

Case Study:
**SEMIPALMATED
SANDPIPER**



PHOTO: JADEN BARNEY

SEMIPALMATED SANDPIPER

A Semipalmated Sandpiper is a small shorebird in the Sandpiper family. They are found in wetland and coastal habitats in small groups to large flocks, probing for small invertebrates. The name 'semipalmated' refers to the partial webbing between it toes.

LATIN:

Calidris pusilla

FRENCH:

Bécasseau semipalmé

SPANISH:

Correlimos Semipalmeado

CLASSIFICATION:

Kingdom: Animalia

Phylum: Chordata

Class: Aves

Order: Charadriiformes

(Shorebirds)

Family: Scolopacidae

(Sandpipers)

Genus: *Calidris*

Species: *pusilla*

Short neck with
small head

Mottled brown-gray
plumage

Short, dark bill

Weight: 23-45 g
Length: 16-20 cm

Pale underparts

Dark legs

[Click here to view photos,
videos and audio](#)



PHOTO: JADEN BARNEY

CONSERVATION

Semipalmated Sandpiper populations have continuously declined over the past 40 years, and are globally designated as 'Near-Threatened' by the International Union for the Conservation of Nature. As long-distance migrants, they rely on a network of important stopover sites along migration.

Key conservation concerns:

- Legal & illegal hunting in wintering habitats
- Reduced availability of food sources (human harvestings; mismatched timing of migration)
- Change in habitat quality on breeding grounds & roost sites (climate; predation; food; space)

[Click here for IUCN
assessment](#)



NOT EVALUATED	DATA DEFICIENT	LEAST CONCERN	NEAR THREATENED	VULNERABLE	ENDANGERED	CRITICALLY ENDANGERED	EXTINCT IN THE WILD	EXTINCT
NE	DD	LC	NT	VU	EN	CR	EW	EX

SEMIPALMATED SANDPIPER

ANNUAL CYCLE

Click here to view Bird Migration Explorer



BREEDING

Males establish breeding territory in the tundra by making small depressions, or 'scrapes' in the ground. Females lay 4 dark speckled eggs. Both males and females take turns incubating and defending the nest for 3 weeks. The young are ready to fly 2 weeks after hatching.

FALL MIGRATION

After leaving the breeding grounds, the shorebirds gather in large flocks at key stopover sites to rest and feed on energy-rich mudshrimp and other aquatic invertebrates. They may double their weight to fuelling the flight to South America over the Atlantic Ocean.

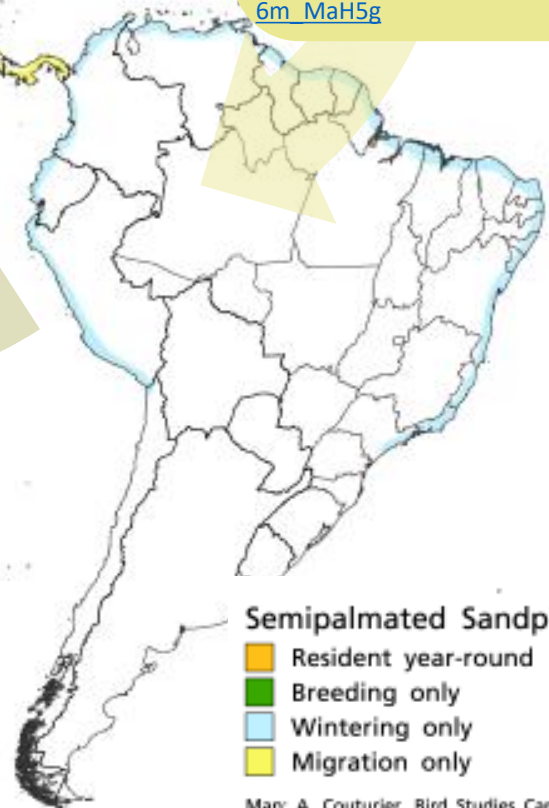
Nature Conservancy of Canada:
www.youtube.com/watch?v=Iz-6m_MaH5g

SPRING MIGRATION

Semipalmated Sandpipers are neotropical migrants, travelling long distances to their breeding areas in the arctic. The northward, long-distance migration begins in early May. Short stopovers fuel the journey and build fat reserves for egg production once the birds arrive in the sub-arctic breeding habitats.

NON-BREEDING

Semipalmated Sandpipers spend the winter along the shorelines of South America. They forage for aquatic invertebrates in mangroves, tidal mudflats and beaches.



