

Alagnak Wild River Landcover Classification

National Park Service
U.S. Department of the Interior



Closed Spruce Forest

Environment: The Closed Spruce Forest class occurs on gently sloping terrain at low elevations. This class was mapped on 0.1% of the study area. This is an uncommon class that generally occurs in small patches in a matrix of Open Spruce Forest or Mixed Broadleaf/Needleleaf Forest.

Vegetation: *Picea glauca* dominates the tree layer, and *Populus balsamifera* var. *balsamifera* may be a minor canopy associate. *Alnus incana* ssp. *temulifolia* may be common in the shrub layer. *Salix* spp. and ericaceous shrubs may occur sparsely in the understory.

Classification: Tree canopy cover is 60% or more, and needleleaf trees make up 75% or more of the total tree cover.

Open Spruce Forest

Environment: The Open Spruce Forest class occurs on gently sloping terrain at low to mid elevations. The class is often interspersed with Spruce Woodland, Birch Forest, and Mixed Broadleaf/Needleleaf Forest landcover classes and was mapped on 7.2% of the study area.

Vegetation: This class is dominated by *Picea glauca*. *Betula papyrifera* var. *kenica* may be a minor canopy associate. *Alnus incana* ssp. *temulifolia*, *Salix pulchra*, and *Calluna vulgaris* are common in the understory on floodplain terraces, while *Ledum palustre* ssp. *decumbens*, *Salix glauca*, *Betula nana*, *Empetrum nigrum*, and *Fragaria virginiana* are more common on uplands and abandoned terraces.

Classification: Tree cover is 25 to 59%, and needleleaf trees make up 75% or more of the total tree cover.

Environment: The Open Spruce Forest class occurs primarily on lower side-slopes, floodplain terraces, and ancient outwash deposits. This class occurs on flat to gently sloping terrain.

Spruce Woodland

Environment: The Spruce Woodland class occurs on side slopes and valley bottoms. This class was mapped on 17.2% of the study area.

Vegetation: The tree layer is dominated by *Picea glauca*. *Betula papyrifera* var. *kenica* may be a minor canopy associate. *Alnus incana* ssp. *temulifolia*, *Salix pulchra*, and *Calluna vulgaris* are common in the understory on floodplain terraces, while *Ledum palustre* ssp. *decumbens*, *Salix glauca*, *Betula nana*, *Empetrum nigrum*, and *Fragaria virginiana* are more common on uplands and abandoned terraces.

Classification: Tree canopy cover is 10 to 24%, and needleleaf trees make up 75% or more of the total tree cover.

Environment: The Spruce Woodland class occurs on side slopes and valley bottoms. This class occurs on flat to moderately steep (35°) slopes at low to mid elevations (18 - 275 m). This widespread class is the matrix.

Mixed Broadleaf/Needleleaf Woodland

Environment: The Mixed Broadleaf/Needleleaf Woodland class occurs at low elevations on side slopes and valley bottoms. This class was mapped on 10.7% of the study area.

Vegetation: *Picea glauca* and *Betula papyrifera* var. *kenica* dominate the tree canopy. The shrub layer is dominated by *Betula nana*, *Ledum palustre* ssp. *decumbens*, *Salix glauca*, and *Calluna vulgaris*. *Fragaria virginiana* and *Empetrum nigrum* are common in the ground layer.

Classification: Tree canopy cover is between 10% and 24%, with needleleaf and broadleaf trees each contributing 25% to 75% of the total tree cover.

Environment: The Mixed Broadleaf/Needleleaf Woodland class occurs at low elevations on side slopes and valley bottoms.

Mixed Broadleaf/Needleleaf Forest

Environment: This uncommon class occurs in small patches on floodplain terraces and adjacent uplands. The slope ranges from relatively level on floodplains to moderately steep on hillsides. This class was mapped on 0.02% of the study area. On steep side-slopes, this class occurs interspersed with the Birch Forest class. On floodplain terraces, this class is associated with the Tall Willow class.

