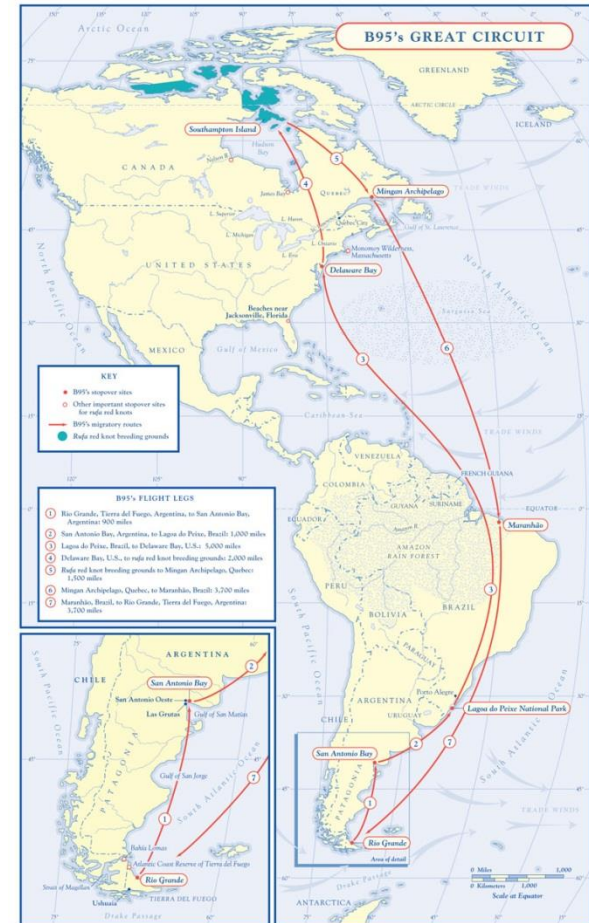


Flyways and Banding



copyright © Jan van de Kam, NL

Audrey DeRose-Wilson
Shorebird and Marsh bird biologist
January 21 2017



Delaware Division of Fish & Wildlife, DNREC



A Flyway is...

A Flyway is...

The entire range of a migratory species or population, including, breeding areas, wintering areas, and the pathway between.

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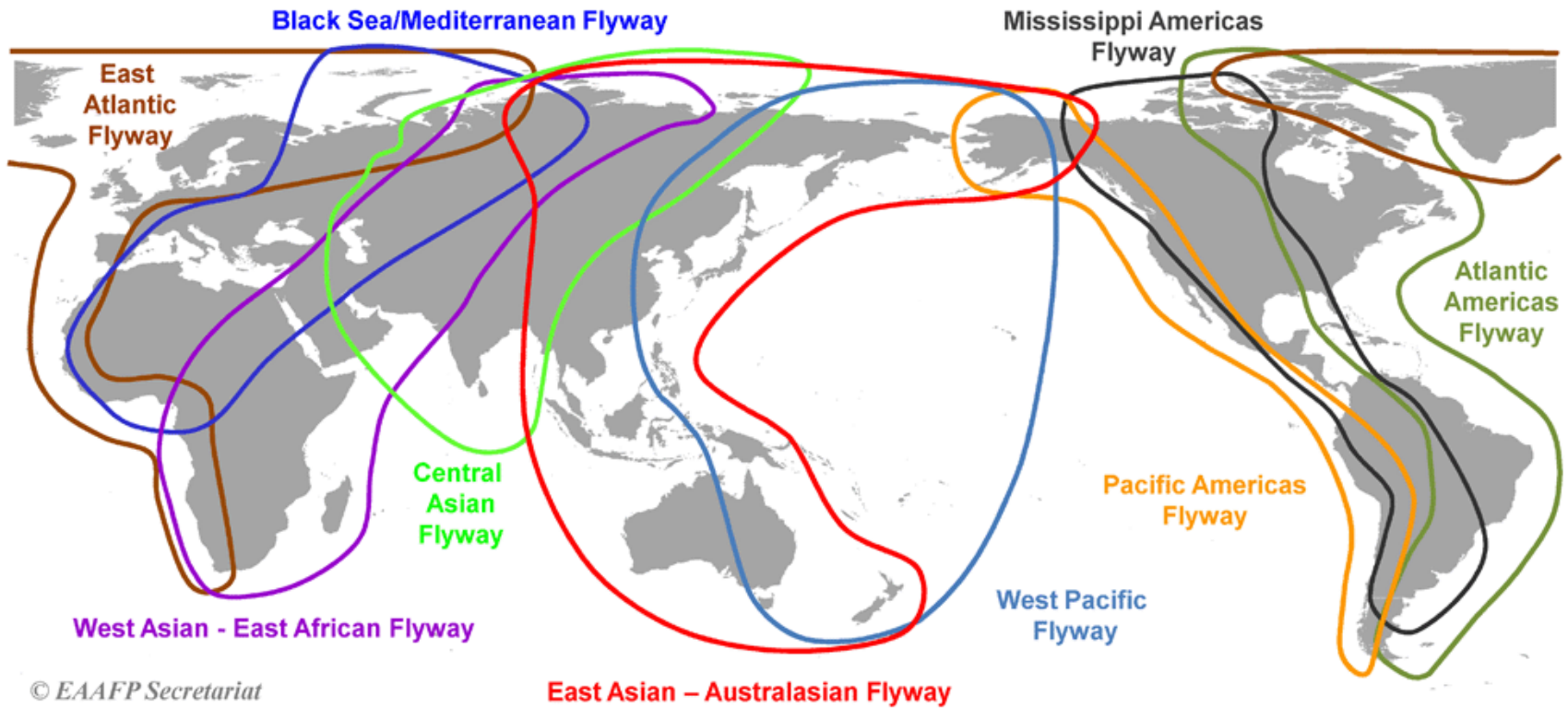
What is a shorebird?

