



Source: COSEPAC

A rare fish in Lake Memphremagog

The lake's weed beds harbour a threatened fish species, the bridled shiner. In Québec, it has only been observed in certain bodies of water in the southern portion of the province and is protected both federally and provincially. This fish, no larger than 60 mm, only lives for two years, and spawns only once, in the spring. This species frequents areas rich in vegetation, allowing it to complete its lifecycle, that is to say, feed itself, spawn and reproduce. Its presence in Lake Memphremagog thus depends on the presence of weed beds.

Make a difference

As a boater or fisherman

- Avoid weed beds while boating
- Avoid the production of oversized waves near weed beds
- If you inadvertently catch a bridled shiner, return it to the water as quickly as possible

As a lakeside resident

- Keep a shoreline buffer zone large enough to avoid soil erosion
- During construction, avoid leaving bare soil, and capture sediments before they reach the waterway
- Avoid using fertilizers and pesticides
- If you have valuable natural landscapes on your property, protect them.

Avoid weed beds while boating!

In Lake Memphremagog, sensitive ecological zones are marked in numerous bays with buoys.

We ask you to avoid boating near these zones, and to remain vigilant to preserve the lake's weed beds, as they are a key element of the ecosystem and a refuge for local flora and fauna.

Voluntary conservation

As an owner of natural landscapes, your participation is essential for the preservation of biodiversity and the water quality of weed beds. MCI would be pleased to answer all your questions regarding conservation options available to you.

Depending on the option chosen, you could benefit from:

- Fiscal incentives
- A reduction in school and property taxes

Your options

- Private nature reserve
- Conservation servitude
- Donation for ecological purposes
- Sale for ecological purposes

For more information

Email: conservation@memphremagog.org
 Telephone: 819-620-3939
 51 Cabana, Magog, Qc J1X 2C4

www.memphremagog.org



Memphremagog Conservation inc.

Aquatic weed beds

Source of biodiversity

Produced with the help of our partners



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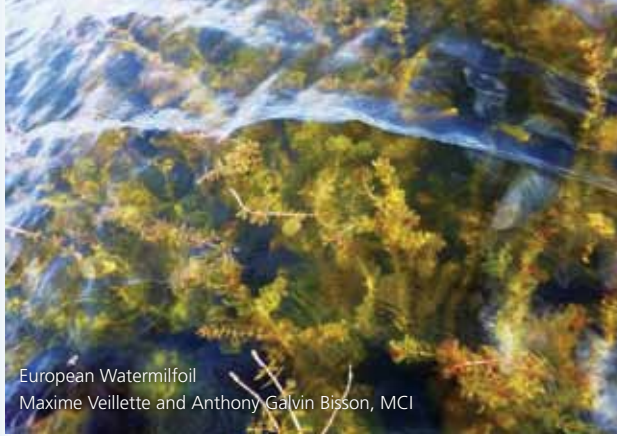
Cover's photo : Weed bed by Jean-Claude Duff, Nymphaea by Jean-Marc Vallières - Design : comma.ca MCI-20180406EN

What are they?

Aquatic weed beds are wetlands that are submerged all year round. They are characterized by floating or submerged leafy vegetation. In Lake Memphremagog and its tributaries, they can be found by noting the presence of floating vegetation such as water lilies.

They help to keep the ecosystem in equilibrium and maintain water quality, notably by protecting against shoreline erosion and filtering out pollutants. They also provide food, shelter and spawning areas to aquatic fauna. Their protection is crucial for maintaining biodiversity and water quality.

Weed beds are mostly found in bays and shallow areas of the lake where the current is slow, such as Fitch Bay and the mouth of Cherry river.



European Watermilfoil
Maxime Veillette and Anthony Galvin Bisson, MCI

European Watermilfoil A plant we don't want in our weed beds

Submerged or on the surface, this exotic invasive aquatic plant creates dense weed beds growing in areas from 1 to 10 m deep. Every piece of stem broken off, by currents or boat propellers helps spread this plant throughout the ecosystem. This creates several negative consequences, such as:

- Interferes with recreational water activities
- Reduces the value of shoreline properties
- Encourages the proliferation of mosquitos and parasites that cause dermatitis
- Competes with native plants
- Disrupts the food chain
- Reduces the amount of dissolved oxygen in the water for aquatic fauna
- Chokes out spawning beds

To prevent its spread in Lake Memphremagog, it is necessary to avoid boating in weed beds.

⚠ Main threats

Human activity can significantly degrade aquatic weed beds if they are undertaken without consideration for the environment.

Boats

When boating near shore, the waves from motorboats can create erosion on the shoreline, thus bringing sediments to weed beds. When boating in shallow areas, motor boats, as well as some non-motorized craft, such as pedal boats, can disturb the bottom and put fine sediments back into the water column. The spread of these sediments can harm spawning grounds by burying eggs and clogging the gills of adults.

