

*Houlton Band of Maliseet Indians*  
*Natural Resources Department*  
*88 Bell Road*  
*Littleton, ME 04730*



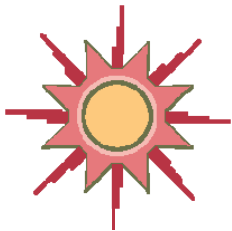
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**HBMI Natural Resources Department**



***Did You Know . . .? Facts and Figures about  
Water Footprints and Virtual Water***



The water footprint of an individual, business or nation is defined as the total volume of freshwater that is used to produce the foods and services consumed by the individual, business or nation. A water footprint is generally expressed in terms of the volume of water use per year.

Since not all goods consumed in one particular country are produced in that country, the water footprint consists of two parts: use of domestic water resources and use of water outside the borders of the country. The water footprint includes both the water withdrawn from surface and groundwater and the use of soil water (in agricultural production).

Virtual water is the water 'embedded' in commodities. Producing goods and services requires water; the water used to produce agricultural or industrial products is called the virtual water of the product.

The global volume of virtual water flows related to the international trade in commodities is 1,600 Km<sup>3</sup>/yr. About 80% of these virtual water flows relate to the trade in agricultural products, while the remainder is related to industrial product trade.

The production of 1 kilogram of:  
rice requires 3,000 litres of water  
maize requires 900 litres of water  
wheat requires 1,350 litres of water  
beef requires 16,000 litres of water

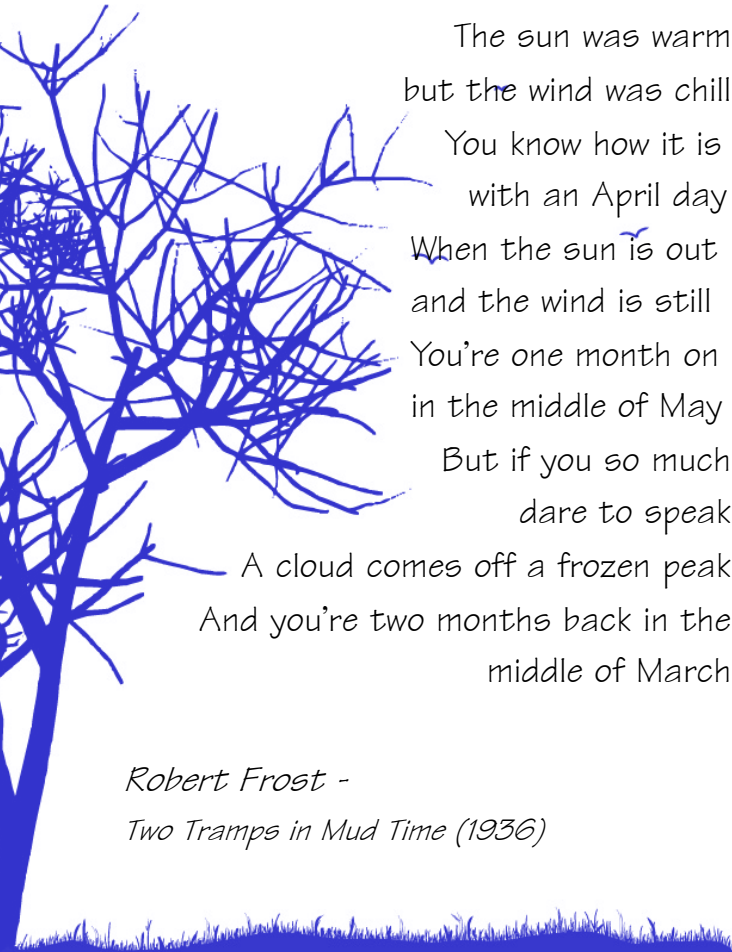
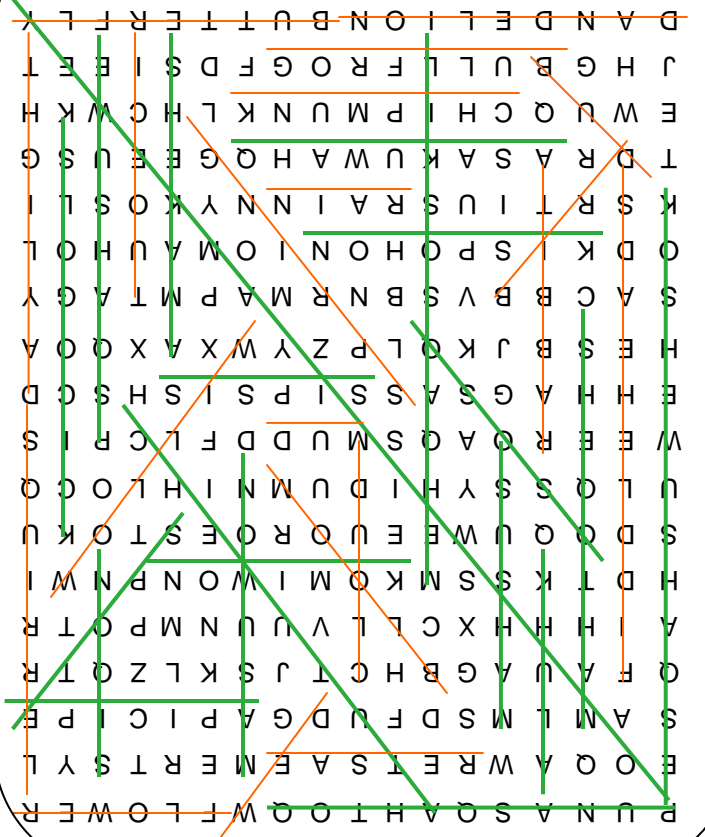