Vegetation: *Picea glauca* and *Betula papyrifera* var. *kenica* dominate the tree canopy. *Populus balsamifera* var. *balsamifera* may contribute to the broadleaf canopy. Floodplain terraces. The shrub layer is variable across sites. Common species may include *Alnus incana* ssp. *temulifolia*, *Viburnum edule*, *Betula nana*, *Ledum palustre* ssp. *decumbens*, and *Salix glauca*. *Empetrum nigrum* and *Fragaria virginiana* are common in the ground layer.

Classification: Tree canopy cover is at least 25%, with needleleaf and broadleaf trees each contributing 25% to 75% of the total tree cover.

Environment: The Mixed Broadleaf/Needleleaf Forest class occurs at low elevations on side slopes and valley bottoms. It also occurs as localized patches within the floodplain. Slopes range from flat on the floodplain to moderately steep on upland sites. This widespread class often occurs adjacent to other forested classes including Mixed Broadleaf/Needleleaf Woodland, Birch Forest, and Spruce Woodland. This class was mapped on 13% of the study area.

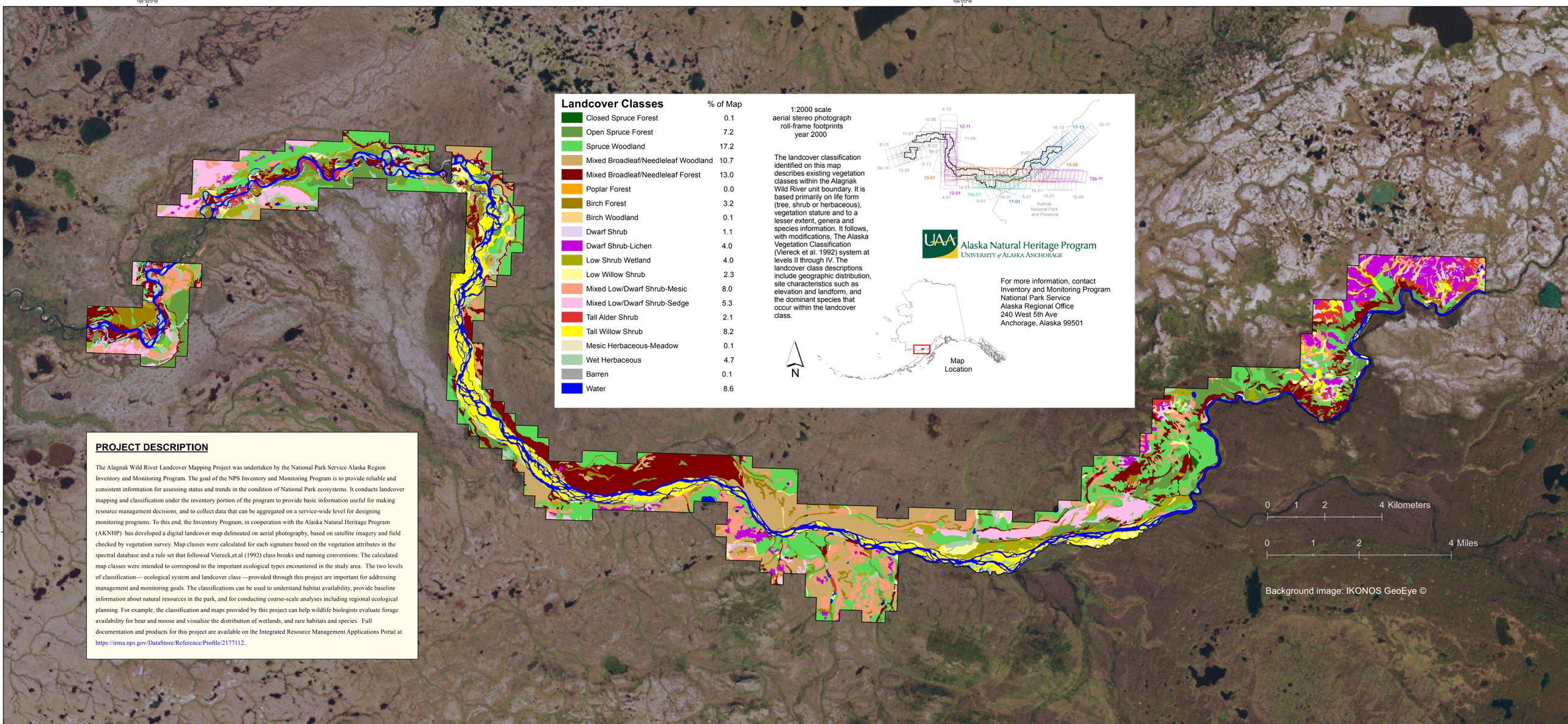
Poplar Forest

Environment: This uncommon class occurs in small patches on floodplain terraces and adjacent uplands. The slope ranges from relatively level on floodplains to moderately steep on hillsides. This class was mapped on 0.02% of the study area. On steep side-slopes, this class occurs interspersed with the Birch Forest class. On floodplain terraces, this class is associated with the Tall Willow class.

Vegetation: *Populus balsamifera* dominates the tree layer, and *Betula papyrifera* var. *kenica* is a common associate. *Alnus incana* ssp. *temulifolia* may be common in the shrub layer. Common species in the herbaceous layer include *Calluna vulgaris*, *Equisetum arvense*, *Equisetum pratense*, *Carex acutiformis*, *Carex lasiocarpa*, and *Gymnocarpos dryopteris*. Mosses such as *Rhizoglyphis* spp. and *Hypnum* spp. are common in the ground layer.

Classification: Tree canopy cover is at least 10%. Broadleaf tree cover is 75% or more of the total tree cover, and balsam poplar dominates the tree layer.

Alagnak floodplain plant associations: *Betula papyrifera* var. *kenica*/*Alnus incana* ssp. *temulifolia*/*Calluna vulgaris* *canadensis*



Landcover Classes	% of Map
Closed Spruce Forest	0.1
Open Spruce Forest	7.2
Spruce Woodland	17.2
Mixed Broadleaf/Needleleaf Woodland	10.7
Mixed Broadleaf/Needleleaf Forest	13.0
Poplar Forest	0.0
Birch Forest	3.2
Birch Woodland	0.1
Dwarf Shrub	1.1
Dwarf Shrub-Lichen	4.0
Low Shrub Wetland	4.0
Low Willow Shrub	2.3
Mixed Low/Dwarf Shrub-Mesic	8.0
Mixed Low/Dwarf Shrub-Sedge	5.3
Tall Alder Shrub	2.1
Tall Willow Shrub	8.2
Mesic Herbaceous-Meadow	0.1
Wet Herbaceous	4.7
Barren	0.1
Water	8.6

