

Marsh Bird and Amphibian Communities in the Jackfish Bay AOC, 1995 – 2002.



Purpose of the MMP

The Marsh Monitoring Program (MMP) was established to provide baseline surveys of marsh bird and amphibian populations and their habitats in marshes within Areas of Concern (AOCs) in the Great Lakes basin, sites where rehabilitation and restoration efforts have taken place or are planned in AOCs, and in many other Great Lakes basin wetlands. Marsh bird surveys were first implemented in the Canadian and bi-national AOCs in 1994. In 1995, the program expanded throughout the basin to include surveys of calling amphibians. To date, over 650 MMP volunteers have surveyed marsh bird and/or amphibian populations and their habitats. Information about abundance and diversity of these species provides useful, and easily obtainable indicators of habitat quality, structure and areal extent.

Purpose of the Report

This report summarizes results of MMP surveys done in the Jackfish Bay AOC from 1995 to 2002. It also explains how the set of indicators used by the MMP assesses marsh quality and describes the significance of MMP results for this AOC. Results herein provide an opportunity to determine whether or not amphibian and/or marsh bird community status at Jackfish Bay AOC wetlands are impaired. This report should be read in conjunction with the context and analyses description in the Marsh Monitoring Program: Areas of Concern Summary Reports 1995 – 2002.

Highlights of the MMP's Jackfish Bay Results

Indicator Species

The presence of the following suite of marsh bird and amphibian species indicates high quality marsh habitat.

A T indicates those species found in the Jackfish Bay AOC marshes.

Birds

American Bittern (AMBI)
American Coot (AMCO)
Black Tern (BLTE)
Blue-winged Teal (BWTE)
Common Moorhen (COMO)
Common Snipe (COSN)
Least Bittern (LEBI)
Marsh Wren (MAWR)
C. Moorhen/ A.Coot (MOOT)
Pied-billed Grebe (PBGR)
Sora
Virginia Rail (VIRA)

Amphibians

Bullfrog (BULL)
Chorus Frog (CHFR)
Mink Frog (MIFR)
Northern Leopard Frog (NLFR)
Spring Peeper (SPPE)

- Since the program's initiation, one marsh bird route was established in the Jackfish Bay AOC. During the period from 1996 through 2002, there were no amphibian or bird routes surveyed in Jackfish Bay marshes.
- Overall, three species of marsh nesters were recorded in the Jackfish Bay AOC – a very low level of diversity (Table 3). Further, there were no marsh bird indicator species recorded in the Jackfish Bay AOC.
- Marsh bird indicator species and marsh nesting bird diversity in the Jackfish Bay AOC scored below the average of those at Great Lakes basin non-AOCs. The Jackfish Bay AOC appears to be impaired in its ability to support a high diversity of marsh bird species, but much more monitoring is required at this AOC to provide a more definitive assessment.

MMP Methods

Table 1. Marsh Monitoring Program Survey Methods

Survey	Time commitment	Skills Required	Survey Duration	Weather conditions
Birds	2 evenings, 10 days apart, between May 20 and July 5	ability to identify about 50 common birds	10 minutes at each station	warm, dry weather with little or no wind
Amphibians	3 nights, 15 days apart, between April 1 and July 15	ability to learn about 10 amphibian calls	3 minutes at each station	warm, dry weather with little or no wind

A route, consisting of up to eight semi-circular stations (100 m radius for marsh birds and unlimited distance for amphibians), is monitored in each marsh being surveyed. Stations are usually accessed by foot, but can be surveyed by canoe or boat. Marshes must be a minimum of two hectares and if very large, may support more than one route. Stations must be 500 metres apart for amphibians surveys and 250 metres apart for marsh bird surveys. Numbers of marsh birds heard calling or seen in the station are recorded. At amphibian stations, one of three Call Level Codes is used to record calling intensity of each species; abundance estimates are also made. Participants are also asked to identify if they hear each amphibian inside and/or outside of the 100 m semi-circle. Each MMP volunteer is provided with a training kit that fully explains survey methods. The kit also includes a copy of the MMP Training Tape that aids volunteers in learning songs and calls of common marsh birds and amphibians. For further information about these methods, please refer to the 2003 edition of the *MMP Training Kit and Instructions for Surveying Marsh Birds, Amphibians and their Habitats*, which is available from Bird Studies Canada.

MMP in the Jackfish Bay AOC

Since the program's initiation, one bird was established in the Jackfish Bay AOC. During the period from 1996 through 2002, there were no amphibian or bird routes surveyed in Jackfish Bay marshes.

There have not been any marsh habitat rehabilitation projects proposed in the Jackfish Bay AOC that address loss of marsh habitat, however Blackbird Creek has received rehabilitation attention to address loss of stream habitat. If efforts to restore habitat at marsh sites occur in this AOC, such sites should be monitored by the MMP.

