

Thank You! The following people have recently contributed to the Kenai Watershed Forum.

- | | | |
|--|---|--|
| <u>\$250</u> John & Betty Kobylarz | Curt Wilcox & Laura Sievert Roy & Sharon Baldwin Janette Cadieux & Theo Lexmond David & Kathy Wartinbee Catherine Cassidy & Erik Huebsch | Charles & Margaret Sims Lyn Rodeheffer Nicole Gustine Lawrence Heward Don & Trish Roderick John & Janet Brewer Paul Moses Linda Story |
| <u>\$200</u> Marge Mullen | | |
| <u>\$100 River Steward</u> Jim & Betty Harris Mavis & Ken Lancaster Warren & Elizabeth Hoflich Peter Micciche Jerry, Shelly, & Ancel Brenneman Bill & Susan Larned Jim & Cas Czarnecki Bill & Becky Hutchinson Nancy Mitchell Mary Bozza Roger & Marlene Byerly Brenda Stoops & Paul Dale Liz Schmitt & Bobby Correia | <u>\$50 Chinook</u> Michael Bell Bill & Lois Nelson Mary Jo Joiner Janice Rodes Sue Mauger Gary & Coleen Sonnevil Ginny & David Litchfield Tom & Lyn Hodel Alice Hall O'Connor | <u>\$10 Smolt</u> Jim Fisher |
| | | <u>Additional Contributions</u> William Kenyon Cheri Edwards |
| | <u>\$25 Sockeye</u> Jerry Dixon | |

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CURRENTS



Newsletter of the Kenai Watershed Forum

Fall 2006

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Should the Kenai River be listed as Impaired?



In a word, YES. The Kenai River is too important to too many people to continue allowing thousands of gallons of raw gasoline to run through the estuary of this magnificent resource. If

you've been following KWF's work over recent years, you know for a fact that fuel concentration exceeds state established water quality standards and you know for a fact that this fuel is coming from outboard motors. We now know for a fact that there must be more incentive for regulatory agencies to deal with this issue.

The state agencies responsible for ensuring protection of the Kenai River have also known for years that water quality standards are being violated, because we've told them. They have either chosen to turn a blind eye or when they attempt to address it they are upended by a handful of politically connected individuals. Meanwhile user groups take center stage and continue to bicker about issues that have nothing to do with protecting the river. An impaired listing is an undesirable "tag" to have attached to our river, but the Clean Water Act was designed to address this exact scenario – sort of a line in the sand to say enough is enough. Let's get on with fixing an identified problem. An impaired status will require that the regulatory agencies must come together and form a plan to reduce the amount of fuel in the river such that it does not exceed water quality standards.

For more information about the Clean Water Act give us a call or drop by and pick up a CWA packet. The comment period on this issue is open and we encourage you to respond. Please see page 2 for more information regarding the comment period.

Motor Buy Back Program

The Motor Buy Back Program is up and running! This is a stewardship program designed to reduce the hydrocarbons in the Kenai River. After six years of testing it is apparent that the Kenai River exceeded hydrocarbon levels allowable by state law. This year we had almost 2x the allowable limit. A simple equation told us that over 10,000 gallons of gasoline entered the river during the summer. Continued study clearly showed that the majority of this gasoline is being emitted from inefficient boat motors. The buy back program is a conservation effort to reduce known water

Continued on page 2



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Kenai River Listed in Draft Integrated Report Your comments are needed!

The 2006 Proposed Integrated Report from Alaska Department of Environmental Conservation is currently out to public notice. The section of the Kenai River from Slikok Creek downstream to Cook Inlet is listed as impaired because petroleum hydrocarbons exceed standards.

This is significant. The call for written public comments is now open, so we encourage you to review the report and make comments. It is rather a sad state that in order to finally deal with the issue of fuel contamination, listing the river as impaired is the appropriate next step. As an organization, KWF will be supporting the listing, only because state agencies haven't been able to focus their attention on a solution.

DEC has a web page with the Proposed Report, supporting documents and public notice information at:

http://www.dec.state.ak.us/water/draft_2006_integrated_report.htm

A straightforward fact sheet on the whole document is available at this link:

http://www.dec.state.ak.us/water/pdf/IR_factsheet.pdf

DEADLINE for submissions is 5 PM Alaska Time, December 1, 2006.