140 litres of water are needed to produce 1 cup of coffee while the production of 1 litre of milk requires 1,000 litres of water.

Globally, water is saved if agricultural products are traded from regions with high water productivity to those with low water productivity. At present, if importing countries produced all imported agricultural products domestically, they would

*continued page 2*

***Word Search Answers***



The sun was warm  
but the wind was chill  
You know how it is  
with an April day  
When the sun is out  
and the wind is still  
You're one month on  
in the middle of May  
But if you so much  
dare to speak  
A cloud comes off a frozen peak  
And you're two months back in the  
middle of March

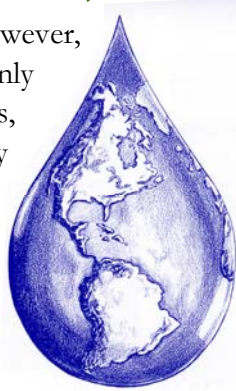
*Robert Frost -  
Two Tramps in Mud Time (1936)*

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## Water Footprint (continued)

require 1,600 Km<sup>3</sup> of water per year; however, the products are being produced with only 1.200 Km<sup>3</sup>/yr in the exporting countries, saving global water resources by roughly 400 billion m<sup>3</sup>/yr.



The per capita consumption of virtual water contained in our diets varies according to the type of diet, from 1 m<sup>3</sup>/day for a survival diet, to 2.6 m<sup>3</sup>/day for a vegetarian diet and over 5 m<sup>3</sup>/day for a United States style meat based diet.

Only about 7% of the Chinese water footprint of 700 m<sup>3</sup> per capita per year (m<sup>3</sup>/cap/yr) falls outside of China, whereas 65% of Japan's total water footprint of 1150 m<sup>3</sup>/cap/yr is external.

The United States appears to have an average water footprint of 2,480 m<sup>3</sup>/cap/yr, while the global average water footprint is 1,240 m<sup>3</sup>/cap/yr.

Information from the 2nd United Nations World Water Development Report 'Water a shared responsibility' (at: <http://www.unesco.org/water/wwap/wwdr/wwdr2/>) and from the UNESCO-IHE Institute for Water Education's 'Water footprint' website (at: <http://www.waterfootprint.org/?page=files/home>)

The section "Did You Know...?" is taken from the 2nd United Nations World Water Development Report: "Water, a shared responsibility" (at: [http://www.unesco.org/water/wwap/wwdr/wwdr2/table\\_contents.shtml](http://www.unesco.org/water/wwap/wwdr/wwdr2/table_contents.shtml))



## Recycling Old Electronics



Spring is the time to start cleaning out the house and if you're like most people you've got an assortment of old, broken electronics kicking around taking up space. These items can be anything from old cell phones, cameras, VCRs etc and seem to be not worth the trouble to take them to the transfer stations or dump. Toshiba, one of the world's largest electronics company has launched an electronics recycling program aimed to rid our homes and landfills of unwanted electronics.

