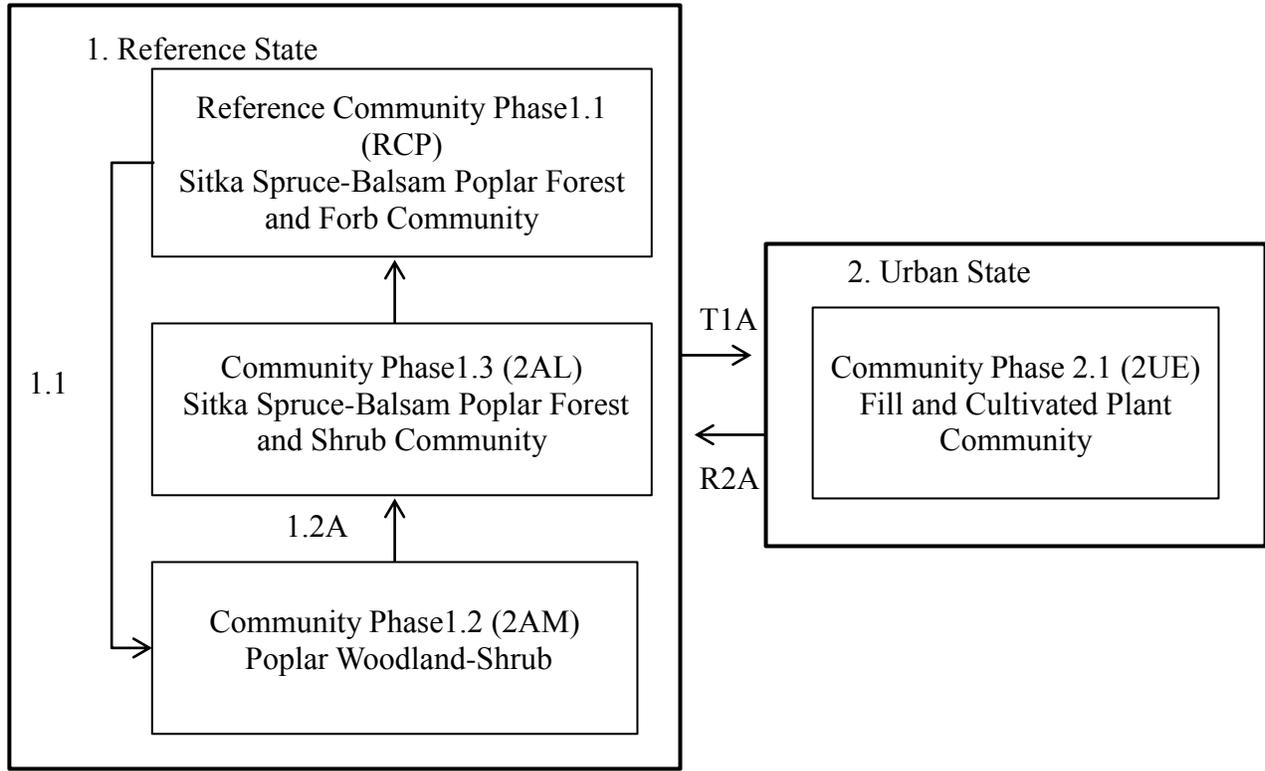


Ecological Site Description ID:	F222XY334AK
Ecological Dynamics of the Site:	
<p>This low-gradient flood plain ecological site is on the outer edges of the flood plains. Because of the distance from or elevation relative to the flood plain channel, the site is subject to rare, brief periods of flooding approximately every 100 years. The flood plain soils of the lower Skagway River and the middle reaches of the Taiya River are characterized by coarse grained, gravelly deposits, which indicate a fairly high-energy streamflow and flooding regime. The soils exhibit minimal development. The lower reaches of the Taiya River have a substantial layer of loamy sediment over sand and gravel. This indicates a lower energy flooding regime. The soils commonly have stratified organic matter throughout the profile, which is indicative of relatively long periods of stability interspersed with deposition events.</p> <p>This ecological site has two states—a reference state and an urban state. The reference state is influenced by flooding, fire, and logging. The reference state plant community varies from an early flood sere graminoid community phase to a closed canopy Sitka spruce forest with moss cover.</p> <p>Historical photographs and documentation suggest that fire and logging during the late 1800's to mid-1900's influenced the ecological dynamics of the site. Field documentation describing how fire and timber management affected plant succession is not available. It is likely that flooding events transported ash and logging debris away from the site, removing evidence of these past disturbances.</p> <p>This ecological site is also influenced by urban development. In the towns of Dyea and Skagway, buildings and land cultivation drastically altered the forest community, creating an alternative state. The community phase in the urban state will not transition back to a forest community unless the towns are abandoned or the areas are actively restored through reforestation efforts.</p>	

State and Transition Model:

Maritime Forest Gravelly Floodplain, Low Gradient Rarely Flooded

F222XY334



State ID Number:	1	State Name:	Reference state
State Narrative:	<p>The climax community for the reference state of this ecological site is a closed Sitka spruce-balsam poplar forest with an understory of dominantly forbs. The reference state is affected primarily by flooding and beaver ponding. Flooding may remove the tree and shrub species. The early flood sere community was not documented in the field, but a forb-graminoid community likely will establish following a rare period of flooding.</p> <p>Historical documentation suggests that this ecological site was disturbed by fire, logging, and urban development. During the turn of the century, an influx of people migrated to the towns of Dyea and Skagway in route to the goldfields of the Klondike. 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 the 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.</p>		

