

Aliens are invading our watershed

You only have to take a brief walk along the Grand Traverse Bay shoreline to see the impact of aquatic nuisance species in our watershed. Along some portions of the bay's shoreline, the piles of dead zebra mussel shells are often two feet deep — remains of the untold millions of these small mollusks that are living beneath the surface.

Aquatic nuisance species, also known as exotic, invasive or alien species, are non-native plants, animals and microscopic organisms that have caused problems in aquatic ecosystems outside of their native range.

In general, exotic species are considered "biological pollutants" that have led to a severe loss of biodiversity and habitat alteration throughout the world.

Species are considered a nuisance when they disrupt native species populations and threaten the balance of an ecosystem, as well as causing damage to local industry and commerce.

Many of these alien invaders came from the ballast water from foreign ships. More than one-half of the invasive species in the Great Lakes have been introduced over the past 30 years, a surge coinciding with the opening of the St. Lawrence Seaway.

Chemical and biological controls have been successful in controlling some invasive species, but not in eradicating them from the Great Lakes.

How do invasive species affect the Great Lakes Ecosystem?

In the Great Lakes, sea lamprey and zebra mus-



Above, Invasive Species Field Course participants check samples for invasive species. From the top, a Zebra mussel, spiny water flea and a fishhook water flea.

sels are among the most harmful. Both aquatic nuisance species have permanently altered the Great Lakes ecosystem, contributed to declines in some native fish, and cost millions of dollars to control each year.

Sea Lamprey

The Sea Lamprey does its damage by attaching to other fish, such as lake trout, using its sucker-like mouth to remove blood and body tissues from its victims.

Chemical controls toxic to the lamprey larvae have been applied to spawning streams and

barriers have been constructed in major tributaries throughout the Great Lakes, including Kid's Creek, in an attempt to control the sea lamprey. Locally, lampricides have been used in Mitchell Creek and the Boardman River.

Zebra Mussel

Zebra mussels, and their cousin the quagga mussel, filter out much of the plankton and suspended organic matter from the water and bind what they don't use into waste pellets that cannot be used by other plankton-feeding

organisms such as other fresh-water mussels and shrimp.

In some areas, populations of native crustacean, like diporeia, have plummeted from thousands per square meter to few or none. Diporeia is a key food source for lake trout and whitefish.

This filtering process is responsible for the increased clarity in area waters.

Other common nuisance



WATERSHED ACCOMPLISHMENTS

- Inland Seas Education Association (ISEA) has developed an annual, 3-day "Invasive Species Field Course for Teachers and Environmental Professionals." The course provides a unique combination of hands-on field sampling and professional seminars.

- Purple Loosestrife eradication projects have been conducted at Grass River Natural Area and the Hanley Cove condominium site.

- Three Lakes Association received a grant to construct and operate a mobile Aquatic Nuisance Species Information and Boat Washing system. Volunteers travel to various boat launching sites to power wash boats and distribute literature.

WATERSHED FACTS:

- Zebra mussels are present in virtually all lakes in the Grand Traverse Bay Watershed.
- More than 160 exotic species have established populations in the Great Lakes as of December 2002. Of these, about 10 percent are considered nuisance species.

- The average clarity of the lower West Arm of Grand Traverse Bay increased 20 percent from 1990 to 2000. In the past two years, clarity has increased approximately 11 percent each year.

animal species in our watershed include the round goby, the fishhook flea and the Eurasian ruffe. Plant exotics include purple loosestrife, a beautiful, wetland-loving plant that can choke out other native vegetation in a matter of a few years; and Eurasian milfoil.

WAYS YOU CAN HELP

- Avoid using invasive or non-native species in your landscaping.

- Participate in purple loosestrife eradication efforts — both Sleeping Bear Dunes National Lakeshore and Grass River Natural Area use volunteers for this purpose.

- Anglers and boaters should avoid transporting live bait to new bodies of water, make sure boats and trailers are free of zebra mussels, and remove aquatic weeds from boat propellers, fishing gear or other recreational equipment.