1:2000 scale aerial stereo photograph roll-frame footprints year 2000

The landcover classification identified on this map describes existing vegetation classes within the Alagnak Wild River unit boundary. It is based primarily on life form (tree, shrub or herbaceous), vegetation stature and to a lesser extent, genera and species information. It follows, with modifications, the Alaska Vegetation Classification (Viereck et al. 1992) system at levels II through IV. The landcover class descriptions include geographic distribution, site characteristics such as elevation and landform, and the dominant species that occur within the landcover class.

For more information, contact Inventory and Monitoring Program National Park Service Alaska Regional Office 240 West 5th Ave Anchorage, Alaska 99501

PROJECT DESCRIPTION

The Alagnak Wild River Landcover Mapping Project was undertaken by the National Park Service Alaska Region Inventory and Monitoring Program. The goal of the NPS Inventory and Monitoring Program is to provide reliable and consistent information for assessing status and trends in the condition of National Park ecosystems. It conducts landcover mapping and classification under the inventory portion of the program to provide basic information useful for making resource management decisions, and to collect data that can be aggregated on a service-wide level for designing monitoring programs. To this end, the Inventory Program, in cooperation with the Alaska Natural Heritage Program (AKNHP) has developed a digital landcover map delineated on aerial photography, based on satellite imagery and field checked by vegetation survey. Map classes were calculated for each signature based on the vegetation attributes in the spectral database and a rule set that followed Viereck et al. (1992) class breaks and naming conventions. The calculated map classes were intended to correspond to the important ecological types encountered in the study area. The two levels of classification—ecological system and landcover class—provided through this project are important for addressing management and monitoring goals. The classifications can be used to understand habitat availability, provide baseline information about natural resources in the park, and for conducting coarse-scale analyses including regional ecological planning. For example, the classification and maps provided by this project can help wildlife biologists evaluate forage availability for bear and moose and visualize the distribution of wetlands, and rare habitats and species. Full documentation and products for this project are available on the Integrated Resource Management Applications Portal at <https://irma.nps.gov/DataStore/Reference/Profile/2177112>.

