



Photo: Martin Neptune

Penobscot Indian Nation
Department of Natural Resources

Spring 2005 ~ Issue 1

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Joining of the Branches

Tribal Air Programs Work!

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Submitted by Eric Nicolar as an OpEd to Bangor Daily News and printed in their March 16th, 2005 issue

For the past four years, many of us have been reading in the news of how the Northeast states and environmental groups are suing the Environmental Protection Agency and the Bush administration for their continued weakening of the Clean Air Act rules. Recognizing that improvements in the quality of air in and around our tribal lands are not always a priority of the state or federal governments, the tribes within Maine are either implementing full air programs or are in the early stages of developing them. Here at the Penobscot Nation, the Air Quality Program is in its sixth year of answering the challenge of fighting for better ambient air conditions in this region. The Penobscot Nation has one of the more expansive tribal air monitoring networks located strategically around the tribe's reservation and trust lands. This distribution is done in cooperation with the Maine Air Bureau and the USEPA. We currently monitor many pollutants and toxics from Particulate Matter and Ozone to Sulfur Dioxide and Elemental Carbons.

Our monitors are covering gaps from the Carrabassett Valley-Alder Stream Township area to the Mattagamon-Katahdin and the Down East Lakeville area. While at the nation we use this data primarily for our own concerns, we rightfully share information with other interested groups to meet the challenge of pollution reduction, enforcement, and compliance.

On the policy side of air quality, we compile reports and submit comments that generally parallel the goals of many other groups. We

do this from our developing technical capacity to evaluate and analyze the necessary parameters of air quality source emissions, monitors, and impact models. Again, in cooperation with state, federal and environmental group professionals, we make incremental advances by identifying where more pollution controls can be implemented or regulations enforced.

The tribe produces deliverables that are part and parcel of air quality management. We have begun generating our own emissions inventory for future control considerations in economic development. We also plan to implement rules that will control the expansion of emissions from this development.

The nation was recently elected the chair of the Mid-Atlantic Northeast Visibility Union (MANE-VU). MANE-VU is a regional planning organization consisting of 14 states and 2 tribal governments (Penobscot Nation and St. Regis Mohawk) that implement the regional haze rule. This law seeks to upgrade the visibility conditions around the Class I National Parks and Wildlife Refuges in the country. This collaboration is one of mutual respect for the unique abilities that each stakeholder brings to the group to protect our most scenic vistas.

The nation is also involved with national tribal organizations that fulfill needs in air quality around Indian Country. We participate nationally to encourage promulgation of rules that protect tribal air sheds, comparable to the protections implemented by the states, while striving

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(Tribal Air Programs Work - continued from previous page)

for parallel enforcement.

Many of the differences about environmental regulatory authority between the tribes and state are left aside while we share the common goal of better air quality. Guided by the Federal Trust Responsibility, tribal environmental programs work with a vision towards the future, for all people and our shared natural resources. If we all look into the future together, we'll all benefit with better air to breathe. Eric Nicolar is the air quality manager for the Penobscot Indian Nation.

Life in the Water Resources Laboratory ~ By Rhonda Daigle

Hi, I'm Rhonda Daigle and I've been working for the Water Resources Program going on eleven years, this summer. During the summer the laboratory here at the Department of Natural Resources is a very busy place! I'm the Water Resources Water Quality Monitoring Laboratory Coordinator. I work with the water resources field technicians, coordinator, and Director, Dan Kusnierz.

During the summer I need to keep up with two, and sometimes three, teams of field technicians that are out on our tribal waters gathering water samples. In order to gather these water samples, the crew uses a lot of various sampling containers. A large portion of my or my summer student assistant's job is to keep up with maintaining a steady volume of sample containers that are clean and ready for field use. This entails basically four steps: de-labeling, acid rinsing, clear rinsing, and then re-labeling. We use water proof self-sticking labels on each plastic bottle so that the field crew can write on each label whatever site they are collecting at. The crews sample between 12 to 26 sites on a river run and also use plastic bottles, glass bottles, and also plastic bags.

These samples are kept in a cooler until they arrive at the lab for analysis. We have a very nice new laboratory that gives us a lot more working space than our old laboratory did at the log cabin. **If you haven't had a chance to check it out**

yet, feel free to come by anytime to see it!

The tests done on our water samples here include: 5-day BOD (biological oxygen demand), total suspended solids (TSS), pH, alkalinity, conductivity, color, and *E. coli*.

BOD is a measurement of the water's oxygen demand over a number of days. Our samples are incubated in 300 ml glass bottles in a refrigerator for five days, during which oxygen is consumed by microbes within the water. Prior to refrigeration I measure the dissolved oxygen is at 21 degrees centigrade. After five days another reading is taken to measure the remaining oxygen content. The difference between the two readings is the BOD value. Very polluted waters will have a minimum amount of oxygen remaining - which results in a high BOD.