- Semipalmated Sandpiper**
- Resident year-round
 - Breeding only
 - Wintering only
 - Migration only

Map: A. Couturier, Bird Studies Canada
Source: NatureServe

Semipalmated Sandpipers in the Bay of Fundy

More than 30% of the eastern population of Semipalmated Sandpipers gather in the Bay of Fundy in August and September each year.

SCIENCE GOALS:

- Track individual Semipalmated Sandpiper movements and length of stay to assess population size in Atlantic Canada.
- Identifying important stopover locations and habitats during migration.
- Determine locations, and arrival and departure dates between breeding and wintering life stages.

METHODS:



When the Bay of Fundy tides are high, the birds roost in large groups on the shoreline. A 'Fundy Pull Trap' is set on the beach to safely capture large numbers of birds under light netting. The science crew quickly untangle the birds from under the net and store them in boxes until each bird can be fitted with a metal band, plastic leg flag, and nanotags. The nanotag is glued onto the back of the bird. The bird is released and the nanotag will emit a unique signal detected by the Motus receivers. Nanotags have been released on more than 1000 Semipalmated Sandpipers since 2012.



TV Ontario Striking Balance: Bay of Fundy (start at 28:00)

<https://youtu.be/qrw9I2IR-I>



STUDENT ACTIVITY



PHOTO: JADEN BARNEY

The following individual Semipalmated Sandpipers represent a subset of the population's movements across the landscape.

Explore the Semipalmated Sandpipers movements on the provided base map using the following guidelines:

1. Label the bird species in the top right corner of the map page.
2. Use the detection data in the table below to plot the locations on the map.
3. Connect the dots and label each track with the tag identification number.
4. Draw arrowheads on the tracks to point in the direction of bird movement.
5. Label the track dates on the first detection location and the last detection location.
6. Circle the location where the bird stopped for the longest time. Label its length of stay.
7. Using the scale on the map and a ruler, measure and label the total flight track distance from its wintering to breeding location.
8. Choose two detections and calculate the flight speed between locations (distance/time as km/hr). Label this on the map sites.
9. Build a legend in the bottom left corner of the map. Use a different color to label each stage: Breeding, Migration, and Wintering
10. Fill in the Breeding range and the Wintering range of the map, using the legend colors. Trace the flight tracks with the color for Migration.
11. Circle the country names of which this bird was detected in.
12. Draw a big star on your location. Which range for this species are you located (breeding, migration or non-breeding)?

PROJECT DATA

DATE	LATITUDE	LONGITUDE	ALPHA-NUMERIC	NEAREST REFERENCE	LENGTH OF STAY
August 3, 2014	51.29	-80.12	H-7	Moosonee, Ontario	0d 4h 15m
August 4, 2014	47.07	-70.79	I-8	Quebec City, Quebec	0d 0h 3m
August 5, 2014	45.82	-64.58	J-8	Hopewell Cape, New Brunswick	2d 0h 4m
August 20, 2018	45.83	-64.51	J-8	Johnsons Mills, New Brunswick	0d 0h 5m
August 23, 2018	45.82	-64.58	J-8	Hopewell Cape, New Brunswick	2d 0h 4m
August 25, 2018	45.83	-64.51	J-8	Johnsons Mills, New Brunswick	6d 2h 15m
September 6, 2018	45.82	-64.58	J-8	Hopewell Cape, New Brunswick	0d 0h 2m
September 6, 2018	45.70	-64.45	J-8	Joggins, Nova Scotia	1d 9h 0m
September 8, 2018	45.08	-64.22	J-8	Wolfville, Nova Scotia	0d 0h 4m
October 7, 2018	5.16	-52.63	M16	Kourou, French Guiana	0d 0h 14m
October 23, 2018	4.94	-52.33	M-16	Cayenne, French Guiana	0d 0h 2m

Check your migration track here:

<https://motus.org/data/demo/educationSESA.html>



DISCUSSION

Use the guided discussion boxes below to analyze the project results from this Case Study. Present and discuss as a class, or compare results with other Case Study species.

POPULATIONS

1 *What is the population trend and status for Semipalmated Sandpipers?*

MIGRATION ECOLOGY

2 *What habitat and food resources make a good stopover site for this species?*

THREAT ASSESSMENT

3 *Identify a threat that might impact survival or success at each stage below.*

CONSERVATION

4 *How can human-related threats be reduced or mitigated?*

Breeding:

Migration:

Non-breeding:





