



Maritimes Marsh Monitoring Program Report for Shediac Bay Watershed Association

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In 2016 the Shediac Bay Watershed Association (SBWA) participated in Bird Studies Canada's Maritimes Marsh Monitoring Program (MMMP) by completing surveys for wetland-associated birds at two coastal wetlands within the Association's catchment area, at Grande-Digue, and Pointe-du-Chêne (Figure 1). MMMP surveys target a set of secretive wetland-associated species (Table 1) but also collects information on all other species using the immediate marsh habitat to give a broader understanding of wetland bird communities.

Primary species (Table 1) were recorded using a minute by minute point count survey protocol with a 5-minute passive listening period, followed by a 5-minute of species-specific call-back survey followed by a 5-minute silent listening period. Using these data, preliminary estimates of species-specific mean abundance across all site visits were calculated using the maximum number of individual birds detected by any single observer (Figure 2). Specific examination of sites surveyed by the SBWA show, as expected, that Nelson's Sparrow was the only primary species detected at these two sites; mean abundance per point was 4.25 at Grande-Digue and 0.33 at Pointe-du-Chêne. Closer examination of point count results explain high variability in mean abundance (Figure 3). At Grand-Digue, the number of Nelson's Sparrows observed was variable across points but also across visits. At Pointe-du-Chêne, Nelson's Sparrow were only observed at point 1 on visit 2, accounting for a much lower standard deviation.

All other species using the immediate marsh habitat (i.e. with the 100 m point count radius) were also recorded throughout the point count. This can include ducks, passerines, gulls, shorebirds, and raptors. Route and visit specific species richness were calculated for all sites visited by the MMMP (Figure 4), and incorporates those sites surveyed by the SWBA (Figure 5). Mean species richness was variable across visits, but quite similar across the two marshes surveyed by the SWBA (Grande-Digue: mean = 6.75, sd = 1.63, Pointe-du-Chêne: mean = 6.44, sd = 1.17).

Habitat information was also collected for all MMMP points surveyed. Measure of habitat variables will provide an indication of the type of marsh as well as wetland habitat succession. The percent cover of the five main habitat types was variable across the two marshes, but generally both sites were dominated by emergent herbaceous vegetation (Figure 6). Similar results are observed at other coastal marshes surveyed by the MMMP (Figure 7). Surveys by the SWBA, with support from NB's ETF, were very helpful in contributing to BSC's MMMP in 2017.

