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In This Issue

Salmon Survey	1
Dendrology Corner	2
Real vs. Artificial Christmas Trees	3
Word Search Puzzle	3
Recognition Day 2017	4-5
Partnerships at Work	6
Potential Pathogens Transmitted by Wild Game Meat	7
Free Firewood	7
Puzzle Answers	8

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Salmon Survey by Sam St. John

This year Water Resources staffers Cara O'Donnell, Sam St. John and Jenna Matthews were fortunate enough to assist the Department of Fisheries and Oceans Canada (DFO), and the Fort Folly Habitat Recovery Program in their efforts to bolster the endangered Atlantic salmon population of the Inner Bay of Fundy. Donning dry suits and snorkels, they participated in seine netting to help estimate numbers of returning salmon in the Big Salmon River in Fundy National Park and counting salmon on the Nashwaak River in eastern New Brunswick.



(Above) Volunteers from Tobique & Woodstock First Nations and HBMI working with DFO on salmon studies
(Right) Snorkle surveying the river

Inner Bay of Fundy Atlantic Salmon numbers have drastically declined since the 1980's when salmon would return to their rivers and tributaries in the thousands and population surveys were easy to complete. Now returning numbers are in the low hundreds and volunteer help is crucial to cover as much water as possible in search of the increasingly rare Salmonid.



Population surveys help in assessing how many fish are returning and in which rivers. Along with identifying truly wild salmon, salmon released from hatcheries, such as the Mactaquac Biodiversity Center, are also counted and provide valuable data on factors affecting how many return such as mortality rate at sea.





Dendrology Corner

Dendr = tree ology = study of

Prepared by: **Matthew P. Edberg, HBMI Natural Resources Specialist**

Hobble Bush (*Viburnum lantinoïdes*)

Viburnum - wayfaring tree, *lantinoïdes* - like lantin.

The common names for this species; witch hobble, tangle legs, reflect the horizontal arching growth form that makes passage through a thicket very difficult thereby hobbling or tangling ones legs. The term witch in some of the common names is an old English (**wice**, withy = witch) word meaning “strong, pliant or flexible branch”.

Habitat: Hobblebush (*V. lantinoïdes*) is a common forest understory shrub (a woody plant with multiple upright stems). It is found growing in rich, cool, moist forests. In parts of its range it is often found growing in rich moist hardwood forests. In Maine it is typically found in mixed woods (hardwoods & softwoods) often in association with Hemlock (*Tsuga canadensis*) and American Beech (*Fagus grandifolia*). Although classed as an upland species (FACU); it can also be found growing along the edges of wetlands and streams. Being an understory shrub, hobblebush (*V.lantinoïdes*) is very shade tolerant but can also grow in partial sun to full sun.



Above- Flowers (Inflorescence) www.ct-botanical-society.org
Right: - Foliage and fruits www.wqed.org

Natural History: Hobblebush (*V.lantinoïdes*) is a sprawling shrub that attains a height of 6'-12' feet and can spread to form thickets in some cases. The leaves are green, fairly large and oval in shape. The flowers are white and come in a large cluster known as an inflorescence. Interestingly, it is composed of a group of small white flowers in the center; these are the functional reproductive flowers. Surrounding these flowers are large showy white flowers that are non-functional and have no sexual parts.



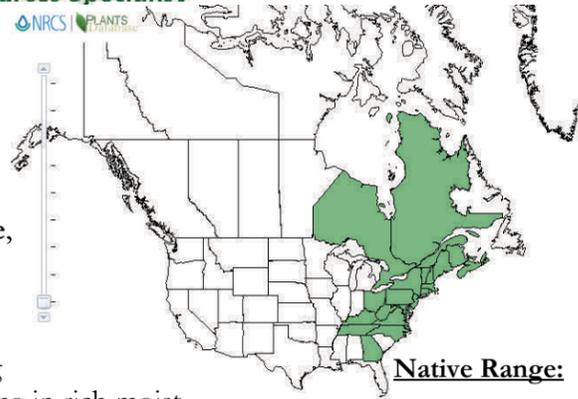
The larger, showier **false** flowers attract pollinators to the **true** flowers in the center. The fruits of the hobblebush start out red and eventually turn purple-black when ripe.

Special Uses: Hobblebush is an attractive shrub and is sold as a native ornamental in the nursery trade.

Medicinal Uses: Hobblebush has many different medicinal uses, the most notable being-mashed leaves applied to head for migraines. **This medicinal use information is not an endorsement of use for medical purposes. Please use caution as many herbal remedies have not been medically tested and can be dangerous if not used properly.**

Edibility: The fruits, as mentioned previously, are edible and very good, tasting similar to raisins. Note: When collecting any wild plant species for medicinal or edible use be absolutely sure you have identified the species correctly. Furthermore, be respectful of nature and use a hunter-gather ethic, leave something for the future and for others.

Continued page 7



Native Range:

Potential Pathogens Transmitted by Wild Game Meat by Sam St. John



As the hunting season comes and goes, many of you will be butchering and cooking wild game. Safety precautions taken during the skinning and butchering process go a long way in preventing the spread of diseases. While basic cooking safety precautions still apply, several extra steps should be taken to ensure that the wild meat you're eating stays healthy and delicious.

