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***Low Water in the Meduxnekeag***

This Summer has proved to be one of the driest in recent memory. Following on the heels of a below normal snowfall this past winter, local waterways are showing the signs of drought conditions. Water levels in the Meduxnekeag River are very low and a number of streams and brooks have gone dry.

In addition to low water levels, we are experiencing a heavy growth of algae in the river. This abundance of algae is even visible from the air as shown in the aerial photo below. The algae thrives as a result of warmer water temperatures and an overabundance of phosphorous and other nutrients in the water. A lot of these nutrients enter the watershed as direct runoff from streets, yards and farmland, in addition to being discharged from plants and factories along the river.

Times like this help to remind us of the importance of water conservation and the need to reduce the amount of pollutants that enter our lakes and rivers.

*Aerial photo of HBMI administration building and the Meduxnekeag River. An overgrowth of algae shows as green patches along the river.*



*Algae grows in various forms. Strands of algae like the one above can reach 15 feet or more in length.*



*Algae concentration just below the Lowery Bridge on the Meduxnekeag River.*



## Mercury Fish Study -Update

We're pleased to announce that thanks to the efforts of summer techs, Christina Desiderio, Ryan Greenlaw and David Lombard, HBMI Environmental Specialist/Forester, we were able to gather a number of fish samples for the first phase of this study. The fish that were caught, were rinsed, tagged, wrapped and frozen for delivery to the lab for analysis.

Once the fish have been tested, we will report the results in a future edition of this newsletter.

The Water Resources team led by Scott Krzanik and Dave Joseph, and summer techs Brittney London and Danielle Fitzpatrick also helped out with this project.



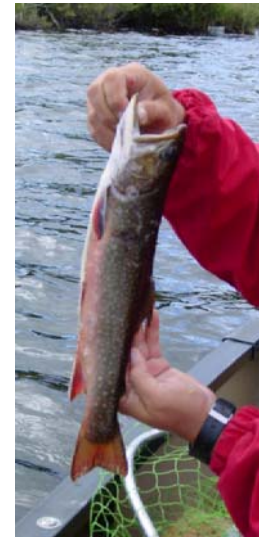
*Christine Desiderio nets a small mouth bass at Nickerson Lake*



*White Perch being measured*



*White Perch from Nickerson Lake*



*David Lombard's 14-1/2" Brook trout caught at #9 Lake Bridgewater*



*Dave Joseph - Master Fisherman*



*Ryan Greenlaw with the "Catch of the Day"*



## Fish Habitat Survey

In July, the Natural Resources staff took part in a fish habitat survey led by Frank Frost, Regional Fisheries Biologist for the State of Maine.

The teams set out to map a large segment of the Meduxnekeag River to identify areas which provide good habitat for local fish populations. They noted information such as water depth, temperature, rate of flow, the type of river bottom (rocky or silty),

the presence or absence of plants in and along the waters edge, including riparian buffers, streams or tributaries feeding into the river, pools, and current or potential fish spawning areas.

This information is to be used to help determine future fish stocking efforts, fish habitat restoration needs and to help restore native fisheries.





## Water Resource Techs

It's hard to believe that our summer water techs Brittney London and Danielle Fitzpatrick have left us already.

This year Brittney and Danielle worked alongside Scott Krzanik and Dave Joseph to test and monitor the water quality in the Meduxnekeag River and the surrounding tributaries. Field measurements were taken to record the air and water temperature, dissolved oxygen levels as well as water depth, which became quite a challenge as the water levels receded due to this summer's drought.



*Danielle Fitzpatrick in Lab*



*Brittney London preparing bacteria plates*

Once back in the lab, the water samples were tested for pH and alkalinity, turbidity, conductivity, e.coli, dissolved oxygen and total suspended solids. The hours were long and field work often included battling the mosquitoes and black flies but Danielle & Brittney were great. Brittney has taken the fall off from her studies at UMPI and Danielle has headed off to the University of Hawaii. We miss them both and wish them all the best.

## Moose Roast Recipe

1– 4 lb moose roast	3-4 strips bacon
2 tbsp chopped onions	1/4 tsp pepper
1 tsp dry mustard	1 cup cranberry juice
1/4 tsp. ground cloves	2-1/2 cups water
4 tbsp brown sugar	3 tbsp flour
1 tsp salt	1/2 tsp cinnamon
1 cup milk	1/2 cup white wine vinegar

Remove fat from moose and wipe well with clean cloth.

Lard the roast as follows:



Cut bacon into 2" strips, pierce the roast with a sharp knife at 2" interval and insert bacon into holes, place moose into glass or earthenware bowl.

Mix the following ingredients and pour over roast::

Salt, pepper, cinnamon, cloves, mustard, brown sugar, water and vinegar. Cover and marinate roast in refrigerator for 24 to 48 hours. Turn roast often if marinade does not completely cover roast.

