

“To provide education and leadership in the conservation and sustainable use of soil- and water- related resources through cooperative programs that protect, restore and improve our environment.”



Natural Currents

SPRING ISSUE:

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- Welcome Devony Lehner!

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District Completes “Invasive Plants Taking Root in Alaska” Curriculum for Grades 9-12

The Homer District recently released a new resource for Kenai Peninsula educators. “*Invasive Plants Taking Root in Alaska*” is a curriculum for grades 9-12, that was recently distributed to high school science teachers throughout the Kenai Peninsula Borough School District earlier this month. Developed by Invasive Plant Program Coordinator, Caleb Slemmons, the curriculum will introduce the topic of invasive plants and encourage students to investigate this important and locally-relevant issue.

The curriculum includes a variety of modules including an online mapping exercise where students can check out local maps of invasive ornamental plants

that have been recorded. The mapping exercise challenges students to consider the distribution of invasive plants and compare different areas on the Peninsula and around the State.

It also includes several lab exercises and even a game where students can “call the shots” in an invasive plant management scenario. Students learn in the exercise about the importance of eradicating an invasive plant infestation early and about working cooperatively with community stakeholders. The exercise allows students to make independent decisions and learn about tough, real-life management choices

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When it Rains... Does it Drain? Impervious Cover Report

A report recently completed by Cook Inletkeeper: *Mapping Impervious Cover to Correlate Land Use Activities with Salmon Health & Habitat on the Lower Kenai Peninsula*, documents how much impervious cover exists in the Deep Creek, Ninilchik River, Stariski Creek and Anchor River watersheds.

Impervious cover are land areas such as paved roads and driveways, roofs and other surfaces which do not allow precipitation to percolate naturally into

the soil. The amount of impervious cover in a watershed provides a fairly good estimate of potential development pressures on local waterbodies. Nation-wide studies have reliably shown that the amount of impervious coverage is a good indicator of fish habitat and water quality within a watershed.

As the amount of impervious cover in a landscape increases, a chain of events begins that alters the way water is

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WHAT ARE SNOW SURVEYS ?

There are nine sites on the Lower Peninsula called snow courses that are monitored for snow depth, water content and density. As part of a network of sites operated by the Natural Resources Conservation Service (NRCS), these sites provide data for a variety of applications from climate modeling to local skiing conditions.

The Homer District assists this important monitoring effort providing personnel for monitoring through a cooperative agreement with NRCS. For more info about Alaska snow surveys or to view real-time data from automated sites (called SNO-TEL) see <http://www.ak.nrcs.usda.gov/snow>

Shirley Shollenberg weighs a snow core at the Bridge Creek snow survey site.



SALMON STREAM MONITORING ADVISORY MEETING

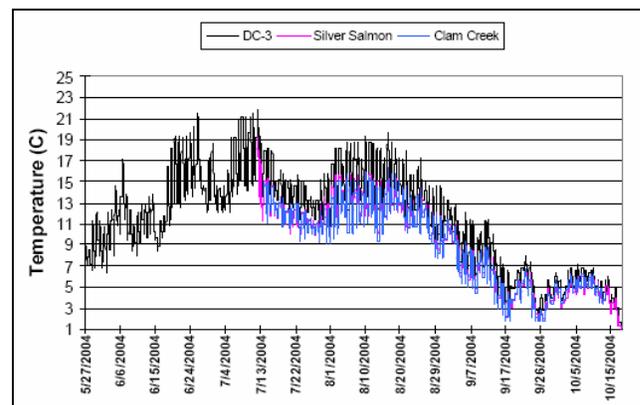
At a recent meeting of professionals and community members the decision was made to discontinue the effort to determine the source of elevated phosphorus levels in local salmon streams. Attendees at the meeting comprise the Technical Advisory Committee for the District's ongoing salmon stream, water quality monitoring project in cooperation with Cook Inletkeeper. Committee members remarked that elevated levels of phosphorus do not seem to be having a negative effect on salmon stocks and the source may actually be from natural geological weathering processes on the lower Kenai Peninsula.

However, the committee continued to express their concern regarding elevated stream temperatures. Prior monitoring efforts have revealed that salmon streams on the lower Peninsula are warming. They are frequently found to be exceeding State-assigned standards set to protect spawning and migrating fish. In 2002, temperatures exceeded Alaska's standards for egg and fry incubation on more than 50 summer days. By 2005, exceedences occurred on more than 80 days on Lower Peninsula streams.

Results of monitoring have also indicated in several streams on the Lower Peninsula, that water temperatures increase further downstream. Impervious cover (see *"When it Rains...Does it Drain?"* On Page 1) has a similar pattern, increasing from headwaters to lower reaches. Advisory Committee members felt that a causal link may

exist between these factors. Though additional study will be required to investigate this possibility. Temperature loggers will again be deployed in May to further track temperature extremes and patterns.