	<p>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 near the towns of Dyea and Skagway at the turn of the century. The fires occurred within 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. Minimal evidence of logging and fire has been collected in the field. It is likely that charcoal and logging debris were transported downstream or buried with sediment from floods, removing or blurring evidence of the disturbance.</p> <p>The disturbance from urban development surrounding Skagway and Dyea caused the reference state to transition into an urban state. During the turn of the century, the flood plains along the Taiya River transitioned into an urban state with development of the mining town of Dyea. The forest community transitioned into a state characterized by roads, buildings, and bare ground. When Dyea was abandoned, the forest began to come back, marking the transition back to the reference state. Similarly, the flood plains surrounding Skagway transitioned into an urban state and are currently maintained in that state.</p>		
<p>Phase 1.1</p>			
<p>Community Phase Number:</p>	<p>1.1</p>	<p>Community Phase Name:</p>	<p>Sitka spruce-balsam poplar forest and forb community</p>
<p>Community Phase Narrative:</p>			
<p>This is the reference community for the outer extent of a low-gradient flood plain. This community is characterized by a closed Sitka spruce-balsam poplar forest. Medium-sized <i>Populus balsamifera</i> or paper birch (<i>Betula papyrifera</i> var. <i>papyrifera</i>) may be present in small proportions. The understory for the climax plant community is dominantly forbs, which make up 5 to 50 percent cover. Forb species include <i>Dryopteris expansa</i>, <i>Pyrola asarifolia</i> ssp. <i>Asarifolia</i>, and <i>Streptopus</i>.</p>			

Community Pathways			
Pathway Number	Pathway Name & Description		
1.1A	Rare, brief flooding		
1.1B	Beaver ponding		
Phase 1.2	Photograph not available		
Community Phase Number:	1.2	Community Phase Name:	Poplar Woodland-Shrub Community
Community Phase Narrative:			
<p>This is a mid succession plant community phase following a 100-year flood. Forest cover may be 30 to 70 percent paper birch (<i>Betula papyrifera</i> var. <i>papyrifera</i>) and regenerating, medium-sized, and tall Sitka spruce (<i>Picea sitchensis</i>). Shrub cover may be as much as 50 percent and consists dominantly of Sitka alder (<i>Alnus viridis</i> ssp. <i>sinuata</i>) and <i>Viburnum edule</i> and a smaller proportion of <i>Cornus sericea</i>, <i>Ribes triste</i>, and <i>Ribes lacustre</i>.</p> <p>The early flood sere community was not documented in the field, so an early sere community phase was not included in the state and transition model. It is likely that rare flooding in high flood plain positions will remove the tree, shrub, and herbaceous species and a graminoid community will begin to establish as the ecological site recovers from flooding.</p>			
Community Pathways			
Pathway Number	Pathway Name & Description		
1.2A	Time since a flood		
Phase 1.3	Photograph not available		
Community Phase Number:	1.3	Community Phase Name:	Sitka Spruce-Balsam Poplar Forest and Shrub Community
Community Phase Narrative:			
<p>This is a late succession forest community. As the ecosystem continues to recover from disturbance and shift from a mid to late successional phase, the forest community will shift from mixed tall paper birch (<i>Betula papyrifera</i> var. <i>papyrifera</i>) and Sitka spruce (<i>Picea sitchensis</i>) to a forest that supports dominantly Sitka spruce (<i>Picea sitchensis</i>) and a smaller proportion of paper birch (<i>Betula papyrifera</i> var. <i>papyrifera</i>). The shrub community becomes less prevalent and the moss cover increases as the canopy increases and shades the understory.</p>			
Community Pathways			
Pathway Number	Pathway Name & Description		
1.3A	Time since a flood		

State Transition Pathways			
Transition Number	From	To	Transition Narrative
T1A	1	2	Urban development. The rarely flooded maritime flood plain may be influenced by urban development as a result of building and crop cultivation in the Skagway area. Within the city limits, a small proportion of the flood plain has been converted into a garden site that includes cultivated plants, gravel, and buildings.
State Restoration Pathways			
Restoration Pathway Number	From	To	Restoration Pathway Narrative
R2A	2	1	<p>It is likely that the small extent of this ecological site that was disturbed by tillage and cultivation in the Skagway area will remain in this state until the urban areas are abandoned or active restoration takes place.</p> <p>The Dyea area was restored to the reference state when the town of Dyea was abandoned and logging operations were discontinued.</p>
State ID Number:	2	State Name:	Urban state
State Narrative:	<p>Urban development in the Skagway and Dyea areas caused the reference state to transition into an urban state. During the turn of the century, the flood plains along the Taiya River transitioned into an urban state with the development of the mining town of Dyea. The forest community transitioned into a state characterized by roads, buildings, and bare ground. When the town of Dyea was abandoned, the forest began to re-establish, marking a transition back to the reference state. Similarly, the flood plains of the Skagway area transitioned into an urban state and are currently maintained in that state.</p> <p>The urban state is characterized by buildings, roads, bare ground, and cultivated plants.</p>		

<p>Phase 2.1</p>			
<p>Community Phase Number:</p>	<p>2.1</p>	<p>Community Phase Name:</p>	<p>Fill and Cultivated Plant Community</p>
<p>Community Phase Narrative:</p>			
<p>This community phase is on developed land in the Skagway area and historically in the Dyea area. The climax plant community in the reference state transitions into this community phase when the land is developed. It is characterized by cultivated garden plants, gravel, and buildings. This community phase was sampled in the urban area of Skagway.</p>			