

35 Appendix C: Trail Management Plan

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37 Introduction

38 OHV use related to recreation, hunting, and fishing has increased significantly in the Moose Range and
39 JPUA in recent years. As a result, numerous trails have been created and areas that previously received
40 little or no motorized use are now seeing frequent use. Some of these trails have been developed in
41 sensitive fish and wildlife habitat areas. Others have been developed in wetlands, where repeated use
42 results in degradation of the soil and development of multiple routes. DNR seeks to address trails impacts
43 to wetlands and sensitive habitat through a comprehensive Trail Management Plan (TMP).

44 Trail Management Plan

45 The TMP will address existing and newly developed trails in the Moose Range and JPUA. The TMP will
46 provide an inventory of all trails to be managed by DNR and provide an assessment of trail conditions and
47 their impacts to fish and wildlife habitat. The assessment will identify trails that have significant impacts
48 on fish and wildlife habitat, particularly waterfowl nesting areas, trumpeter swan or loon nesting areas,
49 moose calving concentration areas, and fish spawning areas. Trails in wetland areas will be assessed to
50 determine if they are having significant impacts on soil and hydrology. Trails impacting other state
51 resources will also be assessed.

52 Based on those assessments, existing trails determined to have significant negative impacts on fish and
53 wildlife habitat, or other state resources, may be closed, be re-routed, or face seasonal restrictions. These
54 actions are consistent with the statutory mandate to protect fish and wildlife habitat so traditional use of
55 the fish and wildlife populations can continue.

56 Through the TMP, DNR will identify potential new trails (non-motorized and motorized) for development.
57 DNR may also identify existing trails that can be developed to a higher standard or expanded. Trails may
58 also be identified for reservation as public easements for specific purposes. These actions are consistent
59 with the statutory mandates to maintain and enhance recreation and to provide for a full spectrum of
60 recreational opportunities.

61 The TMP will not address motorized and non-motorized uses that are allowed by regulation off of trails.
62 Examples of this type of use include game retrieval, recreational use off existing trails, and recreation off
63 trails when snow and frost conditions permit. In general the impacts associated with this type of use do
64 not persist from year to year, and are minor in nature.

65 These uses are subject to regulations at 11AAC 96.015(c). Trails associated with these uses will not be
66 classified through this process.

67 DNR may accept and adjudicate applications to re-route, designate, develop, or expand trails. DNR may
68 reserve limited use easements on trails developed consistent with Department authorizations.

69 All new trails authorized by the Department will be reserved through public easements, and be developed
70 as sustainable trails. Sustainable trails are capable of handling the intended use without serious
71 environmental degradation. By following landscape contours, utilizing terrain features, and shedding
72 water, sustainable trails require minimal maintenance over the long term.

73 The foundation of trail sustainability focuses on initial trail design to maximize the resilience of the trail to
74 use-related impacts, minimize resource degradation, and maximize user enjoyment. While initial
75 construction costs may be more for sustainable trails because the tread length is often longer to meet
76 controlled grade limits, reduced future maintenance costs should compensate for those initial
77 investments. Integral to sustainability is a sound trail plan to meet user needs and desires within the trail
78 location environment. This planning is the core for any successful trail project.

79 Trail Management Plan Policy

80 Intent

81 This Trail Management Plan is intended to be used for all classified trails in the Moose Range and JPUA.
82 The process provides direction and design parameters for trail planning, construction, maintenance, and
83 condition assessment. Trail managers may implement the process following adoption of the Moose Range
84 and JPUA Management Plan with the following benefits in mind:

- 85 1. Maintaining and enhancing opportunities for the recreating public.
- 86 2. Manage use through proper planning, design, and construction of trails.
- 87 3. Ensure long-term savings in maintenance costs.
- 88 4. Demonstrate that DNR is committed to managing uses, and the associated impacts, so future
89 generations can enjoy the resources of the of the Moose Range and JPUA.

90 Goals

91 The following goals will guide DNR in management of trail resources in the Moose Range and JPUA:

- 92 1. Establish Trail Management Objectives for individual trails and trail segments.
- 93 2. Implement a standardized trail classification system, including general criteria and design
94 parameters.
- 95 3. Support the creation of sustainable trails.
- 96 4. Develop an effective and efficient procedure for trail inventory and assessment.
- 97 5. Standardize trail terminology that is consistent with other public land management agencies
98 throughout the state.

99 Process

100 The following provides the general process that DNR will follow in the classification and assessment of
101 trails in the Moose Range and JPUA.

102 [Trail Management Objectives](#)

103 Trail Management Objectives (TMOs) are defined as the documentation of the intended purpose and
104 management strategies of a trail based upon the management plan or management intent of an area.
105 TMOs document the Trail Class, Designed Use, Design Parameters, and other trail-specific considerations
106 for both planned and existing trails. A trail may have different TMOs for sections of the trail that are or
107 will be managed differently. TMOs are very helpful in providing information for subsequent trail planning,
108 management, and reporting. Each classified trail should have TMOs identified based upon the unit’s
109 management or trail plan.