Toshiba is offering to recycle a number of electronic items from any manufacturer not just Toshiba. To top it off they will pay postage to ship the item to them and if you're lucky, they might even pay you for it. It doesn't get much better than that.

If the item you are looking to get rid of is not on their list, you can easily contact their customer service department and they will help you dispose of the item. It's a win - win situation all around. Check it out by visiting <http://toshiba.eztradein.com/toshiba/>

## Who Am I?

Can you identify this recent winter visitor?



(Hint: in Spring, Summer & Fall he's a different color!)

(Sogehs (long tailed weasel))

## Spotlight on Rain Gardens *reprinted from habitat Hotline Atlantic Spring 2008*

### What is a rain garden?

Rain gardens are an environmentally-friendly landscaping technique where a shallow depression is planted with native wetland or wet prairie wildflowers and grasses. Rain gardens are designed to capture run off from roofs, driveways, patios and other impervious structures. While rain gardens help to prevent storm water pollution, they also reduce runoff and prevent flooding. In fact, rain gardens absorb 30% more rainwater into the ground than a conventional patch of lawn. Residents planting rain gardens are able to spend less time mowing lawns. These areas also significantly reduce the need to purchase the pesticides and fertilizers that normally accompany lawn care.

### Why does it matter if the water is going into the ground or into a storm drain?

When water is absorbed into the ground, it refills local and regional aquifers, which helps to reduce the effects of

drought in the longer term. Additionally, urban storm water is often contaminated with lawn fertilizers and pesticides, oil and other fluids that leak from cars, salt and sand from walkways, bacteria from pet waster, and numerous harmful substances that wash off roofs and paved areas. Rain gardens can trap these pollutants and prevent them from entering streams and lakes.

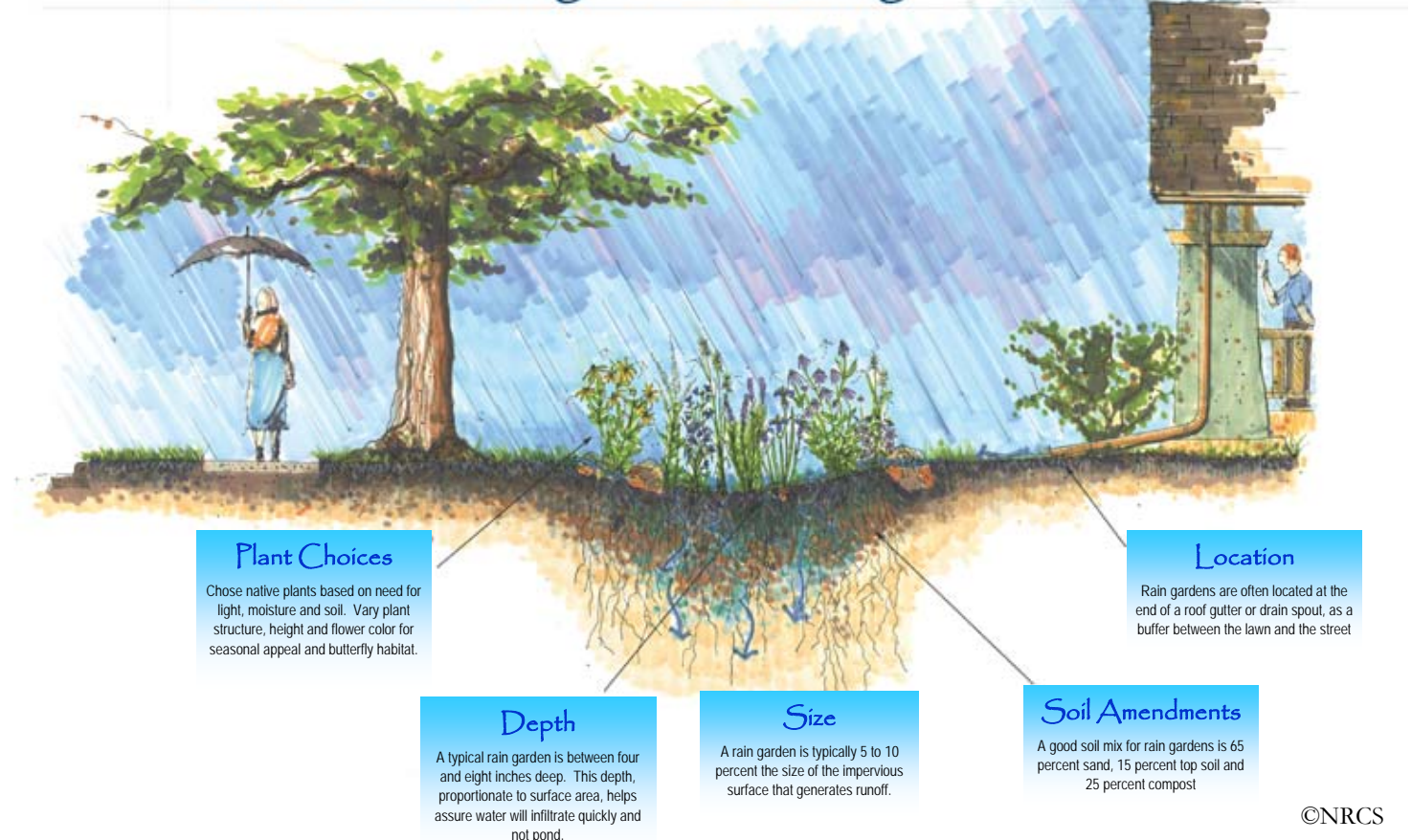
Furthermore, intense storm water flow causes erosion problems, and scours away the natural critters that help keep our streams and rivers healthy.