Remove roast from marinade and place in covered roaster at 350 degrees for approx. 1 hour. Add onion, cranberry juice and continue cooking roast until tender, approx. 1 hour more.

When cooked remove from pan to hot platter. At flour to pan drippings and cook for 5 minutes, add milk stirring constantly until gravy is at desired thickness.

From *Northern Cookbook* by Eleanor A. Ellis

## Word Search

N	M	K	L	M	N	B	B	V	G	D	J	U	R
A	U	T	P	M	N	E	G	N	P	E	D	R	E
O	X	H	P	R	G	A	W	M	G	E	G	F	C
R	C	L	D	R	R	V	Q	H	F	R	N	H	O
W	M	O	O	S	E	E	R	C	D	N	J	Y	G
G	S	R	R	C	O	R	N	X	D	F	Y	S	N
T	F	I	R	B	E	A	R	Z	N	W	R	F	I
M	A	P	L	E	G	F	J	B	F	J	W	T	T
P	L	B	E	A	L	O	C	T	O	B	E	R	I
R	H	A	R	V	E	S	T	Q	N	S	A	R	O
U	F	A	G	D	O	N	T	W	N	D	G	D	N
I	H	R	P	Q	O	O	S	U	K	F	L	F	D
O	I	P	H	U	S	W	S	R	K	G	O	J	A
P	A	R	T	R	I	D	G	E	L	O	M	M	Y

Autumn  
Bear  
Beaver  
Corn  
Deer

Harvest  
Maple  
Moose  
October

Partridge  
Recognition Day  
Snow  
Sunset



## The Importance of Wetlands

Less than half of the wetlands that once existed in the United States still remain today. Presently more than 300,000 acres of wetlands are bulldozed in the US each year. The subject of wetlands is a touchy one. Some see wetlands as a haven for wildlife in an ever changing world, while others simply see a messy, swampy area that kills trees, breeds insects, and threatens property and roads. Often the two sides clash. If one looks a little deeper, they'll find that wetlands mean more than just *wet land*.



*Migrating ducks and geese on tribal lands taking advantage of spring pools*

Some of the disagreements stem simply from the over 50 definitions that exist concerning wetland use. A Natural Research Council Committee offered the following definition: "A wetland is an ecosystem that depends on constant or recurrent shallow inundation or saturation at or near the surface of substrate". That definition does little to help clarify what a wetland is and how we need to treat it.

Essentially a wetland is usually wet, it will probably have standing water or wet soil most of the year or it will support plants and soils that occur in wet environments. Wetlands are host to approx. 5,000 species of plants, 190 species of amphibians (frogs, toads etc.) and 1/3 of the bird species found in the United States.

However, most people still see wetlands as eyesores, puddles of ooze and muck causing problems with drainage, and in the



case of beaver ponds, washing out roads and killing trees and vegetation.

But wetlands are more than just habitat for birds, bugs, plants and other critters. Many animals like the moose, beaver and muskrat rely heavily on wetlands for their survival. Wetlands also help purify groundwater and stabilize shorelines. Wetland help filter pollutants thereby improving water quality. Much of the damage



*Beaver pond adjacent to HBMI offices*



*Beaver deceiver at work on tribal lands protecting a tribal road*

in past years from the flooding of the Mississippi River can be directly attributed to the systematic draining of wetlands.

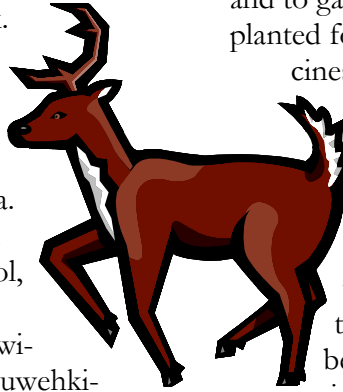
Here on tribal property, we've worked to create and protect wetlands by building

nutrient sediment control structures and installing a beaver deceiver. just to mention a few. The sediment control structures have helped reduce damage from storm water and spring runoff that previously had caused a great deal of damage to tribal lands and has significantly reduced the amount of run off entering the Meduxnekeag River. These collection basins have created temporary ponds, that provide habitat for migrating ducks and geese in the early spring. Meanwhile the beaver deceiver allows the beaver to dam up brooks and streams without causing damage to roads.

Next time you see a wetland, please look a little deeper, you may be surprised at what you find. If you'd like more information about wetlands or what you can do to help preserve or restore wetlands, please feel free to contact this department.