Send written comments to:

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PO Box 11180
410 Willoughby Ave Ste. 303
Juneau, AK 99801
drew_grant@dec.state.ak.us
Phone: 907-465-5304
Fax: 907-465-5274

Motors, from page 1

pollution in the Kenai River, by reducing the number of high emission two-stroke motors.

Through a grant from the Kenaitze Indian Tribe, we are able to offer \$500 towards the purchase of a motor that meets 2006 EPA standards, when an older two-stroke motor is taken off the river and turned in. Guidelines, information, and application forms are available on our website at www.kenaiwatershed.org.

Thus far, 40 motors have been traded in and another 20 are in the works. This program has funding for a total of 200 motors. In addition to the \$500, motor companies may offer additional incentives.

Some may wonder, "What is happening to the old 2-stroke motors?" The old motors will be dismantled and shipped out for recycling. Materials recovered from two-stroke marine engines include aluminum (80.9%), steel (10.1%), copper (5.2%), and plastic (3.8%).

KWF and Ms. Stroh and Ms. Sheldon's 2nd and 3rd grade classes at Kaleidoscope School organized a clean-up of No Name Creek in Kenai. The students pulled nearly two tons of trash from the creek that day! MaY 2006



Two students filling their trash bags with debris pulled from No Name Creek in Kenai during the clean-up. May 2006



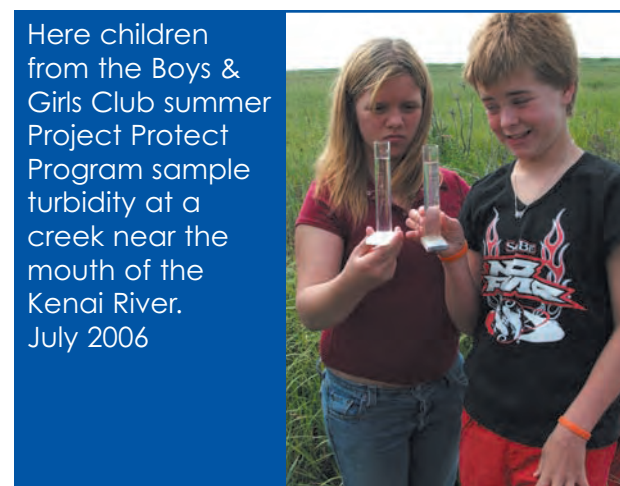
Mr. Daniel's 4th grade class from K-Beach Elementary adopts a wetland. During this wetland visit the students collected juvenile salmon and aquatic insects for identification. They also performed water quality tests and took part in a wetland clean-up. October 2006



Students in Mrs. Barnes class at Nikiski/North Star designed their own watershed models. They then tested their theories on hydrology. These students also participated in groundwater experiments and a study of Lake Arness. April 2006



Students experiment with KWF's watershed model at Kenaitze Science Camp. This was the first year we participated in the science camp, which was orgnized by Brenda Trefon from Kenaitze Indian Tribe. June 2006



Here children from the Boys & Girls Club summer Project Protect Program sample turbidity at a creek near the mouth of the Kenai River. July 2006

KWF Education

Adopt-A-Stream and Watershed Education 2006/07 Schools & Groups

Kaleidoscope Elementary
Tustumena Elementary
K-Beach Elementary
Nikiski/North Star Elementary
Mountain View Elementary
Soldotna Montessori
Reads Primary School
McNeil Canyon Elementary
Boys & Girls Club
After the Bell Program
Kenaitze Science Program

Caring for the Kenai winner, Marit Hartvigson, received national recognition for her project, a streamwalk on Slikok Creek. Marit received the Presidential Environmental Youth Award for her efforts. KWF administers the Caring for the Kenai partnership. May 2006



Dan (in the orange hat) is our newest addition to the KWF education department. Dan is leading a watershed hike that culminated at the mouth of the Kasilof River. These Tustumena Elementary students from Ms. Balise's class are building watershed models in the sand, just one part of a year-long program. September 2006

Skuq'a, our 20' salmon, makes an appearance at this year's Kenai River Festival. June 2006



Kaleidoscope students spoke at a Kenai City Council meeting about the water quality testing they conducted each month during the school year. They also invited the council to aid in their creek clean-up. Here we have Mrs. Sheldon holding the display while Danielle presents. May 2006

Seward Mapping

Mike Gracz is wrapping up the successful Kenai Lowland Wetland Mapping Project by mapping the wetlands around Seward.

