



Wetlands Fact Sheet #2

The Functional and Economic Values of Wetlands

Wetland Functions and Values

Wetlands provide important ecologic and economic benefits to the human, biological, and physical environment. These benefits are known as functions and values. Common wetland functions include:

- Fish and wildlife habitat
- Water quality protection
- Groundwater recharge and discharge
- Erosion protection and shoreline stabilization
- Recreation, education, cultural resources, and open space
- Flood control

Though wetlands perform a variety of functions, not all wetlands function equally and not all wetlands perform all functions. Factors affecting wetland function include location, size, vegetation diversity, hydrology, and disturbance level. Even though an individual wetland may not perform all wetland functions, the cumulative value of all wetlands in an entire watershed makes each important. Wetland values are the benefits to humans that are derived from a wetland's features, processes, or setting.

Fish and Wildlife Habitat

Wetlands are among the most biologically productive habitats in the world, providing substantial biodiversity. Many fish and wildlife species rely on wetland habitat for a variety of reasons, including breeding, nesting, foraging, travel, and refuge. Wetlands are important transition areas between terrestrial and aquatic habitats and can support a great diversity of species. Moose and other wildlife feed and migrate through wetlands. Fish species rely on wetlands for food and protection from predators. Wetlands also provide summer staging and breeding grounds for resident and migratory birds, including a variety of waterfowl and shorebird species.



Wetlands are critical for a healthy salmon population.

Water Quality

Wetlands help maintain water quality through filtration, purification, retention of sediment and toxic substances, and nutrient removal. Wetlands retain excess nutrients and filter sediments and other pollutants that might otherwise enter waterways. Examples of pollutants include fuel, oil, heavy metals, pesticides, and septic tank effluent. Peatlands, a common type of Mat-Su wetland, have a huge capacity to absorb sediments and pollutants. As water flows through wetlands, a large amount of suspended solids can be removed from the water.

Wetland vegetation also helps trap and filter suspended sediments. In urban and developing urban areas, trapping and retaining excess sediments, nutrients, and other pollutants is important, especially when a wetland is connected to groundwater or surface waterbodies important for fish habitat, drinking water, fishing, recreation, or other activities.

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Groundwater Recharge and Discharge

Wetlands can function as both recharge and discharge areas for groundwater. Wetlands absorb and hold surface water and allow it to slowly move into the groundwater. The replenishing of groundwater is particularly important in the Mat-Su because most residents and cities depend on groundwater for drinking water—especially the case in the Mat-Su Core Area, where wetlands help maintain the water quality and flow of shallow, unconfined aquifers. Wetlands are generally not isolated pockets, but rather are outcroppings of the water table: the same water used for drinking, washing, and cooking.

Many wetlands are created by groundwater discharge. Wetlands serve as the transition point between groundwater and surface water. The water exchange between groundwater aquifers and surface water provides a major pathway for the transfer of essential nutrients to plants. Discharged groundwater can serve as the primary source of water for wetlands, streams, lakes, and ponds. For example, wetlands can contribute to stream flow by allowing the groundwater to slowly be released into streams. This is an important function during dry periods of the year where the water levels of streams and water bodies may be low.

Erosion Protection and Shoreline Stabilization

Wetlands located along lakes, ponds, rivers, and streams help protect and stabilize the shoreline soils from erosion. Wetland plants can reduce wave action and provide shoreline stability by binding the soil in place with their root systems. Wetland vegetation controls shoreline soil erosion adjacent to Mat-Su lakes, rivers, and streams, and can collect soil that has eroded from upland areas, preventing its entry into a waterbody.

Recreation, Education, Cultural Resources, and Open Space

Wetlands and areas adjacent to wetlands support a wide range of recreational activities including fishing, dog mushing, snow machining, hunting, hiking, canoeing and boating, skiing, and wildlife viewing. These activities support our local economy and lifestyles. According to the MSB, Alaska residents visit the Mat-Su an estimated 3 million times each year for recreational purposes.

The sport fish industry is one of the key economic drivers in the Mat-Su. In addition to fishing, many residents and visitors hunt waterfowl and game species associated with wetlands, further adding to the local economy. The quality of these experiences depends in large measure on the health of the wetlands in the Mat-Su. In addition to these recreation opportunities, wetlands provide open space as well as educational and cultural resources opportunities.

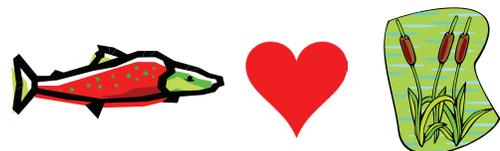
Flood Control

Wetlands help to regulate the flow of water. Although wetlands cannot prevent major flood events, they can serve to reduce damage and regulate stream flow during smaller, more common floods. Wetlands often function like sponges by slowing water or retaining it in underlying soils. Without wetlands, water would move much more quickly across the land and increase flooding and erosion of valuable soil, stream banks, homes, and fish habitat. By reducing the speed and amount of water entering rivers or streams, wetlands lessen the destructiveness of flooding. Repair of flood damages is expensive, whereas wetland protection can be a relatively low-cost preventative measure.

Wetlands absorb stormwater, which slows runoff and reduces flooding. This function is particularly important in urban areas where there are large areas of impervious surface, such as parking lots, which can lead to more rapid runoff and high peak flows.

All wetlands are not created equal.

While wetlands provide many ecologically important functions and benefits, not all wetlands perform all functions. When wetlands lose a function such as fish or wildlife habitat, it may not be replaceable. The consequences to wetlands values can have negative effects on local recreation, tourism, hunting, and fishing industries. Avoiding negative effects to wetlands through careful planning and management is vital to maintaining their functions and values.



SALMON LOVE WETLANDS