

Watershed Wisdom –Combating Alien Invaders

In the roughly 20,000 years since the last ice age, the lakes of Mother Nature's watersheds in Maine have evolved from crystal clear melted ice water totally devoid of life to carefully balanced watershed ecosystems that support a diverse spectrum of native aquatic plants, plankton, insects, fish and other animals. The natural aging process of lakes is called "eutrophication." After forming a crystal clear, sterile lake by melting a giant mass of ice, Mother Nature begins to fill it back in through erosion of the surrounding land by precipitation. This erosion transports sediment and chunks of plant material with attached nutrients into the water. This allows first bacteria, then algae, then plants to begin growing in the lake, followed by zooplankton and insects to eat the plants, and eventually fish to eat the insects and zooplankton. If the fish begin to get overpopulated, ospreys, eagles, and bigger fish will move in to eat the smaller fish. Mother Nature is very good at keeping her systems balanced and aging slowly through the process of natural selection. She keeps the surrounding watershed vegetated so that erosion is gentle and at a very controlled rate and adds plants and animals slowly over geologic time so growth doesn't get out of control, always ensuring there are checks and balances in terms of predators and prey, with survival of the fittest.

Sometimes Man short circuits the natural systems. Overdevelopment of shoreland areas increases nutrient loading and can trigger algae blooms that prematurely age the lakes. We will talk about that in more detail in future columns. Another way the natural systems are disrupted is through the introduction of an "alien invader," either plant or animal, from a totally different ecosystem. Sometimes this is intentional such as purposefully introducing a fish that is not native to local waters. If done carefully by trained biologists after long study, this can create a new sport fishery in an area. More often than not, new fish introduction is done by "bait bucket biologists" who don't really understand that by introducing a new top predator such as the northern pike, they could be decimating an existing native trout or salmon fishery that is more appropriate for the existing ecosystem. This is currently happening in the Belgrade Lakes Watershed.

Alien species can be introduced unintentionally by people discarding unwanted aquatic pets or plants from their aquariums into the nearest waterbody. Eurasian milfoil was most likely introduced into this country in the 1940's when someone dumped an aquarium into the Potomac River near Washington DC. It quickly became established and then spread by clinging to boats and trailers as boaters moved between watersheds. It is now present in every state except Hawaii and North Dakota. The invasive plants tend to outcompete the native plants because the natural predators that control the plants in their native waters are not present. These plants then grow rapidly to the surface and form a dense mat that shades the bottom, further disrupting the growth of the native plants. This changes the mix of aquatic organisms that live in the lake and causes ripple effects through the entire ecosystem altering populations of fish etc. Additionally, it completely changes the character of the water and the type of recreation that is possible. It is virtually impossible to swim or water ski through a dense mat of milfoil. Last summer, a woman in Idaho drowned when her kayak capsized in a dense mat of milfoil and she became entangled and couldn't get to the surface.

There are eleven species of plants that have been declared as "most unwanted" by the Maine DEP. One of these, variable leaf milfoil, is present in Messalonskee Lake and

the Belgrade Stream in our watershed and last summer was discovered in the Meadow Stream between North Pond and Great Pond. Another, Eurasian water milfoil (EWM), was discovered three years ago in Salmon Lake. The BRCA, in partnership with Maine DEP and the local lake associations has been working hard to control, and hopefully, eradicate this menace to our lakes. An herbicide treatment was done two years ago and initial indications are that it was very effective. We found no signs of EWM in Salmon Lake last year. Beginning this week the DEP divers will be back, surveying the infested cove to look for signs of regrowth. We are keeping our fingers crossed and hoping we “dodged a bullet.” We cannot afford to become complacent, however. During the three years we have been working on the EWM in Salmon Lake, our courtesy boat inspectors (CBIs) have removed EWM from boats entering Salmon Lake three times, preventing a potential reinfestation.

The BRCA and volunteers from all the local lake associations will be conducting visual surveys from small boats in all the Belgrade Lakes, especially in the vicinity of the boat ramps. Additionally, we will be working with the Friends of Messalonskee Lake to evaluate various options for pulling or harvesting the variable milfoil there. Come to “Milfoil Awareness Day” at the Oakland boat ramp on Saturday, June 25th to learn more. We need volunteers for all these efforts. We would love to make you a trained plant patroller and have a plant identification training workshop scheduled for the afternoon of July 12th at the Mount Vernon Community Center on Minnehonk Lake and a field methods workshop on the morning of the 16th at Taylor Pond in Mount Vernon. If you want to attend one of these workshops, please contact the BRCA at 495-6039 and we will sign you up. Even if you think you are not ready to learn plant ID, we still need volunteers to act as safety observers for our divers and paddlers to paddle our trained observers around in canoes or tandem kayaks. If you are looking for a good excuse to dive, snorkel, or paddle around a kayak or canoe on a beautiful day, have we got a deal for you! You will make new friends who care about the lakes. Our planned patrols are listed below, including a rain date. Call Corinne at BRCA for more information. In the future I will talk more about Maine’s milfoil law and the invasive plant prevention programs the BRCA administers in the Belgrades. In the mean time, please make sure you thoroughly inspect your boat and trailer every time it leaves or enters the water and remove all aquatic plant fragments. **Don’t transport aquatic hitchhikers!**

- If you are interested in helping with the plant patrol on your lake, please call 495-6039 to register and get more information. Dates are listed below with rain dates in parenthesis.
 - Thursday, June 16th - North Pond boat ramp (RD June 23rd)
 - Tuesday, June 21st- East Pond boat ramp (RD June 27th)

- Thursday, June 23rd – Salmon Lake boat ramp(RD June 27th)
 - Tuesday, June 28th – Messalonskee (Oakland) boat ramp (RD June 30th)
 - Tuesday, July 12th - Great Pond boat ramp (RD July 15th)
 - Thursday, July 14th – Long Pond boat ramp (RD July 18th)
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- Manual Removal, Barrier placement and DASH Boat days are yet to be announced. Please sign up to volunteer and you will be notified of dates once surveying is complete on Messalonskee, Salmon Lake and in Great Meadow Stream (Great Pond).