### How do I make a rain garden?

Take a look at **Rain Gardens: A How-to Manual for Homeowners** (<http://cleanwater.uwex.edu/pubs/pdf/home.rgmanual.pdf>).

For a list of native plants food for rain gardens, see <http://myurbangardener.com/files/RainGardenUSDA.pdf>

## Rain Garden in a neighborhood setting







## Maine's Big Trees

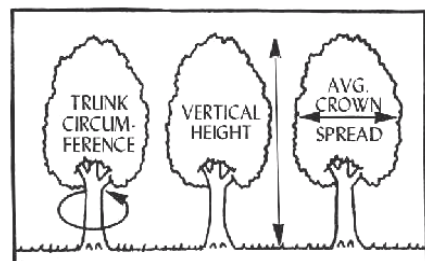
Maine is well known for it's trees. Trees of all types, shapes and sizes cover our landscape, but did you know there are

mega-trees growing amongst them? There is a national program known as Project Canopy that seeks to promote and protect these majestic trees. Every state in the nation has it's own registry of large trees and from those trees, there is a list of national champions.

Aroostook County is home to four trees on the Maine 2007/2008 Register of Big Trees;

- ♦ No. White Cedar (151"circ, 75' h, 25' crown) 232 pts
- ♦ Balsam Fir (78"circ, 104' h, 23' crown) 188 pts
- ♦ E. Larch (Tamarack)(143"circ, 92' h, 31' crown) 243 pts
- ♦ Red Spruce (103" circ, 87' h, 35' crown) 199 pts

So when does a large tree become a Big Tree, eligible for inclusion on these lists? All trees being considered for this high honor are measured in the same manner. It is based on three major measures of the tree, the circumference, tree height and average crown spread.



**Celebrate Earth Day**  
**April 22, 2009**



By combining these measurements, the total tree points are awarded:

$$\begin{aligned} &\text{Circumference (inches)} \\ &+ \text{Height (feet)} \\ &+ 1/4 \text{ Crown Spread (feet)} \\ &= \text{Total Points} \end{aligned}$$

If you know of a tree that you think should be included in this registry contact the Project Canopy Director, Maine Forest Service, 22 State House Station, Augusta ME 04333 or call 1-800-367-0223.

This project/program is a joint project with the Maine Forest Service, Pine Tree State Arboretum and Project Canopy.