## TOQAQI KISUHS

Toqaqi kosqehsuhs kisehtag mipiyil poneqiyewiwol. Yuttol pili toqaqisqehsisol tiyal: “Komac koti tkeyu, nit olu psite keq kiskihkasik kmaqenomuniya, skoniminol tan te elikok kmonuwehkaniya, weci kiskihkasik apc likotok. Skicinuwi ‘pisun kmokonomuniya naka kis-pastuniya weci kisuwekasik weckuwikotok. Kispahsaniya nomehsuwok, pehkikicik ote, weci weckuwikotok wolihpultiyeq psite mawiw. Tan eci apatapasihtit ko-tunkewinuwo, psite knokka kwolalaniya kweyossisomuwak, kat tehpu wiyusumuwa. Musa keq qasahkasik tan yut kuluwak, talu ketehp motekon, skonisol, wipitol, soqonol, naka wituwo. Psitehc nit kisuwekasu weckuwikotok. Psitehc wenik wolaqiwik wi-wnopultuwok etoli wolamkolek. Nitte kisuwehkiyeq sqot, kuli kassuwenomuniya weci apc likotok kispameq toqakiwi nipawset peneqhtaqaq mipiyil.



*Source: Passamaquoddy Bilingual Program*

## GRANDMOTHER AUTUMN

Grandmother Autumn, the one who makes the leaves fall, was teaching young autumn girl. Grandmother Autumn told the young girl, “It is going to be cold, it is time to harvest the gardens and to gather many seeds so that they may be planted for next year. Gather traditional medicines and dry them for use in the coming year. Dry the fish when you clean them so that you may enjoy them at the feasts. When the hunters have returned with their catch, honor the catch and use all of the animal not just the meat. You may use the skin, bones, teeth, tails and whiskers. All of it may be used throughout the year. In the evenings enjoy the gift of a warm fire when family and friends gather. After you have enjoyed the warmth of fire, be sure to extinguish the gift of fire so that you may enjoy another Moon of Grandmother Autumn, the one who makes the leaves fall”.

## Hunting Safety Tips *by Scott Krzanik, Water Resources*

Hunting season is upon us – **FINALLY!** Bear season is well underway, and Grouse (Partridge), Rabbit, and Duck season began on Monday, Oct. 1. On Oct. 27, we can begin hunting deer. Some people hunt while driving around in their vehicles while others pursue animals through the woods on foot. No matter what method you choose, remember to always be safe in your outdoor activities. Anyone can get lost, hurt, or run out of gas in the middle of the woods. It is your responsibility to handle weapons safely for your sake and for others. In addition, here are some safety tips to keep in mind this season:



**Location:** Tell others where you are going and what time you expect to return. Nobody will come looking for you if they don't know where you are.

**Food and Water:** Bring EXTRA food and water with you. Keep these items in your vehicle. Don't munch on your extra food – bring your main meals and snacks for that purpose.

**Clothing:** Wear wool and synthetic clothing. Cotton material retains moisture near your skin and will lead to rapid body heat loss. **THIS CAN KILL YOU!!!** Wool and synthetics are easy to come by and can be purchased at minimal cost from thrift stores such as the Salvation Army. Don't forget your hunter orange!

**Equipment:** Replace or repair equipment you took out of your pack and used during the winter and summer. Don't find out that your compass or flashlight is missing just when you need it the most.

**Stay Alert:** Pay attention to where you are and what you are doing. If you are tracking an animal be sure to mark your trail with crepe paper or flagging tape because animals don't stay on well-marked trails.

*Good luck and have a safe hunting season!*



## RESULTS OF RADON TESTING PROGRAM BEGUN IN 1994

Of the 60 homes tested so far:

The average radon level was: 1.6 pCi/l  
 The median radon level was: 0.9 pCi/l  
 The lowest radon level was: 0.2 pCi/l  
 The highest radon level was: 12.7 pCi/l

Households over the 4 pCi/L action level - 5

*This means that 1 out of every 12 households  
tested had a high level of radon*

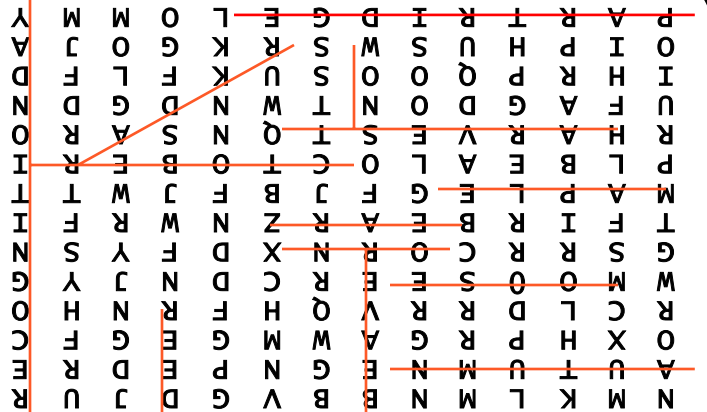
Radon is a colorless, odorless, radioactive gas that occurs naturally in the ground. Unfortunately, sometimes it can build up to unhealthful levels.

**HAS YOUR HOME TESTED FOR RADON?**

Contact Sharri Venno, ext. 215  
to arrange for testing

Mawi kapuwoltine

*Let's stand together*



*Word Search Answers*

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