The Lowlands project was able to leverage Natural Resources Conservation Service data and mapping materials used to map Western Kenai soils. Seward area soils have never been described or mapped. Retired NRCS soil scientist Doug VanPatten, who led the Western Kenai Soil Mapping Project, was retained to describe Seward soils, a critical part of understanding wetlands.

Preliminary wetland boundaries were digitized this past spring. Mike and Doug visited Seward this summer to verify those boundaries, and collect plant, soils, and hydrology data, and stay away from bears. They visited 210 of the 457 wetlands mapped. Soils, plants and hydrology were described in detail at 70 sites, and 154 wetlands were photographed. Wetlands cover about 3600 acres of the 20,000 acre project area. They stayed away from one large nearby bear.

Seward wetlands are dominated by three processes: saltwater tides, glacial-fed river systems, and peat accumulation. All these wetlands provide habitat and flood control, along with other important functions. Tidewater wetlands are



Mike in the field near Seward assessing wetlands for the Kenai Lowland Wetland Mapping Project.

especially important for out-migrating smolt. Seward area glacial-fed rivers flood often and deposit monumental amounts of gravel. Associated floodplain wetlands store significant amounts of storm precipitation, which helps limit flooding. Peat has been accumulating in bedrock depressions since the end of the last glaciation, about 10,000 years ago. These peatlands are connected to the stream and river network, and help buffer floods by absorbing fall rains after a summer dry period.

Mike and Doug are now editing and summarizing data, and writing descriptions. Look for the Seward map online at the Borough's parcel data viewer by January. For more information, visit <http://www.kenaiwetlands.net>.

Ditching Woes



These photos were taken this summer during a site visit. As you can see, a fish stream was altered. We would like to see it restored.

While we assessed culverts for fish passage this summer under a grant from the US Fish & Wildlife Service, we needed to adjust the Alaska Dept. of Fish & Game map to reflect the true location of a couple of cataloged streams. In the process of one of these remapping exercises, we stumbled across what appears to be an inappropriate ditching and diversion of a cataloged anadromous fish stream.

A site visit showed this to be another apparent case of a gravel pit operation moving a fish stream to the boundary its property, while also lowering the local water table to allow for more efficient mining. Regulatory issues include: a) title 41 permitting, b) side cast of ditching into riparian wetlands, c) creation of fish passage barriers (waterfalls created during excavation), and d) turbidity (during excavation and drainage runoff).

It is difficult to show in a photo how lowering the base elevation has affected the surrounding wetlands and the stream, but the natural stream above the ditching has responded by creating a series of distributaries that are shallow and drop ~ 2' into the ditch along the northern edge. In such a low gradient area, this probably drains 10s of acres and has created a passage barrier.



We would like to see this stream restored, with a more natural channel geometry or some form of mitigation.

Bean Creek Restoration

A success by all measures!



Culvert at Raven Road crossing of Bean Creek. This culvert was improperly sized and perched 18" above the stream. Juvenile fish cannot make this leap, so several miles of salmon habitat were blocked.

Bean Creek is a tributary of the world famous Kenai River, providing nursing grounds for KING SALMON and many other species. About a mile upstream from the Kenai River, Raven Road crosses this stream. The culvert under Raven Road was too small and suspended about a foot and a half above the natural stream. This "perch" blocked all juvenile salmon from reaching their preferred nursery. We identified this site in 2005 and fixed it this summer.

