

# Assessing Functions and Values of Kenai Peninsula Wetlands

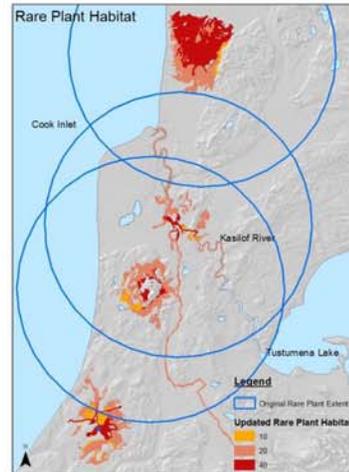
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The Homer Soil and Water Conservation District (HSWCD) is conducting wetland functional assessments on non-Federal lands of the Kenai Peninsula. This collaborative project, funded by the EPA's Wetland Program Development Grant, will give landowners and land managers information to make better land use decisions. The wetlands have already been mapped, and assessing their functions is the next logical step in wetland management for this rapidly developing area of Alaska. Wetland functions include things that wetlands "do", such as storing runoff from storms and snowmelt, contributing to stream flow, filtering waterborne sediment, and providing salmon habitat. The functional assessments concentrate on 3 major components; hydrology, biology, and social/community uses. The wetlands are being assessed at a landscape scale, primarily using GIS. The cities of Anchorage and Homer have done wetland assessments at a more detailed scale using methodology based on the Ontario Wetland Evaluation System. These methodologies are providing the foundation of the Kenai Peninsula assessment; however innovative departures from those methodologies are necessary, as all wetlands won't be visited. Experts from a wide variety of agencies and organizations are assisting with the development of the assessments. This input will help ensure the needs of a wide variety of users are met to the extent possible. The functional assessments are scheduled to be completed in spring 2012, and the information will be available to the public via the web. In this presentation, the focus is on several of the biology functions, and includes draft maps and methods based on input from many collaborators. This is not a comprehensive list of the biology functions being assessed in this project. This sample shows some of the challenges of making assessments without site visits, and the ways this project is using available data and professional knowledge to make valid functional assessments.



Significant Moose Habitat

Moose are recognized to be an important species on the Kenai Peninsula. Moose utilize the lowlands in the winter, and late winter habitat is crucial to their survival. Discussions with area biologists about the best way to identify important moose habitat led to an assessment utilizing a combination of elevation and vegetation. Contour lines derived from LIDAR (Light Detection And Ranging) data were overlaid on the wetlands map, and biologists used best professional judgment to determine that the 600 ft contour line should be used as the upper boundary of important late winter moose habitat. All wetlands below 600 ft were scored as having significant moose habitat. Secondly, willows are an important food source in late winter. Riparian zones and discharge slopes with willows at any elevation were also scored as having significant moose habitat.



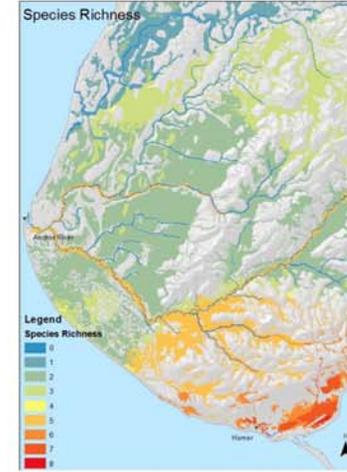
Rare Wetland Plants

The Alaska Natural Heritage Program (AKNHP) tracks rare plants and has made their locational database available for use in the wetland functional assessments. If the data were to be used in its original form, over 30 percent of the wetlands would have been considered to potentially contain rare wetland plants. To narrow this down, more precise locations were determined and buffered. Wetlands within a 1.25 mile buffer of the rare plant location were scored as being significant for rare plants, and wetlands within 0.5 miles were scored higher. The specific wetland habitat for each rare plant was also considered. For example, for rare aquatic plants, only wetlands with an open water component were included as potentially containing the rare plant. Nearby wetlands that didn't have open water were not excluded, as they were considered potential wetland support habitat, but were given a lower score as they are unlikely to contain the rare plant. By narrowing the focus of the rare plant data, there were 855 wetland polygons scored for the rare plant function rather than the 6080 that were originally included.



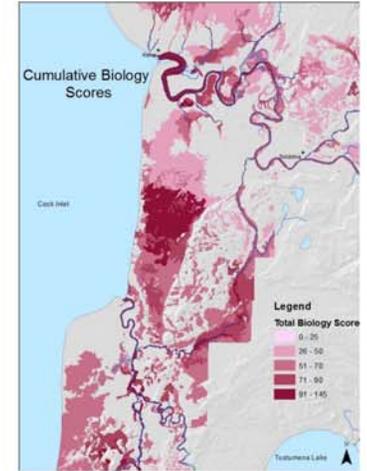
Significant Salmon Habitat

Salmon are an important resource on the Kenai Peninsula, and wetlands provide important habitat for them. The salmon habitat function shown here is based directly on Mike Gracz's habitat functions found at <http://www.kenaiwetlands.net/Habitat.htm>. Scoring is based essentially on distance from anadromous streams, and on presence of open water. This function will be further refined as stream networks and watersheds are updated using the LIDAR data as part of this assessment project.



Species Richness

A suite of animal species of concern tracked by AKNHP at <http://aknhp.uaa.alaska.edu/maps/biotics/>, along with caribou habitat and potential sandhill crane nesting habitat assessed by Mike Gracz at <http://www.kenaiwetlands.net/Habitat.htm>, was used cumulatively as a measure of species richness. The species tracked includes fish, frogs, mollusks, birds, and mammals. This diverse suite of species was hypothesized to be an adequate measure of a wetland's ability to support a myriad of animal species. Wetlands were scored based on the number of species supported.



Cumulative Biology Function Score

The results of the previous four assessments were added for a cumulative biology function score in order to look for areas that provide significant habitat for many species that utilize wetlands. This can help land managers make decisions about how to best manage lands under their care, and to more clearly visualize concentrations of significant habitat.

This project would not be possible without the support of our many collaborators, including: Environmental Protection Agency, US Fish & Wildlife Service, US Forest Service, Natural Resources Conservation Service, US Army Corps of Engineers, Alaska Department of Fish and Game, Alaska Department of Natural Resources, Kachemak Bay Research Reserve, Alaska Natural Heritage Program, Kenai Peninsula Borough, City of Homer, Cook Inletkeeper, Kenai Watershed Forum, and Resurrection Bay Conservation Alliance. Thank you all for your input, guidance, and feedback. All maps and methods described are drafts and should be treated as such. For more information on this project, please visit our website <http://www.homerswcd.org/>, email Karyn@homerswcd.org, or Devony@homerswcd.org, or call our office in Homer (907)235-8177 ext. 5.