Appendix: Figures and Tables

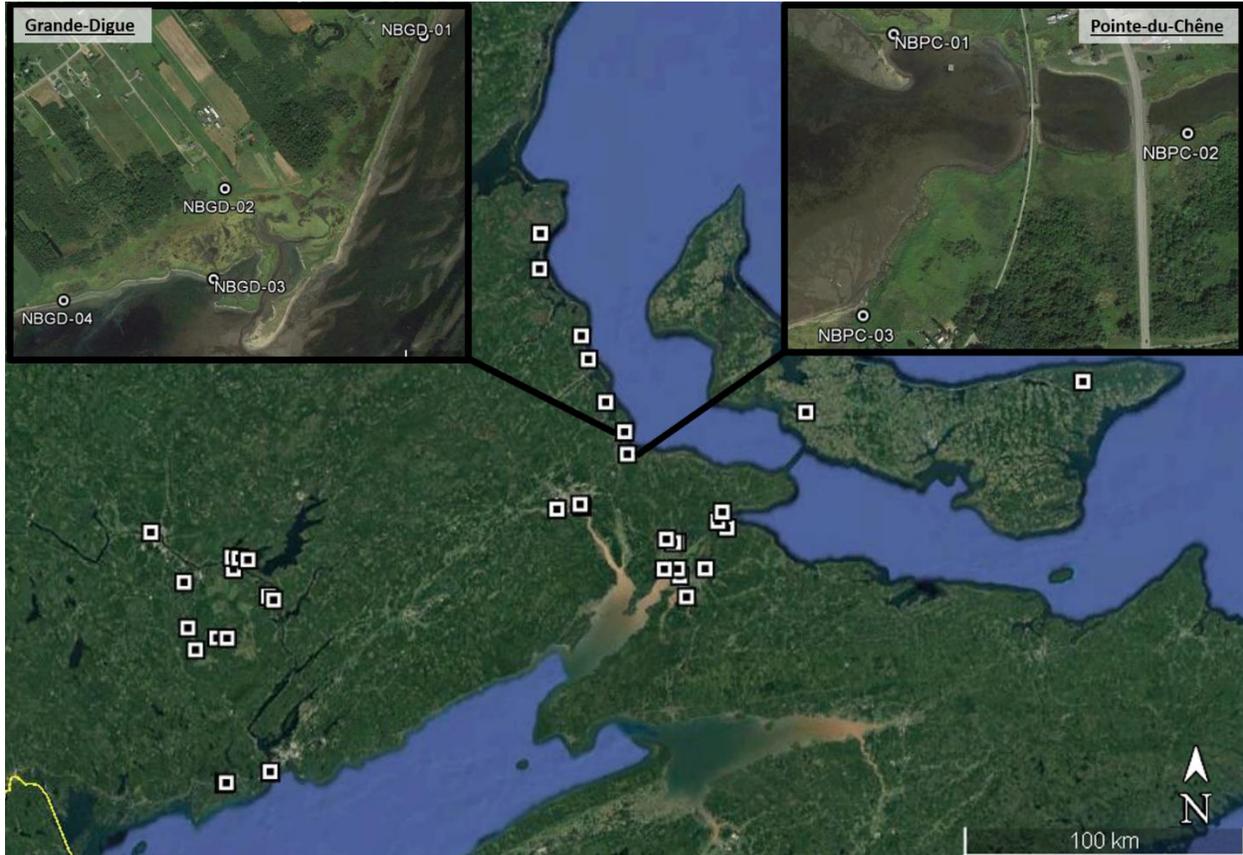


Figure 1. Map of routes surveyed for Bird Studies Canada's MMMP in 2016 with sites surveyed by Shediac Bay Watershed Association highlighted by insets.

Table 1. Primary species targeted the Maritimes Marsh Monitoring surveying. Those species which are included on play call back are italicized.

Species	Species Code
American Bittern	AMBI
American Coot	AMCO
Common Gallinule	COGA
<i>Least Bittern</i>	<i>LEBI</i>
<i>Nelson's Sparrow</i>	<i>NESP</i>
<i>Pied-billed Grebe</i>	<i>PBGR</i>
<i>Sora</i>	<i>SORA</i>
<i>Virginia Rail</i>	<i>VIRA</i>
Yellow Rail	YERA