First and foremost, hunters should not handle or consume any animals that appear sick or act in abnormal ways. Once a healthy animal has been harvested, gloves are recommended during the skinning and butchering of the animal. While gutting, try to avoid puncturing any interior organs such as the intestines. This prevents the spread of bacteria that aid in the digestion processes of many animals.

Meat ready to cook should not spend any more than 2-3 days in the refrigerator and 9-12 months in the freezer. Many foodborne pathogens can easily be

handled through proper cooking. Bacterium such as E. coli and Salmonella can be eradicated by ensuring the meat reaches an internal temperature of at least 160 degrees Fahrenheit. Modern food safety standards have made it relatively safe to eat undercooked meat like beef or duck, but wild game does not follow these standards.

A parasite commonly found in pork before food quality standards were raised caused Trichinosis, a disease caused by parasitic worms that bury into the muscle tissue of animals who were exposed to contaminated food sources. Changes in food handling guidelines to ensure pork was fully cooked helped to reduce the incidence of Trichinosis. Formerly a significant problem in the pork industry, the majority of cases now are contracted through the consumption of under-cooked bear meat.

Free Firewood!



As the days grow shorter and the temps grow colder it is a good time to think of throwing another log on the fire.

With that in mind, we are pleased to announce that we currently have free firewood available to tribal members for their **personal use only** and **is not to be** sold.

This wood comes from a stormwater management project we recently completed on the Folsom property on the Foxcroft Road.

The wood pile is located on tribal land behind the maintenance shop (behind where the old Lowery farmhouse stood). Tribal members are encouraged to take all the firewood they need for their wood stoves or backyard fire pits. You do not need a permit to get wood from this pile.

If you have any questions, please don't hesitate to let us know.

Dendrology Corner from page 2

Utilitarian: NA

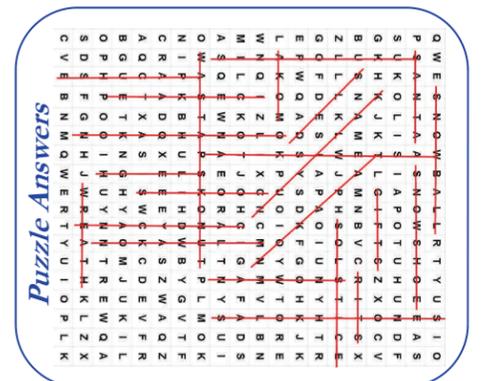
Ecological Values: Hobblebush (*V.lantinoïdes*) has great ecological value in the forest. Being a shrub it creates vertical structure- under the canopy of the forest- but above the herb layer. The flowers provide pollen and nectar to insects and the fruits are consumed by a variety of mammal and bird species. It is also a hosts for the spring azure butterfly (*Celastrina ladon*) seen below.



www.naba.org

Literature Cited

- Petrides, 1973, Trees & Shrubs, Peterson Field Guides.
- USDA-NRCS Plant Files
- Foster, 1990, Medicinal Plants, Peterson Field Guides.



Real vs. Artificial Trees *cont.*

playground material, hiking trails, paths and walkways. They can be used for beachfront erosion prevention, lake and river shoreline stabilization and fish and wildlife habitat.

A single farmed tree absorbs more than 1 ton of CO2 throughout its lifetime. With more than 350 million real Christmas trees growing in U.S. tree farms alone, you can imagine the yearly amount of carbon sequestering associated with the trees. Additionally, each acre of trees produces enough oxygen for the daily needs of 18 people.

In order to ensure a healthy supply of Christmas trees each year, growers must use sustainable farming techniques. For each tree harvested, one to three seedlings are planted the following spring, ensuring a healthy supply of trees. According to the NCTA, the Christmas tree industry employs more than 100,000 Americans, an important economic consideration in the real versus artificial debate.

Besides the aforementioned pro associated with real Christmas trees, they are farmed as agricultural products, meaning repeated applications of pesticides, herbicides and fertilizers may be used throughout their lifetime. The ideal tree would be raised organically, using integrated pest management techniques rather

than chemicals. Another con associated with real Christmas trees may depend on where you live. For climates where coniferous trees don't grow, that tree in your living room may have had to travel hundreds of miles to reach the lot, significantly increasing the environmental impact associated with travel.

However, a tree trucked from a couple states away is still traveling thousands of miles less than one from overseas.

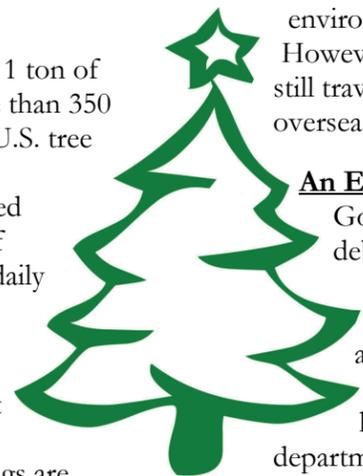
An Even Better Option

Go one step further than the real versus artificial debate and consider a living, potted tree this Christmas. Though not feasible for everybody due to climate and land availability, living trees are brought into the home for about 10 days, then replanted after Christmas. If you don't have the land for replanting, your local parks department will likely accept your tree for planting after the holidays.