The TAC also determined it was very essential to identify key habitat reaches for salmon and establish whether lower temperatures in these important areas play a role in making it more suitable for fish. This summer, juvenile fish use of habitats on the North and South Fork and the main stem of the Anchor River will be characterized and mapped. Fish use of these identified reaches of the streams will be assessed through marking and recapturing fish throughout the study period.



Temperature profiles in the lower Deep Creek watershed. From 2005 AQWA Report, Cook Inletkeeper

INVASIVE PLANT CURRICULUM CONTINUED...

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and their consequences along the way.

Other modules include lab activities and other hands-on experiences to help students understand the devastating impact that invasive plants can have on native plants, agriculture and the economy. The modules were also designed with the busy, over-committed educator in mind. Special care was taken to make the curriculum easy to integrate into biology and other science classes. It also includes a guide to Alaska State Science Standards that can be met with various sections of the curriculum. Free packets have been provided to Peninsula high school science teachers and environmental educators through a grant from the Alaska Association of

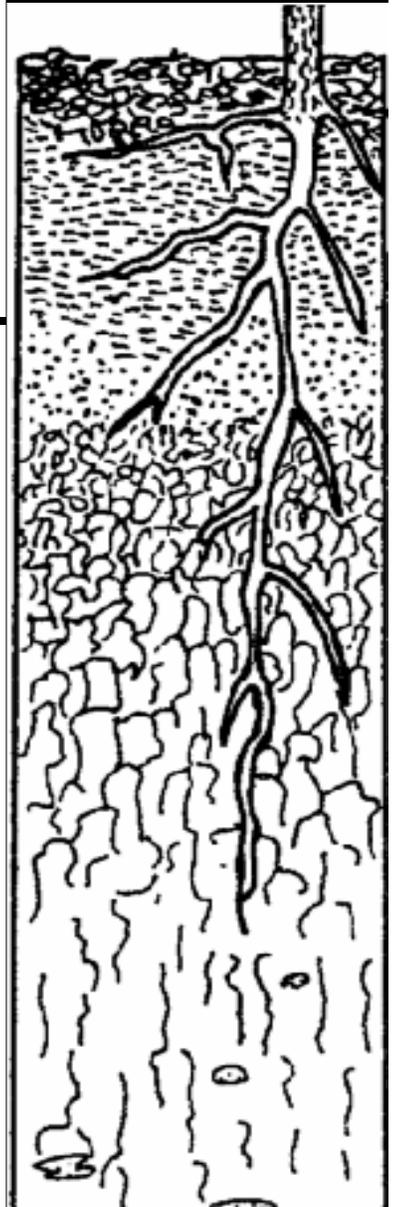
Conservation Districts and US Forest Service – State and Private Forestry. Although the curriculum was written specifically for the Kenai Peninsula, most of the modules will be useful for teachers statewide and are available on the District's webpage under the Education heading.

Opportunities still exist to identify and prevent ecological problems of many noxious and invasive plant species in Southcentral Alaska. Our youth represent the greatest hope in protecting Alaska's diverse resources. This curriculum is part of a crucial step in ensuring that Alaskans are aware and knowledgeable about the impacts of invasive plants.

Sign-up for Soil Testing

Thinking about Spring? The District is starting sign-up for soil testing requests.

Remember. If you are signed up for NRCS nutrient management program you are required to do soil testing for the first three years to establish a baseline for nutrient levels.



IMPERVIOUS COVER CONTINUED...

(Continued from page 1)

transported and stored, which can affect the entire local water cycle. Once this chain of events commences, the effects may be far-reaching, and can result in degraded fish and wildlife habitat, decreased water quality, changes in surface and groundwater flow, and impacts to near-shore estuarine habitat.

The percent of impervious cover in lower Kenai Peninsula's salmon-rich watersheds (average = 1.1%) is less than the level typically associated with water quality and habitat degradation.

However, results of this analysis, which was funded by the U.S Fish and Wildlife Service with GIS-support from the Kenai Watershed Forum, were based on 2002-3 satellite imagery.

Impervious cover analysis should be undertaken again in 5 – 10 years in this fast-growing region. For this baseline analysis to be most valuable, future impervious cover assessments should be scheduled and planned.

For more information about this project, or to download the full report visit Cook Inletkeeper's website at <http://www.inletkeeper.org/salmon/Impervious.htm>



Infected plants may have a mildew-like halo on the leaves.

WATCH FOR: POTATO BLIGHT

Late Potato Blight (*Phytophthora infestans*) was first documented in Alaska in 1995. Conditions in 2005 and last summer were conducive to the spread of the “fungus-like” organism from diseased stock in the Matanuska Valley. Although not yet recorded on the Kenai Peninsula, Late Blight could be a serious threat to gardeners producing potatoes.

What can you do?

1. Request certified seed potatoes from a reliable source.
2. Plant left-over stock from last year if disease-free.
3. You should not plant seed potatoes from the grocery store

Severely infected tubers will have a strong rotting odor and circular, necrotic lesions on the leaves (see photo at left).

