



INFOCÉANS

THE QUEBEC REGION BULLETIN — AUGUST - SEPTEMBER 2011/VOLUME 14/NUMBER 4

ST. LAWRENCE ESTUARY STRIPED BASS ON THE ROAD TO RECOVERY

LISTING

Last June, the St. Lawrence Estuary striped bass population was listed pursuant to the *Species at Risk Act* (SARA) and is now protected under this legislation.

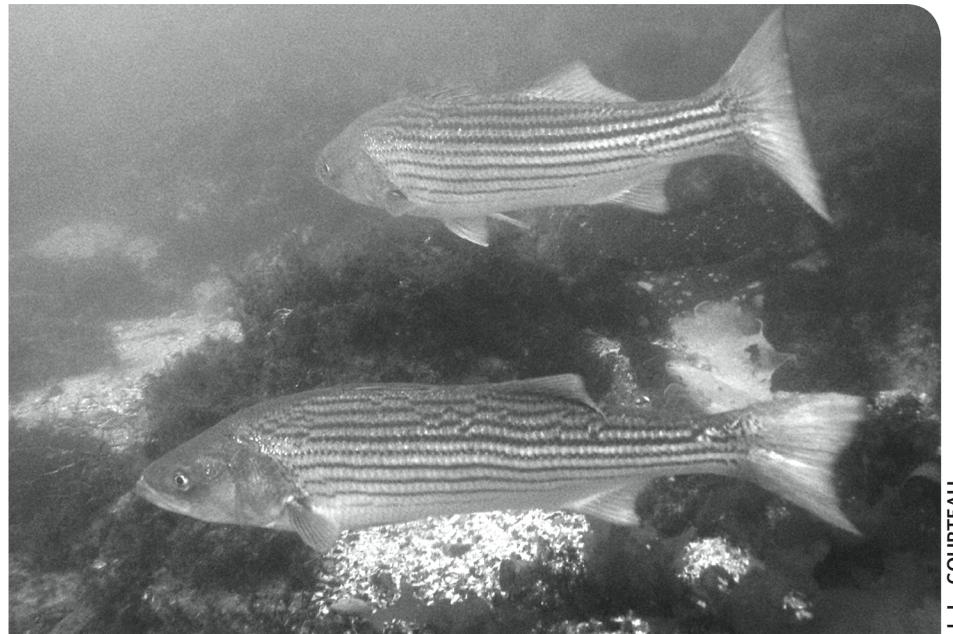
The St. Lawrence Estuary Striped Bass had been gone from the St. Lawrence River and Estuary for over 40 years. In 2004, the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) designated this population as extirpated in Canada. However, thanks to a reintroduction program undertaken by the Ministère des Ressources naturelles et de la Faune du Québec (MRNF), the striped bass is now officially back and ready to reoccupy its original place.

RECOVERY STRATEGY

To protect and support its recovery, Fisheries and Oceans Canada, working closely with MRNF and some other partners, has drawn up a recovery strategy that has now been posted on the Species at Risk Public Registry (sararegistry.gc.ca). The goal of this strategy is to restore in the St. Lawrence a striped bass population that will reproduce and maintain itself without disturbing the biological community. It notably sets out recovery measures and designates an essential habitat—Anse Sainte-Anne at La Pocatière. Before this document becomes official, the public has until September 4, 2011 to comment it.

MANDATORY RELEASE

Since it is protected by the *Species at Risk Act*, it is prohibited to kill, harm or catch striped bass from the St. Lawrence Estuary population or to destroy its essential habitat. Although few in numbers as yet, striped bass are regularly caught accidentally by sport anglers or commercial fishers. The recovery strategy authorizes sport and commercial fishing activities subject to certain conditions: any St. Lawrence population striped bass caught while fishing either for recreation or commercially must be released immediately in such a way as to maximize its chances of survival.