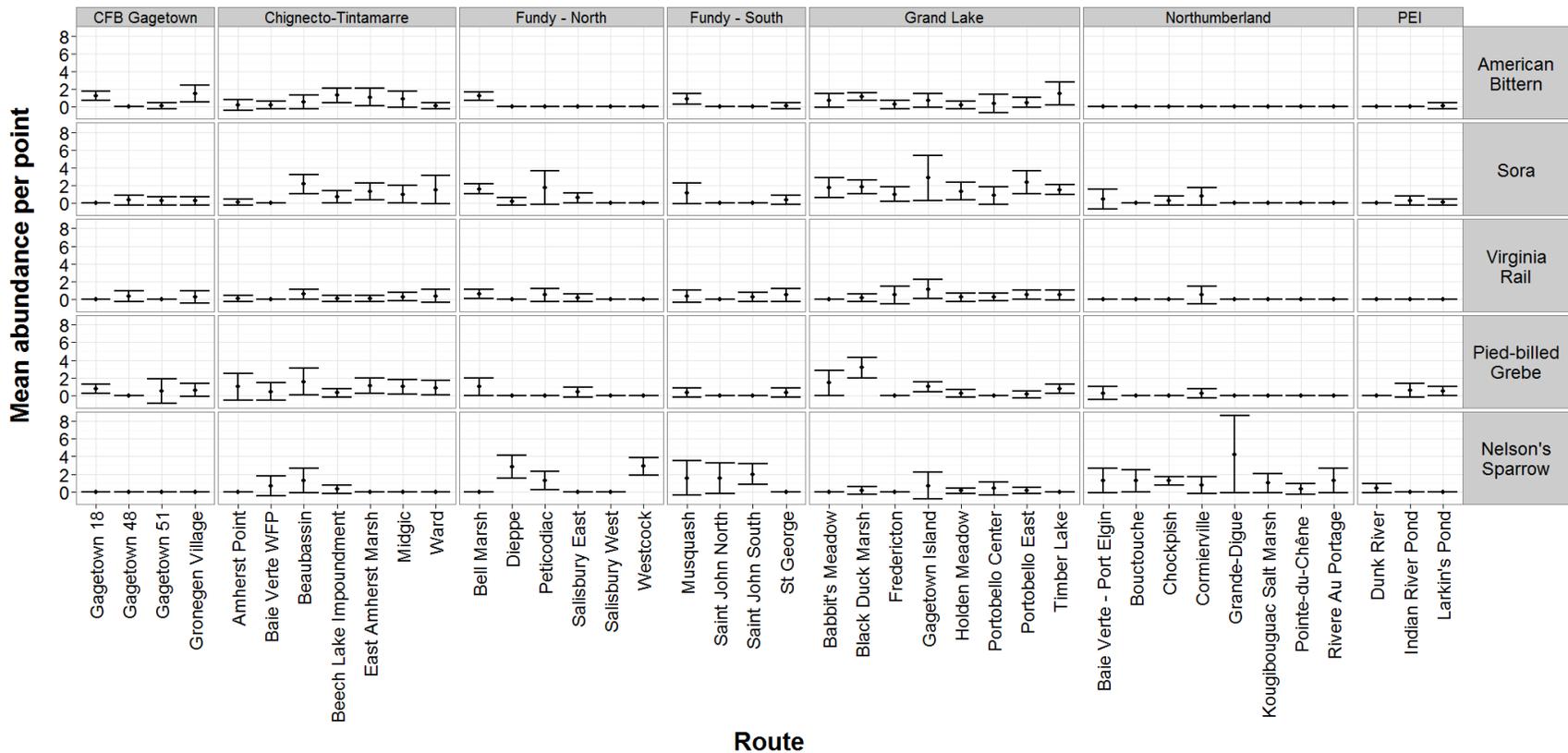


Figure 2. Preliminary estimates of species-specific mean abundance, calculated across all site visits, for primary focal species on each freshwater and coastal route surveyed by Bird Studies Canada's MMMP in 2016. SBWA data is incorporated under the "Northumberland" region (Grande-Digue and Pointe-du-Chêne).

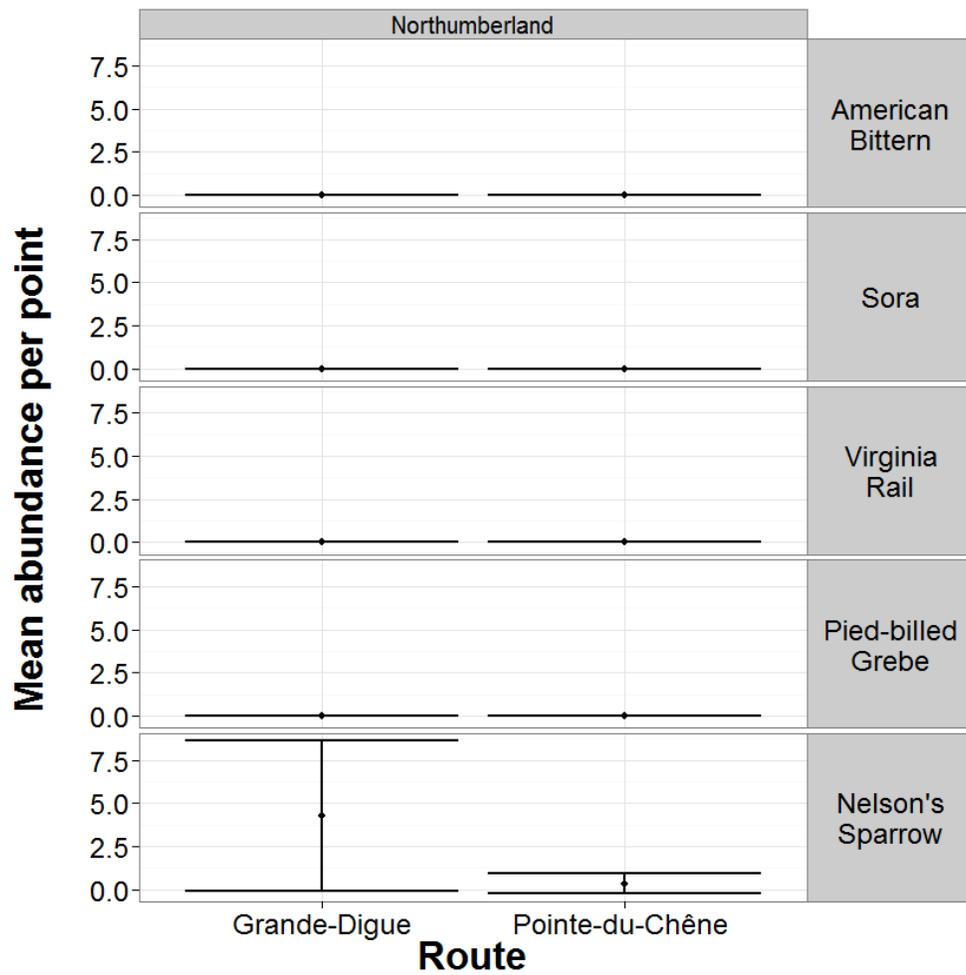


Figure 3. Preliminary estimates of species-specific mean abundance, calculated across all site visits, for primary focal species on route surveyed by the Shediac Bay Watershed Association for the MMMP in 2016.

