



Art: Robert Lyon

## **People and Peeps: NCC's Johnson's Mills Shorebird Interpretive Centre**

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### **Shorebirds and the Bay of Fundy**

As a Shell Conservation Intern, I've been spending the majority of my summer on a Nature Conservancy of Canada (NCC) property in Johnson's Mills, New Brunswick. Johnson's Mills is located on the upper reaches of the Bay of Fundy, a region called Shepody Bay. The Bay of Fundy is especially famous because it is where the highest tides in the world have been recorded.



Fig 1: Map showing the location of Shepody Bay. (Map: NCC)

The Bay of Fundy is also famous for its shorebirds. The mudflats and tidal marshes of the upper reaches of the Bay of Fundy are considered to be some of the most important stopover sites for shorebirds in North America. The area was added to the list of Wetlands of International Importance under the RAMSAR convention in 1987 and

designated as Canada's first Western Hemispheric Shorebird Reserve (WHSRN). The upper area of the Bay of Fundy, known as Shepody Bay, is also recognized as an Important Bird Area (IBA).

The upper reaches of the Bay of Fundy plays host to over 2 million shorebirds each year during the fall migration. Each year, over two million shorebirds stop in Shepody Bay on their way to their wintering grounds in South America. This stop is of critical importance to allow the birds to build up fat reserves required for the migration. Thirty-four species of shorebirds have been identified in the region, though the most abundant one by far is the Semipalmated Sandpiper, *Chalidris pusilla*. This species makes up about 95% of the flocks we observe in the area.



Fig. 2: Semipalmated Sandpiper (Photo: NCC)

The sandpipers begin their journey in South America. From there, they migrate north in the spring, stopping mainly in Delaware Bay on their way up. They spend 8 weeks in the tundra where they reproduce, after which they head back down south to their wintering grounds in South America. Before arriving at Johnson's Mills, the sandpipers will congregate in small flocks at James Bay. From there they will travel southeast towards the Bay of Fundy in newly formed large flocks. The females will be the first to arrive in the upper reaches of the Bay of Fundy, with the males following soon after, and the juveniles arriving last. The Bay of Fundy is the most important stopover for the Semipalmated Sandpiper for two reasons: 1) it is their last stage before their non-stop flight of 72 hours to their wintering grounds, over 5000 km away, and 2) 75 to 95% of the world's population of this species relies on the mudshrimp of Fundy as a feeding grounds.

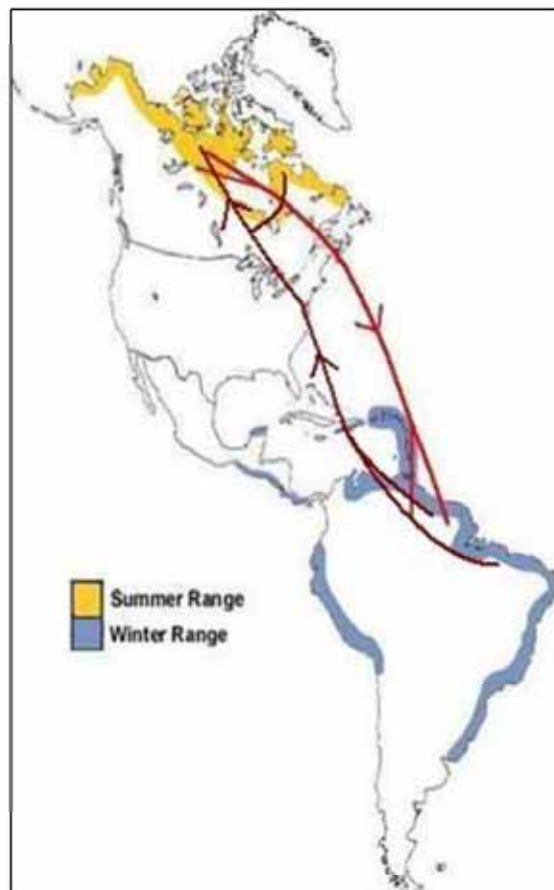


Fig. 3: Migration flyways used by sandpipers (Map: CWS)

During their 10-14 day stay, each sandpiper will approximately double its weight by eating a nutrient-rich amphipod commonly called “mudshrimp” (*Corophium volutator*), found only in the Bay of Fundy and the Gulf of Maine.