TSS also requires subtracting an initial reading from an end reading to get the value for a sample. This value is important because it lets us know how much sediment is un-dissolved in the water sample. The crew uses 1,000 ml bottles to collect for TSS. I use filters that are placed in a vacuum pump flask to weigh an initial "blank" filter for each sample. Our weigh scale measures down to the thousandth of a decimal point for accuracy. "Blank" filters are first weighed after an initial hour long drying period in our lab's drying oven. Then, I filter 500 mls to 1000 mls of each sample into it's respective "blank" filter and

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dry it for a second time for an hour. After cooling these filters in a desiccant machine, I'll weigh these final filters again. The difference in weight will be the amount of un-dissolved solids that a particular sample site had at the moment in time that it was collected.

pH readings tell us how acidic or basic a water sample is at a certain temperature and is closely related to alkalinity. These readings are best done out in the field, but we also do some readings in the lab. All of the samples that I measure are done as close to room temperature as possible.

Normal rain water has a pH of between 5 and 6.5. Acid rain would have a range of 5.0 or less. For comparisons, lemon juice or vinegar have a pH between 1 and 2; and milk of magnesia a pH of about 10. The pH of a water body can be affected by spring run-off, acid rain or a host of other external influences.

Alkalinity, the measurement of a waters ability to maintain a certain pH, is an important measurement of lake health. In our analyses, we titrate to an end-point of 5.0 pH. The more acidic our waters are the worse it is for the environment. Therefore, we are looking to maintain and improve waters to a pH of 7. A pH of 4 would negatively affect fish reproduction.

Conductivity, a general indicator of pollution, is also done out in the field sometimes. It measures the amount of "electronic" activity in a water sample. We use a simple meter that takes a measurement from a probe inserted into the water sample. It is important for both the pH and conductivity readings to have the probe moving in the water sample and not to measure from a "static" pool of water.

Color is a measurement of water clarity. The Penobscot and its tributaries have a lot of natural color attributed to natural organic material. We use a piece of equipment called a spectrophotometer that measures filtered light transmissions. A small amount of sample, about 25 mls is put into a glass container, called a cell. This cell is inserted into the spectrophotometer. The equipment comes with a preprogrammed dial for this color test, so that all we have to do is press a button to get the reading from the cell sample. Between each sample that we are reading, a "blank" cell is read to clear the machine so

that the next reading will have no bias. Using distilled or de-ionized water, the machine zeros itself out to a zero reading and is ready for the next sample.



Lastly, *E. coli* bacteria is a measurement that involves a lot of preparation and attention to detail in analysis. Bacteria in our waters can come from natural, human or a combination thereof. Excess bacteria in some waters causes closed beaches and harvesting. We prepare agar dishes that are put in a wet bath overnight with our samples that have been filtered onto a gridded sterile pad. We use a yellow urea solution that absorbs onto a blank sterile pad. We then transfer the incubated gridded pad to the yellow pad and after fifteen minutes can count the number of yellow/green colonies that are seen. Any unusually high numbers are reported to the Director and then a repeat site visit may be required.


**Public Hearing on
GP's Biomass
Boiler**
Be on the lookout for an announcement of the date, time and place for you to voice any concerns you might have about GP burning construction demolition debris in their new biomass boiler. As stated in a March 22, 2005 - Bangor Daily News article, it is expected that the hearing will take place in early May. Although the \$27.2 million biomass boiler has already been built, GP has just recently applied for an application from DEP to burn wood left over from construction demolition.
 Any questions you have about this potential air quality issue, one that will be a mere 2.3 miles from Indian Island, can contact the Air Quality Program in the Department of Natural Resources.
Eric Nicolar, Air Quality Manager
817-7336

PLEASE NOTE: This advisory has undergone slight changes in content to reflect new information as well as format to make it more understandable!

Warning!

Guidelines for eating fish from Penobscot Territory Waters

To prevent possible harm from mercury, dioxins, and PCBs due to eating freshwater fish, we offer this advice:

All children under 8 and women who are nursing, pregnant or could become pregnant,

the most sensitive population from health effects of mercury,

should eat **NO FISH** from Penobscot Nation Territory waters and other Maine inland waters.

If you are eating fish: small trout and salmon are safer choices than large bass and pickerel.



EVERYONE ELSE who is taking fish from Penobscot Nation Territory Waters



on the Penobscot River below Mattaseunk Dam (Mattawamkeag)

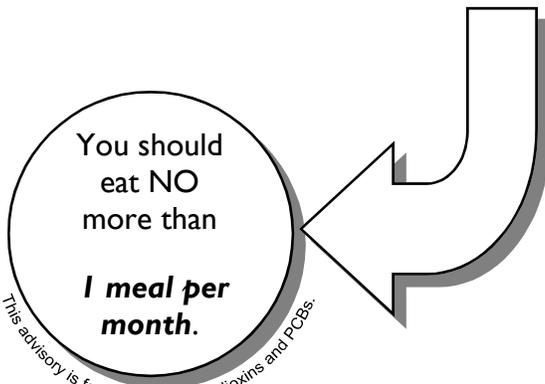
OR

anywhere else, where you are taking...

