

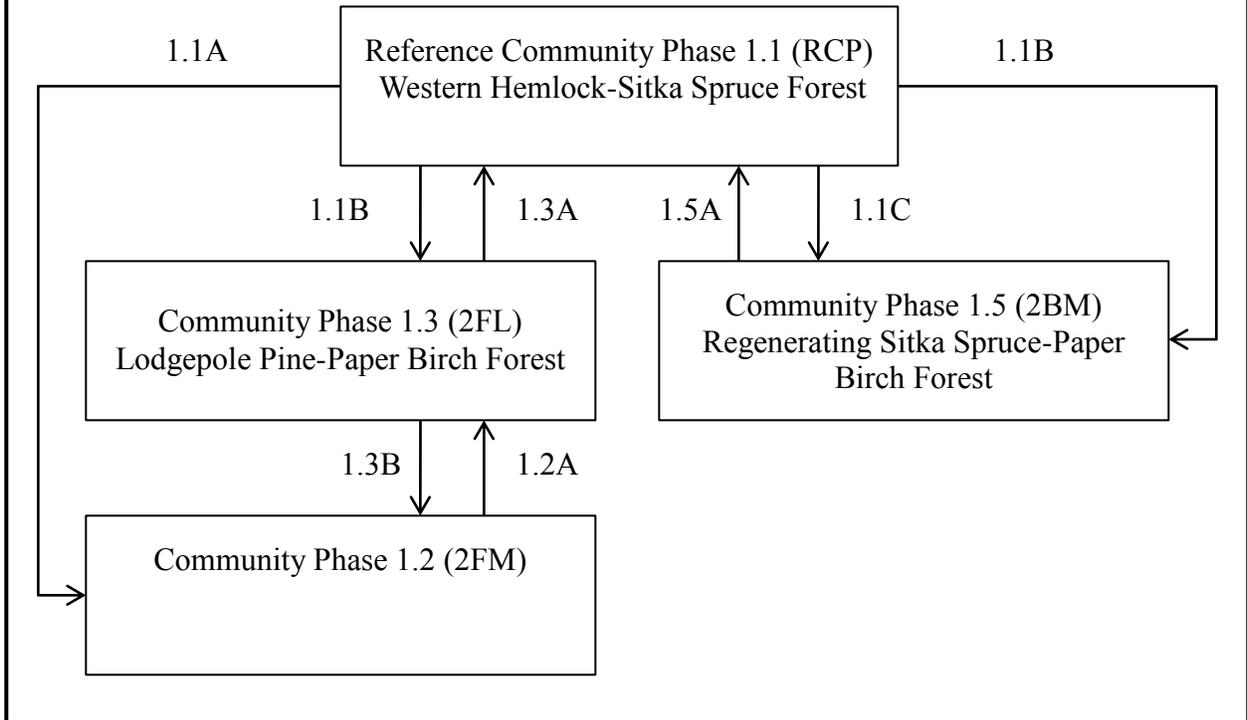
Ecological Site Description ID:	F222XY337AK
Ecological Dynamics of the Site:	
<p>This maritime ecological site is throughout the low- to mid-elevation mountain slopes. The soils consist of shallow to moderately deep, gravelly mineral material or shallow, dry organic material.</p> <p>The reference plant community is characterized by a closed canopy forest of western hemlock (<i>Tsuga heterophylla</i>), Sitka spruce (<i>Picea sitchensis</i>), <i>Pinus contorta</i>, and <i>Betula papyrifera</i>. The understory is comprised of moss and herbaceous plants. Shrub cover commonly is 15 percent.</p> <p>The ecological dynamics of this site are affected by several disturbance regimes. The site is influenced by the natural succession processes from age-related decline in forest productivity. As the forest stand ages, individual trees die and fall over, creating gaps in the forest canopy. This canopy gap allows for more light to reach the ground, which favors growth of understory plants and regenerating trees.</p> <p>This ecological site may also be influenced by erosion on the steeper mountain slopes. In areas where the slope creeps, the boles of the trees appear bent at the base. The downward movement of the soil causes the trees to lean, and they develop curved boles to continue to grow upward toward the light. The extent and severity of the disturbance from soil creep is minimal as compared to the disturbance from fire and logging during the Gold Rush era.</p> <p>During the turn of the century, an influx of people migrated into the towns of Dyea and Skagway in search of gold. As the towns boomed, the surrounding low-elevation forests were heavily impacted by logging and fire. During the Gold Rush, timber was imported from the Pacific Northwest but demand for timber was supplemented by local sawmills. The sawmills in Dyea produced rough-cut timber for buildings, heating, powering the wood-fired electrical generating plant in Skagway, and railroad and wagon road construction. Historical photographs show that the lower valleys and hillslopes were denuded by logging operations at the turn of the century. The demand for wood slowed quickly as the Gold Rush boom began to diminish; however, logging activity increased again during the 1930's to 1960's. The Dyea Wood Company supplied wood for Skagway residents, and the Skagway Lumber Company provided wood, primarily spruce, for wharf pilings, bridge timbers, and railroad switch ties. Currently, there is little logging activity within the park.</p> <p>Historical photographs and articles document multiple fires on the mountain slopes surrounding Dyea and Skagway at the turn of the century. The fires occurred during an approximate 20-year period around 1900. By the late 1920's, the fires and logging had removed nearly all of the trees surrounding Skagway to an elevation of about 1,000 feet. Because of the complexity of the disturbance regimes influencing the ecological dynamics of this site, it is difficult to isolate the effects of fire and logging on the successional trajectory of the forest.</p>	

State and Transition Model:

