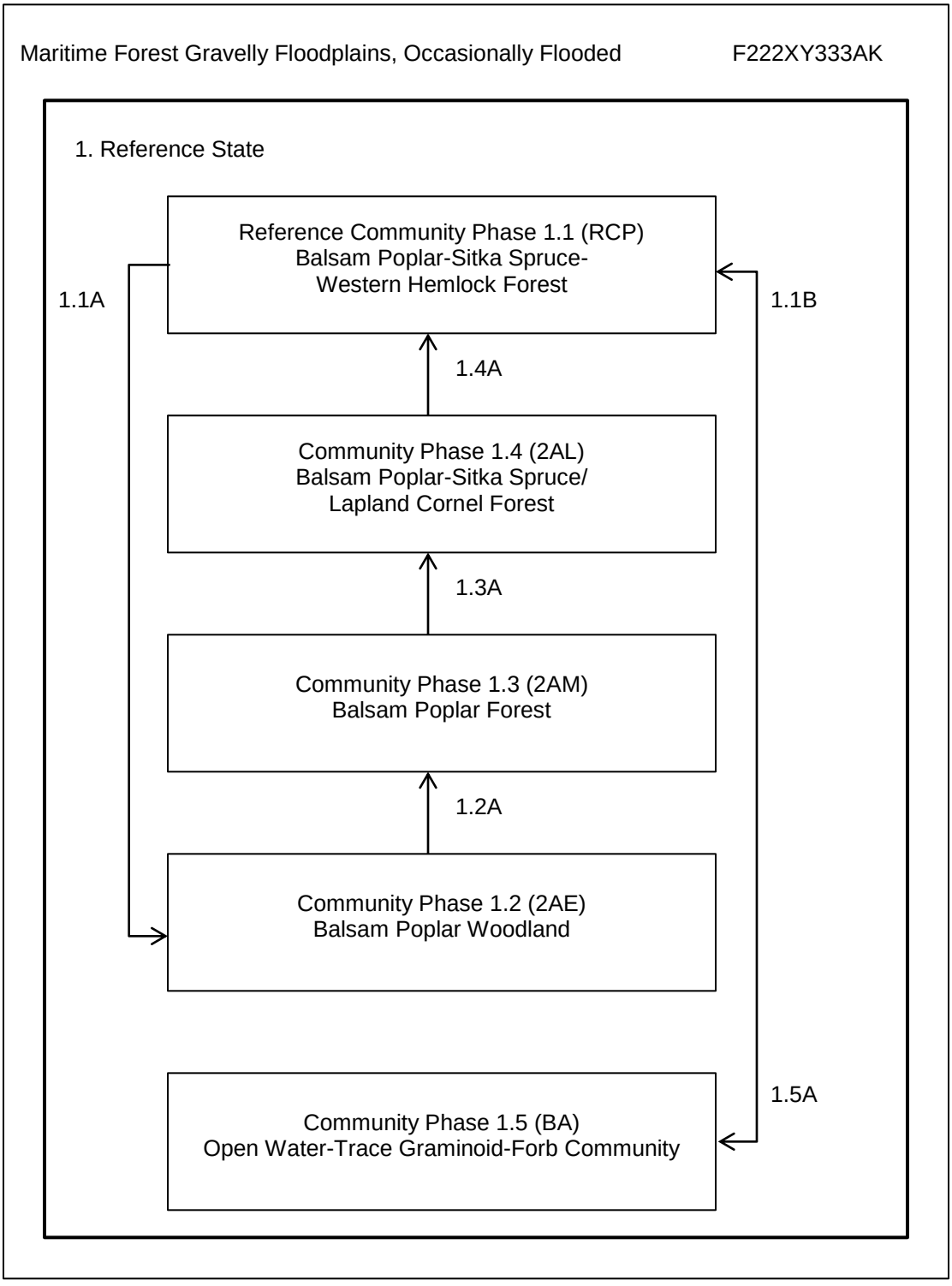
Ecological Site Description ID:	F222XY333AK

Ecological Dynamics of the Site:

This ecological site is on low-gradient, maritime flood plains. It is in a mid flood plain position that is subject to occasional flooding. Because the frequency of flooding is occasional, a forest community can establish following flooding. The plant community varies from an early sere balsam poplar woodland to a closed forest climax community with balsam poplar, Sitka spruce, and western hemlock.

The community dynamics of this ecological site may be influenced by flooding and beaver ponding. It may also be influenced by urban development. 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 transported ash and logging debris away from the site, removing evidence of these past disturbances.

State and Transition Model:



State ID Number:	1	State Name:	Reference state
Phase 1.1			
Community Phase Number:	1.1	Community Phase Name:	Balsam Poplar-Sitka Spruce-Western Hemlock Forest

Community Phase Narrative:

This is the climax community phase for this ecological site. This closed forest community supports dominantly tall *Populus balsamifera* and Sitka spruce *(Picea sitchensis)* and a smaller proportion of regenerating western hemlock *(Tsuga heterophylla)*. It is probable that the tree cover may have a higher proportion of tall Sitka spruce *(Picea sitchensis)* and medium-sized western hemlock *(Tsuga heterophylla)* than was documented in the field.

