

Watershed Wisdom –Alien Invaders

In the 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, 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 (see earlier Large Woody Debris column) 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, bigger fish will move in to eat the smaller fish. Mother Nature is very good at keeping her systems balanced and aging slowly. 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.

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 have talked about that in the past and will talk about it again because it is important. 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 the 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. 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 through a dense mat of milfoil.

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. Next week 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!**