



## *Salt Spring Island Water Preservation Society*

NEWSLETTER APRIL 2012

### **PRESENTATION April 20th NATIVE COASTAL CUTTHROAT TROUT**

On Friday April 20<sup>th</sup>, the Society will present the third in our speaker series about local lakes and the fish that inhabit them. This talk will present the findings of two scientists from the Ministry of Forests, Lands and Natural Resource Operations who have been studying cutthroat trout habitat on Salt Spring and Vancouver Islands. The coastal cutthroat trout are native to Salt Spring and they depend on our streams being clear, healthy and abundant. Join us at Lions Hall at 7:00 to learn about this beautiful native fish so rarely seen by most of us. Doors open at 6:45.

### **BROOM REMOVAL ON WPS LANDS**

The Society has recently completed three days of broom removal from our 272 acre watershed reserve on the hillside to the west of St. Mary Lake. The broom is growing on a level bench area at the top of the hill that was originally mixed fir-maple-arbutus and Garry Oak habitat.

Society volunteers work at the site each spring and summer to keep the broom and other invasive species under control. This is part of a long range plan to help restore the natural Garry Oak ecosystem, which serves as habitat for many other rare and endangered species. Much remains to be done at this beautiful site with so much potential.

The Society will be holding more broom cutting days in May or June when the broom is in bloom. We invite you to join us for a fun day on this sunny site – the work is not arduous, and the company is first-rate! If you can help, please contact us at [ssiwps@gmail.com](mailto:ssiwps@gmail.com) or 537-1577.

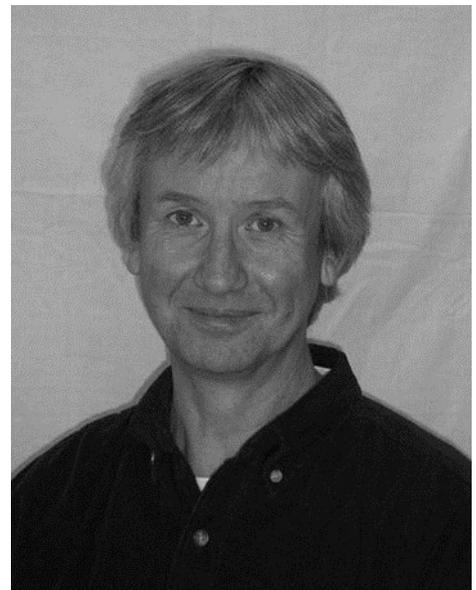




## **Dr. Rick Nordin: ARE SALT SPRING LAKES IN TROUBLE? WPS AGM January 29, 2012**

Dr. Rick Nordin was the special speaker following the Water Preservation Society AGM. Rick earned his PhD in phycology and limnology at the University of British Columbia, worked for the Ministry of Environment until 2002 and was a Biology professor at University of Victoria. He has researched lakes all over the Province. Nordin's talk focused on three topics: how lakes change as they are affected by climate change; watershed and shoreline development; and introduced species.

He began by explaining the nature of lakes, as dynamic, complex bodies of water, difficult to understand and manage for human benefit, which means there are no easy or quick answers. The characteristics of a lake are determined by the size of its watershed, the amount of water flowing in and out of the lake, the surface area size which determines the amount of evaporation, whether the lake is on the coast or inland, and its water chemistry and biology. Understanding the characteristics of a lake reveals its vulnerabilities. For example, St. Mary Lake's watershed is relatively small compared with the size of the lake, which leaves it more vulnerable than a lake like Cusheon which has a much larger watershed. St. Mary Lake takes approximately 15 years to flush almost completely.



Nordin pointed to the warming trend evident in St. Mary Lake. He stated that, since warm water absorbs less CO<sub>2</sub>, some lakes have begun to produce CO<sub>2</sub> rather than absorb it as in the past. Fish that need cold water will decrease as the lake water warms. Warmer temperatures also affect water supply, water exchange time and increase evaporation.

Activities in the watershed of a lake affect the water quality, including the building of roads, residences and the clearing of land for agricultural and other activities. Soil disturbance and sewage disposal increase the amount of phosphorus introduced into the lake. Removal of vegetation along the shore reduces places for small fish to hide from predators. The installation of docks or barriers changes the movement of the sediments. These activities can all affect water quality.

Dr. Nordin showed a list of invasive species in BC lakes including bullfrogs, canary reed grass, yellow flag iris, water lilies, various protozoa, bacteria, and some types of algae. Some of these were deliberately introduced into BC lakes, others arrived on boat bottoms.



## SMALLMOUTH BASS IN CUSHEON LAKE

On Sunday 18<sup>th</sup> March 2012 a very interesting joint presentation was given by two experts, Martina Beck, UVic MSc student, and Matthias Herborg, Aquatic Invasive Species Coordinator for B.C. Ministry of Environment. The two slide-shows were held at Lion's Hall, jointly sponsored by WPS and the Stewardship Committees of St. Mary Lake and Cusheon Lake. We were treated to much interesting information from Matthias Herborg, illustrating the work being done by the ISC (Invasive Species Council) of B.C.

Then Martina Beck taught us much about smallmouth bass and cutthroat trout from her scientific studies done in Cusheon Lake last year. We learned that the bass were introduced since 1919, that they hang out only in the warmer shallow waters, and that it is the fathers who guard the young – which is why the daddy-of-a-fish known to some Cusheon residents is seen in the same place every year.

No fish eat adult bass; their only predator is the occasional eagle. From the questions afterwards from St. Mary Lake residents, we learned yet more: that the yellow perch of St. Mary Lake are smaller than the bass, but, unlike the hibernating bass, they remain active throughout winter also, feeding off whatever they can find, and reproducing more (Cusheon was thankfully never stocked with perch). In Cusheon Lake, Martina found, in addition to the smallmouth bass that she is studying, also cutthroat and rainbow trout, coho salmon, 3-spine sticklebacks, and prickly sculpin. Martina's investigations are not yet complete; she would be most welcome to return!

### NORDINE TALK (Continued)

The Mysis shrimp introduced in the 1960's to presumably improve fish production, ended up as a predator of the food eaten by Kokanee salmon in the Kootenay and Okanagan lakes. The shrimp are effectively controlled in Okanagan Lake through the annual harvesting of 40 tons of shrimp as aquarium food. Nordin proposed that introduced perch are contributing to the runaway growth of algae in St. Mary Lake. The perch may be eating the zooplankton. Since the zooplankton eat algae, their removal allows the algae to grow unchecked. He called for a biological study of St. Mary Lake. He also said it was crucial to conserve water and for local organizations to encourage good lake stewardship.

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We appreciate your past support and urge your continued membership. The cost is:

\$10/Individual

\$20/ family

Additional contributions are welcome and will receive a tax receipt. Send to our address, on the back of this newsletter.



### OUR EXECUTIVE

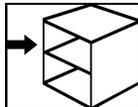
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### COUNTRY GROCER TAPES

Please put your tapes in box #73



### WPS Speakers Series

Save the Date

### Coastal Cutthroat Trout

April 20th 7:00 pm Lions Hall  
Doors open at 6:45 pm

Mike McCulloch,  
 Anadromous Fisheries Specialist &  
 Warren Cooper, Hydrologist  
 Ministry of Forests, Lands and  
 Natural Resource Operations

Speaking about our native  
 coastal cutthroat trout, their habitat and the  
 results of their study on Salt Spring and  
 Vancouver Island



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