

# Ecosystems of Coastal Alaska



*As you travel throughout coastal Alaska you will experience a range of different ecosystem types containing a variety of plant and animal species.*

Our landscape is young in geologic time and dynamic, having emerged from beneath deep sheets of glacial ice thousands of years ago. Many active glaciers remain in coastal Alaska and are a source of visual beauty for the visitor. Many lowland coastal areas are still rising up following the retreat of massive glaciers, a term known as “isostatic” or glacial rebound. Glacial rebound creates new land surfaces at the water’s edge, a unique situation here in coastal Alaska. Dominating factors influencing our ecosystems include abundant moisture, cool temperatures, and disturbances such as wind storms and flooding. Fire is a potential factor on the Kenai Peninsula where drier conditions prevail. Listed below are some of the ecosystem types that may be encountered in coastal Alaska:

- Wetlands
- Beach Fringes and Forested Ecosystems
- Alpine Environments
- and New Land – Recently Deglaciaded Areas

## Wetlands



Photo: Ducks Unlimited/USFS



Photo: Ducks Unlimited/USFS

*Wetlands are transition zones between land and water.*

Abundant moisture, high water tables and/or poorly drained soils over compacted glacial till produce many types of wetland conditions ranging from coastal wet sedge meadows and shrublands to forested muskeg or bog conditions. These habitats are important to wildlife including migrating shorebirds and waterfowl, deer, bears and many other species.



*Nutritious forage and inviting berries draw birds and mammals into these areas.*

## **Beach Fringes and Forested Ecosystems**



*The Tongass and Chugach National Forests have about 22,000 miles of shoreline.*

Shorelines in coastal Alaska are quite variable ranging from abrupt rocky headlands to calm estuary environments, and sand and gravel shores with meadow vegetation blending into the forest edge. These marine/freshwater/terrestrial environments are interesting areas to explore, and provide habitat to a variety of wildlife species. A variety of micro habitats result from wind exposure, geology and soils, as well as tidal activity.

Sitka spruce, western and mountain hemlock, redcedar and yellow cedar are common trees in southeast Alaska. Deciduous trees encountered include cottonwood and red alder, along with tall shrubs including Sitka alder, various willow species, and occasionally Douglas maple and crabapple. Dead tree tops, or snags, will frequently be observed across the landscape. These snags are often the standing remains of red or yellow cedar trees, experiencing what is believed to be a climate-associated decline. Decay resistant properties of yellow cedar allow snags to remain standing for decades, adding to their visibility within our landscapes. Forest fires are very rare events in coastal Alaska, while wind can cause trees to blow down in small to large patches. This is one reason many of our forests have large amounts of downed woody debris on the forest floor.



*Thick stands of conifer trees frequently blanket the mountain slopes of coastal southeast and southcentral Alaska.*

## Alpine Environments

Alpine Photos: Rick Turner



*Alpine conditions occur on the tops of mountain ridges and are characterized by shrubby, low-stature vegetation and rocky outcrops.*

Growing conditions are harsh in these windswept environments, and the seasons are short. Hikers are rewarded with an array of flowering plants throughout the summer including saxifrage, heathers and azaleas, dwarf fireweed, shooting stars, paintbrush, lupine, gentian and other plants. Many wildlife and bird species seasonally inhabit the alpine zone. In the fall, distant views of alpine provide contrasts of muted yellows and browns with patches of bright red as foliage matures.



Alpine Photos: Rick Turner.

*Wildflowers dot alpine meadows in summer months*

## New Land -- Recently Deglaciaded Areas



*Active glaciers continue to leave their mark on coastal Alaskan landscapes.*

When glaciers retreat, they leave large expanses of gravels and denuded hill slopes in their wake. In the rainforest environments of coastal Alaska, these raw surfaces are colonized rather rapidly and in a somewhat predictable fashion by lichens, grasses, alder and willow shrubs, and spruce trees. Eventually hemlock trees and other plants will grow on sites as organic materials accumulate. Look for patterns of tree and shrub growth in glacial valleys, with youngest vegetation close to the glacier, and the “trimline” defining the historic top edge of the glacier on the valley walls.



*Smaller plants grow in the path of a retreating glacier.*