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

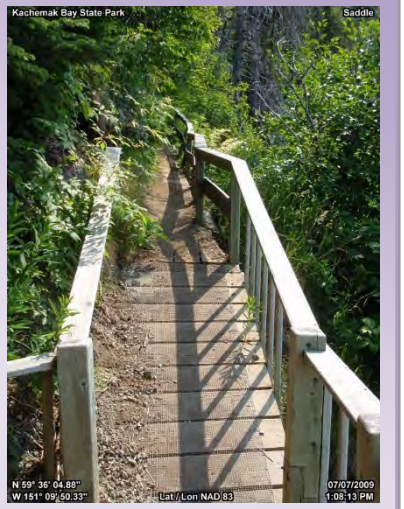
- Low or moderate use levels
- Mid-to-highly skilled users, capable of traveling over awkward conditions/obstacles
- Trail suitable for many types but challenging, involving advanced skills

Trail Class 3

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

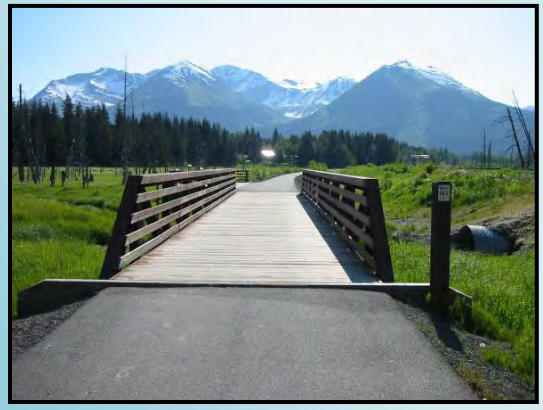
Trail Class 4

- 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

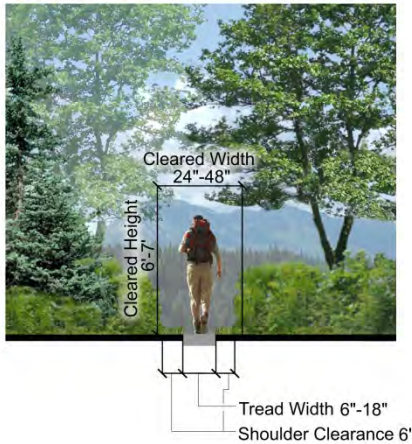
Trail Management Objectives (TMOs) are the mechanisms that link the Trail Classification System and direction given in this plan to on-the-ground trail management. TMOs synthesize and document in one form the management intention for the trail while providing basic reference information for any subsequent 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



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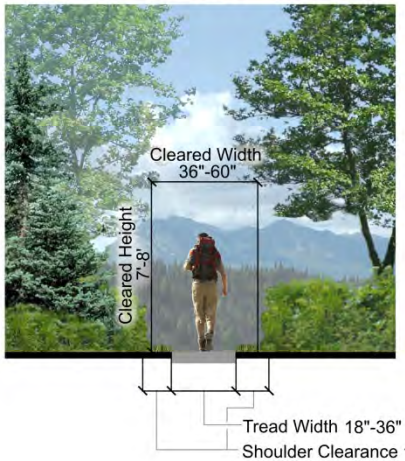

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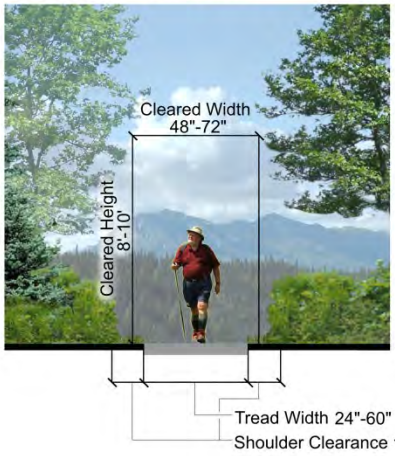


Class 5

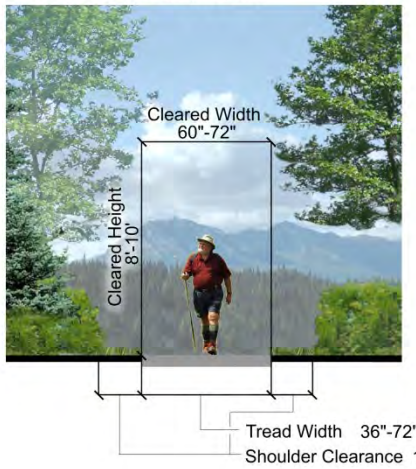
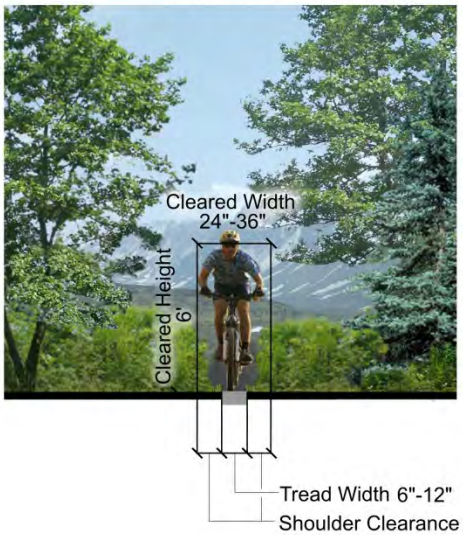