The Verdict?

So what's the final word? Drumroll please... Real trees top our charts for holiday adornment. Even though they might shed needles on your floor, the investment in a U.S.-based product, the carbon-neutral nature of their production and their ease of recycling make them a clear winner.

<https://earth911.com/home-garden/real-vs-artificial-christmas-trees/>



Partnerships at Work

Here in Natural Resources Department we are very fortunate to have a great group of partners to work with on the many issues facing the tribe and the environment as a whole. Through these partnerships we have been able to accomplish many projects ranging from Meduxnekeag River Habitat Restoration projects on the main-stem and north branch of the river, to watershed based plans for the Meduxnekeag and Pearce Brook Watershed to name just two.

On September 21, 2017, we hosted a multi-agency meeting at Wilderness Pines where many of our federal partners came together to discuss issues of importance to the tribe and our goals of protecting water quality, restoring fish habitat, reintroducing salmon to our river and more. This forum, marked the first time we have been able to bring our federal partners together to jointly discuss solutions and opportunities available to the tribe to accomplish our goals.



Front - Richard Zane USFWS, Tony Jenkins USDA NRCS, Anna Harris USFWS
Middle - Sue Young HBMI, Helena Swiatek USDA NRCS, Sharri Venno HBMI, Cara O'Donnell HBMI, Chief Clarissa Sabattis HBMI, Zintkala Eiring USFWS
Back - Michael Stover EPA Reg. 1, Bob Lent USGS, Marie Esten Army Corps of Engineers, James Brinkley NOAA, Greg Stewart USGS, Peter LaMothe USFWS, Rory Saunders NOAA

Real vs. Artificial Christmas Trees *by Lori Brown, Earth 911*

The real versus artificial Christmas tree debate replays itself year after year. But the truth is, each option has its own place on the naughty-and-nice list.

Just a few short decades ago, displaying a Christmas tree in your living room really only yielded one option: a real pine or fir tree. That all changed when a U.S.-based toilet bowl brush manufacturer, the Addis Brush Company, created an artificial tree from brush bristles in the 1930s, acting as the prototype for modern artificial trees.

The Pros and Cons of Artificial

Guilt. Many have made it the sole reason to invest in an artificial tree. The thought of cutting down a new tree each year can put a damper on the holidays for some. Also, cost, convenience and environmental impact are other reasons consumers opt for an artificial tree.

Given the current economic climate, artificial trees may be especially appealing for their investment value when compared with the recurrent, annual expense of a real Christmas tree. Their convenience is also appealing to consumers as they don't need watering, don't leave pine needles all over the floor and transportation from tree farm to home isn't an issue.

But many experts believe artificial trees actually have a *greater* negative environmental impact when all

aspects of an their life cycle are considered. Today's artificial trees are typically manufactured with metal and polyvinyl chloride (PVC), a non-biodegradable, petroleum-derived plastic. In addition, many older varieties may contain lead, used as a stabilizer in the manufacturing process. Because of their PVC contents, artificial trees are non-recyclable and non-biodegradable, meaning they will sit in a landfill for centuries after disposal.

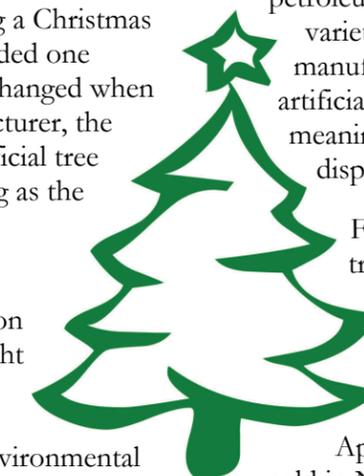
Furthermore, approximately 85 percent of artificial trees sold in the U.S. are imported from China, according to the National Christmas Tree Association (NCTA), adding to their overall environmental footprint.

The Pros and Cons of Real

Approximately 33 million real Christmas trees are sold in North America each year, according to the U.S. EPA. Luckily, about 93 percent of those trees are recycled through more than 4,000 available recycling programs.

Also known as "treecycling," the act of recycling a Christmas tree is a leading reason many experts agree they are more environmentally friendly than their plastic counterparts. Treecycling is an easy way to return a renewable and natural source back to the environment instead of disposing it in a landfill, where decomposition rates are slowed due to lack of oxygen.

continued page 7



Winter Holiday Word

Search Puzzle

Find the English and Maliseet Words in the puzzle



- Candy Cane
- Cookie
- Gifts
- Ice Skate
- Santa
- Sled
- Sleigh
- Snowball
- Snowman
- Snowshoe
- Solstice
- Wreath
- Sukolisapotuhun
- Sukolopanis
- Miluwakon
- Olonohqakom
- Senotihkolas
- Tapakon
- Kaliyun
- Wastapkskonut
- Wastewiskitap
- Akom
- Apacuhse
- Rits

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



37th Annual Recognition Day
Saturday September 16, 2017

