FAQ's

What species are affected by Type E botulism?
The bird species affected by botulism include loons, mergansers, long-tail ducks, grebes, cormorants and gulls. Fish species affected include freshwater drum, smallmouth bass, rock bass, round gobies, channel catfish and sturgeon.

Where does botulism come from?
Botulism spores are abundant in low-oxygen materials like soil and lake sediment. They are also found in the gills and digestive tract of fish living in those lakes. The spores are harmless until the right environmental factors occur. This would be in a nutrient-rich substrate like large amounts of decaying vegetation and dead fish (that have died of other reasons).

Has botulism always been in the Great Lakes?
Botulism has been around for a long time, but records of it in the Great Lakes have only appeared recently. Since 1999, significant die-offs of birds and fish have been occurring regularly in Lake Erie and Lake Ontario.

Is it safe to eat fish or waterfowl?
If you are hunting or fishing on the Great Lakes, you should harvest only fish and waterfowl that look healthy. Do not take any that show signs of illness. Always prepare wild fish and game using proper sanitary measures.

Can I swim in the water?
You are not at risk of botulism poisoning by swimming in Great Lakes waters.

Is it safe to walk dogs on the beach after a die-off?
Yes, but just keep them away from dead animals on the beach.

For more information on Type E Botulism contact:

A/OFRC

Anishinabek/Ontario Fisheries Resource Centre

755 Wallace Rd. Unit #5
North Bay, ON P1A 0E7

Telephone: (705) 472-7888
Fax: (705) 472-6333
www.aofrc.org

References:
U.S. Environmental Protection Agency
http://www.glrc.us/documents/botulism/appendixD/faq.pdf
http://www.miseagrant.umich.edu/explore/coastal-habitat/avian-botulism.html

Picture Sources:
http://www.thestar.com/
http://www.ccwhc.ca/

Type E Botulism

A bacterium-caused fish and wildlife die-off

What you need to know
What you can do to help

Introduction

Type E botulism (*Clostridium botulinum*) outbreaks have occurred occasionally in the main basin of Lake Huron since 1998. These outbreaks had generally occurred in the fall, but they can occur anytime from June to November.

Recent botulism outbreaks have mainly impacted migrating water bird populations, although some species of bottom-dwelling fish have also suffered localized die-offs.

An outbreak of type E botulism occurred in southern Georgian Bay in the fall of 2010. This was the first incidence of a botulism outbreak in Georgian Bay. Lake sturgeon mortalities were observed in the vicinity of the mouth of the Nottawasaga River, while gulls and common loon mortalities were also observed in the area.

What is Type E Botulism?

Botulism is a neuromuscular disease caused by the bacterium *Clostridium botulinum*. There are several different types of botulism:

- Types C and E are responsible for fish and wildlife die-offs. Type E is the more prevalent one in the Great Lakes.
- Types A and B cause botulism in humans, however, it results from consuming improperly canned goods - *not* from eating fish.

How does Type E Botulism Work?

The increase in the number of zebra mussels has been implicated in the creation of oxygen-less environments favoured by the *C. botulinum* bacteria. As round gobies and other bottom-dwelling fish feed on the mussels it has been suggested that this assists the transfer of a toxin produced by *C. botulinum* bacteria up the food chain.

The carcass-maggot cycle is another route of botulism transmission. As dead fish and birds wash up on the beach they become a source for *C. botulinum* growth. Shorebirds feeding on the maggots in the dead fish or birds ingest the toxin further enabling the cycle.

Is Type E botulism a threat to humans?

The threat to human health is minimal, but consider the following precautions to protect human and pet health:

- Do not handle dead fish or waterfowl with bare hands.
- If a fish is floating or not fighting, they are likely not healthy and should not be consumed.
- Do not eat undercooked or improperly prepared fish or waterfowl.
- Do not harvest birds that appear to be sick or dying.
- Do not let your pets eat dead fish or birds.

Botulism Prevention:

Detection

Affected birds will have: trouble holding up their heads, inability to walk and fly, and may appear emaciated.
Affected fish will lose their equilibrium and may be found floating or swimming erratically near the surface of the water.

Removal

- Remove and properly dispose of fish and bird carcasses immediately, by burning or burial, to rid the environment of the toxin.
- Thoroughly inspect areas for carcasses as one single carcass can prolong an outbreak.

Carcass Handling and Disposal

- Use rubber, plastic or disposable gloves or a garbage bag to handle a carcass. Wash hands after handling.
- The carcass (and your gloves) should be put into a garbage bag and into the trash.
- If burying the carcass, bury it at least 2 feet deep and away from the shoreline.

Reporting Cases of Botulism

To report birds suspected of botulism poisoning contact the Canadian Cooperative Wildlife Health Centre at 1-866-673-4781.
To report fish die-offs, contact the Ministry of Natural Resources at 1-866-929-0994.

The information provided here is to bring awareness to recreational anglers, and interested citizens so that they can take simple, common sense precautions to reduce or eliminate any risk from handling or consuming waterfowl or fish that have been exposed to the botulism toxin.