- Birds that find food along the shoreline

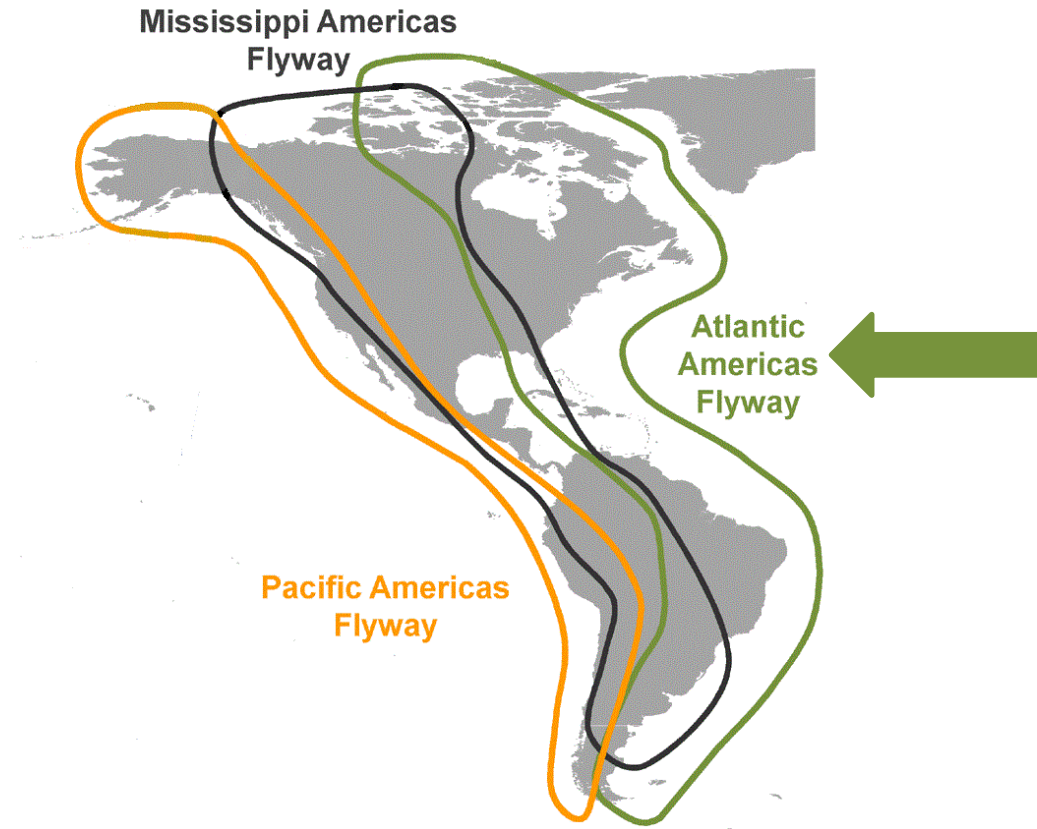


Gulls and terns are often seen on the shore, but are not true shorebirds since they forage at sea, or inland