J. L. COURTEAU

PARTICIPATION

By adequately releasing the striped bass you catch, you give them a chance to reproduce. In this way, you contribute to the recovery of this species in Quebec. You will find more information on the Fisheries and Oceans Canada website at www.dfo-mpo.gc.ca, in the *Aquatic Species at Risk* section.

Jacinthe Beauchamp and Marthe Bérubé
Ecosystems Management

CCGS CAP AUPALUK A NEW SEARCH AND RESCUE LAUNCH



DFO F. SERVANT

The CCGS *Cap Aupaluk* is a multi-task search and rescue launch very similar to the CCGS *Cap Percé* shown here.

Since August 5, 2011, the new Canadian Coast Guard (CCG) search and rescue boat, CCGS *Cap Aupaluk*, has been active in Quebec.

This search and rescue launch will allow the Canadian Coast Guard to extend the service life of the vessels in this class since maintenance work can now be done in a timely manner without hindering CCG ability to take action. The replacement vessel CCGS *Cap Aupaluk* will be on duty at the various search and rescue bases to respond to operational needs.

In Quebec, GCC has six other search and rescue vessels; they are based at Cap-aux-Meules, Rivière-au-Renard, Havre-Saint-Pierre, Québec City, Tadoussac and Kegaska.

The Canadian Coast Guard names its search and rescue class vessels to salute the geographical characteristics of Canada's capes and bays. The northern village municipality of Aupaluk is located in Quebec and means "where the land is red".

Nathalie Letendre
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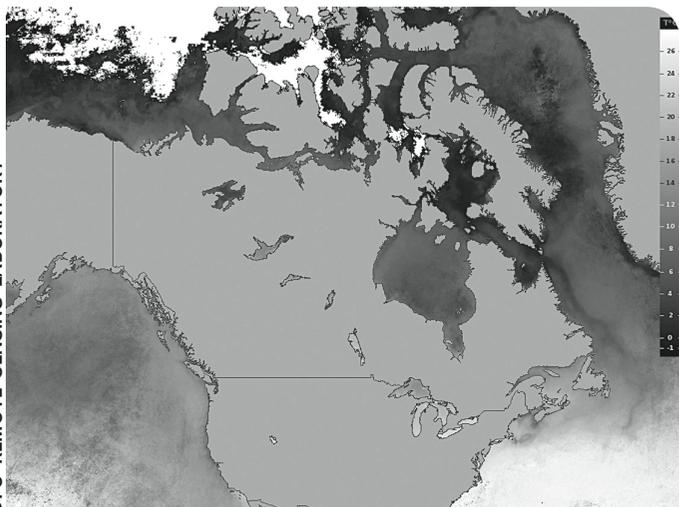
SEA-SURFACE CLIMATOLOGY

Sea-surface temperatures have a significant impact on biological oceanographic processes, affecting such things as phytoplankton bloom and the development of certain marine species. Since 1994, the Maurice Lamontagne Institute's remote sensing laboratory has been gathering and processing images from weather satellites to calculate sea-surface temperatures.

These calculations take into account data measured by instruments deployed at sea (oceanographic buoys and inshore temperature recorders) to validate information provided by satellite images. Thanks to a project funded by the Canadian Space Agency, the remote sensing laboratory recently completed its data base by including images from the years 1985 to 1994. This data base was processed to generate national daily sea-surface temperature maps (including the Arctic Ocean). These maps were then analyzed to produce a 25-year climatology covering the period from 1985 to 2009.



Mean sea-surface temperature in the north-western hemisphere on January 15, from 1985 to 2009



Mean sea-surface temperature in the north-western hemisphere on August 15, from 1985 to 2009

These images are in color in the Web version of *Infoceans*

Pierre Larouche
Science

HYDROGRAPHER FOR A DAY ABOARD CCGS F.C.G. SMITH

The weather was glorious and the St. Lawrence smooth as glass on the day that Geneviève Parent and her father, from Montréal's south shore, took part in a hydrographic mission aboard CCGS *F.C.G. Smith*, leaving from Trois-Rivières.