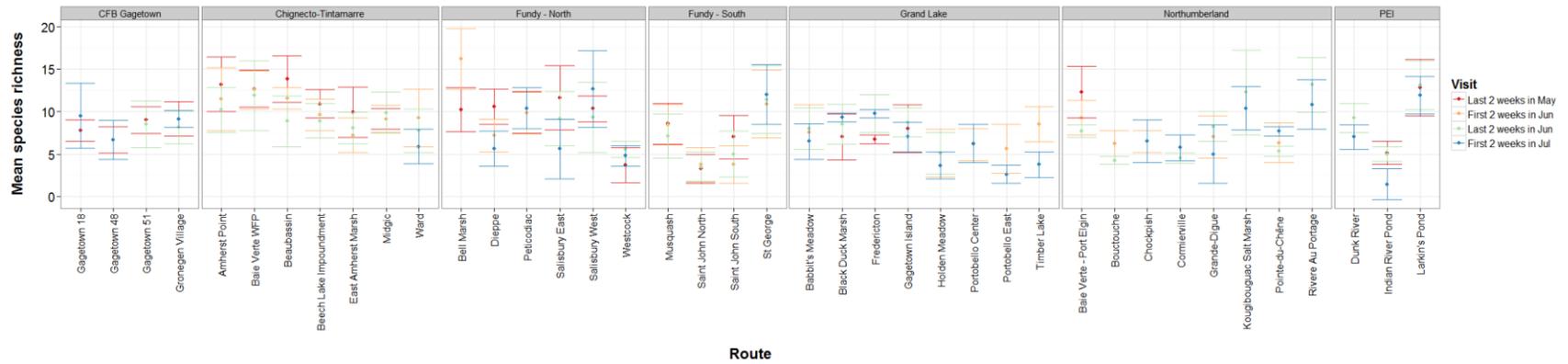


Figure 4. Mean species richness for all visits to all freshwater and coastal wetlands by Bird Studies Canada’s MMMP in 2016.

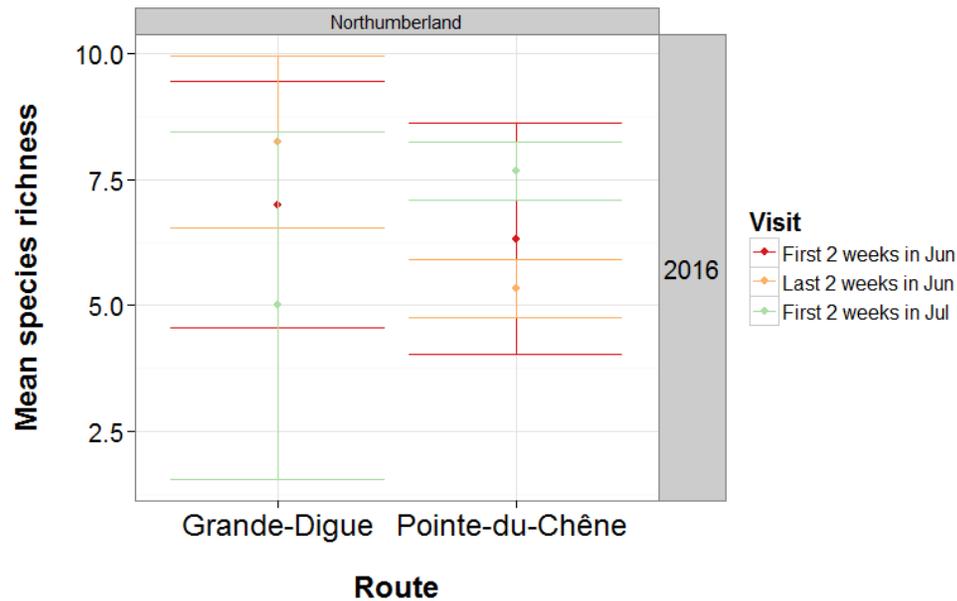


Figure 5. Mean species richness for all visits to all freshwater and coastal wetlands by the Shediac Bay Watershed Association for the MMMP in 2016.