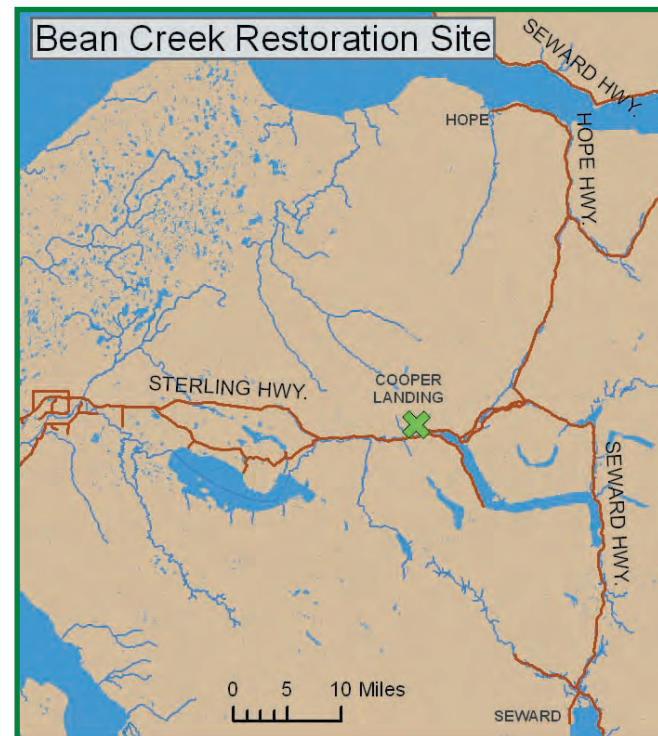
As you can see from the photos and captions, culvert replacement and stream restoration projects have major construction components that come with a hefty price. This project cost roughly \$115,000 - a small amount compared to upcoming projects. In 2007, we are expecting to spend nearly \$500,000 on Leaf and Slikok Creeks. Ideally we would like to have planners design and develop roads with a better understanding of how to properly cross an anadromous stream. Until then, we'll continue to fix these crossings one by one.

Partners in this effort

US Fish & Wildlife Service
 Alaska Dept. of Fish & Game
 Natural Resource Conservation Service
 D&L Construction
 Wince, Corthell, Bryson



Juvenile king salmon caught in the plunge pool below the culvert. This fish was probably born in the Kenai River and was working its way to more fertile rearing habitat when it was blocked by the poorly designed culvert.

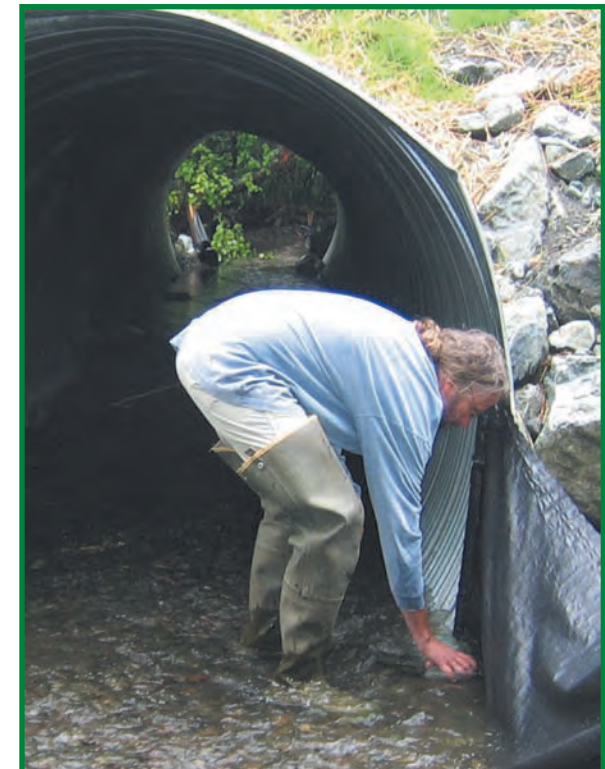


D&L Construction did an outstanding job on this project. Here they are removing the old pipe.



Steps taken to complete a fish passage project

1. Identify priority sites and secure project funding
2. Measure stream width, depth, and slope
3. Analyze stream sediment
4. Work with engineering firm to design plans that simulate the stream width, depth, and slope
5. Get permits from multiple agencies
6. Hire construction contractors and order pipe or other structure
7. Divert stream around existing culvert
8. Remove old culvert
9. Replace with new culvert as per permits
10. Fill ~20% of the new culvert with gravel/sand mixture similar to the natural stream
11. Close diversion and return water to designed channel in new culvert
12. Stabilize the road slope with rock and native vegetation
13. Monitor the results over time



Final touches to help keep sediment out of the stream while newly planted vegetation takes hold.

PROJECT COMPLETE!



Success! Moments after water was released into the new culvert, we were able to stand on the bank upstream and watch juvenile king salmon jet through the new culvert.