Geneviève is one of the winners of the mapping contest organized by the Canadian Institute of Geomatics and the Fondation du Cégep Limoilou. Fisheries and Oceans Canada collaborated in this contest for the first time this year by awarding a *Jury's Choice* award. As one of the winners, Geneviève became a hydrographer for a day.

Our visitors conducted a safety visit and then were able to observe the manoeuvres used to deploy booms bristling with transducers on each side of

REVEALING IMAGES

The images allow us to gain a greater understanding of the factors that influence the surface temperatures of Canada's coastal waters as well as their seasonal evolution. For instance, these images were used to study the connection between air temperatures, ice cover and sea-surface temperatures in Hudson Bay; they reveal that sea-surface temperatures there in August have risen by 2 degrees over the last 25 years, primarily due to the earlier withdrawal of the ice cover which consequently exposes the sea surface to the sun's rays for longer periods of time. The high resolution of the images also shows the effect of local physical processes—like the upwelling of cold water—on sea-surface temperatures. A similar work undertaken for the Gulf of St. Lawrence served to determine that the surface layer of water has warmed at a rate of about 1.5 degrees over 25 years.

The images also show how complex the dynamics of Canada's east coast are given the presence of two major marine currents—the Gulf Stream and the Labrador Current—and the broad fluctuation in seasonal temperatures (for example, in the Gulf of St. Lawrence). In the North Pacific, a particularly notable observation is an area where the water is colder, a situation associated with the presence of a gyre.

BIOLOGICAL APPLICATIONS

These time-related series have a number of biological applications: in particular, they can be used to determine the feeding strategies of marine mammals in terms of areas where the temperature varies significantly over a short distance, or to determine how the surface layer warming rate can influence the growth of marine species.

the vessel. Geneviève and her father listened attentively to the hydrographers' explanations as they presented the technologies and equipment used to precisely measure the bed of the shipping channel and detect any obstruction or shoal. The work done aboard gave them an opportunity to see the results of the data measured and the degree of detail that can be obtained.

The visitors were also able to see the delicate manoeuvres executed by Captain Chantal Chagnon to deploy a buoy by positioning it between the two hulls of the catamaran to sound the edges of the channel.

The mission allowed our young hydrographer and her father, who enjoyed the experience just as much, to learn more about the hydrographic aspect of geo-

Robert Dorais
Science

Dispatches

LOOKING FOR A CHALLENGING SUMMER JOB?

The Canadian Coast Guard is looking to hire motivated students for its inshore rescue boat service for the summer of 2012.



DFO R. JINCHEREAU

If you're interested in rescue work, prevention and navigation, this is just the job for you. But more than simply a job, it's an incredible opportunity to be part of a most efficient search and rescue team!

Students interested in submitting their applications have to make sure they meet the requirements of the *Federal Student Work Experience Program* (FSWEP) and are able to demonstrate that they meet all other selection criteria.

For more information:

Visit www.marinfo.gc.ca; click *Career Opportunities*, and then *Student Employment Program*.

You can also call 1-866-660-6948 or 418-649-6830.

MARINFO SURVEY

Answer a few questions and help us help you!

As part of its on-going effort to improve the services it provides, the Canadian Coast Guard, Quebec Region, is currently revamping its website, *MarInfo*.

Take a few minutes to participate in our survey! You can find it on the website home page at www.marinfo.gc.ca.

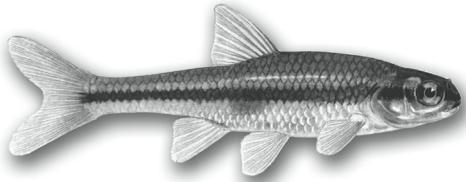


Geneviève Parent and her father Bernard with Captain Chantal Chagnon.

omatics as well as about how important this work is to ensure the safety of the maritime shipping and pleasure boaters that navigate the waters of the St. Lawrence.

