#### Unama'ki Institute of Natural Resources

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### low are Plamu/Salmon Like Trees

THIS ISSUE Plamu rass Fires uinr.ca Welcome Moose Aging Vilderness First Aid Natural Resource Pilot It's all about the people Staff Annie's cartoon

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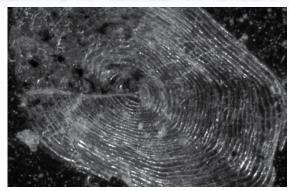
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Plamu/Salmon are a big deal at UINR and we do a lot of work to make sure they are here for future generations to enjoy. Every spring we capture young Plamu (smolt) and take a sample of their scales to do further research. Working with Ocean Tracking Network at Dalhousie University our new recruit, Emma Garden, received training to age scales while Tyson Paul and Angela Denny refreshed their skills.

Scale aging tells us the smolt's age and growth and is important for understanding how long juvenile salmon stay in rivers and how long they stay at sea. It gives us an idea of the Plamu's life history and how it grows over time.

We collect scales from smolt captured using a a smolt wheel that has been installed every spring in Middle River since 2011. After collecting information from each young salmon such as its life stage, length, and weight, scales are scraped off using a knife and placed on a microscope slide. Each slide is covered, numbered, and placed in an envelope to be examined later in the lab.



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Smolt scales from Middle River have a unique pattern compared to scales from other areas. The concentric ring with growth radiating out from the middle is known as the "focus". These rings are counted like tree rings. Rings are closer together in winter when smolt eat less and growth is slow. In spring, when fish resume eating and growing, rings are farther apart. Smolt are aged based on the number of winters they survived. The transition from tightly packed to wider spaced rings show one year of growth. Most Middle River smolt leave the river when they are three years old.

Scale aging is a science and an art and not an easy task, but with team work and lots of practice, UINR is able to assign ages to the fish weighed and measured to get an idea of how fast or slow they grow compared to other populations.

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Tyson Paul, Angela Denny, and Emma Garden examine salmon scales in our lab.

### Every Spring, as soon as the snow is gone... grass fires begin.

People believe that burning grass is a good thing... but it is destructive and dangerous.

Grass fires don't control weeds... they make weeds worse by clearing the ground so weed seeds germinate.

> Grass fires don't improve your lawn... they reduce your grass by half.

Grass fires don't make your lawn look greener... it just looks that way because the ground is black.

Grass fires are bad for our natural resources... they kill important habitat for birds and small animals.

> Grass fires are bad for the soil... nutrients go up in smoke.

Grass fires are bad for the environment... they release carbon dioxide into the atmosphere.

Grass fires destroy property and can kill people. DON'T BURN GRASS!

# DON'T BURN GRASS!

Please join us in congratulating UINR's Lorraine Marshall who was recently recognized for her outstanding contribution to the re-development of the Water Monitors' Log Book.

Lorraine, a member of Health Canada's Community Based Water Monitor Task Group, received an Excellence and Merit Award from the Department's Assistant Deputy Minister.

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Here's where we keep you up-to-date on new stuff online from UINR

We are sad to report that our uinr.ca website was hacked. Don't worry, it's nothing that will affect you but it sure created a lot of problems for us at UINR. On the bright side, we have been planning a new website design and we are working on bringing that to you as soon as possible. Our new uinr.ca will have the same great content and news that you expect, with a new menu that will allow you to find what you are looking for easier. We are pretty excited to show you what we've come up with.

In the meantime you can stay up-to-date by following our popular facebook page and Twitter feed. We will continue to post news, photos, job opportunities in both places, so check it out.

This spring watch for the release of our two new publications on Oyster: Mn'tmu'k: Mi'kmaq Ecological Knowledge, Eastern Oysters in Unama'ki, and our new children's book The Oyster Garden, Ki'ju Tells Her Story.



If you are a Facebook user (and who isn't) be sure to LIKE our UINR page. It's growing fast and if you take a visit you'll see why! We often give away free books and other publications just for liking us! Check out our albums of photos and see how many people you recognize! This is the best place to stay tuned on employment and other opportunities that arise.

If you use Twitter, be sure to join our followers! It's the best way to stay informed on new additions to our website and all the latest updates.

# elcome

On Earth Day 2016 UINR launched Naqtmuksi'k/Legacy, a new video that is a tribute to Charlie Joe Dennis. All our readers know of Charlie and his valuable contributions to the health and well being of the natural environment of Unama'ki.



Naqtmuksi'k/Legacy shows Charlie throughout his career from a young man with a particular interest in oysters to his work as a community leader. The Gathering Song used in the video is sung by Sarah Denny.