Birch Forest

Environment: This class commonly occurs adjacent to other forested classes including Mixed Broadleaf/Needleleaf Forest and Woodland, Open Spruce Forest, and Spruce Woodland. This class was mapped on 3.2% of the study area.

Vegetation: *Betula papyrifera* var. *kenica* dominates the tree canopy. Common canopy associates include *Populus balsamifera* var. *balsamifera*, *Alnus incana* ssp. *temulifolia*, *Salix pulchra*, and *Calluna vulgaris*. *Fragaria virginiana* and *Empetrum nigrum* are common in the ground layer.

Classification: Tree canopy cover is at least 25%. Broadleaf tree cover is 75% or more of the total tree cover, and Kenu birch dominates the tree layer.

Environment: The Birch Forest class occurs at low elevations on side slopes and valley bottoms. It also occurs as localized patches within the floodplain. The slope ranges from relatively level on floodplains to moderately steep on hillsides.

Birch Woodland

Environment: Birch Woodland occurs at low elevations on side slopes and valley bottoms. It also occurs as localized patches within the floodplain. Slopes range from flat on the floodplain to gently sloping on upland sites. This is a minor class that often occurs in combination with tall shrub classes such as Tall Alder and Tall Willow. It can also occur as an early to mid-seral forest type occurring on uplands, and as the forest matures, it will likely transition to a Birch Forest or Mixed Broadleaf/Needleleaf Forest class. Common adjacent landcover classes include Mixed Broadleaf/Needleleaf Forest and woodland, Birch Forest, Open Spruce Forest, and Spruce Woodland. This class was mapped on 0.1% of the study area.

Vegetation: *Betula papyrifera* var. *kenica* dominates the tree canopy. Common canopy associates include *Populus balsamifera* var. *balsamifera* and *Salix glauca* seedlings and saplings. The understory is variable across the landscape. *Betula nana*, *Ledum palustre* ssp. *decumbens*, and *Salix glauca* are common on upland sites. Within the floodplain, common species include *Alnus incana* ssp. *temulifolia*, *Viburnum edule*, and *Calluna vulgaris*. Mosses and lichens are present in varying amounts.

Alagnak floodplain plant associations: *Betula papyrifera* var. *kenica*/*Alnus incana* ssp. *temulifolia*/*Calluna vulgaris* *canadensis*

Dwarf Shrub

Environment: Slopes range from gentle to moderately steep and sites are well drained. The Dwarf Shrub class typically occurs on rolling hills, mountain side-slopes, rounded mountain ridges, and high elevation valleys. Within the project area, the class occurs commonly on mid to high elevation slopes above the upper reaches of the floodplain.

Vegetation: The dwarf shrub canopy is typically dominated by a combination of shrubs including *Fragaria virginiana*, *Vitis-idaea*, *Ledum palustre* ssp. *decumbens*, *Empetrum nigrum*, and *Betula nana*. Other species that may be present include *Salix arctica*, *Azoreanthus rubra*, and *Carex fluriflora*, *Eriophorum vaginatum*, *Equisetum arvense*, *E. flavialticum*, *Comarum palustre*, and *Rubus chamaemorus*. Mosses such as *Sphagnum* spp. and *Tomentypnum nitens* are common in the ground layer.

Classification: Tree canopy cover is less than 10%. Shrub cover is at least 25% and the average shrub height is less than 0.2 meters tall and lichen cover is less than 35%.

Alagnak floodplain plant associations: None defined.