SPECIES AT RISK BRIDLE SHINER MANAGEMENT PLAN

The bridle shiner, a member of the Cyprinidae, is a small freshwater fish at risk that lives in eastern North America. In Canada, the species occurs only in eastern Ontario and south-western Quebec. Little is known about this small fish which rarely exceeds 6 cm in length and lives less than 3 years. The factors responsible for its decline are primarily pollution of agricultural, urban and industrial origin, changes in the water regime, loss of riparian vegetation and climate change.



NYSDEC

The bridle shiner has been listed as a species of special concern under the *Species at Risk Act*. Fisheries and Oceans Canada worked with the governments of Ontario and Quebec and other interested organizations to prepare a management plan. The general goal of this plan is to maintain and increase bridle shiner populations, protect areas that shelter this species and make sure viable populations exist throughout the species' range in Ontario and Quebec.

The protection of species is everyone's responsibility. To find out more about the work being done to help the bridle shiner, consult the management plan. The plan is posted on the Species at Risk Public Registry site at www.sararegistry.gc.ca.

SCIENTIFIC MISSION IN THE GULF OF ST. LAWRENCE

Last June, a scientific team from the Maurice Lamontagne Institute (MLI), boarded CCGS *Teleost*—a Canadian Coast Guard Ship used exclusively for scientific activities—to work on the Gulf of St. Lawrence. After a 20-day mission during which team members travelled 3,327 nautical miles while working around the clock, the team returned to base with thousands of data and samples—enough to keep several people busy for a few months while they validate and check the data, and analyze the results. In all, 126 stations, some of which have been visited for over 65 years, were sampled to meet the following three main objectives.



DFO

ENVIRONMENTAL CONDITIONS

First of all, oceanographic data were gathered as part of the *Atlantic Zone Monitoring Program (AZMP)*. This program describes and characterizes water masses in terms of a variety of parameters: physical parameters such as water temperature and salinity and current amplitude and direction; chemical parameters like dissolved oxygen quantity and nutrient content; and biological parameters including biomass and the composition of phytoplankton and zooplankton, which lie at the base of the food chain.

These data notably serve to calculate environmental indices that are used to monitor the seasonal, annual and multi-year variability of ocean climate conditions and the status of the St. Lawrence ecosystem.

MACKEREL

Next, plankton samples were taken at 65 stations throughout the southern gulf to evaluate the abundance

of mackerel roe. These results are used to calculate the abundance index for the breeding population. The index is periodically submitted for peer review and is used to prepare science advisory reports pertaining to mackerel. The plankton samples are also used to study larva communities present in the southern Gulf of St. Lawrence at the time of the survey.

MARINE MAMMALS

Finally, acoustic data from three AURAL (*Autonomous Underwater Recorder for Acoustic Listening*) probes, which were recovered after they had spent the winter underwater, were also gathered. These probes record underwater sounds. They are used to assess ambient noise levels and, when vocalisations are detected, to monitor the passage of marine mammals in the Gulf of St. Lawrence and near Cabot Strait.

Alain Gagné
Science

AIDS TO NAVIGATION ADDRESSING NEEDS AS THEY EVOLVE

Have you ever wondered why the Canadian Coast Guard (CCG) installs buoys and lighted structures to help navigators?

It's important to point out that CCG aids to navigation technicians use a methodology cited as a reference by the International Association of Marine Aids to Navigation and Lighthouse Authority (IALA). Using this reference, they can design and revise aids to navigation systems in keeping with a grid that analyzes the hazards specific to a given site and to the type of vessels navigating there.



DFO M. CARRIER

The aid systems make navigation safe but should never replace normal and careful navigation practices. The design of the devices takes into consideration that every navigator has on board updated marine charts, a compass, direction finder and nautical publications.

Aids to navigation can:

- Signal the approaches to harbours;
- Signal channels and recommended routes;
- Lead to government wharfs and fishing harbours;
- Identify hazards lying near these waterways;
- Guide navigators in well mapped areas; and
- Permit the provisioning of isolated communities.