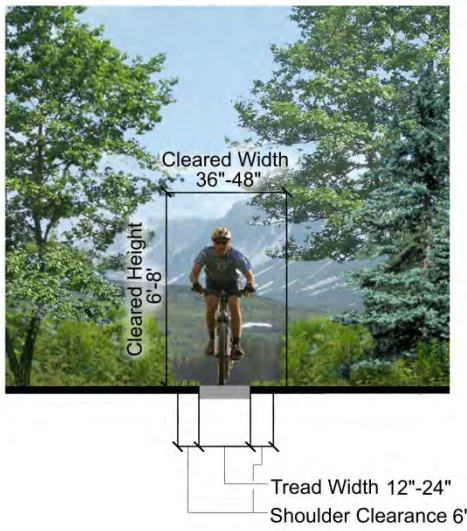
Figure E-4: Bicycle Design Parameters

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’

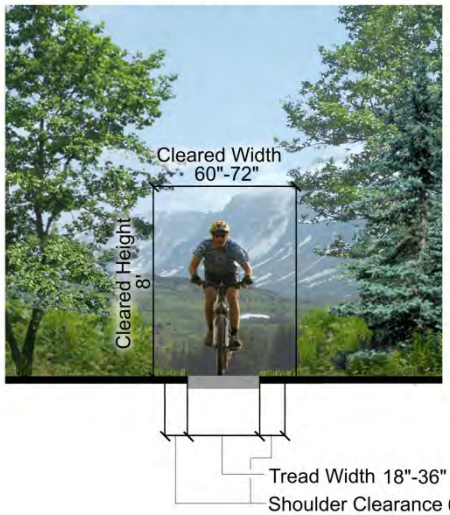
Class 1



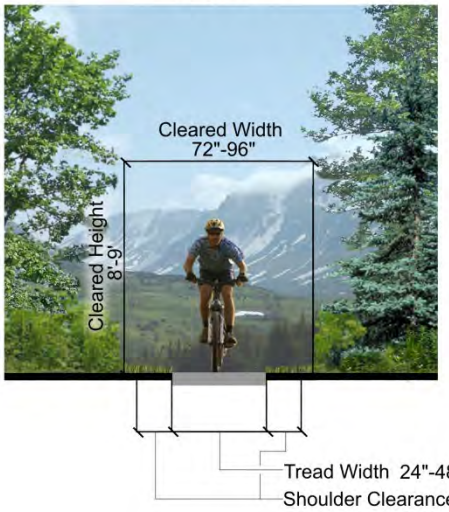
Class 2



Class 3



Class 4



Class 5

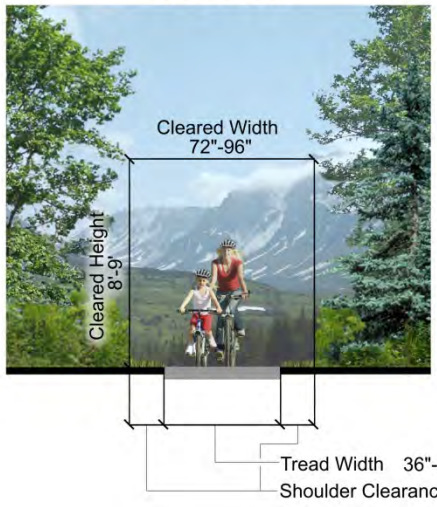
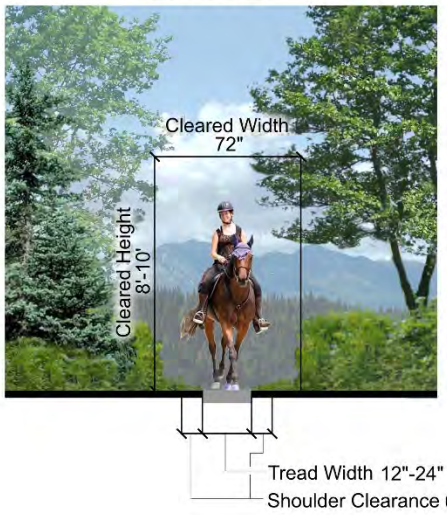