Dwarf Shrub-Lichen

Environment: Slopes range from relatively flat to gently sloping, and slope shape is typically convex. The Dwarf Shrub-Lichen class typically occurs above tree-line upslope of the Tall Alder class and forested classes. This class is commonly interspersed with the Dwarf Shrub class. Other adjacent classes include Tall Alder, Tall Willow, Mixed Low/Dwarf Shrub, Mixed Broadleaf/Needleleaf Forest and Woodland, Spruce Forest and Woodland. This class was mapped on 4.0% of the study area.

Vegetation: *Ledum palustre* ssp. *decumbens* and *Empetrum nigrum* are the most abundant species in the dwarf shrub canopy. Other shrub species that commonly occur include *Fragaria virginiana*, *Vitis-idaea*, *Betula nana*, *Salix arctica*, and *Azoreanthus rubra*. Moss cover is low, but lichens such as *Cladonia* spp. and *Floccocetraria* spp. are abundant in the ground layer.

Classification: Tree canopy cover is less than 10%. Shrub canopy cover is at least 25% and the average shrub height is < 0.2 meters tall. Lichen cover is greater than 35%. This class was included in the Dwarf Shrub class in the KATM landcover classification.

Environment: The Low Willow class occurs on the Alagnak River floodplain and on poorly-drained valley bottom sites. Slopes are generally flat. Floodplain sites on which this class occurs are not subjected to frequent flooding. Adjacent classes on the floodplain include Mixed Low/Dwarf Shrub Wetland, Tall Willow, and Wet Herbaceous. This class was mapped on 2.3% of the study area.

Vegetation: *Salix pulchra* and *Salix barclayi* are dominant in the shrub canopy. Other shrubs with low canopy cover may include *Myrica gale*, *Diaparsia fruticosa*, *Spiraea tomentosa*, and *Betula nana*. Herbaceous species include *Calluna vulgaris*, *Calluna canadensis*, *Carex acutiformis*, *Carex lasiocarpa*, *Equisetum arvense*, *Equisetum pratense*, *Sphagnum* spp., and *Polygonum acutiflorum*.

Alagnak floodplain plant associations: *Salix pulchra*-*Salix barclayi*

Low Shrub Wetland

Environment: The Low Shrub Wetland class occurs on poorly drained valley bottoms and abandoned channels. Slopes are flat. This class is commonly interspersed with the Wet Herbaceous, Low Willow, and Dwarf Shrub classes.

Vegetation: *Myrica gale*, *Betula nana*, and *Ledum palustre* ssp. *decumbens* are the most common canopy shrubs. Other shrubs that may share dominance include *Salix barclayi* and *Salix pulchra*. *Salix fuscescens* and *Fragaria virginiana* may occur with low canopy cover in the understory. Common herbaceous species include *Calluna vulgaris*, *Calluna canadensis*, *Carex acutiformis*, *Carex lasiocarpa*, *Eriophorum vaginatum*, *Equisetum arvense*, *E. flavialticum*, *Comarum palustre*, and *Rubus chamaemorus*. Mosses such as *Sphagnum* spp. and *Tomentypnum nitens* are common in the ground layer.

Classification: Tree canopy cover is less than 10%. Shrub cover is at least 25% and the average shrub height is between 0.2 and 1.5 meters tall. This class includes low shrub wetlands dominated by *Myrica gale*, *Betula nana*, and *Ledum palustre* ssp. *decumbens*. In the KATM landcover classification this class was included in the Mixed Low/Dwarf Shrub class.

Alagnak floodplain plant associations: *Betula nana*-*Ledum palustre* ssp. *decumbens*-*Sphagnum* spp. (inactive terrace) *Myrica gale*-*Betula nana*

Low Willow Shrub

Environment: The Low Willow class occurs on the Alagnak River floodplain and on poorly-drained valley bottom sites. Slopes are generally flat. Floodplain sites on which this class occurs are not subjected to frequent flooding. Adjacent classes on the floodplain include Mixed Low/Dwarf Shrub Wetland, Tall Willow, and Wet Herbaceous. This class was mapped on 2.3% of the study area.