For More information on Maine's Big Trees, check out:

<http://www.state.me.us/doc/mfs/projectcanopy/index.htm>

*Trees are the kindest things I know  
They do no harm, they simply grow  
And spread a shade for sleepy cows  
and gather birds among their boughs*

*They give us fruit in leaves above  
And wood to make our houses of  
And leaves to burn on Halloween  
And in the Spring, new leaves of green*

*They are first when day's begun  
To touch the beams of morning sun  
They are the last to hold the light  
When evening changes into night.*

*And when the moon floats on the sky  
They hum a lazy lullaby  
Of sleepy children long ago. . .  
Trees are the kindest things I know*

Harry Behn

## UFO's in our Watershed??????

Relax, we're not being taken over by aliens. With spring ice out right around the corner, this is a good time to address the unusual "stuff" we see on lakes and ponds throughout the spring, summer and fall. Learning to identify these UFOs can help you understand and protect our waters.

*The text below is from pp 16-17 ("Unidentified Floating Objects") of "The Lake Book -- Actions You Can Take to Protect Your Lake". This publication is available from the Congress of Lakes Associations.*

### Murky, Green Colored Water

**Description:** Murky, green-colored water, possibly scum, that looks like blue-green paint on the windward shore, unpleasant odor.

**Analysis:** Algal Bloom. Algae are microscopic plants that are natural components of lakes. When very high phosphorus concentrations occur, one species of algae will out-compete the others and become so abundant that the water becomes murky.

### Yellow-Green Dust

**Description:** Yellow-green dust on the lake in early summer.

**Analysis:** Pollen from nearby pine trees. The pollen might look similar to algae, but pollen is yellow-green and dust-like and floats mainly on the surface. (An algal bloom is green to blue-green). Over time the pollen will become water logged and sink from sight. Pollen does not have any effect on water quality.

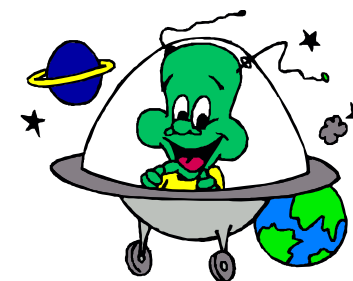
### Dark Cloud

**Description:** Dark cloud in the water accompanied by an oily sheen.

**Analysis:** The cloud is probably insect cases left behind from a hatch of aquatic insects; the insects hatch any time from ice-out to September. The wind often concentrates the cases along the shore and, as they decompose, an oily film sometimes forms on the water surface.

### Green Cotton Candy

**Description:** Green, cotton candy-like clouds floating in shallow waters.



**Analysis:** Filamentous algae are common in many lakes and may not indicate a water quality problem. These clouds usually appear after heavy run-off in the spring or

following a long, hot spell in the summer.

However, concentrations of this form of algae only in specific areas may indicate a local pollution source, such as a contaminated stream or failing septic system. If a lake develops this type of algae around the entire shoreline, it may be the first indication of a phosphorus problem in the entire lake.

### Foam

**Description:** Foam "soap suds" on the surface or along the shore.

**Analysis:** Foam along the shore probably does not indicate pollution from laundry waste. Virtually all detergents today are a biodegradable form which is easily broken down by bacteria. Most foam is natural. Foam is created when the surface tension of water is reduced and air is mixed in, causing bubbles. Many natural organic compounds will reduce surface tension, including those from decomposing algae and fish. In a lake, these organic compounds are mixed with air by wind and currents to produce foam. Large quantities of foam are often found on windward shores, coves and in eddies. Natural foam has a somewhat earthy or fishy aroma. Detergent foam, in contrast, will have a noticeable perfume smell.

From the:

Chiputneticook Lakes International Conservancy (CLIC)  
ChipLakeNEWS, Dec. 12, 2008

[www.chiplakenews.org](http://www.chiplakenews.org)

**Welcome  
Matthew**

The Natural Resources Dept. is pleased to introduce Matthew Edberg as our new Natural Resources Specialist.





## Saving Green

In these tough monetary times, everyone seems to be looking for ways to stretch their dollars. Here are some quick and easy ways to save money and at the same time, reduce your impact on the planet. You'll be surprised at how much money you can save by making a few simple changes.

### Pull the Plug

No, you don't have to go without your TV, morning coffee, or a host of modern day conveniences. Did you know, all the digital displays on your DVD players, TVs, etc. draw power even when the unit is not turned on? By simply unplugging these items; or if the plugs are difficult to reach, plug them into a power strip and flip the switch when they are not in use, like when you go to bed or leave the house, will add up to some substantial savings on your electric bill.