As well, the noise from motors in weed beds can disturb the fauna seeking refuge there. The propellers or impellers from boats can damage the vegetation in these sensitive zones and contribute to the spread of exotic invasive species, such as watermilfoil, that can out compete native species.

Shoreline construction

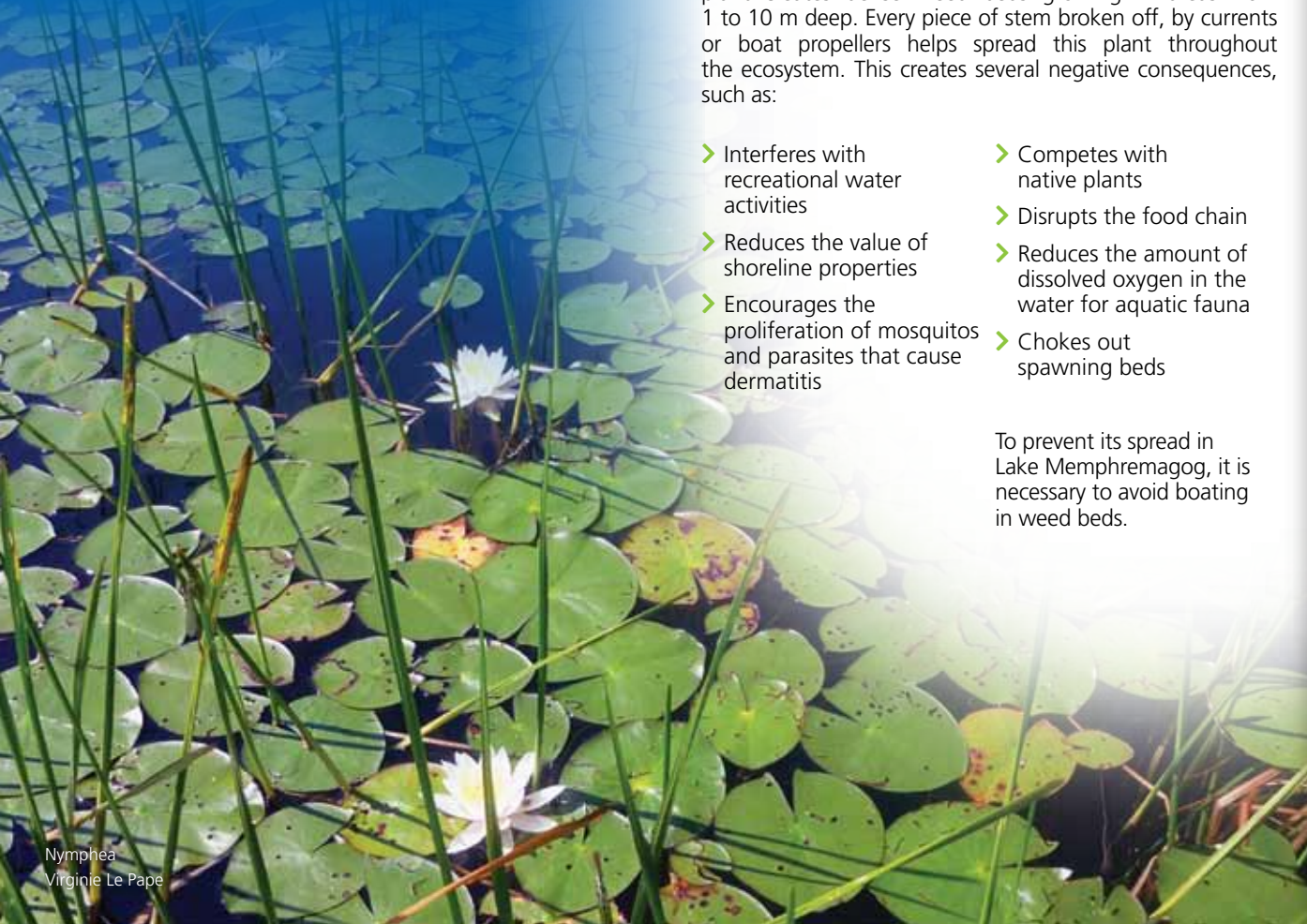
The construction of infrastructure in shoreline zones can also put sediments back into suspension. As well, docks and boathouses can limit water flow and the circulation of fish.

Residential development

On land, the development of infrastructure, such as roads and homes can contribute significantly to the flow of sediments via runoff, thus degrading water quality.

Fertilizers and pesticides

Fertilizers contain nutrients, most notably phosphorous, which cause premature ageing of lakes (eutrophication). Pesticides can have significant toxic impacts on aquatic species.



Nymphaea
Virginie Le Pape