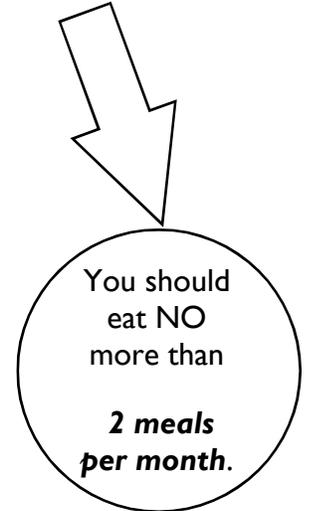
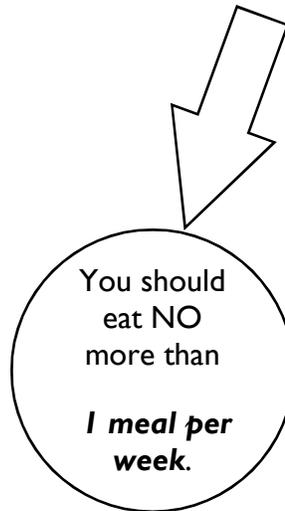
... Brook trout, Landlocked salmon

OR

Any other fish



This advisory is for protection from dioxins and PCBs.



These advisories are for protection from mercury.

For questions or more information: Penobscot DNR 207.827.7776, x. 7361

SUPPORT DAM REMOVAL ON THE PENOBSCOT RIVER - PLEASE WRITE TO PRESIDENT BUSH NOW!

Penobscot Partners is calling on President Bush to provide funding for the Penobscot River Restoration Project in his next federal budget. Federal funding is needed to make this deal a reality! Federal agencies are already starting work on their budgets for FY 2007 (which begins in October, 2006). A significant line item in that budget for the purchase of the Penobscot dams would allow us to buy the dams quickly and move ahead to removal. We are asking President Bush to put \$20 million for the Penobscot project in his FY2007 budget. We need you to write the President and urge him to make this money available. If enough people write now, it will ensure that the project gets as much attention as possible leading up to the early summer, when agency budgets will begin to take form.

When you write the White House, please either send an e-mail or a faxed letter (mail to the White House is very slow).

You can use the following link to e-mail President Bush: president@whitehouse.gov, or you can draft a letter and fax it to President Bush at **(202) 456-2461**.

You can use the draft text you will find below, you can edit it, or you can write your own letter. Handwritten letters are the best! If possible, you should include something personal about your interest in the Penobscot River. You should also emphasize that putting this money in the budget would go a long way towards making the project a success, and establishing an environmental legacy for President Bush in New England.

Your support will help make a difference! The Penobscot Partners thank you for your time, effort and support.

For more information see www.penobscotriver.org

BRING YOUR LETTERS TO THE PIN DNR OFFICE TO FAX!

President George W. Bush
The White House
Washington, DC 20500

Dear President Bush:

I am writing to urge you to provide funding for the Penobscot River Restoration Project in Maine. This project is the best hope we have for restoring Atlantic salmon in Maine, and will also provide substantial benefits to other fish species and the overall health of the Penobscot River, Maine's largest watershed. Just as importantly, the project can serve as a national model for cooperative watershed restoration on a large scale. The federal government will have to play an important role in funding the project if it is to succeed.

For more than 100 years, the health of the Penobscot River and its runs of salmon and other anadromous fish have been impaired by the dozens of dams that have been built in the watershed, first for mechanical power and eventually to generate electricity. In recent years, several hydropower dams on the lower Penobscot owned by PPL of Maine have been caught up in difficult relicensing processes, while at the same time the decline in Atlantic salmon populations has only increased. In an historic achievement, a diverse group of parties, including PPL, the State of Maine, the Department of the Interior, the Penobscot Indian Nation, and a coalition of conservation organizations, have negotiated a solution that will deal with both of these intractable situations.

PPL has agreed to sell three of its Penobscot basin dams to a newly created nonprofit corporation. Those dams will be decommissioned, opening up huge portions of the watershed to Atlantic salmon. At the same time, enhancements at other PPL hydropower facilities in the watershed will replace almost all of the 18 megawatts of capacity that will be lost when the three dams are sold. The parties have come up with a way to reconfigure hydropower generation in the watershed in a way that will promote significant fisheries restoration. Collaboratively they have been able to achieve success that would have been impossible in the regulatory process, and through this innovative approach they have created the chance that future generations of New Englanders will be able to fish for Atlantic salmon in the United States.

The project will require significant funding to implement. The dams will cost between 24 and 26 million dollars, and, full implementation of the project, including removal of two the dams and construction of a river-like by-pass at the third, may cost as much as another 30 million dollars. While there will be private and state dollars available, a significant amount of federal money will be needed to make this project happen.

Mr. President, I am urging you to include \$20 million in your 2007 fiscal year budget for the Penobscot Project. That amount of funding would guarantee that the dams will be purchased by 2008, and would allow the project to move forward to implementation. Taking this step would ensure an environmental and recreational legacy for the region that will last for generations.