### Use your microwave or slow cooker

As strange as this may seem, using these appliances can actually save you money. These appliances cook much more efficiently than standard electric stoves and ovens. In most homes, the kitchen is the most energy draining room in the house.

### Make your own music

Instead of spending your money on CDs with all their packaging, consider downloading just the songs you want from the web onto your computer, iPod or MP3 player. Not only will you get just the music you want, you keep non-recyclable CD cases and assorted packaging out of the landfill.

### Eat less beef, poultry and pork

Each of these foods require a great deal of resources to raise and process. Commercial meat operations tend to be consumers of large amounts of fossil fuels and heavily contribute to pollution and the overall waste stream.

### Drink from the tap

No, not the beer tap, we're talking tap water. Drinking water from your tap not only saves you money, it helps keep millions of water bottles out of the landfill.

[www.psychology.suite101.com/articles.cfm/green\\_money\\_savings\\_tips](http://www.psychology.suite101.com/articles.cfm/green_money_savings_tips)

## Word Match Answers

Aluhk - Cloud  
 Amakehs - Butterfly  
 Apicipe - Easter  
 Asakuwahq - Chipmunk  
 Atutuwehc - Squirrel  
 Kci Cogols - Bullfrog  
 Kispohon - Ice Out  
 Komiwon - Rain  
 Mahsus - Fiddleheads  
 Mahtoqehs - Rabbit  
 Masuwon - Morning Dew  
 Mehqaqsoskil - Red Willow  
 Ososq - Mud  
 Pesqahsuwehsok - Flower  
 Pomuhse-imiyamkewey - Dandelion  
 Psqahsuwe - Bloom  
 Punasqahtoq - Bud  
 Sipsis - Little Bird  
 Siqon - Spring  
 Spote - Daylight



## Kuli Kiseht Isaac!

Isaac St. John, Son of Cathy and Scott St. John has recently been selected to participate in the 2009 Summer Student Program at the Jackson Laboratory in Bar Harbor, Maine. This nationally renowned Summer Student Program provides high school and college students with an opportunity to conduct independent research under the guidance of staff scientists. To date, more than 2,000 students, including two Nobel laureates, have participated in the program. Each year approximately 30 students from around the United States are selected to attend the summer program.



Isaac St. John  
 Recognition Day 2007

Under the guidance of a mentor, students develop an independent research project, implement their plan, analyze the data and report their results. Upon completion of the project students will present their findings to researchers, peers and parents. Isaac's project will be in the field of genomics, a recent scientific discipline that strives to characterize and define the complete genetic makeup of an organism.

Isaac we wish you the best on this great accomplishment!

For more information on the Jackson Laboratory Summer Student Program, please visit:

[www.education.jax.org/summerstudent](http://www.education.jax.org/summerstudent)

## Spring Wordsearch Puzzle - find both the Maliseet and the English words in the puzzle below

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

For an extra Challenge -  
 Try matching the Maliseet  
 words above with the  
 English below

Bird	Butterfly	Daylight	Flower	Rain
Bloom	Chipmunk	Dew (morning)	Ice Out	Spring
Bud	Cloud	Easter	Mud	Squirrel
Bullfrog	Dandelion	Fiddlehead	Rabbit	Willow (red)

Answers  
 Word Match Pg 6  
 Word Search Page 8



### Are you interested in pursuing a career in the Water Resources field?

The Bureau of Indian Affairs (BIA) is now accepting applications for their all expense paid Water Resources Technician training program.

The training will be held at New Mexico State University in Las Cruces, New Mexico from June 1 to June 26, 2009. Students who are selected and successfully complete the training program will receive a voucher good for a one year temporary, paid, full time position in HBMI's Water Resource program.

If you are a registered HBMI tribal member, have your high school diploma or GED and are planning to pursue higher education or career development we'd love to hear from you.



Please contact Cara O'Donnell  
 (207) 532-4273 ext. 212  
[water@maliseets.com](mailto:water@maliseets.com)  
 or Sue Young  
[ogs1@maliseets.com](mailto:ogs1@maliseets.com)  
 for more information  
 or for an application packet.

Application deadline  
 April 1, 2009

All participants must sign a pledge to remain alcohol and substance free during the program.