

Contributions of the North Fork Road Shallow Aquifer System and Wetlands to the Lower Anchor River, Anchorage Point, Alaska.

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The Anchor River Watershed contains a wide spectrum of natural and biological resources, including those used by the fishing, gravel and forest products industries. The Homer Soil and Water Conservation District contracted with Coble Geophysical Services to study the contributions of wetlands and the shallow aquifer system to the surface water resources of the Lower Anchor River watershed. The purpose of the study is to promote a better understanding of the Lower Anchor River watershed. The specific study area, which is mostly bounded by rivers that border the North Fork Road and the Sterling Highway, comprises approximately 10% of the drainage area of the Anchor River. Numerous domestic wells, as well as a previous study have been incorporated into the data set to determine the groundwater potentials. Since much of the useful aquifer data is located around the perimeter of the study area, a drilling program was included to augment the groundwater data set. Pumping tests on the recently drilled wells provided groundwater parameters that help describe the shallow aquifer system. Surface water discharge measurements of the streams in the study area have also been measured. This information has been assembled into the USGS MODFLOW numerical groundwater model to simulate steady-state groundwater-surface water interaction. The final model will be capable of quantifying a range of impacts of various land uses within the study area, which is a useful tool to resource managers and the public.

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