Vegetation: *Salix pulchra* and *Salix barclayi* are dominant in the shrub canopy. Other shrubs with low canopy cover may include *Myrica gale*, *Diaparsia fruticosa*, *Spiraea tomentosa*, and *Betula nana*. Herbaceous species include *Calluna vulgaris*, *Calluna canadensis*, *Carex acutiformis*, *Carex lasiocarpa*, *Equisetum arvense*, *Equisetum pratense*, *Sphagnum* spp., and *Polygonum acutiflorum*.

Alagnak floodplain plant associations: *Salix pulchra*-*Salix barclayi*

Mixed Low / Dwarf Shrub-Mesic

Environment: The Mixed Low/Dwarf Shrub-Mesic class occurs on side-slopes, inactive terraces, and valley bottoms. Slopes are flat to gently sloping. This class is common on side-slopes above tree-line and below the alpine dwarf shrub classes. It is also occurs on ancient river terraces above the current Alagnak River floodplain. This class is commonly interspersed with the Spruce Woodland class. Other adjacent classes include Low Shrub Wetland, Mixed Broadleaf/Needleleaf Forest and Woodland, Spruce Forest, Birch Forest, and Wet Herbaceous. This class was mapped on 8.0% of the study area.

Vegetation: *Betula nana* and *Ledum palustre* ssp. *decumbens* are the most common canopy shrubs. Other shrubs that may share dominance include *Salix barclayi*, *Fragaria virginiana*, and *Vitis-idaea*. *Carex bigelowii* and *Eriophorum vaginatum* are often present in the herbaceous layer, but canopy cover of these graminoids generally does not exceed 25%. Other common herbaceous species include *Calluna vulgaris*, *Calluna canadensis*, *Carex acutiformis*, *Carex lasiocarpa*, *Eriophorum vaginatum*, *Equisetum arvense*, *E. flavialticum*, *Comarum palustre*, and *Rubus chamaemorus*. Mosses such as *Sphagnum* spp. and *Tomentypnum nitens* are common in the ground layer.

Classification: Tree canopy cover is less than 10%. Shrub cover is at least 25% and the average shrub height is between 0.2 and 1.5 meters tall. The combined cover of *Eriophorum* spp. and *Carex* spp. is less than 30%. This class includes non-willow low and dwarf shrublands dominated by *Betula nana* and *Ledum palustre* ssp. *decumbens*.

Environment: The Mixed Low/Dwarf Shrub-Mesic class occurs on side-slopes, inactive terraces, and valley bottoms. Slopes are flat to gently sloping. This class is common on side-slopes above tree-line and below the alpine dwarf shrub classes. It is also occurs on ancient river terraces above the current Alagnak River floodplain. This class is commonly interspersed with the Spruce Woodland class. Other adjacent classes include Low Shrub Wetland, Mixed Broadleaf/Needleleaf Forest and Woodland, Spruce Forest, Birch Forest, and Wet Herbaceous. This class was mapped on 8.0% of the study area.

Vegetation: *Betula nana* and *Ledum palustre* ssp. *decumbens* are the most common canopy shrubs. Other shrubs that may share dominance include *Salix barclayi*, *Fragaria virginiana*, and *Vitis-idaea*. *Carex bigelowii* and *Eriophorum vaginatum* are often present in the herbaceous layer, but canopy cover of these graminoids generally does not exceed 25%. Other common herbaceous species include *Calluna vulgaris*, *Calluna canadensis*, *Carex acutiformis*, *Carex lasiocarpa*, *Eriophorum vaginatum*, *Equisetum arvense*, *E. flavialticum*, *Comarum palustre*, and *Rubus chamaemorus*. Mosses such as *Sphagnum* spp. and *Tomentypnum nitens* are common in the ground layer.

Alagnak floodplain plant associations: None defined.

Mixed Low / Dwarf Shrub-Sedge

Environment: The Mixed Low/Dwarf Shrub-Sedge class occurs on ancient terraces and gentle slopes above the Alagnak floodplain. Slopes are flat to gently sloping. This class is similar in composition to the Mixed Low/Dwarf Shrub class, but the combined cover of *Carex* spp. and *Eriophorum* spp. is generally > 30%. This class was mapped on 5.3% of the study area.

