

HBMI Natural Resources Department  
Natural Resources Department



88 Bell Road  
Littleton, ME 04730

NON-PROFIT ORG  
U.S. POSTAGE PAID  
PERMIT #2  
HOULTON ME

**Toqaqiw** (*It is Autumn*)

September 2007

Brenda Commander - Tribal Chief  
Susan Young - Editor

This newsletter is printed on  
recycled paper



**Inside This Issue**

Invasive Species Control	1
Water Resources Staff to Washington, DC . . . . .	2
Puzzles . . . . .	2
Biodiesel Team Tours Facility . . . . .	3
Maine Hunting Seasons . .	3
Wilderness Pines Update . .	3
Recognition Day 2007 . .	4
Why Do Leaves Change Color? . . . . .	6
Fresh Water Mussels . . .	7
Word Match Answers . . .	7
Word Search Answers . . .	8

**The Science Behind the Scenery** (*cont'd*)

**ORANGE** (caused by the chemical carotene)  
Some oaks and maples.

**RED OR YELLOW**

Sugar maple, dogwood, sweet gum, black gum, and  
sourwood.

New England enjoys some of the most intense fall  
colors thanks to its almost pure stands of a few types  
of trees that all turn color at the same time. Trees are  
not the only thing that contribute to a colorful autumn,  
though. Shrubs like burning bush and sumac, and even  
weeds like poison ivy can paint the roadsides brilliant  
colors in fall. In Maine, the blueberry barrens turn a  
phenomenal fiery red.

To truly appreciate fall in New England, get in your  
car and drive out in the country, hike up the nearby  
mountains and hills, take a sail along the coast or get  
on your bike and pedal the back roads.

From <http://portlandme.about.com>

**Word Search Answers**

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

HBMI Natural Resources Department



**Skitkomiq Nutacomit**  
*Earth Speaker*

**Invasive Species Control: This ain't no pin cherry!**

By David Lombard, Env. Protection/Forestry Specialist



Above and right  
garlic mustard -



This season's effort to control invasive plant species on  
tribal lands targeted garlic mustard (*Alliaria petiolata*), seen at  
left, and honeysuckle (*Lonicera spp.*). Controlling invasive  
plants is very important because they usually crowd out

native species creating large stands of the  
invader. These non-native plants have no  
natural insect predators or diseases since  
they did not evolve in this area. Due to a  
lack of natural controls, invasive species are  
able to out-compete native plants for light,

space and nutrients. Another important aspect of invasive species is that they are  
usually less nutritious for wildlife than native species. Wildlife has to use extra  
energy to acquire their necessary nutrition for survival as native plants die off due to  
the presence of invasive species. If the invasion is severe enough, most wildlife  
will simply move to new areas that offer better food choices. Lastly, invasions of  
plants not native to this area decreases the biodiversity of our landscape. Having a  
highly diverse population of plants serves as a buffer to disturbances (both natural  
and man-made) as various plants react differently to disturbances in the environ-  
ment.



Summer Techs with garlic  
mustard harvested in 2006

**Garlic Mustard**

Garlic mustard was first identified on tribal lands in  
2005 during a field training session about invasive  
plants presented by people from Acadia National  
Park. Garlic mustard is a biennial plant native to  
Europe, Asia and northwestern Africa. The leaves  
and stems of the plant smell like garlic when  
crushed, hence it's common name. During the  
2006 summer field season, garlic mustard plants  
were manually pulled from the soil in two small

locations, one area near Lowrey Bridge and one located along the road behind the  
HBMI offices. In 2007, three additional infestations were identified and treated;  
along with the areas treated the previous year. Research indicates that garlic  
mustard seed remains viable in the soil for up to five years, so all areas will have to  
be examined and treated into the foreseeable future. The leaves of this plant are  
edible and we have a number of recipes at the Natural Resources Department for  
anyone that is interested. ☺

Continued page 3

**TELEPHONE LISTING**

(207) 532-4273

1-800-564-8524 (ME)

