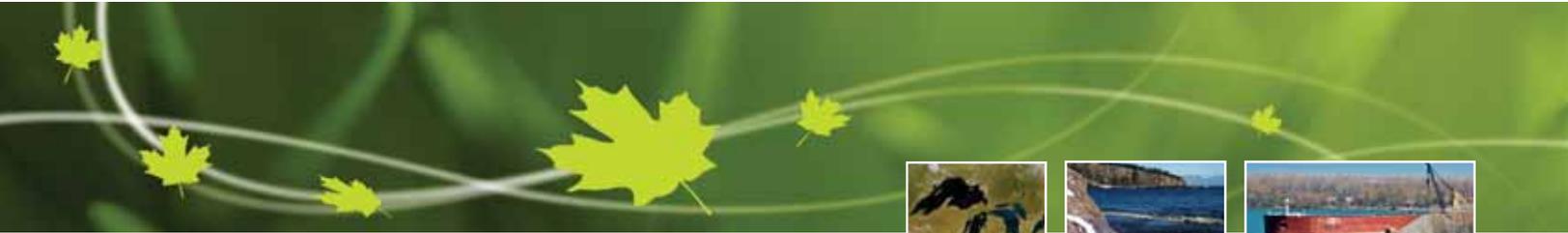




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## AREAS OF CONCERN **SEVERN SOUND**

*An AOC is delisted by the Government of Canada when environmental monitoring information confirms that environmental quality has been restored in accordance with criteria established in consultation with other levels of government and the public.*

Severn Sound was the second Canadian Area of Concern (AOC) to be delisted. In 2003, Environment Canada, in consultation with the Ontario Ministry of the Environment and local communities, determined that impaired beneficial uses in the area had been restored in accordance with the Great Lakes Water Quality Agreement (GLWQA), and Severn Sound was removed by Canada from the list of AOCs.

### **Why was it listed as an Area of Concern?**

Severn Sound was designated an AOC because a review of available data indicated that water quality and environmental health were severely degraded. Based upon a review of available environmental monitoring information, a number of beneficial use indicators of environmental quality were deemed as impaired. The environmental concerns in the area that led to the designation included:

- restrictions on fish and wildlife consumption,
- degradation of fish and wildlife populations,
- degradation of benthos,
- eutrophication (a gradual increase in the concentration of phosphorus, nitrogen and other plant nutrients),
- beach closings,
- degradation of aesthetics,
- degradation of phytoplankton and zooplankton populations, and
- degradation of fish and wildlife habitat.

In particular, eutrophication – as a result of sewage treatment plant (STP) inputs, agricultural activities, and shoreline development – was especially evident in the narrowing of the sound's south shore. Another major concern was the imbalance in the fish community of the sound, with a lack of top predator fish species – particularly walleye. Contributing to this imbalance



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were loss of suitable habitat, angler pressure on walleye, three consecutive years of low water levels and the arrival of non-native aquatic species.

A further significant challenge was the loss of riparian habitat (the interface between land and a river or stream) in the watershed, due to unrestricted livestock access to streams and shoreline marina construction in the embayments.

### What was accomplished?

In order to improve environmental conditions in Severn Sound and meet GLWQA objectives, a Remedial Action Plan (RAP) was developed. The Severn Sound RAP was initiated in 1987. Its creation involved the following steps:

- identifying the environmental challenges,
- planning and implementing remedial actions, and
- monitoring restoration and delisting the AOC.

The RAP was developed through a partnership between the federal and provincial governments, with co-operation from the Public Advisory Committee (PAC), otherwise known as the Severn Sound Environmental Association. The PAC was comprised of citizens representing industry, labour, municipal agencies, farmers, environmental organizations and recreational groups. The PAC engaged and co-ordinated actions to restore water quality and ecosystem health of the harbour. Restoration of an AOC is a shared responsibility.

The RAP addressed environmental issues through actions in six areas: phosphorus control, habitat restoration and enhancement, pollution prevention, planning, environmental monitoring, and public education on environmental issues. Starting in 1989, the RAP team worked to reduce or eliminate sources of water pollution and to restore fish and wildlife habitat in Severn Sound.

The eutrophication impairment was addressed by controlling sources of phosphorus. Concentrations were addressed by reducing total phosphorus from sewage treatment plant (STP) discharges, upgrading private sewage systems, eliminating sewage bypasses and combined sewer overflows, and reducing inputs from agricultural sources.

The STP improvements reduced the phosphorus loads to meet RAP targets and provided considerable cost savings to the municipalities. Through the Sewage Treatment Optimization Project, the federal and provincial governments provided technical support and training for municipal operators in all 8 treatment plants in the AOC. In addition, the Ontario Ministry of the Environment contributed \$23 million to upgrade 4 of the 8 STPs.

The Severn Sound Urban Stormwater Strategy was developed by municipalities, and enabling bylaws have been passed to govern new construction, stormwater retrofits and sewer separation projects. Implementation will be ongoing.

To reduce algal growth in Severn Sound, 3000 private shoreline sewage systems were inspected, and improvements were applied to 600. Phosphorus concentrations from agricultural sources to 4 tributaries have been reduced through farm-level projects to manage manure runoff, treat direct milk house wastes, restrict livestock access to rivers and improve crop practices.

Since 1990, the Government of Canada's Great Lakes Sustainability Fund has provided \$3.4 million towards restoring environmental quality in support of 22 projects in the Severn Sound AOC. This partnership arrangement has realized more than \$4 million in direct partner funding and nearly \$2 million from in-kind contributions.

Through conservation agreements and wetland rehabilitation projects, 411 hectares of wetlands and their associated uplands have been protected to date. In streams flowing directly into Severn Sound, 132 projects have been completed, creating vegetation buffers and linking habitat nodes. In addition, natural heritage strategies are being adopted by townships and municipalities.

Beginning in 1991, Trumpeter Swans have been reintroduced to Wye Marsh and there is progress in their re-establishment – although not all pairs have bred successfully. Until recently, the success of the program was limited by the presence of toxic lead shot in the habitat. The lead shot ban in 1993,

and an innovative technology to sink the pellets deep into sediment out of reach of the swans, will assist in achieving the goal of a sustainable population.

The economic viability of the area has improved through upgraded infrastructure, local job creation, and cost-effective decisions assisted by RAP studies. Volunteer participation and positive media support indicate that community acceptance of the RAP principles of maintaining a healthy environment, including ensuring economic and environmental sustainability, are built into municipal plans.

The delisting of Severn Sound was facilitated by the Severn Sound Environmental Association. The organization sought to provide community-based, cost-effective environmental management for the Severn Sound area, which sustained the improvements achieved through the RAP process. The Association co-ordinated projects such as STP upgrades, farm pollution control projects, stormwater treatment studies, tree planting, shoreline restoration and ecosystem monitoring, and provided a public information service on environmental issues.

All remedial actions taken by the Government of Canada and its partners were completed by 2002, and followed by a period of environmental monitoring. Through this monitoring, it was

determined that environmental conditions in the area had met the delisting criteria established for the AOC and Severn Sound was officially delisted in 2003.

## Where can you find more information?

Environment Canada e-mail:  
[greatlakes-grandlacs@ec.gc.ca](mailto:greatlakes-grandlacs@ec.gc.ca)

Environment Canada web site:  
[www.ec.gc.ca/raps](http://www.ec.gc.ca/raps)

## PARTNERS

Friends of the Wye Marsh

Ontario Ministry  
of the Environment

Severn Sound Environmental  
Association

Town of Midland

Town of Penetanguishene

Townships of Tiny, Tay, Springwater,  
Oro-Medonte, Georgian Bay  
and Severn