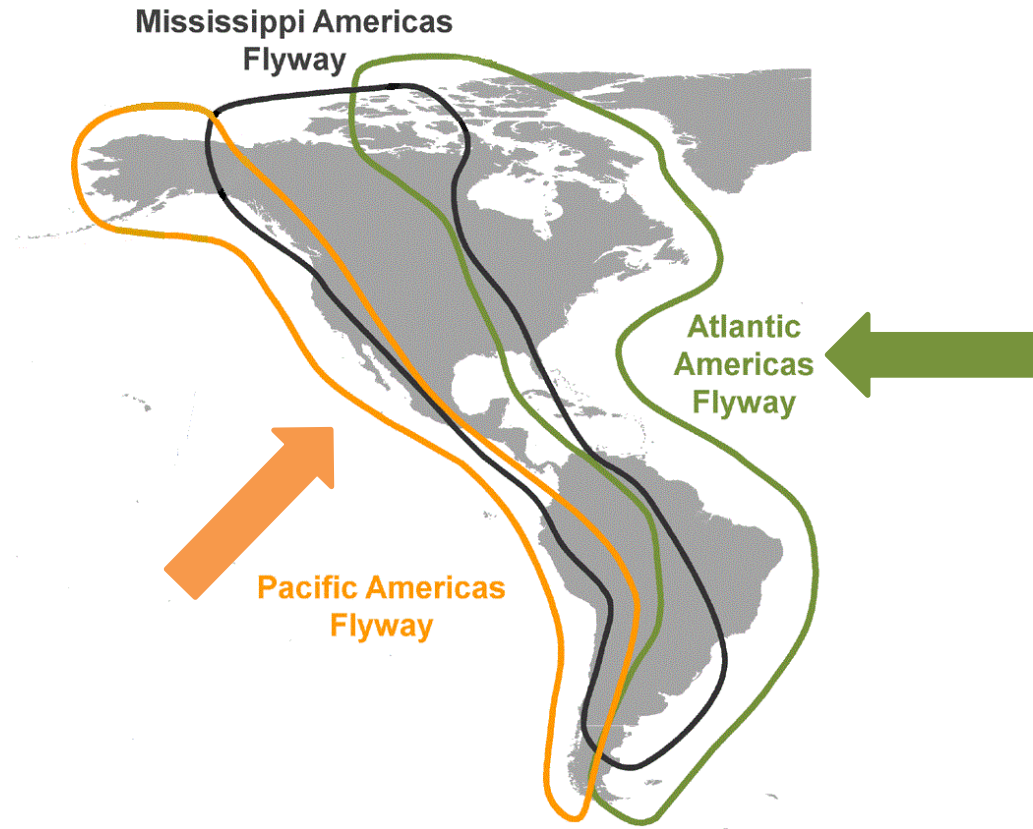
Nine major shorebird flyways



Atlantic Americas Flyway



Pacific Americas Flyway



Shorebirds are the ultimate migrants

- Many migrate from the southern tip of South America to the Arctic to breed.

Shorebirds are the ultimate migrants

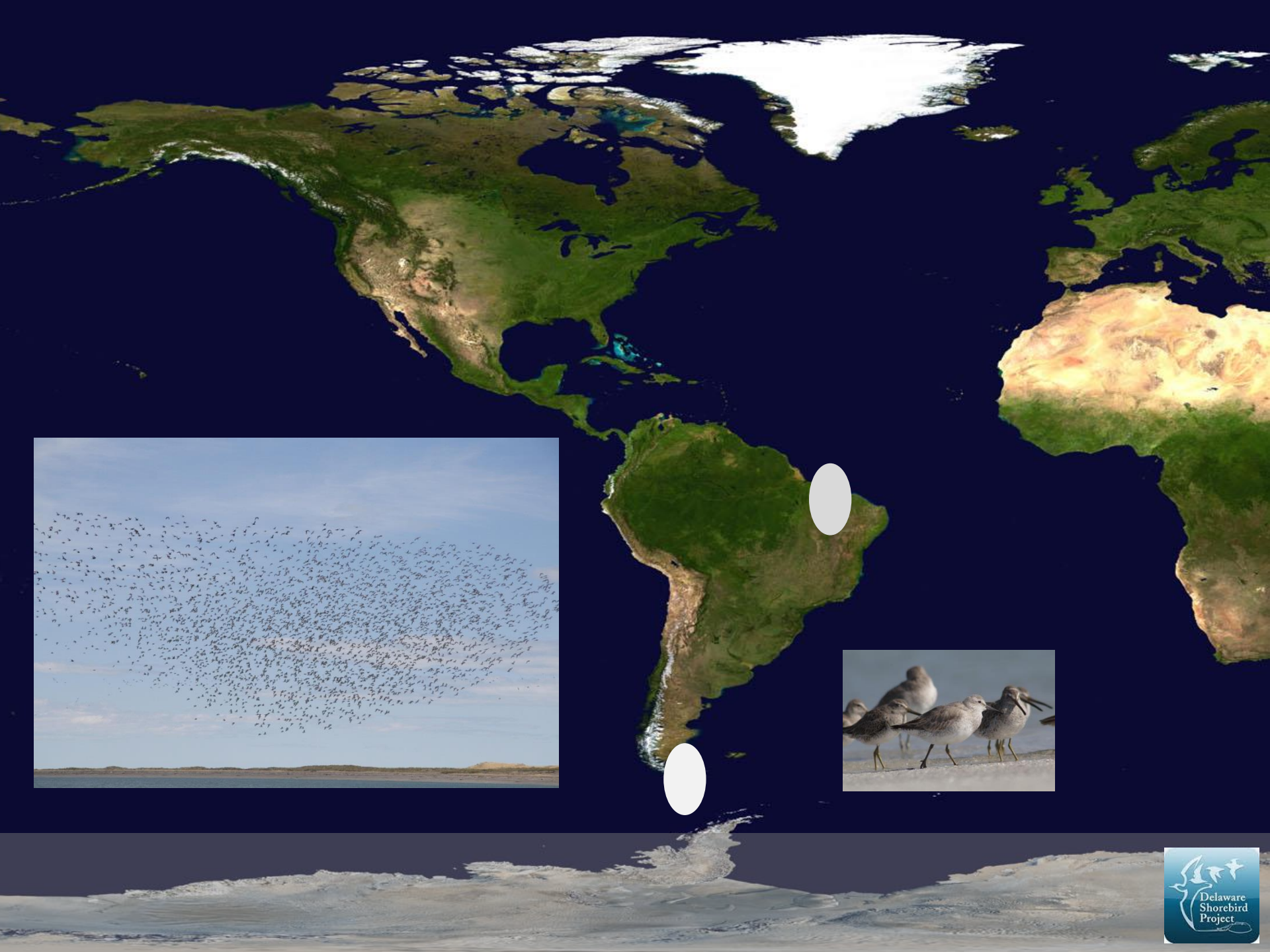
- Many migrate from the southern tip of South America to the Arctic to breed.
- They make just a few stops during this long trip!