Vegetation: *Betula nana* and *Ledum palustre* ssp. *decumbens* are the most abundant species in the herbaceous layer. Other common shrubs include *Fragaria virginiana* and *Vitis-idaea*. Either *Carex bigelowii* or *Eriophorum vaginatum* is generally the most abundant species in the herbaceous layer. Other common herbaceous species include *Calluna vulgaris*, *Calluna canadensis*, *Carex acutiformis*, *Carex lasiocarpa*, *Eriophorum vaginatum*, *Equisetum arvense*, *E. flavialticum*, *Comarum palustre*, and *Rubus chamaemorus*. Mosses such as *Sphagnum* spp. and *Tomentypnum nitens* are common in the ground layer.

Classification: Tree canopy cover is less than 10%. Shrub cover is at least 25% and the average shrub height is between 0.2 and 1.5 meters tall. *Carex* spp. or *Eriophorum* spp. is at least 30%. (This class is equivalent to the Mixed Low/Dwarf Shrub Herbaceous class in the Katmai National Park Landcover map, Boggess et al. 2003).

Environment: The Mixed Low/Dwarf Shrub-Sedge class occurs on ancient terraces and gentle slopes above the Alagnak floodplain. Slopes are flat to gently sloping. This class is similar in composition to the Mixed Low/Dwarf Shrub class, but the combined cover of *Carex* spp. and *Eriophorum* spp. is generally > 30%. This class was mapped on 5.3% of the study area.

Vegetation: *Betula nana* and *Ledum palustre* ssp. *decumbens* are the most abundant species in the herbaceous layer. Other common shrubs include *Fragaria virginiana* and *Vitis-idaea*. Either *Carex bigelowii* or *Eriophorum vaginatum* is generally the most abundant species in the herbaceous layer. Other common herbaceous species include *Calluna vulgaris*, *Calluna canadensis*, *Carex acutiformis*, *Carex lasiocarpa*, *Eriophorum vaginatum*, *Equisetum arvense*, *E. flavialticum*, *Comarum palustre*, and *Rubus chamaemorus*. Mosses such as *Sphagnum* spp. and *Tomentypnum nitens* are common in the ground layer.

Alagnak floodplain plant associations: None defined.

Tall Willow Shrub

Environment: The Tall Willow class is common on floodplain terraces, and also on upland sites upslope of the Tall Alder class, adjacent landcover classes include Dwarf Shrub, Dwarf Shrub-Lichen, and Mixed Low/Dwarf Shrub. Down slope, adjacent classes include Mixed Broadleaf/Needleleaf Forest, Open Spruce Forest, and Birch Forest. The Tall Willow and Tall Alder classes occur on similar slope positions on upland sites. This class was mapped on 8.2% of the study area.

Vegetation: *Salix alaxensis*, *S. pulchra*, and *S. barclayi* are the most common shrub species across the Tall Willow class. *Salix alaxensis* is the dominant willow on the most active portion of the floodplain, such as islands in the braided portion of the river, while *S. pulchra* is common on terraces adjacent to the river and also on upland sites. Dominant understory species include *Calluna vulgaris*, *Calluna canadensis*, *Equisetum arvense*, and *Comarum palustre*. Other minor associated species include *Polygonum acutiflorum* and *Rubus arcticus*.

Alagnak floodplain plant associations: *Salix pulchra*-*Salix barclayi* *Salix alaxensis*/*Calluna vulgaris* *canadensis*-*Equisetum arvense*

Mesic Herbaceous Meadow

Environment: This class is often interspersed with Tall Alder, Tall Willow, and Mixed Low/Dwarf Shrub classes. Along mountain side-slopes, adjacent classes occurring upslope of the Mesic Herbaceous Meadow class include Dwarf Shrub and Dwarf Shrub-Lichen. Tall shrub and forested landcover classes occur down slope of this class. On floodplain terraces, common adjacent classes include Tall Willow and Wet Herbaceous. This class was mapped on 0.1% of the study area.