110 [Trail Classification System](#)

111 The Trail Classification System is intended to provide uniform principles for trail classification,
112 maintenance, marking, design, and construction. The Trail Classification System adopted by DNR is a close
113 adaptation of the National Trail Classification System being formally adopted by most federal land
114 management agencies, and therefore will be a major step forward in applying consistent terminology and
115 management guidance on trails in the Moose Range and JPUA. This system is based on identifying the
116 Type and Class of an existing or planned trail.

117 Only two Trail Types are referenced in this process: Terra (Standard) Trails, and Water Trails. Each trail is
118 further separated into one of five Trail Classes, ranging from least developed (Trail Class 1) to most
119 developed (Trail Class 5). General criteria are supplied to define Trail Classes applicable to all system trails.
120 Trail Classes are further refined through Trail Design Parameters that offer construction specifications by
121 the type of Designed Use, such as hiker, bicycle, ATV, motorized and non-motorized boating and
122 snowmobile. Trail Design Parameters provide guidance for the assessment, survey and design,
123 construction, repair, and maintenance of trails, based on the Trail Class and Designed Use of the trail.

124 [Sustainable Trails](#)

125 A Sustainable Trail is defined as a trail that conforms to its terrain and environment, can handle its
126 intended use without serious degradation and requires minimal maintenance.

127 Trail “Sustainability” is a concept that is being discussed broadly within the national trails community.
128 Certain design concepts that are time-tested, sound, and simple, form the essential elements of
129 sustainable design, while best management practices are currently being developed to guide overall trail
130 management.

131 Sustainable trails are guided by trail management objectives (TMOs) and constructed to design
132 parameters that support intended use without impact to the surrounding environment, which contributes
133 to user enjoyment and protection of resources. Trail alignment and grades conform to the local terrain,
134 while erosion is minimized, and the tread stabilized. Sustainable trails integrate well into the environment
135 and do not negatively impact the ecological integrity of the environment.

136 [Develop a Means for Trail Inventory and Assessment](#)

137 Before trail maintenance and repair strategies can be fully developed, an assessment of trails and their
138 condition must be made, based on the TMOs identified for the trail. While TMOs provide a vision for future
139 trail conditions, Trail Assessments offer an accurate snapshot of existing conditions and what is needed

140 to meet Design Parameters identified by TMOs. The difference between TMOs and Trail Assessments will
141 help determine repair costs.

142 Trail inventories and assessments require that detailed data be collected for each trail. There are several
143 data collection methods being used in Alaska, from simple pen and paper technologies to sophisticated
144 GPS programs. Various methodologies should be reviewed during planned assessments and options will
145 be considered based on their cost effectiveness and ease of use.

146 [Trail Terminology](#)

147 Terminology referenced in this process has been adopted from many sources including the U.S. Forest
148 Service, DNR, Division of Parks and Outdoor Recreation, and the Alaska Parks and Recreation Association.
149 Uniform terminology will also greatly benefit the application process for State Park’s Recreational Trail
150 Grant program or other grant and funding sources.

151 [Trail Classification System Criteria](#)

152 The Trail Classification System used in this process is adopted from sources including the U.S. Forest
153 Service, and Bureau of Land Management, the Division of Parks and Outdoor Recreation. The five Trail
154 Classes range from least developed (Trail Class 1) to most developed (Trail Class 5):

- 155 • Trail Class 1: Minimal/Undeveloped Trail
- 156 • Trail Class 2: Simple/Minor Development Trail
- 157 • Trail Class 3: Developed/Improved Trail
- 158 • Trail Class 4: Highly Developed Trail
- 159 • Trail Class 5: Fully Developed Trail

160 Trail Classes are an inventory convention used to identify applicable Design Parameters. Trail Class
161 descriptors reflect typical attributes of trails in each class. Trail-specific exceptions may occur for any Trail
162 Class descriptor, provided that the general intent of the corresponding Trail Class is retained. There is a
163 direct relationship between Trail Class and Managed Use: one cannot be determined without
164 consideration of the other. There can be only one Trail Class identified per trail or trail segment. The Trail
165 Class for each trail or trail segment will be based on applicable land management plan direction, trail-
166 specific decisions, and other related direction. The appropriate Trail Class should be determined at the
167 trail- specific level. Apply the Trail Class that most closely matches the trail's TMOs.

168 Trail prescriptions describe the desired management of each trail, based on management plan direction.
169 These prescriptions consider the protection of sensitive resources and other management guidelines
170 and recommendations. To meet prescription, each trail is assigned an appropriate Trail Class (1-5).
171 These general categories are used to identify applicable Trail Design Parameters and basic indicators
172 used to help determine construction and/or maintenance costs. These classes have been adapted from
173 the U.S. Forest Service. The general criteria below define each Trail Class and are applicable to all
174 system trails. Trail Class descriptions define “typical” attributes, and exceptions may occur for any
175 attribute.