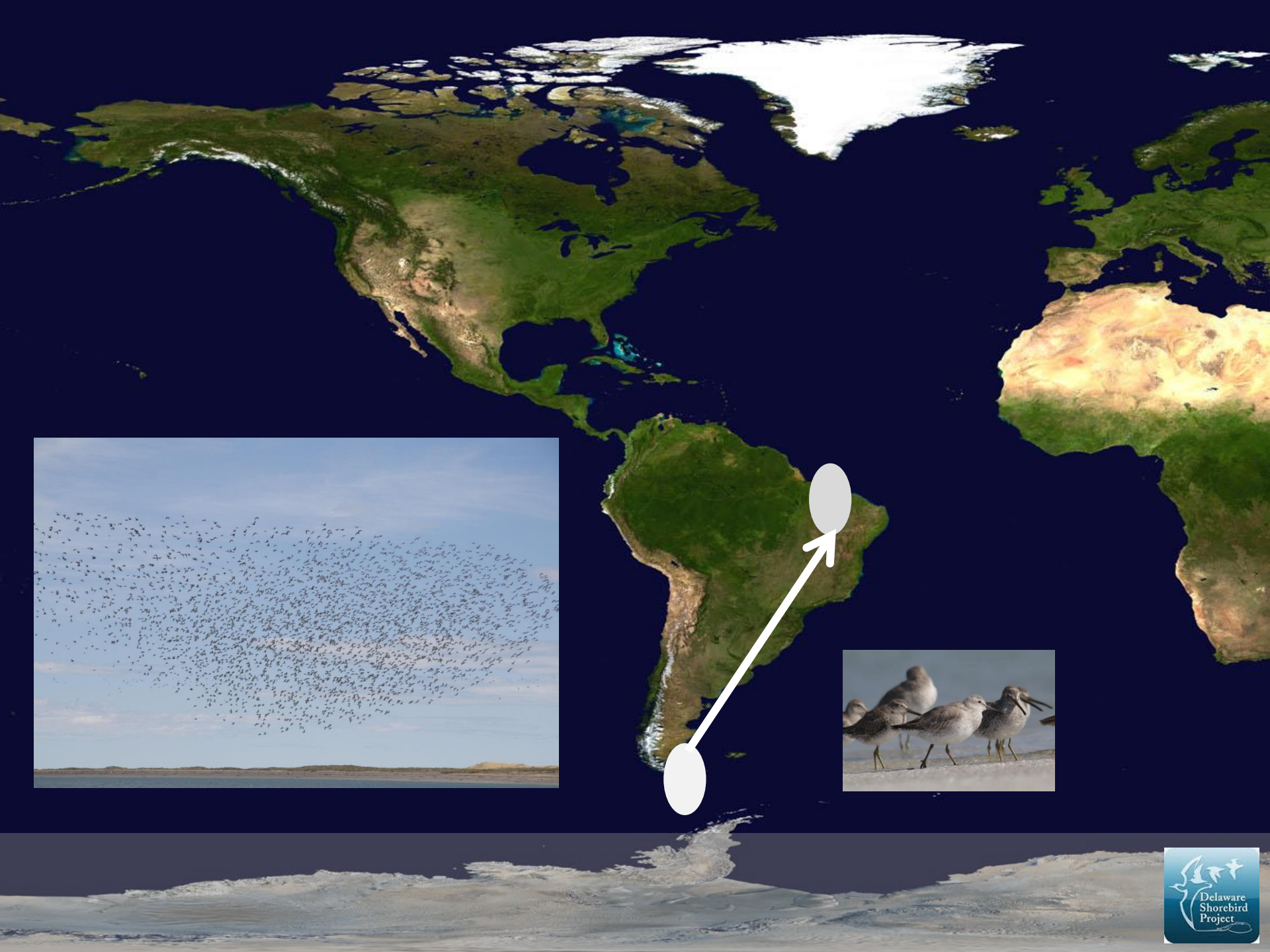
Shorebirds are the ultimate migrants

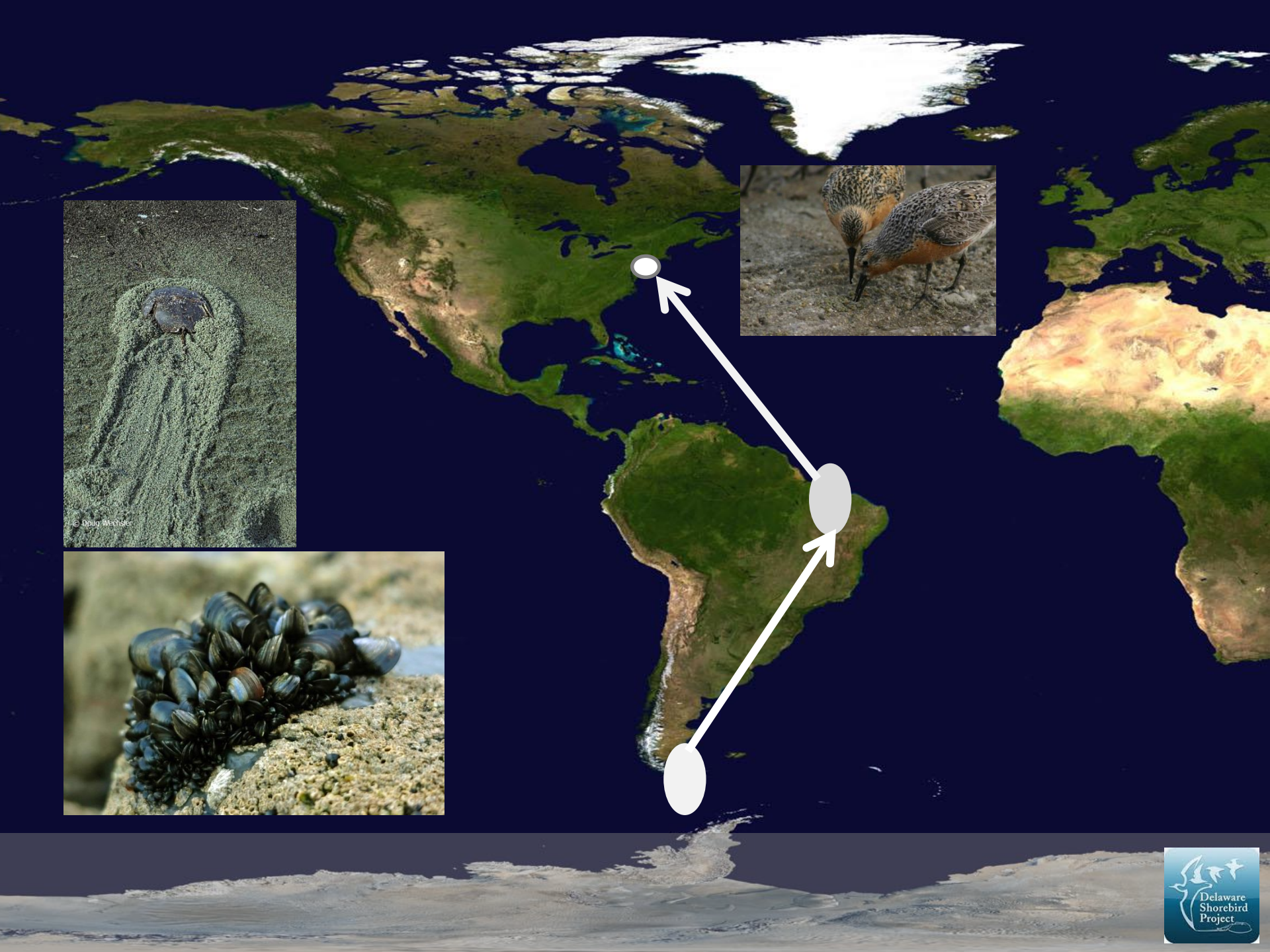
- Many migrate from the southern tip of South America to the Arctic to breed.
- They make just a few stops during this long trip!
- To make the journey they must have access to rich source of food to build up fat reserves

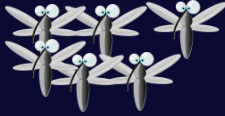
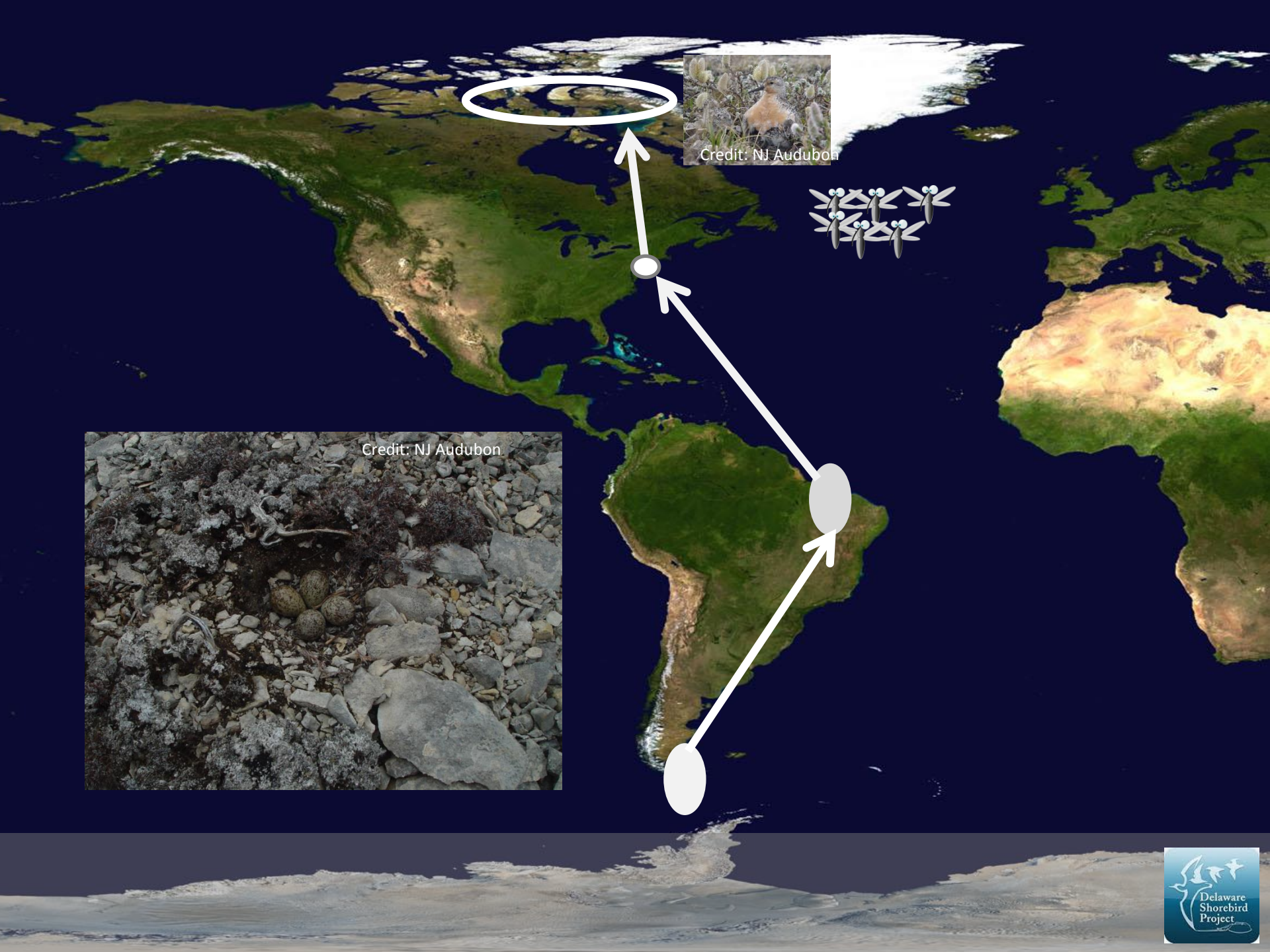
Rufa Red Knot migration route