As the canopy cover increases, the shrub cover decreases. The shrub cover is less than 15 percent with species such as *Viburnum edule* and devilsclub *(Oplopanax horridus).* Forb cover is approximately 70 percent with species such as *Gymnocarpium dryopteris, Streptopus amplexifolius,* and *Equisetum arvense.*

Community Pathways

Pathway Number	Pathway Name & Description
1.1A	Occasional flooding erodes the understory vegetation and may remove larger trees, shifting the plant community from a closed *Populous balsamifera* and Sitka spruce *(Picea sitchensis)* forest to *Populous balsamifera* woodland.

Phase 1.2			
Community Phase Number:	1.2	**Community Phase Name:**	Balsam Poplar Woodland

Community Phase Narrative:

This early sere community phase develops following a flood and is characterized by an open canopy of *Populus balsamifera*. Tree cover may be as much as 25 percent, and shrub cover is 30 to 90 percent. Common shrub species include Sitka alder *(Alnus viridis ssp. sinuata)* and *Viburnum edule*. Forb and graminoid cover commonly is 5 to 35 percent with species such as *Chamerion angustifolium, Nephrophyllidium crista-galli, Hordeum brachyantherum,* and *Calamagrostis canadensis*. This early successional community phase shifts toward a mid sere community as the canopy cover increases and regenerating Sitka spruce *(Picea sitchensis)* begins to establish.

Community Pathways

Pathway Number	Pathway Name & Description
1.2A	Time since a flood and plant growth facilitates the shift from an early flood sere community to a mid sere community. The establishment of Sitka spruce *(Picea sitchensis)* is an indication of a shift in the plant community.

Phase 1.3			
Community Phase Number:	1.3	**Community Phase Name:**	Balsam Poplar Forest
Community Phase Narrative:			
This mid sere community phase is characterized by a closed canopy of *Populus balsamifera*. Tall *Populus balsamifera* cover is 30 to 50 percent with trace regenerating western hemlock *(Tsuga heterophylla)* and Sitka spruce *(Picea sitchensis)*. Shrub cover commonly is 20 to 50 percent and consists dominantly of Sitka alder *(Alnus viridis ssp. sinuata)* and a smaller proportion of *Viburnum edule* and *Cornus sericea ssp. Sericea*. Forb cover commonly is a trace amount to 10 percent with species such as *Streptopus amplexifolius, Dryopteris expansa*, and *Equisetum arvense*.			
Community Pathways			
Pathway Number	1.3		
1.3A	Time since a flood and plant growth facilitates the shift from a mid flood sere community to a late sere community. The decrease in shrub cover is an indication of a shift in the plant community.		
Phase 1.4	Photograph not available		
Community Phase Number:	1.4	**Community Phase Name:**	Balsam Poplar-Sitka Spruce Forest and Shrub Community

Community Phase Narrative:			
This community phase represents a late sere community on a low-gradient flood plain. The plant community is characterized by a closed canopy consisting of tall *Populous balsamifera* and a few tall Sitka spruce *(Picea sitchensis)* and regenerating western hemlock *(Tsuga heterophylla)*. Forb cover may be as much as 70 percent with species such as *Gymnocarpium dryopteris, Streptopus amplexifolius,* and *Equisetum arvense.* Shrub cover commonly is less than 10 percent with species such as *Viburnum edule* and devilsclub *(Oplopanax horridus).* As this late sere community begins to transition into the climax community phase, the shrub cover shifts to dense *Cornus suecica* and *Viburnum.*			
Community Pathways			
Pathway Number	**Pathway Name & Description**		
1.4A	Time since a flood and plant growth facilitates the shift from a late flood sere community to the climax plant community. The decrease in shrub cover and increase in forb cover is an indication of a shift in the plant community.		
Phase 1.5			
Community Phase Number:	1.5	**Community Phase Name:**	Open Water-Trace Graminoid-Forb Community

Community Phase Narrative:
This is an early sere community that establishes following beaver ponding. Following the construction of beaver dams, ponded water kills the forest and leaves behind standing dead tree snags and large pieces of downed wood. This early sere community phase is characterized by as much as 97 percent standing water with trace forbs, graminoids, and regenerating *Populus balsamifera* and Sitka spruce *(Picea sitchensis)*. Forb cover is minimal, but the diversity of the species is high. Trace species include *Aruncus dioicus, Caltha leptosepala, Epilobium ciliatum ssp. Ciliatum, Equisetum arvense,* and *Polystichum.* Graminoid cover includes *Calamagrostis Canadensis* and *Carex canescens*. As this site begins to recover, the surface water decreases and graminoid cover increases. As much as 50 percent graminoid cover has been observed in the field. The mid and late succession plant communities were not observed in the field, so these community phases were not included in the state and transition diagram. It is likely that shrub and regenerating tree cover will increase with time. A late successional community would likely be characterized by a closed mixed *Populus balsamifera* and Sitka spruce *(Picea sitchensis)* forest with variable shrub and understory cover.

Community Pathways	
Pathway Number	1.5
1.5A	Degradation or removal of beaver dam and time