However, the Department is not required to provide aids in the following situations:

- Places for which there are no adequate charts;
- Cases that benefit single users;
- Places covered by agreements with other authorities; and
- Places where an aid's targeted degree of reliability cannot be maintained.

Aid systems are reviewed on average every five years, taking into consideration the following elements:

- Accident frequency;
- Changes in traffic or activities;
- Changes in the hazard;
- Technological changes; and
- Maintenance or replacement for reliability reasons.

In addition to on-going consultation with users, the aid system review is done in four phases.

The first phase involves analyzing a given site. For each site, the technician gathers data on weather

(winds, waves, visibility) and bathymetry as well as on tide and current conditions. He validates these data by consulting users. The technician also compiles statistics on the characteristics of vessels and the routes they follow, traffic volume and shoreline particularities. Each aid system is designed to be perceivable at least 75 percent of the time during the worst month of the shipping season.

The second phase consists of drawing up a preliminary list of the hazards—for instance the distance from a hazard or from another passing ship, the minimum width of the channel or the turning angle—and then attribute a degree of significance to those hazards.

During the need analysis, **third phase**, the technician assesses the cumulative effect of the hazards to measure the existing system's capacity to mitigate them, and seeks to improve the effectiveness of the system.

The final phase, the operational analysis, determines the combination and types of aids required (visual range in nautical miles, colour, daytime or night-time use, its function as a marker to signal turning, lateral movement or the presence of a hazard on the waterway, etc.). The cost of the proposed measures are also analyzed during this phase.

Once the analysis is completed, recommendations are submitted to navigators in the study area. Their comments are taken into consideration and examined in order to find the best solution.

Daniel Lefebvre
Canadian Coast Guard

The following science advisory reports are now available on the Canadian Science Advisory Secretariat's Web site, www.dfo-mpo.gc.ca/csas, in the *Publications* section, *Science Advisory Reports (2005+)* for 2011:

- Stock Assessment of Atlantic Halibut of the Gulf of St. Lawrence (NAFO Division 4RST) for 2009 and 2010 (2011/012)
- Assessment of the Greenland Halibut Stock in the Gulf of St. Lawrence (4RST) in 2010 (2011/013)
- Recovery Potential Assessment of Eastern Sand Darter (*Ammocrypta pellucida*) in Canada (2011/020)
- Assessment of Softshell Clam Stocks in Quebec's Coastal Waters in 2010 (2011/022)

FEATURED RESEARCH WORK

The Fisheries and Oceans Canada Web site regularly presents new, easy-to-read articles on research work being conducted by the Department's scientific teams across the country.

These articles on projects in Quebec have been added in the last few months:

- *Migration Secrets of the European Eel Partially Revealed*
- *Ocean Tracking Network Raises Marine Animal Tracking to a New Level*

You can read these articles in the *Science* section of the Fisheries and Oceans Canada Web site (www.dfo-mpo.gc.ca) under the *Feature articles* tab.

Convictions

CONVICTIONS FOR FISHERIES ACT VIOLATIONS

Fisheries and Oceans Canada (DFO), Quebec Region, has released the names of fish harvesters who have received fines for violations of the *Fisheries Act*. DFO continues to strictly enforce its zero tolerance policy for offenders. The Department has a mandate to protect and conserve fishery resources and is ever vigilant in its efforts to prevent poaching of marine resources. **Fisheries and Oceans Canada encourages the public to report poaching incidents by calling 1-800-463-9057. All calls are confidential.**