If you observe the symptoms of Late Blight contact Tom Jahns, UAF Cooperative Extension Agent at 1-800-478-5824.

RECREATION TRAIL GRANT AWARDED FOR DEMO FOREST IMPROVEMENTS

This year will bear some major changes in the Homer Demonstration Forest (HDF). Recently the District received approval for funding through the Alaska Recreation Trail Grant Program. This program, administered by Alaska Department of Natural Resources, is available for “trail development, trail maintenance, environmental protection or safety education programs relating to trail use”.

This summer the Homer District’s projects at the HDF will complement ongoing boardwalk construction and establish a durable all-season trail. Visitors will experience a different HDF and positive changes as a result of planned trail improvements. Extensive trail hardening and marking will render the entire facility considerably more accessible and easier to navigate. One much needed improvement, will be installation of permanent trail maps with color-coded trail markers that will help visitors navigate the HDF and increase its overall value to our local community.

Boardwalk construction can be an important part of mitigating damage to sensitive wetlands damaged by extensive trails use. The District plans to complete boardwalk construction in 2007 as part of a contract with USDA’s Natural Resources Conservation Service through the Wildlife Habitat Incentive Program. Currently, about 900 feet of boardwalk remains to complete the contract for a total of about 2,500 feet of boardwalk. This project seeks

to protect the soil and water resources and permit both recreational and maintenance trail use. Traffic through the HDF will also be directed through a more consolidated trail system which will minimize the overall environmental impact of trail use.

The HDF Arboretum will also benefit from improvements this summer. Based on valuable expertise from Hansel Klausner (Homer Tree Stewards) and Mitch Michaud (Natural Resources Conservation Service), the Arboretum will receive applications of fertilizer and mulching to improve the culture of trees in the Arboretum. A new interpretive sign will also be installed as an added educational opportunity to HDF visitors.

All of these exciting projects evolved from management guidelines laid-out in the HDF Management Plan, which was finalized in December. The Plan was developed by the Homer District with guidance from the Alaska Division of Forestry and the HDF Steering Committee. The final document is now available on the Homer District’s website under the Forestry heading.

Questions about the HDF and planned improvements, contact Special Projects Coordinator, Seth Ex.

ALMOST READY... NATURAL RESOURCE CLASS UPDATE



Natural Resource Class students get a well rounded experience.

Under the guidance of Al Poindexter, Homer District Education Coordinator, they have learned about soils, water quality, forestry and have even investigated alternative energies (see photos above).

Starting with 11 motivated High School Students in September, the Homer Soil and Water Conservation District's sponsored Natural Resource Technology class has trimmed down to a lean 8- student team that is preparing for the state-wide Envirothon Competition led by the Alaska Association of Conservation Districts in partnership with the Alaska FFA Conference.

The Envirothon is an all day field exam culminating with a team presentation of a solution to a energy problem that they were presented with the day before. This is also the only High School Natural Resources education and competition dealing with these topics in the state. The Competition will be held at Chena Hot Springs for the 3rd year in a row, April 25th and 26th.

The winning team will be representing Alaska in the

North American Canon Envirothon in New York this July 29-Aug.4.

The Homer team has won the state event the last three years and placed 10th in the nation last year! They have three returning team members on this years team but will be challenged by two Kodiak teams, four Fairbanks teams, four Palmer teams, a team from Ninilchik and one from Kenai Central. Competition will be intense but the Homer students say they are excited and ready for it.

The Homer students have been honing their skills in preparation for the competition and have also studied alternative energy sources and tradeoffs that pertain to each. They even created hydrogen and ran a fuel cell car. They have worked with foresters, soil scientists and stream ecologists in preparation for the event. Students have become astute with natural resource management strategies to ensure maximum yield and still maintain the highest quality of affected resources. They are almost ready to run through the paces and see how their intensive study and hard work has paid off.

Students competing this year are Chelsey Nieman, Katie and Lilli Connor, Tyler Haas, Anna Duz, Crystal Billings, Jessica Jones, and Hannah Bradley.

Anna Duz from Homer placed 2nd in the Alaska Association of Conservation District Speech and Poster Contest at the Spring Meeting.

Congrats Anna!



“Conducted over five consecutive days every summer during July or August, the Canon Envirothon is a competition comprising five testing/training stations and an oral presentation component.”

(Canon Envirothon website <http://www.envirothon.org>)

UPCOMING EVENTS & DEADLINES

April 25th—Homer Natural Resource Class competes at Canon Envirothon

April 28th—Annual Electronics Recycling Event at Spenard Builders Supply. For more info contact Nina at 235-6262

May 17th - 5th Annual Invasive Weeds Workshop at UAAs Kenai Peninsula College, Kachemak Bay Campus in Homer

NEW ADDITION TO DISTRICT BOARD

Please welcome **Devony Lehner** to the Homer Soil and Water District Board of Supervisors. Devony has served as an alternate board member in the past and previously worked for NRCS here in the Homer Field office. Promotion of local trails and sustainability are particular areas of interest to her.



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