1-800-545-8524

**ENVIRONMENTAL PLANNING**

Sharri Venno - ext. 215

**FORESTRY**

David Lombard - ext 220

**REAL ESTATE**

Tony Tomah - ext 221

**WATER RESOURCES**

Cara Ellis - ext 212

Dave Joseph - ext 216

**ADMIN. ASST.**

Sue Young - ext 202



# Water Resources Staff Invited to Washington, DC



On August 5<sup>th</sup> David Joseph, tribal member and HBMI Water Resources Technician, was invited to the United States Geological Survey (USGS) national headquarters in Washington, D.C. Dave was asked to give a presentation to regional and national program directors regarding the progress of an internship project that he has been working on with the USGS. He is one of two interns chosen in the eastern United States to participate in the program, that was established to create a working scientific relationship between tribes and the USGS. The presentation described the work that is being done on the Meduxnekeag River and its tributaries, along with the joint projects HBMI and USGS have accomplished over the past three years.

While at the USGS headquarters Dave talked with key USGS personnel about the science benefits of the projects and the importance of a healthy Meduxnekeag River for the Maliseets and the local watershed community.

More information and real-time data for the Meduxnekeag River at Lowery Bridge can be found on the internet at: <http://waterdata.usgs.gov/nwis/rt>. For information on activities of the Maliseets Water Resources program search [http://www.maliseets.com/water\\_resources.htm](http://www.maliseets.com/water_resources.htm) or contact Dave Joseph at [djoseph@maliseets.com](mailto:djoseph@maliseets.com) or Cara Ellis at [water@maliseets.com](mailto:water@maliseets.com).



## Kci Kikuwosson Nusseyuwan - Wolankeyuwan Mother Earth Respect Her - Protect Her

In keeping with our Recognition Day theme of protecting Mother Earth - how many words can you find in the puzzle? As an added twist only Maliseet words are found in the puzzle - can you match each word to it's English translation?

Aluhk	Kisuhs
Amakehs	Ktahkomiq
Amuwes	Monoqan
Apuciqaha	Opos
Asahqahahsis	Ponapsq
Cihkonaqc	Samaqan
Cihpolakon	Sip
Cikon	Weyossisok
Kakskus	Wocawson
	Wolikiskot

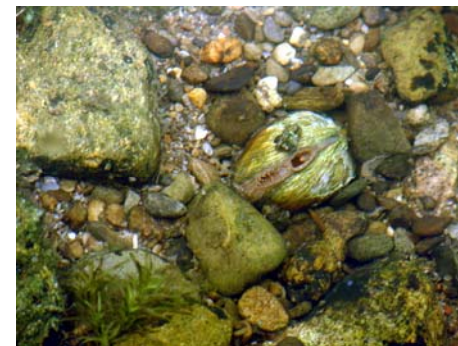
Acorn	Eagle
Animals	Earth
Apple	Rainbow
Beautiful Day	River
Bee	Rock
Butterfly	Sun
Cedar	Tree
Cloud	Turtle
Dragonfly	Water
	Wind

Match these

With these  
Answers Page 6

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

# Freshwater Mussel Survey by David Lombard

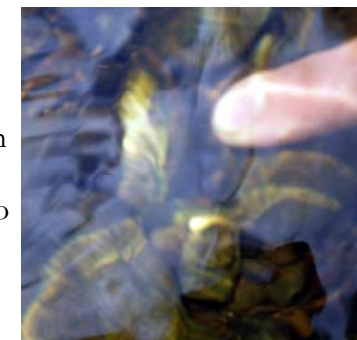


This summer, as part of the work being done under the US Fish & Wildlife Service Tribal Wildlife Grant, David Lombard and Summer Tech Pat Ward conducted a survey along the Meduxnekeag River for the presence of freshwater mussels.

There are 10 species of freshwater mussels in Maine. They are an important, but often overlooked and little understood, part of the riverine ecosystem. History tells us that many Native American people commonly ate freshwater mussels as part of their diet. Mussel shells were also the raw material used in the making of buttons in the early 1900's.