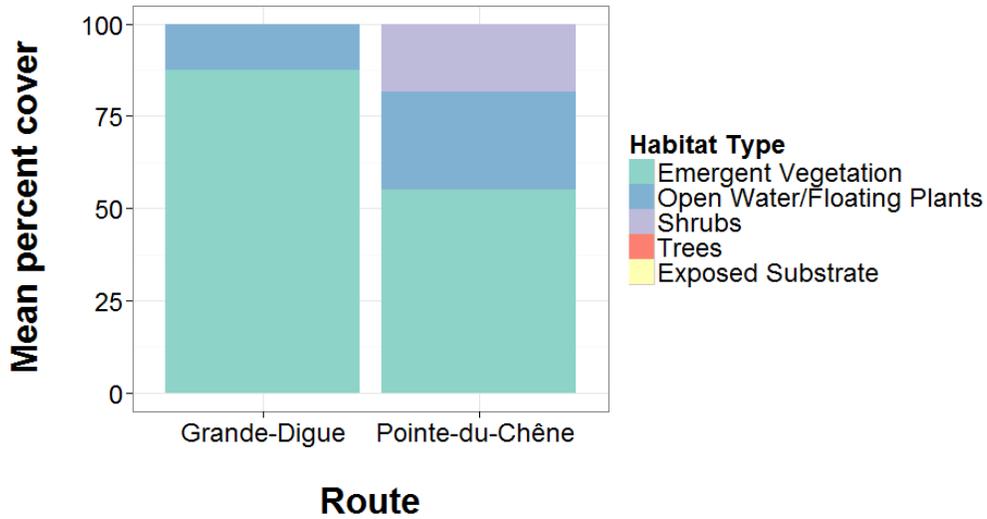


Figure 6. Mean percent cover (by habitat type; see legend) for freshwater and coastal marshes in surveyed by SBWA in 2016.

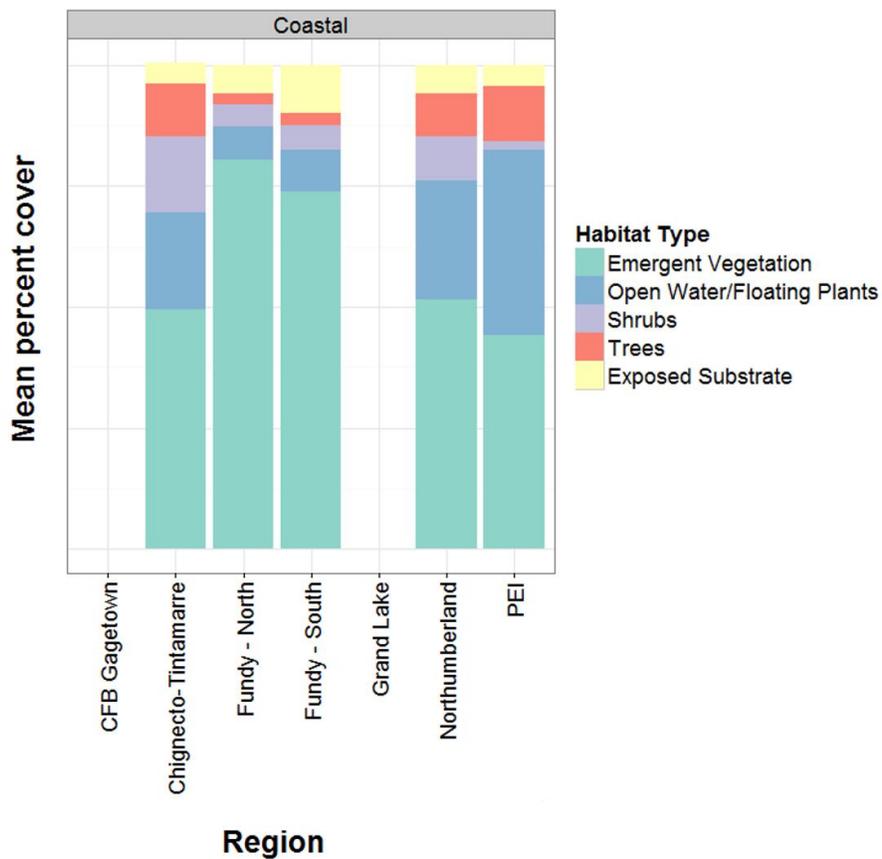


Figure 7. Mean percent cover of coastal marshes over all sites visited for Bird Studies Canada's MMMP in 2016 (by habitat type; see legend).