You can see the video on our Facebook page– UINR,YouTube–UINRTV, and uinr.ca

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#### How Old is That Moose?

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Guardians from Unama'ki gathered at a day-long workshop in Baddeck to learn how to determine a moose's age based on a close examination of its jaw bones. Jeremy Smith, Wildlife Technician with Nova Scotia Department of Natural Resources, conducted the workshop using material from the recent Parks Canada moose harvest in the Highlands.

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#### Wilderness First Aid

There's a lot of accidents that can happen when you're out in the woods and knowing how to deal with emergency situations is critical in potential life or death situations.

If you came across someone in the woods that was accidently shot, would you know what to do? Guardians from Unama'ki do and they recently completed two days of intensive training in Wilderness First Aid. Conducted by St. John Ambulance instructor Roman Dusanowskyj the group spent time in the classroom and ended the course with an afternoon on Goat Island where participants dealt with mock emergency situations.

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## Thinking outside the box–the future of natural resource management in Unama'ki

It was with a spirit of cooperation and a willingness to think outside the box that UINR, Guardians from Unama'ki, Fisheries Managers, and representatives from a range of federal and provincial government departments gathered to develop a common vision to increase Mi'kmaq capacity for natural resource management.

The group gathered for an all-day meeting to review and discuss The Future Of Natural Resource Management in Unama'ki, a pilot proposal for a natural resource management project.

The five-year pilot would help address gaps in the current forestry, wildlife, and environmental management practices of Unama'ki Mi'kmaq communities. The pilot would provide the necessary tools and resources to broaden our natural resource management activities.

Some of the expanded activities in the pilot include wildlife stewardship and management, forestry stewardship and management, environmental monitoring, and salmon management.



Lisa Young, UINR's Executive Director explains, "This concept is more in line with the Mi'kmaq holistic approach to natural resource management and is a natural next step in the development of the Guardian programs for our communities."

Tom Howe, Fisheries & Oceans Canada; Tom Johnson, Eskasoni Fish and Wildlife; Joyce Patel, Fisheries & Oceans Canada; Derek Quann, Parks Canada; Annie Johnson, UINR; Norman Basque, Potlotek Guardians, Darryl Murrant, Nova Scotia Fisheries & Aquaculture; Marlene Doyle, Indigenous & Northern Affairs Canada; Hubert Nicholas, Membertou Fisheries; Keith Christmas, UINR; Lisa Young, UINR; Charles Doucette, Potlotek Guardians; Atong Ater, Fisheries & Oceans Canada; Kerry Miller, Nova Scotia Environment; Lindiwe MacDonald, Environment Canada; Kelly Murphy, Environment Canada; Patricia Bernard, We'koqma'q Fisheries; Clifford Paul, UINR; Preston Bernard, Wagmatcook Commercial Fisheries



## it's all about the people Emma Garden

In the summer while other kids splashed in the water, Emma kept her eyes open for the bugs swimming and crawling around in the lake. You might say Emma has never grown up. She continues today as a Research Assistant in Aquatic Research and Stewardship at UINR.

Emma specialty is rivers and streams, but she also helps out with anything related to water. Most of her work is on young Atlantic salmon and aquatic bugs. From spring to fall you can find her outside, in or close to water! She worked on our smolt wheel, salmon monitoring, and stream health assessments. In the winter she gets down to research and report writing in between helping out with MEK workshops.

If you want to know about insects, Emma's your go-to-person. She's a certified taxonomist for aquatic insects in Eastern North America and has identified aquatic bugs from all over the Maritimes. She's been a member of Shubenacadie Watershed Environmental Protection Society since 2009.

If that's not enough, she is pursuing a Certificate in Aquatic Environmental Techniques where she is learning practical skills in stream restoration, stream assessments, and fish and bug identification.

After graduate school, she worked with a conservation authority in Southern Ontario collecting water samples, doing stream assessments, and of course, identifying aquatic bugs.

Emma's wealth of experience is a valuable asset to UINR, enriching our knowledge of our local environment and giving us new insight into the natural world.

"At UINR I have the opportunity to make a difference while doing something I enjoy. Being able to hold a wild Atlantic salmon! Where I am from, salmon are basically gone. Knowing that I am helping to conserve them is something I am very proud of."

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### Ten **questions**

Choose an animal native to Unama'ki. Mayfly **Favourite season?** Fall What is the best part of your work? Working in the river on a nice day. Choose a quality you admire in others. Humour Favourite beach? Inverness Last thing you read? Why Not me? by Mindy Kaling What's for supper tonight? Not sure What is your favourite website? inaturalist.org What did you do in the last week to help the environment? Recycled **Chocolate or chips?** Chocolate

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