How do birds navigate?

How do birds navigate?

Geographic features such as a coastline, or mountain range

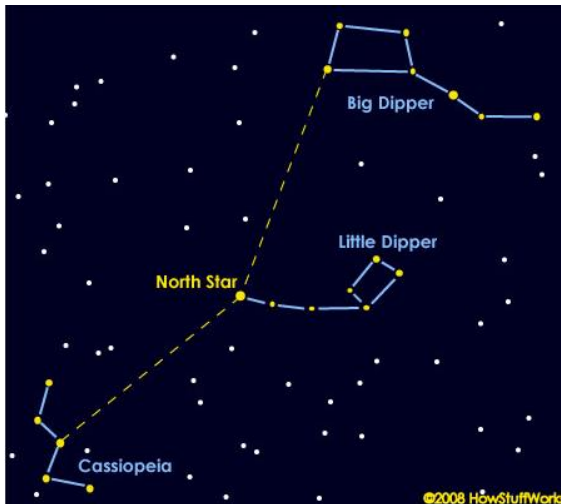


How do birds navigate?

Geographic features such as a coastline, or mountain range



The Sun and stars

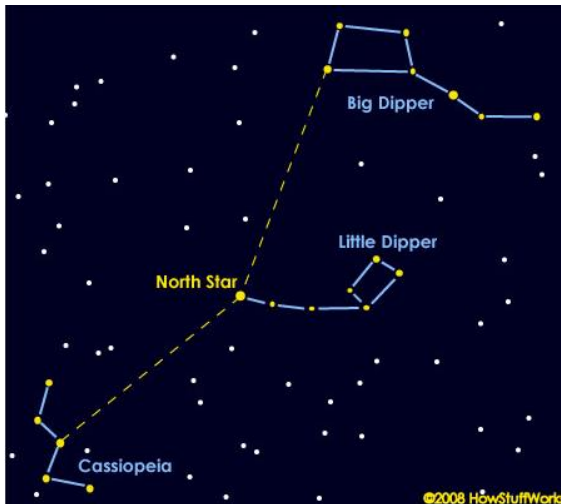


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Magnetic fields

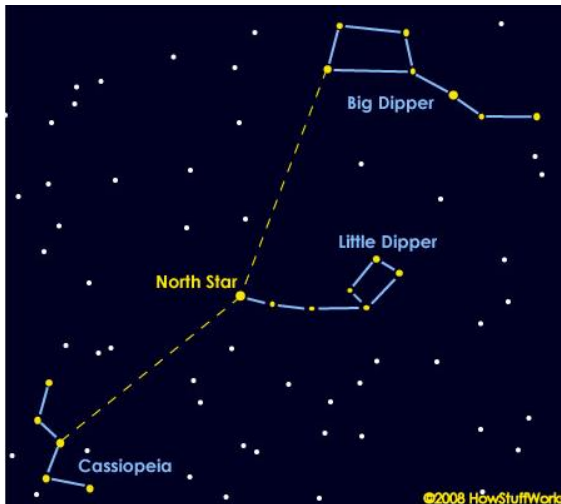


How do birds navigate?

Geographic features such as a coastline, or mountain range



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How do we learn where birds go?

Marking birds today



History of marking birds

- ~200 BC: Romans used thread tied on birds legs to deliver messages in war

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- 1899: System of inscribed bands developed in Denmark
- Early 1900s: Waterfowl banding in North America

Delaware Shorebird Project



Resighting observations

$N=MC/R$



Have you seen a shorebird with a colored flag on its leg?

You can help save imperiled migratory shorebirds by recording and reporting information on any color-marked birds you spot.



Learn more and sign up at
www.bandedbirds.org

www.bandedbirds.org is supported by the following organizations:



Countries are assigned colors



Source: Pan-American Shorebird Protocol



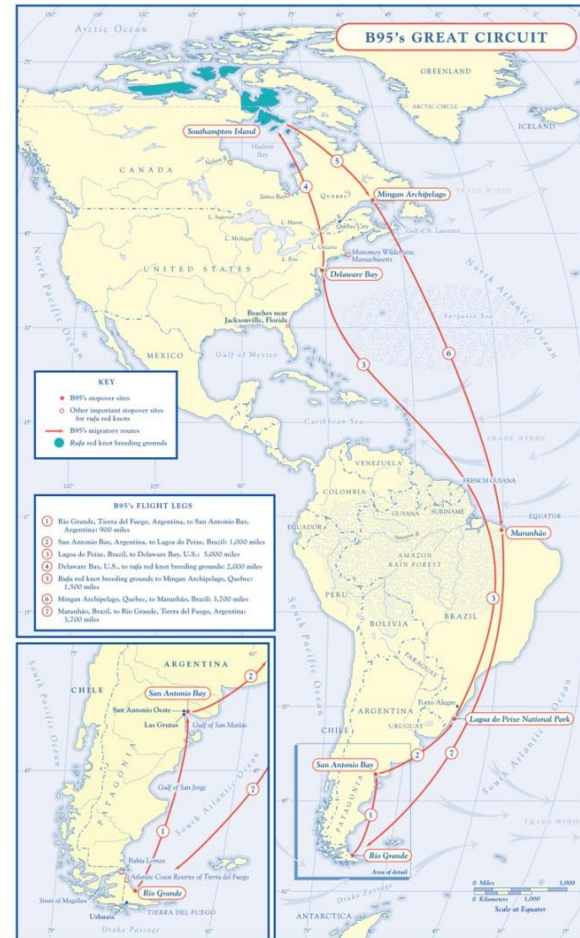
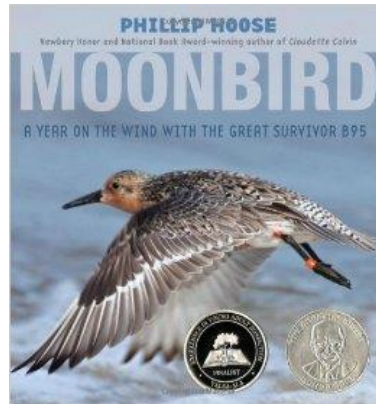
Moonbird: B95



copyright © Jan van de Kam, NL

Moonbird: B95

- 1995-2014?
- 400,000 miles
- Equivalent to flying to the Moon and almost all the way back!
- B95 was at least 21 years old in 2014!



Remote tracking devices

- Geotags measure and store data on light and dark periods
- Satellite tags transmit location data using GPS

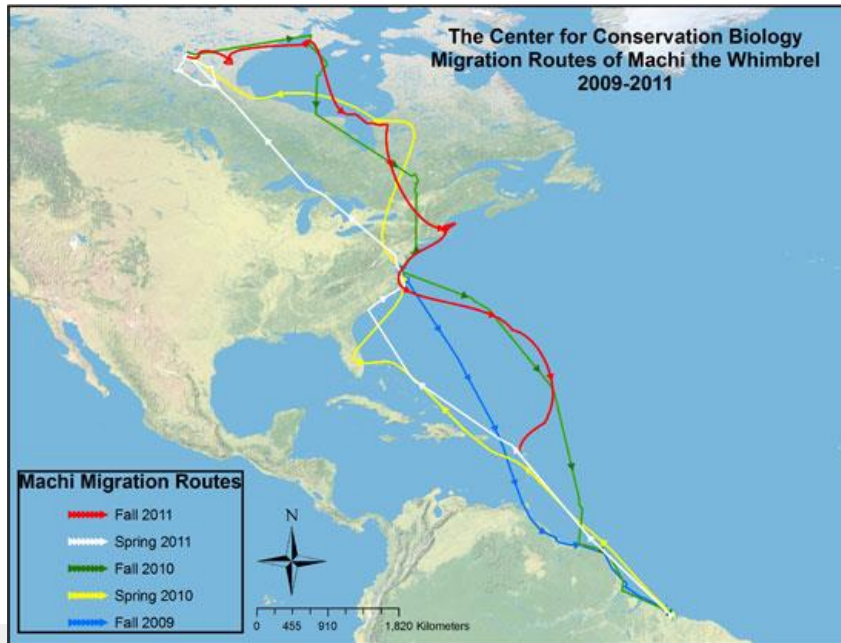


Whimbrel Survives Tropical Storm, Shot In Caribbean

September 13, 2011



A migrating Whimbrel named Machi has been shot on the Caribbean island of Guadeloupe, French West Indies. The bird (pictured at left) had likely landed to rest up after detouring around Tropical Storm Maria. Machi became one of thousands of shorebirds that are hunted for sport each fall—but she stood out from the flock because of a satellite



[Home](#) > [News & Media](#) > [More Stories](#) > 2013

Machi and Goshen's legacy: Increased shorebird-hunting regulations



Machi gets her 'wire' Libby Mojica of the Center for Conservation Biology fits Machi the whimbrel with a satellite transmitter in the fall of 2009. Photo courtesy of the Center for Conservation Biology

[Hide Caption](#)

by Joseph McClain | September 17, 2013

The Odyssey of Red Knot 6J3



△ Site of Capture

Captured 21 April 2012

The Odyssey of Red Knot 6J3

4000 km

2300 km

Left Texas 12 May
Left Saskatchewan 24 May



The Odyssey of Red Knot 6J3

Breeding grounds
Left Alaska 01 July

4750 km

A satellite-style map of the North Atlantic region. A black line with arrows at both ends forms a path starting from the coast of Alaska, crossing the Atlantic Ocean, and ending in the British Isles. A label '4750 km' is placed along the line in the Atlantic. The text 'Breeding grounds Left Alaska 01 July' is in the bottom left, and 'The Odyssey of Red Knot 6J3' is in the top right.