Vegetation: *Calluna vulgaris* *canadensis* is typically the most abundant species. Other common species include *Chamaenerion angustifolium*, *Equisetum arvense*, *E. flavialticum*, *Geronium erianthum*, *Heracleum maximum*, *Sanguinaria canadensis*, *Thalictrum spiciferum*, and *Sporaea stenota*.

Classification: Tree canopy is less than 10%. Shrub cover is less than 25%, and herbaceous cover is greater than 25%. Sites are mesic with little to no standing water.

Environment: The Mesic Herbaceous Meadow class occurs under a variety of site conditions. Within the study area it occurs primarily on mid-elevation mountain side-slopes. It generally occurs above tree-line and below the alpine dwarf shrub classes on slopes that are concave to straight. It also occurs as small patches on floodplain terraces.

Alagnak floodplain plant associations: *Calluna vulgaris* *canadensis*-*Forb*

Tall Alder Shrub

Environment: The Tall Alder class occurs on mid-elevation mountain side-slopes above the coniferous tree-line and below the alpine dwarf shrub classes. It is also common on the lower portion of the Alagnak River floodplain. Slopes range from flat on the floodplain to moderately steep on upland sites. On upland sites upslope of the Tall Alder class, adjacent landcover classes include Dwarf Shrub, Dwarf Shrub-Lichen, and Mixed Low/Dwarf Shrub. Down slope, adjacent classes include Mixed Broadleaf/Needleleaf Forest, Open Spruce Forest, and Birch Forest. The Tall Willow and Tall Alder classes occur on similar slope positions. Common adjacent

Vegetation: *Salix alaxensis*, *S. pulchra*, and *S. barclayi* are the most common shrub species across the Tall Willow class. *Salix alaxensis* is the dominant willow on the most active portion of the floodplain, such as islands in the braided portion of the river, while *S. pulchra* is common on terraces adjacent to the river and also on upland sites. Dominant understory species include *Calluna vulgaris*, *Calluna canadensis*, *Equisetum arvense*, and *Comarum palustre*. Other minor associated species include *Polygonum acutiflorum* and *Rubus arcticus*.

Alagnak floodplain plant associations: *Salix pulchra*-*Salix barclayi* *Salix alaxensis*/*Calluna vulgaris* *canadensis*-*Equisetum arvense*

Wet Herbaceous

Environment: The Wet Herbaceous class is common on lacustrine deposits, although saturated river terraces, and the edges of lakes and ponds. Sites have standing or semi-permanent water dominated by hydrophytic vegetation. Relative to other classes, the patch size of the Wet Herbaceous class is generally small and patchy in distribution. On the Alagnak River floodplain, this class often occurs interspersed with the Tall Willow class.

Vegetation: Total vegetation cover is less than 15%, and water dominates.

Environment: Moist of the area mapped as Water is the Alagnak River. Additional areas include ponds, small lakes, sloughs, side streams, and areas within side streams that have been flooded by beaver dams.

Classification: Total vegetation cover is less than 15%, and water dominates.

Environment: Moist of the area mapped as Water is the Alagnak River. Additional areas include ponds, small lakes, sloughs, side streams, and areas within side streams that have been flooded by beaver dams.

Classification: Total vegetation cover is less than 15%, and water dominates.

Water

Environment: Water is the Alagnak River. Additional areas include ponds, small lakes, sloughs, side streams, and areas within side streams that have been flooded by beaver dams.

Classification: Total vegetation cover is less than 15%, and water dominates.

Environment: Moist of the area mapped as Water is the Alagnak River. Additional areas include ponds, small lakes, sloughs, side streams, and areas within side streams that have been flooded by beaver dams.

Classification: Total vegetation cover is less than 15%, and water dominates.

Barren

Environment: Barren ground was mapped along the active portion of the Alagnak River floodplain on cut banks and non-vegetated portions of point bars and islands.

Classification: Total vegetation cover is less than 15%, and water dominates.

Environment: Moist of the area mapped as Water is the Alagnak River. Additional areas include ponds, small lakes, sloughs, side streams, and areas within side streams that have been flooded by beaver dams.

Classification: Total vegetation cover is less than 15%, and water dominates.