OFFENDER/ RESIDENCE	OFFENCE/FINE
Marcel Beaudin Léonard Rail Grande-Rivière	Failure to land and weigh entire fish catch under the supervision of a dockside observer. Possession of fish processed to the point where it is difficult to determine their numbers. \$1,000 each + confiscation of seized fish
Jean-François Beaudoin Jean-Marie Jones Blanc-Sablon	Failure to comply with conditions of their halibut fishing licence for the 2010 season by landing Atlantic halibut without a dockside observer present. \$500 each
Noelline Bujold Romuald Durette Nouvelle	Exceeding authorized limit for clam fishery. \$500 each + confiscation of clams and of articles used in the commission of the offence
Régis Bujold Percé	Recreational groundfishing during closed time. \$500
Dan Cotton Rivière-au-Renard	Failure to hail out 12 hours before sailing. Failure to have an operational vessel monitoring system during a fishing trip. \$1,500
Dan Cotton Réginald Cotton Rivière-au-Renard	Non-compliant hail-outs and non-compliance with licence conditions. \$2,250 (D. C.) \$7,650 (R. C.)
Réginald Cotton Rivière-au-Renard	Failure to hail out 12 hours before sailing. \$1,000
Alex Dubé Saint-Georges-de-Malbaie	Possession of lobster under the minimum size. \$750 + confiscation of seized lobster
Denis Dugas Les Méchins Stanislas Hovington Saint-Fabien	Failure to land and weigh entire fish catch under the supervision of a dockside observer. \$750 + confiscation of seized fish (D. D.) \$500 + confiscation of seized fish (S. H.)
Emanuel Dugas Sainte-Anne-des-Monts	Failure to return snowcrab by-catch to the water. \$500 + confiscation of seized halibut
Jean-Marie Duguay Barachois	Possession of a female lobster marked with a V notch. \$500 + confiscation of seized lobster
Norbert Duguay Saint-François-de-Pabos	Call at sea not in compliance with conditions of licence. \$1,000
Félix Dumas Blanc-Sablon	Fishing for cod during a closed time. \$500
Dominic Gass Sainte-Anne-des-Monts	Failure to return to the water Atlantic halibut measuring less than 85 cm. \$500 + confiscation of seized halibut
Frédéric Henry Carleton	Possession of egg-bearing female lobsters. \$2,250
Christian Huard Saint-Godefroi	Exceeding daily catch limit for herring fishery. \$2,400

OFFENDER/ RESIDENCE	OFFENCE/FINE
Lionel Jones Blanc-Sablon	Permitting another fisher to use his vessel without authorization during crab fishing season. \$300
Éric Joubert Sept-Îles	Fishing for whelks without a licence and valid conditions. Making a false statement to fishery officers. Failing to comply with conditions of a licence, in 38 instances, by not providing logbooks at the end of each trip. \$1,140
Eddy Lamarre Port-Cartier	Clam harvesting in a closed area. \$300
Edward Lavallée Middle Bay	Failure to comply with the conditions of his cod fishing licence for the 2010 season by not landing total cod cargo. \$500
Armand Leblond Pohénégamook	Harvesting softshell clams in a closed area. Possession of clams smaller than permitted size. \$450 + confiscation of seized clams
Robert Lebouthillier Caraquet, New Brunswick	Cod fishing without a licence. Plaice fishing in violation of redfish licence conditions. Possession of 5 halibut less than 85 cm. \$20,000 + order for satellite tracking of vessels for each fishing trip until May 5, 2015
Jean-Raymond Legresley Newport	Possession of lobster claws that have been separated from the thorax. \$500
Wilson McKinnon La Tabatière	Failure to comply with the conditions of his bait licence for the 2009 season by setting net on the water's surface. \$500
Gervais Monger La Tabatière	Fishing for lobster without a licence. \$750
Edgard Montmagny Pabos Mills	Lobster fishing without a licence and during a closed time. \$400 + 60 hours of community service + two years of probation with a specific condition not to frequent any wharf in the Gaspé + confiscation of lobster and seizure of fishing gear used and of automotive vehicle
Darry Noël Sept-Îles	Illegally transferring snow crab when holding a commercial fishing licence. \$5,000
Jean-Marc Ouellet Grosses-Roches	Use of nets without valid tags for groundfish fishing. \$500 + confiscation of seized fish
Frédérique Pilote Rivière-du-Loup	Sea urchin fishing without a licence. \$1,000 + confiscation of seized sea urchins
Danny Poirier Paspébiac	Mackerel fishing without a valid licence. \$500

Martin Bourget
Communications

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