REFERENCES

AECOM. 2013. Inventaire et caractérisation des habitats utilisés par le brochet vermiculé et le méné d'herbe. Présenté à Pêches et Océans Canada. 19 pages et annexes.

BALSHINE, SIGAL, AIKTA VERMA, VIRGINIA CHANT ET TYS THEYSMEYER. 2005. Competitives Interactions between Round Gobies and Logperch. J. Great Lakes Res 31: 68-77.

CORKUM, LINDA D., MARIUSZ R. SAPOTA ET KRZYSZTOF E. SKORA. 2004. *The round goby, Neogobius melanostomus, a fish invader on both sides of the Atlantic Ocean.* Biological Invasions 6:173–181.

DESJARDINS, ISABELLE. 2014. Communications personnelles.

MINISTÈRE DES FORÊTS, DE LA FAUNE ET DES PARCS (MFFP). 2002A. *Le gobie à taches noires (Neogobius melanostomus).* On line. http://www.mffp.gouv.qc.ca/faune/especes/envahissantes/gobie.jsp. Consulted on September 15th 2016.

MFFP. 2002B. *Espèces exotiques envahissantes – Méthodes de prévention et de contrôle.* On line. http://www.mffp.gouv.qc.ca/faune/especes/envahissantes/methodes-prevention-controle.jsp. Consulted on October 20th 2014

MFFP. 2009. *Pêche sportive au Québec (y compris la pêche au saumon) – Principales règles, en vigueur du 1er avril 2014 au 31 mars 2016.* On line. http://www.mffp.gouv.qc.ca/publications/enligne/faune/reglementation-peche/index.asp. Consulted on October 20th 2014.

MFFP. 2016. *Les poissons appâts : un risque pour nos poissons sauvages.* On line. http://www.mffp.gouv.qc.ca/faune/peche/poissons-appats.jsp. Consulted on September 15th 2016.

MINISTÈRE DU DÉVELOPPEMENT DURABLE, DE L'ENVIRONNEMENT ET DE LA LUTTE CONTRE LES CHANGEMENTS CLIMATIQUES (MDDELCC). 2009. *Pêche sportive au Québec (y compris la pêche au saumon) – Poissons appâts.* On line. http://www.mddelcc.gouv.qc.ca/faune/reglementation/peche/regles-generales/poissons-appats.htm. Consulted on September 29th 2014.

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The round goby comes from Asia and from the Azov, the Aral, the Caspian and the black seas. This small alien animal is causing a lot of problems to native fishes. It was introduced (eggs, fish larva) to the Great Lakes via ballast water that were released by ships coming from the high sea. These invading fishes were first found in the St-Claire River (Ontario) in 1990. Today, it can be found everywhere in the St-Lawrence River from Lake St-Louis to lake St-François. Some specimens have been found in the Châteauguay River in 2012 (AECOM 2013). Classified as invading specie by the Quebec Government, the round goby is a very aggressive specie that eat other's fish egg and larva (MFFP 2002a). The good news is that it has not been found in the tributaries of the Châteauguay River (Desjardins 2014). That is exactly why it is important to take all the prevention measures to stop its spreading.

PAGE 1 PROVE

Azov, II alien

BEAWARE Round Goby

alien invading specie who is threatening native fish in the Montérégie region



> HOW TO RECOGNISE **THIS FISH?**

The round goby has a black spot on its dorsal fin. It is 8 to 15 cm long but can reach 25 cm long. It has bulging and proeminent eyes. Its pelvic fin is fused and has the form of a suction cup. This last characteristic allows us to differentiate between the goby and other native fish that looks like the goby and that are called spoohead sculpin. The spoohead sculpin are native fish (MFFP, 2002a).

Key features to identify a Round Goby



PHOTO: PETER VAN DER SLUUJS (WIKIMEDIA) / ILLUSTRATION: DONNA FRANCIS



> WHY THE ROUND GOBY IS A THREAT ?

It is very important to use all the means tive fish species like the spoohead for stopping the spreading of the round goby in the St-Laurence tributaries. St-Claire River after the intro-Many organisations, including Ambioterra have found the round goby in some tributaries like the Châteauguay River and in very high numbers to the detriment of the native species. The round goby turn out to be a real threat to native fish species including the endangered fish species like the sand darter and the channel darter in most of the south west Montérégie Rivers.

This invading specie is very aggressive contribute to the decline of and can take over native fish habitat. small mouth bass in lake Érié Studies have shown a decline in na- (corkum et al. 2004).

First learn to recognise this small fish.

If you fish it **do not put it back on** the water! Eliminate it without suffering by stunning it or by beheading it. Throw the dead fish body in the garbage.

Never use it as a bating fish! Please be aware that using live bate is prohibited in Quebec since April 2013 during the summer time. On top of that, using live or dead invading fish species as bate is prohibited (MDDELCC, 2009).

Inspect your boat, your trailer and your equipment before leaving a body of water. Remove all the mud, small animals and debris from your boat. Please throw that waste in a garbage to prevent reintroduction in the River or Lake.

Flush the water from your boat, fish tank or hold before you leave the body of water. Empty all water from your boat, because small eggs and larva can be found in those small places. Once you have emptied the fish tank, leave it open so all the water can evaporate (Desjardins, 2014).

Dry up your boat, the trailer and the equipment for at least 5 days, at a humidity level of 65% or less before going back to the lake or river.

sculpin and the logperch in the duction of the round goby (Corkum et al. 2004). Another studie has shown the aqgressive character of the goby who is replacing the log perch in its habitat and can even kill the log perch (Balshine et al. 2005). We have seen the goby eating yellow sturgeon eggs and



WHAT CAN YOU DO TO STOP ITS SPREADING

Clean your boat, the trailer and everything that was immerged with hot water (more than 40 °C, it kills all living things that might be present) or use a high pressure water jet. The ministry of forest, park and fauna recommend a water pressure of 2600 psi (Desjardins, 2014). When you do this cleaning you should be at least 30 meters away from any water body, including small stream, pound, ditches, and sewers manholes. You should also be on an absorbing surface like grass or gravel to prevent contaminated water to reach surrounding water bodies. Use the boat cleaning station if available before going in a water body (River, Lake).

Repeat all the previous actions before going into a new water body. You can watch the web capsule produce by the MFFP on the step to clean your boat at: https://youtu.be/yrUpBbFyzDY.

Do not put your live catch from one water body in another water body. Dispose of them in the garbage or on the ground far away from any water body. Clean you bate bucket and empty it on the soil. Do not take water with you bate bucket from one water body if it was not clean before.

Please respect the fishing regulations concerning fish transportation and fish bate. The bad practices can be entry for invading fish species (MFFP, 2009).

Pay attention to your felt-sole or any other absorbing material because they can house small invading species. Do not forget to watch your fishing and diving equipment.

If you encountered a invading fish specie (outside of the zone where it was already found) try to keep the dead specimen in a freezer (fish or other animals) and **contact Ambioterra**. We will do the follow up with government authorities.