Figure E-5: Pack and Saddle Design Parameters

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



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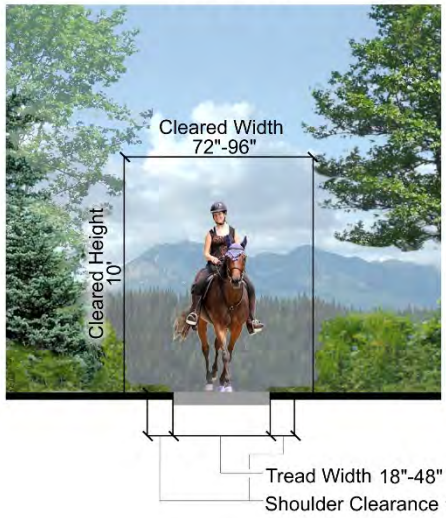

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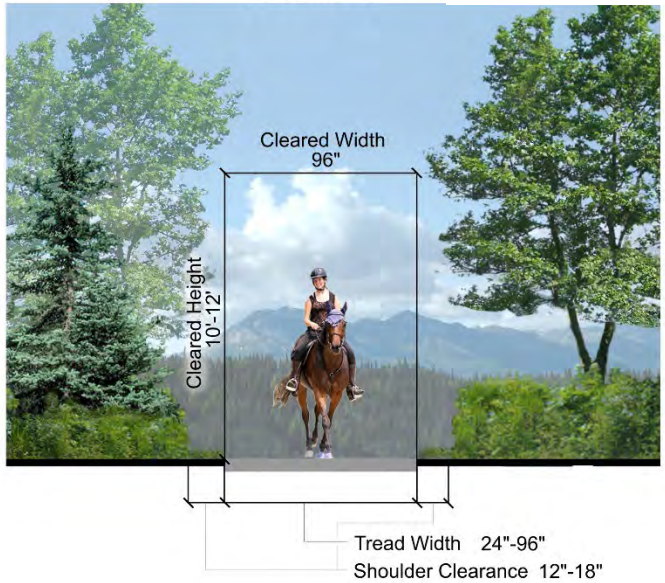
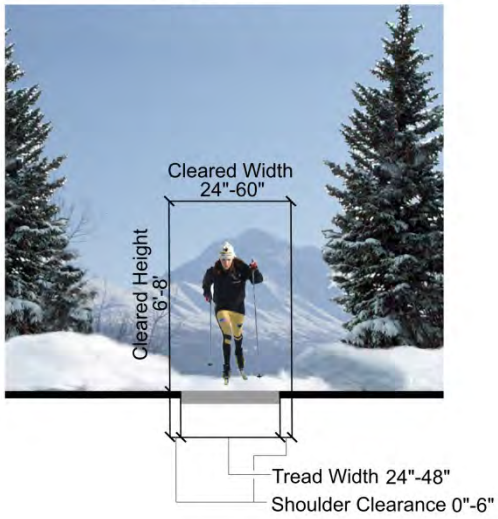


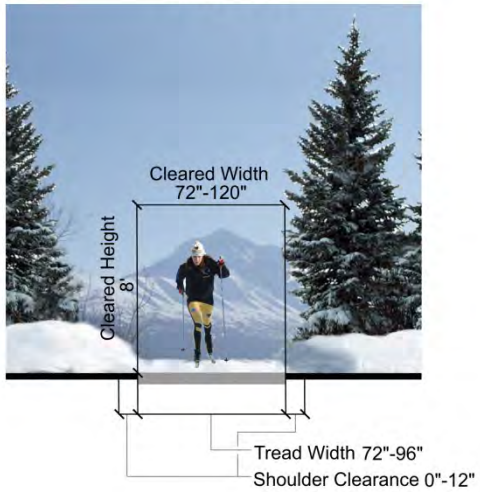
Figure E-6: Cross-Country Ski (Diagonal/Classical) Design Parameters