Maritime Forest Gravelly Slopes

F222XY337AK

1. Reference State



State ID Number:	1	State Name:	Reference state
Phase 1.1			
Community Phase Number:	1.1	Community Phase Name:	Western Hemlock-Sitka Spruce-Lodgepole Pine Forest
Community Phase Narrative:			
<p>The reference community phase is characterized by a mixed western hemlock (<i>Tsuga heterophylla</i>), Sitka spruce (<i>Picea sitchensis</i>), <i>Pinus contorta</i>, and <i>Betula papyrifera</i> forest. Because of the complexity of the disturbances from fire, logging, and natural mortality, the structure of the stand is variable. The difference in the overstory/understory composition is influenced by interacting disturbance regimes, variations in fire intensity, natural age-related decline in productivity, slope, and aspect. Isolating these differences is too complex for the scope of this survey. As a result, the reference community phase has variable canopy and understory composition. In general, the tree canopy has more than 60 percent cover and consists dominantly of western hemlock (<i>Tsuga heterophylla</i>), Sitka spruce (<i>Picea sitchensis</i>), and <i>Pinus contorta</i>. The understory varies from 70 to 80 percent moss to a mixture of forbs, moss, and shrubs. Some drier sites have a higher proportion of lichen cover and minimal herbaceous and shrub cover. Lichen species include <i>Cladina stellaris</i>, <i>Stereocaulon</i>, <i>Cladina rangiferina</i>, and <i>Cladina mitis</i>. Forb cover commonly is less than 10 percent. Forb species include <i>Polypodium glycyrrhiza</i>, <i>Pyrola asarifolia</i>, <i>Gymnocarpium dryopteris</i>, <i>Dryopteris expansa</i>, and <i>Orthilia secunda</i>. Shrub cover commonly is less than 15 percent and includes species such as <i>Menziesia ferruginea</i>, <i>Vaccinium ovalifolium</i>, <i>Cornus sericea</i> ssp. <i>Sericea</i>, <i>Menziesia ferruginea</i>, <i>Cornus canadensis</i>, and <i>Actaea rubra</i>.</p>			

Community Pathways			
Pathway Number	Pathway Name & Description		
1.1A	Fire and logging remove the forest canopy. Fire also removes the understory vegetation.		
1.1B	Brush management removes the forest canopy along roads. The spatial extent of this disturbance is minimal.		
Phase 1.2	Photograph not available		
Community Phase Number:	1.2	Community Phase Name:	Open Lodgepole Pine-Paper Birch-Western Hemlock-Sitka Spruce Forest
Community Phase Narrative:			
<p>This mid sero community phase follows disturbance from logging and/or fire. This phase generally has a lower percentage of canopy cover as compared to the reference community phase. The canopy cover consists of tall <i>Pinus contorta</i> and <i>Betula papyrifera</i> with a smaller proportion of regenerating to medium-sized western hemlock (<i>Tsuga heterophylla</i>) and Sitka spruce (<i>Picea sitchensis</i>). The drier positions generally recover more slowly, resulting in some of the trees having a stunted appearance. Moss cover is 20 to 50 percent with species such as <i>Pleurozium schreberi</i> and <i>Hylocomium splendens</i>. Lichen cover may be as much as 20 percent with species such as <i>Stereocaulon</i>, <i>Cladina stellaris</i>, <i>Cladina rangiferina</i>, and <i>Cladina arbuscula</i>. Forb and graminoid cover is sparse.</p>			
Community Pathways			
Pathway Number	Pathway Name & Description		
1.2A	Time since fire and logging		

<p>Phase 1.3</p>			
<p>Community Phase Number:</p>	<p>1.3</p>	<p>Community Phase Name:</p>	<p>Lodgepole Pine-Paper Birch Forest</p>
<p>Community Phase Narrative:</p>			
<p>This is a late seral community phase affected by fire and logging. The plant community is characterized by a forest cover of 50 to 65 percent that consists of tall western hemlock (<i>Tsuga heterophylla</i>), tall Sitka spruce (<i>Picea sitchensis</i>), and tall <i>Pinus contorta</i>. Paper birch (<i>Betula papyrifera</i> var. <i>papyrifera</i>) may be present in small proportions. The subcanopy layer is comprised of moss species such as <i>Hylocomium splendens</i>, <i>Dicranum fuscescens</i>, <i>Rhytidiadelphus</i>, and <i>Pleurozium schreberi</i>. Shrub and forb cover commonly is minimal; however, a higher proportion of shrub and forb cover may be in wetter areas. Shrub cover may be as much as 35 percent with species such as <i>Viburnum edule</i>, devilsclub (<i>Oplapanax horridus</i>), and <i>Sorbus sitchensis</i>. Forb cover may be as much as 45 percent with species such as <i>Pyrola asarifolia</i> and <i>Gymnocarpium dryopteris</i>.</p>			
<p>Community Pathways</p>			
<p>Pathway Number</p>	<p>Pathway Name & Description</p>		
<p>1.3A</p>	<p>Time since fire and logging</p>		

<p>Phase 1.4</p>			
<p>Community Phase Number:</p>	<p>1.4</p>	<p>Community Phase Name:</p>	<p>Regenerating Sitka Spruce-Paper Birch Forest</p>
<p>Community Phase Narrative:</p>			
<p>This community phase results from brush management along roads. The plant community is characterized by a 15 percent cover of regenerating paper birch (<i>Betula papyrifera</i> var. <i>papyrifera</i>). Shrub cover is nearly 100 percent with species such as <i>Ledum groenlandicum</i>, <i>Vaccinium vitis-idaea</i>, and <i>Menziesia</i>. <i>Hylocomium</i> moss cover is 20 percent, and <i>Cladina rangiferina</i> lichen cover is 5 percent.</p>			
<p>Community Pathways</p>			
<p>Pathway Number</p>	<p>Pathway Name & Description</p>		
<p>1.4A</p>	<p>Time since fire and logging</p>		