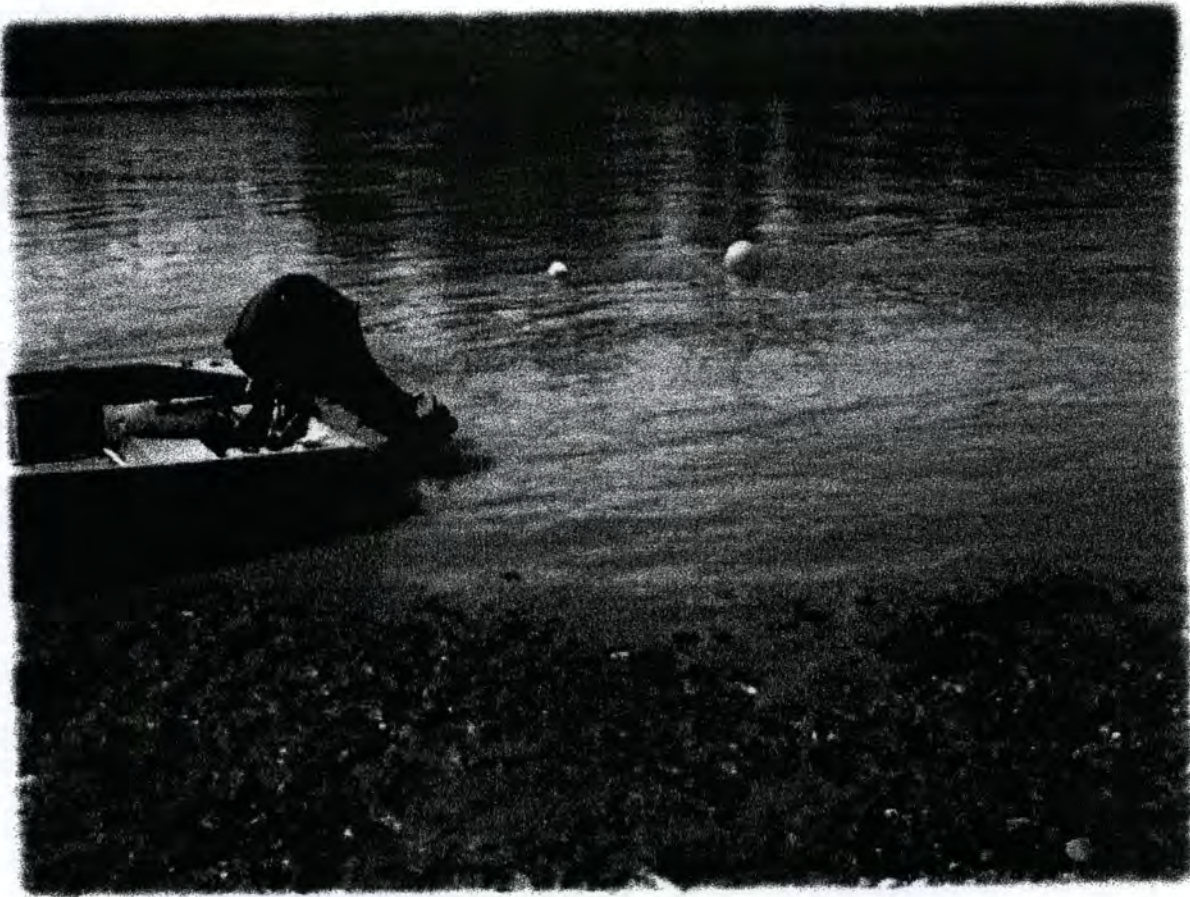


RC 206

**Turbidity Monitoring** Dwight Kramer  
**on the Lower Kenai River, 2008-2010**



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# Turbidity Monitoring on the Lower Kenai River, 2008-2010

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## EXECUTIVE SUMMARY

*From 2008-2010, the Kenai Watershed Forum (KWF) monitored turbidity at several sites on the lower Kenai River. The objectives of this three-year study were to: (1) observe and determine key characteristics of turbidity in the lower Kenai River; (2) to collect relevant data to define baseline conditions for turbidity in the lower Kenai River; and (3) to analyze how often, if ever, Alaska Department of Environmental Conservation (ADEC) water quality standards for turbidity were exceeded at each sampling location. Monitoring has led to a better understanding of turbidity levels in the lower Kenai River and the establishment of baseline conditions. Based on analysis of data from this project, KWF found evidence that state turbidity standards were exceeded on several occasions. Analysis also revealed a strong correlation between high boat traffic and elevated turbidity. The results presented in this document are intended to assist river managers in making informed decisions regarding human use of the river with respect to established water quality standards.*

The Kenai Watershed Forum prepared an original draft report in July 2011. That report underwent a peer review in the winter and spring of 2012 a revised report incorporating peer review comments was prepared in July of 2012. A subsequent internal ADEC review found one mathematical error in the Fall of 2012. The authors prepared a memorandum to revise the natural condition value and hours of exceedances calculations for the Statistical Characterization Methodology contained in Section 3.3.3 and Appendix B of the *Turbidity Monitoring on the Lower Kenai River, 2008-2010* peer reviewed report. This revision incorporates the findings outlined in the Sept. 7, 2012 memorandum from Kenai Watershed Forum to ADEC.

Specifically, the natural condition value for the reference site established at river mile 23 was revised downward. The revision also increased the number of hours river mile 11.5 exceeded state water quality turbidity standards. Since the changes were purely mathematical a peer review was not conducted.

**Final Report Date:** June 29, 2012

**Revision:** December 11, 2012

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This information is taken from the following report

RC

Turbidity Monitoring on the Lower Kenai River, 2008 - 2010.  
a peer reviewed report to the Alaska Department of Environmental Conservation:

[http://dec.alaska.gov/water/wnpssc/protection\\_restoration/KenaiRiverWQ/pdfs/KWF\\_KENAI\\_RIVER\\_TURBIDITY\\_REPORT.pdf](http://dec.alaska.gov/water/wnpssc/protection_restoration/KenaiRiverWQ/pdfs/KWF_KENAI_RIVER_TURBIDITY_REPORT.pdf)

The report characterizes the range of natural variability of turbidity in the Kenai River and reports the relationship between turbidity and powerboat traffic.

The Full Range of Natural Variability for Kenai River Turbidity at River Mile 11.5.

<5 to 100.5 NTU - The unit by which turbidity is measured.

The upper natural value was recorded during the rising limb of flooding condition when the river was closed to boat traffic.

The extreme value of naturally occurring conditions (100.5 NTUs) is routinely exceeded on non-Mondays in July as shown in figure 4. page 14 of the report.

Executing the powerboat fishery in the present day manner is a violation of:

5AAC 39.322 Policy for the management of sustainable salmon fisheries section (c) (1) (A) (i) salmon habitats should not be perturbed beyond the natural bounds of variation.

It is also a violation of the State of Alaska's water quality standards for both the propagation of fish and wildlife and recreation where the standard for this section of the river should not exceed 25 NTUs or 10 NTUs above the 90th percentile respectively, also explained in the report..

**RM 11.5 Turbidity vs. Boat Wake Count (7/17/09-7/22/09)**

