-leaved bladderwort / Flatleaf bladderwort	*Utricularia intermedia*
Hairy butterwort	*Pinguicula villosa*	Bladderwort	*Utricularia* sp.
Family Plantaginaceae (Plantains)			
Goosetongue / Seaside plantain	*Plantago maritima*	Common plantain / Broad-leaved plantain	*Plantago major*

Common name	Scientific name	Common name	Scientific name
Goosetongue	*Plantago maritima* var. *juncoides*	Plantain	*Plantago* sp.
Ribgrass / Narrowleaf plantain	*Plantago lanceolata*		
Family Rubiaceae (Madders)			
Northern bedstraw	*Galium boreale*	Threepetal bedstraw	*Galium trifidum* ssp. *trifidum*
Sweet-scented bedstraw / Fragrant bedstraw	*Galium triflorum*	Bedstraw	*Galium* spp.
Small bestraw / Threepetal bedstraw	*Galium trifidum*		
Family Caprifoliaceae (Honeysuckles)			
Red-berried elder / Red elderberry / Red elder	*Sambucus racemosa*	Twinflower	*Linnaea borealis*
Highbush cranberry / Squashberry	*Viburnum edule*		
Family Adoxaceae (Moschatels)			
Musk root / Moschatel	*Adoxa moschatellina*		
Family Valerianaceae (Valerians)			
Capitate valerian / Captiate valerian	*Valeriana capitata*	Sitka valerian	*Valeriana sitchensis*
Family Campanulaceae (Bluebells)			
Mountain harebell / Common harebell	*Campanula lasiocarpa*	Common harebell / Bluebells of Scotland / Blue bell / Bell flower / Bluebell bellflower	*Campanula rotundifolia*
Family Asteraceae - was Compositae (Composites)			
Northern goldenrod / Rocky Mountain goldenrod	*Solidago multiradiata*	Yarrow	*Achillea* sp.
Rocky Mountain goldenrod	*Solidago multiradiata* var. *multiradiata*	Pineapple weed / Disc mayweed	*Matricaria discoidea*
Canada goldenrod	*Solidago canadensis*	Arctic daisy	*Dendranthema arcticum* ssp. *arcticum*
Arctic aster / Siberian aster	*Eurybia sibirica*	Common wormwood / Telesii's wormwood / Tilesius' wormwood	*Artemisia tilesii*
Douglas aster	*Symphyotrichum subspicatum* var. *subspicatum*	Arctic wormwood / Mountain sagwort / Boreal sagebrush	*Artemisia arctica*
Arctic alpine fleabane / Arctic daisy	*Erigeron humilus*	Boreal sagebrush	*Artemisia arctica* ssp. *arctica*

Common name	Scientific name	Common name	Scientific name
Tundra fleabane	*Erigeron hyperboreus*	Arctic sweet coltsfoot	*Petasites frigidus*
Bitter fleabane	*Erigeron acris*	Arctic sweet coltsfoot	*Petasites frigidus* var. *nivalis*
Coastal fleabane / Subalpine daisy / Subalpine fleabane	*Erigeron peregrinus*	Alpine nodding arnica / Nodding arnica / Lessing arnica	*Arnica lessingii*
Subalpine fleabane	*Erigeron peregrinus* ssp. *peregrinus*	Snow arnica	*Arnica frigida*
Single-headed pussytoes / Pygmy pussytoes	*Antennaria monocephala*	Mountain arnica / Broadleaf arnica	*Arnica latifolia*
Alpine pussytoes	*Antennaria alpina*	Meadow arnica / Chamisso arnica	*Arnica chamissonis*
Fries' pussytoes / Alpine pussytoes	*Antennaria friesiana* ssp. *alaskana*	Chamisso arnica	*Arnica chamissonis* ssp. *chamissonis*
Rosy pussytoes	*Antennaria rosea*	Alpine arnica	*Arnica* sp.
Pulvinate pussytoes	*Antennaria rosea* ssp. *pulvinata*	Rayless alpine butterweed	*Senecio pauciflorus*
Pussytoes	*Antennaria* spp.	Common groundsel / Old-man-in-the-Spring	*Senecio vulgaris*
Common yarrow / Northern yarrow / Boreal yarrow	*Achillea millefolium* var. *borealis*	Seabeach groundsel / Beach sunflower / Beach daisy / Seaside ragwort	*Senecio psuedoarnica*
Family Asteraceae - was Compositae (Composites) continued			
Arrow-leaved groundsel / Arrow leaf ragwort	*Senecio triangularis*	Dwarf hawksbeard / Dwarf alpine hawksbeard	*Crepis nana*
Black-tipped groundsel / Small blacktip ragwort	*Senecio lugens*	Western rattlesnake root	*Prenanthes alata*
Common dandelion	*Taraxacum officinale*	Rattlesnake root	*Prenanthes* sp.
Common dandelion / Horned dandelion	*Taraxacum officinale* ssp. *ceratophorum*	Wooly hawkweed	*Hieracium triste*
Harp dandelion / Kamchatka dandelion	*Taraxacum lyratum*	Slender hawkweed	*Hieracium gracile*
Dandelion	*Taraxacum* sp.	Orange hawkweed	*Hieracium aurantiacum*
Short-beaked agoseris / Pale agoseris	*Agoseris glauca*		