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

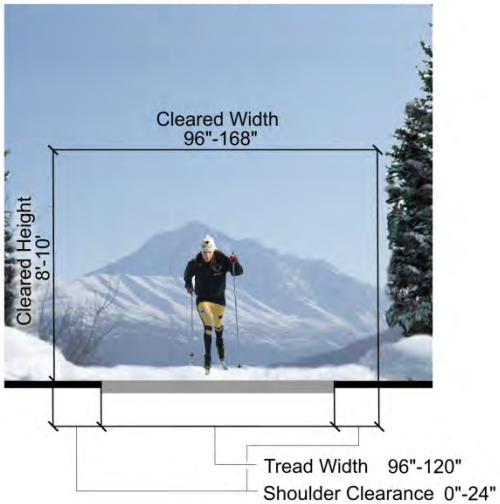
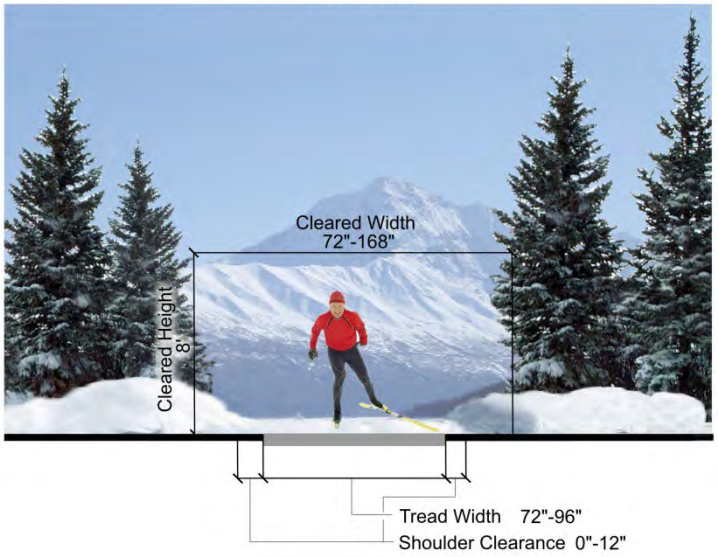


Figure E-7: Nordic Ski (Skate) Design Parameters

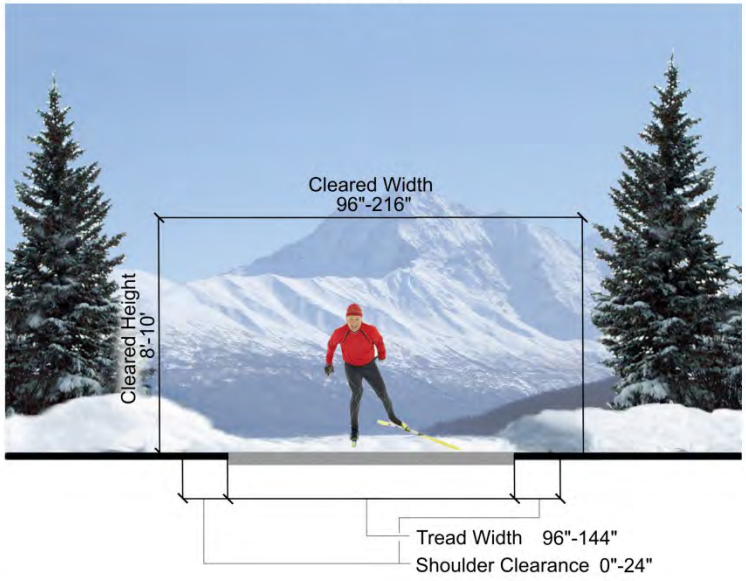
Designed Use NORDIC SKI (Skate Ski)		**Trail Class 1**	**Trail Class 2**	**Trail Class 3**	**Trail Class 4**	**Trail Class 5**
Design Groomed Width	**Single Lane**	Typically not designed or actively managed for skate skiing, although use may be allowed	Typically not designed or actively managed for skate 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.

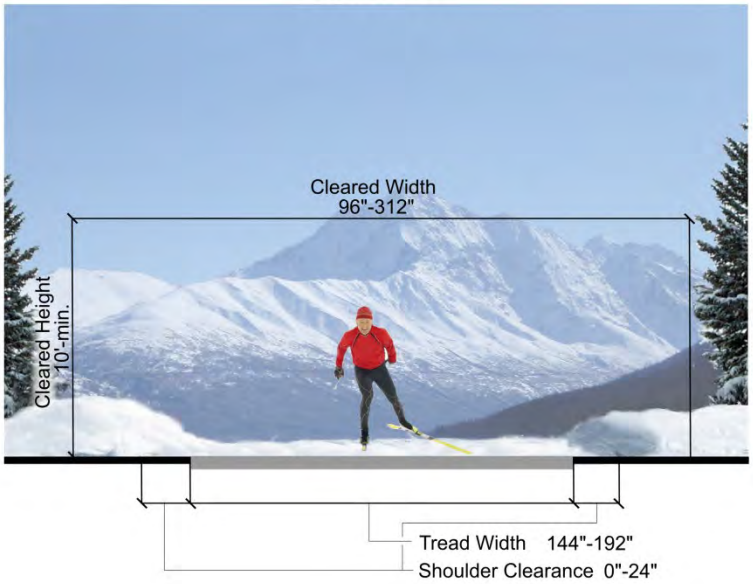
Class 3



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

Map E-1.2: Eveline Unit Snow Trails

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

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

Map E-3.2: Cottonwood Eastland Unit Winter Trails

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

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

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

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

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

Map E-10: Coast to Coast Trail Route

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.