The Odyssey of Red Knot 6J3

5650 km

Left San Diego area 27 July
Short stop in Lagunas del Istmo
Left Peru 6 September



The Odyssey of Red Knot 6J3

4250 km



A satellite-style map of Chile and the surrounding waters. The land is shown in shades of green and brown, with a complex coastline featuring numerous fjords and islands. The water is a deep blue. The text is overlaid on the map.

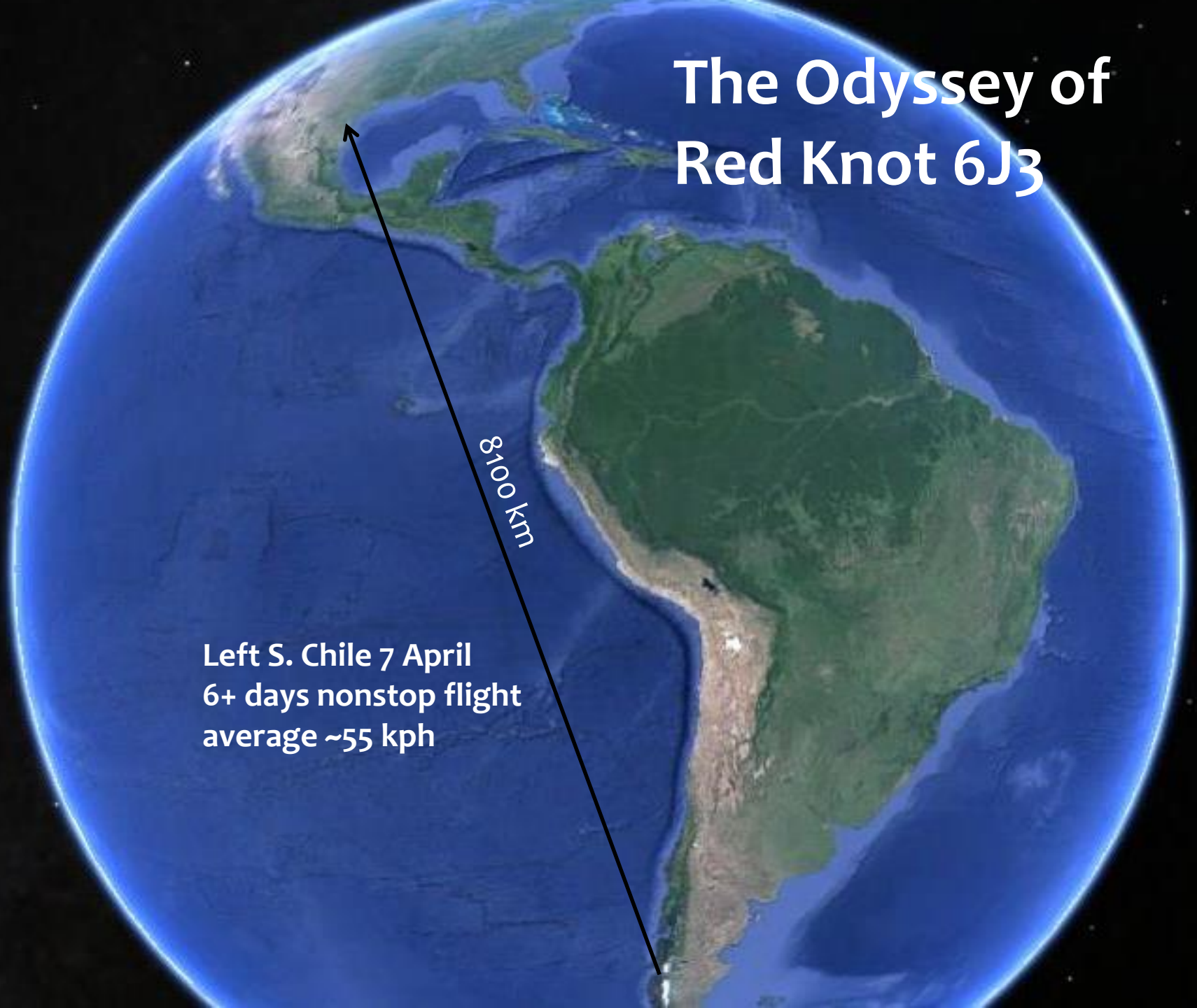
The Odyssey of Red Knot 6J3

“Wintering” around Chiloe Island, Chile
9 September 2012 – 7 April 2013 (209 days)

The Odyssey of Red Knot 6J3

8100 km

Left S. Chile 7 April
6+ days nonstop flight
average ~55 kph



We can learn from marked birds:

- Population size
- Survival rate
- Where they go
- How fast they travel
- Threats they encounter along the way

Conservation

- Understanding movements throughout the annual cycle helps us learn where birds need protection
- Story of an individual bird appeals to people more than numbers

Thank you!



NEW JERSEY
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www.njaudubon.org



NEW JERSEY DIVISION OF
Fish and Wildlife



Delaware Museum
of Natural History



CONSERVE WILDLIFE
FOUNDATION OF NEW JERSEY



Red knot
breeding range

The Odyssey of Red Knot 6J3



- 2300 (TX to Sask)
- 4000 (Sask to AK)
- 4750 (AK to San Diego)
- 5650 (SD to Peru)
- 4250 (Peru to S. Chile)
- 8100 (Chile to TX)

29,050 km in one year
> 3 weeks in migratory

*** Nonstop flight –
Chiloe to Texas**

- 8100 km
- 6+ days
- avg 55kph