Mussels have a very interesting life cycle. Females store fertilized eggs in a special pouch in their gills for a short period of time. The eggs mature and turn into glochidia, which are parasitic on fish. Some species of mussels attract fish by using specially modified body parts that resemble prey. The female mussels then extend their lures into the water. When a fish is close enough, the female mussel ejects the glochidia into the fish's gills where they attach and feed until mature. Once mature, the glochidia turn into free-living mussels and drop from the host fish to settle onto the river bottom.

Mussels are known as filter feeders, siphoning water through their gills to remove planktonic food particles and oxygen. They also remove suspended soil particles from the water through this process. These mussels are severely impacted by non-point source pollution, especially sedimentation. Severe sedimentation causes the mussels to close their shells thus preventing them from feeding. Mussels often die if the sedimentation event lasts an extended period of time. According to a study done in 1993, it is estimated that 70% of our freshwater mussels are extinct, endangered, or in



Above and left :  
freshwater mussels from  
the Meduxnekeag River

need of special protection.

Our survey results indicate that freshwater mussels are present in stretches of the Meduxnekeag River adjacent to tribal lands. However, only one "bed" was located found and that contained approximately 20 individuals.

We believe that mussel populations in the river are limited by the type and condition of the river bottom. We are currently working on identifying the species discovered during the survey. Future surveys will be required to better understand the population dynamics of these freshwater mussels.

## Word Match Answers

Aluhk	Cloud
Amakehs	Butterfly
Amuwes	Bee
Apuciqaha	Dragonfly
Asahqahahsis	Acorn
Cihkonaqc	Turtle
Cihpolakon	Eagle
Cikon	Apple
Kakskus	Cedar
Kisuhs	Sun

Ktahkomiq	Earth
Monoqan	Rainbow
Opos	Tree
Ponapsq	Rock
Samaqan	Water
Sip	River
Weyossisok	Animals
Wocawson	Wind
Wolikiskot	Beautiful Day



## Why Do Leaves Change Color? The Story

### A Wyandot (Huron) Legend

The wise men turned to him who wrote, then they looked at the trees on many hills. It was the autumn. The leaves had many colors. They said, "We will tell you the story of the battle fought by the deer and the bear in the land of the sky." The bear was selfish and proud. He often made trouble among the Animals of the Great Council. When he heard that the Deer had walked over the rainbow Bridge into the sky land he was angry. "I WILL PUNISH THE DEER" he said. The Bear went to the Rainbow Bridge He leaped along its beautiful way of glowing colors. He came into the sky land. There he found the deer and said to him; This sky land is the home of the Little turtle, Why did you come into this land? Why did you not come to meet us in the Great Council? Why did you not wait until all the Animals could come to live here? Then the Deer was angry, Only the Wolf might ask him such questions. The Bear had no right to speak like that to the Deer. The Deer said to the bear, you have gone about making trouble among the Animals long enough You shall never do that again.

The Deer said he would kill the Bear he arched his neck. He tossed his head to show his long sharp horns. The hair along his back stood up. His eyes blazed as if

a fire burned in them. He thought to slay the bear with a single stroke of his terrible horns. The Bear was not afraid. His claws were very strong. He stood erect for the mighty conflict. His deep growls shook the sky like rolling thunder. The struggle was terrific and long. The Bear was torn by the cruel horns of the Deer.

When the remaining Animals of the great Council heard the awful noise, the Wolf went up into the sky to stop the dreadful battle. All the animals had to obey the Wolf, So the Deer turned and ran away. And the Bear fled along the paths of the sky. As the Deer ran, the Blood of the Bear dropped from his horns. It fell down to the Lower World and made the leaves of the trees many colors. Some were Red, some Yellow, Some were Brown. Some Scarlet, and some Crimson. Now each year when the Autumn comes the leaves of the trees take on these many colors. The forests are flooded with soft and glowing beauty. The Wyandots then say the blood of the Bear has again been thrown down from the sky upon the trees of the Great Island.

from SNOWOWL.COM



### The Science Behind the Scenery

Leaves get their green color from chlorophyll, a pigment found in plant leaves that enables them to process sunlight. Fall's shorter days and cooler temperatures cause the chlorophyll to move from the leaves to the branches, trunk, and roots, and the yellow and orange pigments that are always present become visible.

