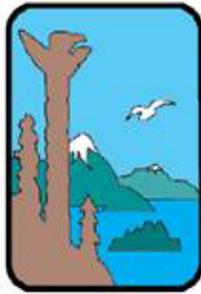


ALASKA
Department of
Environmental
Conservation



**Alaska Department of
Environmental Conservation
Division of Water**

Little Susitna River

FACT SHEET

Little Susitna River: At-risk of impairment

In 2007 the Department of Environmental Conservation (DEC) conducted water quality sampling for petroleum hydrocarbon on the Little Susitna River from the Parks Highway bridge downstream to below the Public Use Facility (PUF) located at river mile 25. Results led to more intensive petroleum hydrocarbon investigations in 2008, 2009 and planned for 2010. Sampling events coincide with the Chinook salmon (May – June) and coho salmon (July – September) fisheries. River miles 15-27 have been found to periodically exceed the water quality standard for petroleum hydrocarbons. Petroleum hydrocarbons above certain levels have the potential to negatively affect aquatic organisms.

Findings

Data collected during the fall 2007, spring 2008, fall 2008, and spring 2009 document concentrations of total aromatic hydrocarbons (TAH) that exceeded the water quality standard of 10 µg /L. Each season of sampling built on information learned during the previous sampling. The majority of the sampling was conducted on Sundays (generally the highest use day) between 12:00 noon and 16:00 during May – September.

TAH exceedances ranged from slightly over 10 µg /L to over 75 µg /L (recorded 0.5 km below the PUF at LS-4 in spring 2008.) While not above the water quality standard, several samples had TAH concentrations that approached the standard. Concentrations exceeded state standards more often during August of 2008 when the number of boats was high and discharge was between 390 and 425 cfs. Exceedances also occurred in June 2008 but June 2009 had fewer exceedances most likely due to higher river discharge.

The likelihood of exceeding the water quality standards for TAH is closely related to the amount of discharge in the river and motor boat use. Outboard

February 1, 2010

engines are the source of the hydrocarbons. High concentrations of TAH coincided with high boat counts and low flows.

Summary of Total Aromatic Hydrocarbon (TAH) Sampling

DEC WQS	Max. Observed Value	# samples exceeding WQS	Total # samples	Sampling Period
10 µg /L TAH	75.2 µg /L	29	72	May-Aug 2008
	12.7 µg /L	2	49	May-June 2009

Conclusion

The DEC considers the lower section of the Little Susitna River (RM 15 to RM 27) as at-risk of water quality impairment from petroleum hydrocarbon (TAH) pollution. Additional data is needed to fully characterize the extent, magnitude and duration of the TAH inputs to the river and to establish attainment with water quality standards. Although the May – June 2009 data indicates a decrease in TAH exceedances, it is important to note that there were high waters levels in the river during this time period along with poor Chinook salmon returns which impacted the pattern of motorized boat use on the river.

If continued improvements in the water quality are not observed over the upcoming open water seasons, the DEC may be compelled to list this section of the river as an impaired Category 5 water under the Clean Water Action section 303(d). Since the water is at-risk of pollution impairment and the Departments of Natural Resources and Fish & Game have authorities in managing and regulating this section of the river, DEC has briefed these agencies of our concerns. DEC has requested their assistance in addressing the petroleum pollution issue.

The complete reports of findings from the studies can be found at:

http://dec.alaska.gov/water/wnpssc/protection_restoration/LittleSusitnaWQ/index.htm