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Trail Attributes	Trail Class 1 <i>Minimal/Undeveloped Trail</i>	Trail Class 2 <i>Simple/Minor Development Trail</i>	Trail Class 3 <i>Developed/Improved Trail</i>	Trail Class 4 <i>Highly Developed Trail</i>	Trail Class 5 <i>Fully Developed Trail</i>
General Criteria Physical Characteristics to be Applied to all Designated Trails					
Tread & Traffic Flow	<ul style="list-style-type: none"> ♦ Tread intermittent and often indistinct ♦ May require route finding ♦ Native materials only 	<ul style="list-style-type: none"> ♦ Tread discernible and continuous, but narrow and rough ♦ Few or no allowances constructed for passing ♦ Native materials 	<ul style="list-style-type: none"> ♦ Tread obvious and continuous ♦ Width accommodates unhindered one-lane travel (occasional allowances constructed for passing) ♦ Typically native materials 	<ul style="list-style-type: none"> ♦ Tread wide and relatively smooth with few irregularities ♦ Width may consistently accommodate two-lane travel ♦ Native or imported materials ♦ May be hardened 	<ul style="list-style-type: none"> ♦ Width generally accommodates two-lane and two-directional travel, or provides frequent passing turnouts ♦ Commonly hardened with asphalt or other imported material
Obstacles	<ul style="list-style-type: none"> ♦ Obstacles common ♦ Narrow passages; brush, steep grades, rocks and logs present 	<ul style="list-style-type: none"> ♦ Obstacles occasionally present ♦ Blockages cleared to define route and protect resources ♦ Vegetation may encroach into trailway 	<ul style="list-style-type: none"> ♦ Obstacles infrequent ♦ Vegetation cleared outside of trailway 	<ul style="list-style-type: none"> ♦ Few or no obstacles exist ♦ Grades typically <12% ♦ Vegetation cleared outside of trailway 	<ul style="list-style-type: none"> ♦ No obstacles ♦ Grades typically <8%
Constructed Features & Trail Elements	<ul style="list-style-type: none"> ♦ Minimal to non-existent ♦ Drainage is functional ♦ No constructed bridges or foot crossings 	<ul style="list-style-type: none"> ♦ Structures are of limited size, scale, and number ♦ Drainage functional ♦ Structures adequate to protect trail infrastructure and resources ♦ Primitive crossings and fords 	<ul style="list-style-type: none"> ♦ Trail structures (walls, steps, drainage, raised trail) may be common and substantial ♦ Trail bridges as needed for resource protection and appropriate access 	<ul style="list-style-type: none"> ♦ Structures frequent and substantial ♦ Substantial trail bridges are appropriate at water crossings ♦ Trailside amenities may be present 	<ul style="list-style-type: none"> ♦ Structures frequent or continuous; may include curbs, handrails, trailside amenities, and boardwalks ♦ Drainage structures frequent; may include culverts and road-like designs

Trail Attributes	Trail Class 1 <i>Minimal/Undeveloped Trail</i>	Trail Class 2 <i>Simple/Minor Development Trail</i>	Trail Class 3 <i>Developed/Improved Trail</i>	Trail Class 4 <i>Highly Developed Trail</i>	Trail Class 5 <i>Fully Developed Trail</i>
General Criteria Physical Characteristics to be Applied to all Designated Trails					
Signs	<ul style="list-style-type: none"> ♦ Minimum required ♦ Generally limited to regulation and resource protection ♦ No destination signs present 	<ul style="list-style-type: none"> ♦ Minimum required for basic direction ♦ Generally limited to regulation and resource protection ♦ Typically very few or no destination signs present 	<ul style="list-style-type: none"> ♦ Regulation, resource protection, user reassurance ♦ Directional signs at junctions, or when confusion is likely ♦ Destination signs typically present ♦ Informational and interpretive signs may be present 	<ul style="list-style-type: none"> ♦ Wide variety of signs likely present ♦ Informational signs likely ♦ Interpretive signs possible ♦ Trail Universal Access information likely displayed at trailhead 	<ul style="list-style-type: none"> ♦ Wide variety of signage is present ♦ Information and interpretive signs likely ♦ Trail Universal Access information is typically displayed at trailhead
Typical Experience	<ul style="list-style-type: none"> ♦ Natural, unmodified 	<ul style="list-style-type: none"> ♦ Natural, essentially unmodified 	<ul style="list-style-type: none"> ♦ Natural, primarily unmodified 	<ul style="list-style-type: none"> ♦ May be modified 	<ul style="list-style-type: none"> ♦ Can be highly modified ♦ Commonly associated with Visitor Centers or high-use recreation sites