Other chemical processes produce the brilliant reds, purples and bronzes. On warm fall days, sugar is produced in the leaves of some trees and then trapped by the chill of night. As sugar accumulates, the leaves turn brighter red.

Factors that influence the amount of fall color the leaves will wear each year include:

- Rain
- Amount of sugar in the leaves
- Wind
- Temperatures

Weeks of cool, bright sunny days and chilly nights (but no frost) create the brightest colors. The side of a tree exposed to bright sunlight might turn red, while the shady side of the same tree may turn yellow. And cool, sunny autumn days produce brighter colors than warm, wet weather.

Trees "inherit" their fall colors, just as we inherit the color of our hair. The color depends on how much iron, magnesium, phosphorus, or sodium is in the tree and the acidity of the chemicals in the leaves. Here are the "inherited" colors for some of our most common trees:

**YELLOW** (caused by the chemical xanthophyll)  
Ash, basswood, birch, beech, butternut, elm, hickory, mountain ash, poplar, redbud, serviceberry, willow, and some maples (boxelder, mountain, silver, striped, and sugar)

*Continued on last page*

## Invasive Species (continued)

### Honeysuckle

Honeysuckle has been identified in approximately four locations on tribal lands. However, large infestations were noticed in very close proximity to the boundaries of tribal lands.



The situation on tribal lands will continue to degrade with time as the invaders continue their relentless assault to dominate our native world. The invasive honeysuckle is an arching shrub



Above: Summer tech Pat Ward with by honeysuckle shrub,

right - harvested honey-suckle loaded on pickup



native to China and Japan. Maine has two rare native honeysuckles, smooth-leaved (*Lonicera dioica*) and coral (*Lonicera sempervirens*). The summer of 2007 was our first attempt to control honeysuckle. Plants were cut using loppers and a small amount of herbicide was applied to the stumps. Herbicide is necessary in the treatment of honeysuckle because the plant readily sprouts from the root system. Treatment sites will be re-examined in the spring of 2008 to determine the effectiveness of the treatment so that decisions can be made to retreat infested areas as well as including additional areas for treatment.



## Biodiesel Team Tour Facilities



### Sharing biodiesel knowledge

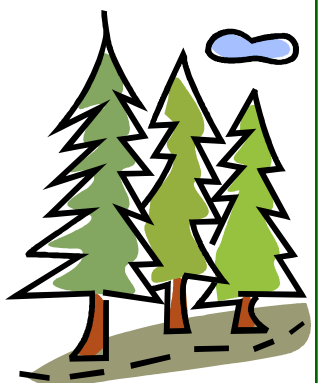
Kim Odden of WITC-Rice Lake spent a day sharing knowledge about biodiesel and the processes in making it with out-of-town guests. Pictured above are Peter Sexton, crop specialist at the University of Maine; Odden; John Cancelarich, CEO of Regent Associates in Presque Isle, Maine; Doug Callinan of Aroostook Milling Co. in Houlton, Maine; Sharri Venno, environmental planner for the Native American Maliseet tribe in Maine; Tony Tomah of the Maliseet tribe; and Jerry Ranallo of WITC-RiceLake. Following a question-and-answer period about oils, temperatures and the processes of making biodiesel, the guests went to NorSwiss Dairy, the Spooner Research farm and Indianhead Holsteins to see firsthand how biodiesel is made and how it is used.

From the Rice Lake (WI) Chronotype August 22, 2007 edition

## Wilderness Pines Campground Summer 2007 Update by Cari Drew

This has been a busy summer at Wilderness Pines. We have completed many projects with the help of the maintenance department and volunteers. The licensing process has been completed. We had a great time with those who used the pool this year and appreciate your support of this new addition to the Maliseet Family. The Maintenance Department has been very busy. This year they completed the kitchen, repaired the cabin roof, and did several plumbing projects. Thank you guys for your hard work!

We would also like to thank The Tomah Family for their hours of volunteer service. The grounds are looking beautiful thanks to their efforts. We look forward to opening next year and hope to see you at Wilderness Pines!





# 27th Annual Recognition Day

## September 15, 2007

