



NATIONAL  
**WILDLIFE**  
REFUGE SYSTEM

# Module 2c

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*Life Histories*

# Life Histories

## Nesting, Migration, Wintering

**Nesting:** the process by which birds reproduce and the name of the season during which reproduction occurs – typically synonymous with the warmest months of the year

**Migration:** the long-distance seasonal traveling of birds from one location to another, necessitated by changing environmental conditions and resource scarcity

**Wintering:** also: "winter", the verb used to describe the location where migratory birds spend their non-reproductive season, i.e.: "the wintering grounds"



PHOTO: SEMIPALMATED PLOVERS ROOSTING  
MATT POOLE/USFWS  
PARKER RIVER NATIONAL WILDLIFE REFUGE



NATIONAL  
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PHOTO: AMERICAN OYSTERCATCHER CHICKS AND EGG  
STEPHANIE KOCH/USFWS  
MONOMOY NATIONAL WILDLIFE REFUGE

# Nesting

## *Life Histories*

In the Northeast Region, most of the birds we steward for are nesting on our beaches.

We call the overarching process "nesting", but the birds do many other things in the meantime!

Coastal birds nest in two ways: in **colonies** or in **territories**.



# Nesting continued

*Life Histories*

## Territorial Nesters

- select and defend space **from** individuals of the same species
- nest **far** apart
- typically have good camouflage
- include sandpipers, oystercatchers, and plovers

## Colonial Nesters

- select spaces **with** individuals of the same species
- nest **closely** together
- may have improved predator defense or predator saturation
- include skimmers and terns

# Nesting 3

## *Life Histories*

**Arrival:** Coastal birds begin to arrive in the northeast region as early as late February and spend much time feeding to replenish lost body weight.

**Courtship:** Birds court, select mates, and choose nesting sites.

**Nesting:** Pairs lay eggs, incubate, and hatch their nests.

**Brood-rearing:** Adults care for and raise their young until they can fly on their own – and sometimes after!

**Departure:** Adults and fledged chicks eat a lot of food to store fat for their long journey south. They can begin travelling as early as July.



PHOTO: AMERICAN GOLDEN PLOVER ON NEST  
SHILOH SHULTE

# Nesting 4

## *Life Histories*



PHOTO: COMMON TERN NEST  
USFWS



PHOTO: PIPING PLOVER NEST  
CAPE HATTERAS NATIONAL SEASHORE  
NPS

Coastal birds typically nest on the ground in a shallow depression called a "scrape".

Some birds line their scrapes with small bits of shell or grass...or nothing at all!

Not just any piece of ground will do – coastal birds have preferences for substrate!

The sand, gravel, shell, grasses, and other bits that make up coastal areas are important factors in nest site decision-making.

# Nesting 5

## *Life Histories*

PHOTO: PIPING PLOVER NEST WITH CHICKS  
ERIN EVE



PHOTO: PIPING PLOVER CHICK  
RAY HENNESSY



PHOTO: PIPING PLOVER AND CHICKS  
DORIS RAFAEL



Incubation periods range from ~20 to 30 days.

Most coastal birds have **precocial** chicks – the chicks are capable of moving around on their own soon after hatching.

The chicks of **terns, skimmers, and oystercatchers** have parents that bring them food. **Plover** chicks find their own food.

Young chicks still **need warmth** and will tuck into their parents' bellies or underwings to thermoregulate until their own feathers have grown.



# Nesting 6

## *Life Histories*



PHOTO: COMMON TERN WITH CHICKS  
USFWS  
MONOMOY NATIONAL WILDLIFE REFUGE

Once chicks are **capable of sustained flight**, they are considered **fledged**.

Some managers remove restrictions on beaches once all chicks have fledged.

For some species like the least tern, this can occur in as little as **21 days** per chick, though for other species like American oystercatchers it can take up to **35 days** on average.

However, nesting **never** goes smoothly! Nests and chicks are eaten, flooded, or disturbed and adults will **try again** until it's time to migrate. We call this "renesting".







PHOTO: RED KNOTS FEEDING AMONG HORSESHOECRABS  
GREGORY BREESE/USFWS  
MISPILLION HARBOR DELAWARE

# Migration

## *Life Histories*

Birds **migrate** in search of:

- Food
- Better Conditions
- Reproduction

The **suitability** of a habitat and its resources waxes and wanes with the seasons



# Migration 2

## *Life Histories*



PHOTO: AMERICAN OYSTERCATCHERS IN FLIGHT  
JAMES DIEDRICK

Migration occurs in two parts – a northward migration in **spring** and a southward migration in **fall**.

The timing of which is innate to each species.

In the northeast, migrants begin arriving in **early March** and continue moving through until **May**.

For **fall migration**, we begin to see birds migrate south as early as **July**.

Some birds don't make it to their wintering grounds until **December!**



# Migration 3

## *Life Histories*



PHOTO: SEMI-PALMATED SANDPIPERS  
RAY HENNESSY

Staging or stopover sites are critical habitats that provide abundant food resources to coastal birds before or during migration.

Birds that are **staging** consume a lot of food to build up fat reserves for a long, uninterrupted journey.

Birds that **stopover** consume enough food to make it to their next stop where they continue this pattern until they arrive on their wintering grounds.



# Migration 4

## *Life Histories*



PHOTO: RED KNOT  
ANNE MARIE MORRISON

There are a wide range of distances in the migration stories of coastal birds.

Some species, like the **Red Knot**, can travel **9000 miles** from the Arctic to South America. They and other shorebirds rely on horseshoe crab eggs in the Delaware Bay to make it through.

If that seems far then the Arctic Tern may surprise you! They can fly a whopping **50,000 miles** in a single year of migration.

Can you see why it's important that we allow these birds to **rest and refuel** in peace?

# Wintering

## *Life Histories*

Most coastal birds that **nest in the Northeast Region** will migrate to South America or the Caribbean where the weather is warm and food is plentiful

Birds that **nest in the Arctic** will migrate to our shores where they will spend the winter

This familiar bird is one exception - **Killdeer** live year-round from Massachusetts to Virginia!



PHOTO: KILLDEER  
RAY HENNESSY



# Wintering 2

## *Life Histories*



PHOTO: WINTERING PIPING PLOVERS AND SANDERLING  
CRAIG WATSON/USFWS  
TURKS AND CAICOS ISLANDS

Many of "our" coastal birds, the ones we see raise their young on our beaches, actually spend the **majority** of their lives on the **wintering grounds**

These areas are just as **vulnerable** to human development, predators, and climate change

Often, there is **little known** about **where** our coastal birds spend their winters, though scientists are now able to **discover** these places using new technology – like satellite GPS tags!