To become involved, please contact the MMP Volunteer Coordinator, Bird Studies Canada at (888) 448-2473 (phone), (519) 586-3532 (fax), or by email at aqsurvey@bsc-eoc.org.

Results

The one marsh monitored in the Jackfish Bay AOC was tiny in size and inland, thus the marsh was not affected by coastal fluctuations in water levels. Overall, three species of marsh nesters were recorded in the Jackfish Bay AOC – a very low level of diversity (Table 3). Further, there were no marsh bird indicator species recorded in the Jackfish Bay AOC. According to the Ontario Breeding Bird Atlas database, none of the marsh bird indicator species have historically occurred in this AOC. Densities of all marsh nesting species were lower at Jackfish Bay routes than at Great Lakes basin non-AOC route averages. Common Yellowthroat was the most abundant nesting species.

Tree Swallow was the only aerial forager recorded and there were no water foragers recorded in the Jackfish Bay AOC (Table 3) – again a low level of diversity.

Conclusions

Marsh bird indicator species and marsh nesting bird diversity in the Jackfish Bay AOC scored below the average of those at Great Lakes basin non-AOCs (Table 4). Based on very limited data, the Jackfish Bay AOC appears to be impaired in its ability to support a high diversity of marsh bird species, however more routes monitored over a longer period of time are required to provide a more definitive assessment.

Recommendations

Efforts should be made to identify marsh sites for habitat restoration and to monitor marsh bird and amphibian populations at these sites to evaluate efforts to restore marsh habitat. MMP routes should be established at all marshes that receive rehabilitation attention in the future. Efforts should be made to encourage volunteers to begin surveying routes within AOCs and to also collect habitat information at their survey stations. Complementary amphibian and marsh bird surveys should be conducted at all new routes to permit a more definitive quantitative analysis of this AOC's wetland-dependent wildlife.

Volunteer Efforts

One participant contributed over 16 person hours in 1995 to the program at this AOC. In addition, many volunteer hours at non-AOC routes were contributed to produce results that were used for comparison purposes. Our thanks extend to Amy Chabot who conducted the Jackfish Bay survey.

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MMP routes in Jackfish Bay AOC.

Table 2. Marsh Monitoring Program Routes in the Jackfish Bay AOC.

Year	Route Type	# Routes	# Volunteers
1995	Amphibian	0	0
	Bird	1	1
	Both	0	0
1996	Amphibian	0	0
	Bird	0	0
	Both	0	0
1997	Amphibian	0	0
	Bird	0	0
	Both	0	0
1998	Amphibian	0	0
	Bird	0	0
	Both	0	0
1999	Amphibian	0	0
	Bird	0	0
	Both	0	0
2000	Amphibian	0	0
	Bird	0	0
	Both	0	0
2001	Amphibian	0	0
	Bird	0	0
	Both	0	0
2002	Amphibian	0	0
	Bird	0	0
	Both	0	0
Total	Amphibian	0	0
	Bird	1	1
	Both	0	0

Table 3. Marsh bird species composition and abundance in Jackfish Bay AOC from 1995 through 2002. Means for Jackfish Bay routes and Great Lakes basin non-AOC routes are given for comparison. Shading denotes indicator species and 'p' indicates that a species was present only outside of the survey stations.

Marsh Bird Species	Highway 17	Jackfish Bay AOC Mean	Great Lakes Basin Mean
<i>Marsh Nesters</i>			
Common Yellowthroat	2.0	2.00	6.41
Song Sparrow	1.0	1.00	5.16
Yellow Warbler	1.0	1.00	6.31
<i>Air Foragers</i>			
Tree Swallow	1.0	1.00	32.59

Table 4. Status of Jackfish Bay marshes from 1995 to 2002¹. ' - ' denotes values below the Great Lakes basin non-AOC average. ' 0 ' denotes values within the Great Lakes basin non-AOC average. ' + ' denotes values above the Great Lakes basin non-AOC average.

Marsh Name ²	Survey Type	Year	Number of Stations	Assessment of Marsh Bird and Amphibian Species Diversity				Overall Assessment ³
				Marsh Nesting Bird Diversity	Marsh Bird Indicator Species Diversity	Amphibian Species Diversity	Amphibian Indicator Species Diversity	
Highway #17 I, Tiny	Bird	1995	1	-	-			0
Jackfish Bay Overall Assessment				-	-			0

¹ See the Marsh Monitoring Program's 1997 Final Technical Report for a detailed description of the scoring system.

² C = coastal, I =inland. Tiny (2 - 2.5 ha), Small (2.5 - 5 ha), Medium (5 - 25 ha), Huge (> 50 ha).

³ A score of 0, 1 or 2 indicates impairment, a score of 3, 4 or 5 indicates no apparent impairment and a score of 6, 7 or 8 indicates an above average marsh.