### **Johnson’s Mills Shorebird Interpretive Centre**

Sandpipers are very vulnerable during the time they spend in Shepody Bay. They have to double their weight during their stay, and disturbances will cause them to fly off, depleting the fat reserves they need for migration. Sandpipers feed on *Corophium* while the mudflats are exposed during low tide, and rest during the high tide. It is during this period that they are most easily disturbed, but it is also the best time to view the birds because they are roosting at the edge of the high tide line, on the small part of the beach that remains exposed.

As more people learn about the sandpipers and come watch the impressive spectacle of large flocks of birds during high tide, the additional number of birdwatchers and curious onlookers can prove detrimental to the well-being of the birds.

In order to protect the birds, NCC has acquired 306 acres of land in Johnson’s Mills since 1994, and efforts are on going to secure more land within the focus area. NCC has developed a stewardship plan for Johnson’s Mills, as it does for all its Natural Areas. The stewardship plan details the conservation values of the area (in this case the importance as a migratory stop-over) and the steps to be taken to ensure the natural values are protected in perpetuity. This will ensure that this property assemblage is maintained in its natural state and will limit development that would negatively impact both the roosting birds and the habitat they require.

With these goals in mind, a Shorebird Interpretation Centre was opened at Johnson’s Mills in 2000 to ensure that ecotourism activities in the area are conducted in a sustainable manner. The centre is open daily during the months of July and August with interpreters on hand to answer questions and educate the public on the importance of the area for the migration of shorebirds and to decrease the amount of human disturbances. The Nature Conservancy of Canada and its partners, like Shell Canada, are helping to preserve the shorebirds by reducing disturbances for the duration of their seasonal stay. The interpretive centre ensures that visitors have a stronger awareness and appreciation of the Bay of Fundy.



Fig 4: Visitors at Johnson’s Mills Shorebird Interpretation Centre. (Photos: NCC)

## My work as a Shell Conservation Intern

My main responsibility this summer has been to manage the interpretive centre to ensure that it is running smoothly. That includes supervising the staff, which is mainly made up of students in high school or in their first or second year of university. Our role is to educate the public and raise awareness about the shorebirds and the Bay of Fundy. We also do daily bird counts and collect other biological data, and we are constantly developing more interpretive material for the centre. Additionally, since we are located right next door to a Canadian Wildlife Service research station, the staff frequently got to participate in bird banding operations over the course of the summer.



Fig 5: M. Doiron observing shorebirds.  
(Photo: Denise Roy)

On a more personal note, this internship has taught me a lot of things. It has given me hands-on experience in Wildlife Conservation which will surely benefit me in the future as a wildlife biologist. It has also taught me that cooperation with local communities is a huge part of conservation work, and it has made me realize the importance of raising public awareness about conservation. Furthermore, I have learned a lot about the inner workings of a non-governmental organization as my experience so far had been mainly focused on academic research. Finally, I myself have learned a lot about the shorebirds and the Bay of Fundy, which has given me a greater appreciation of a part of my province's natural heritage.



Fig. 6: Interpretive Centre staff 2006. L-R: Lucy Porter, Duncan Elliot,  
Madeleine Doiron, Jessica MacKinnon and Sean Garrity. (Photo: Denise Roy)

The Shell Conservation Internship wrap-up event in Calgary was definitely one of the highlights of my internship. Not only was it my first time “out West”, but it was great to meet all the other interns and find out about the work they had been doing. The presentations and talks by Shell Canada Limited were an eye-opener and gave me a greater understanding of the challenges and responsibilities of a big oil company, and it was certainly reassuring to find out that they have people as dedicated to protecting the environment as I am. I only wish the event had lasted longer than two days!

I submitted my Master’s thesis about a week before I began my Shell Conservation Internship. I’ve always been a birder at heart, so I was really excited to find out about this program, and was really grateful for a chance to work in my field, in my home province. It was truly a privilege to spend my days sharing my enthusiasm about the shorebirds and their environment. This summer will definitely be one to remember.