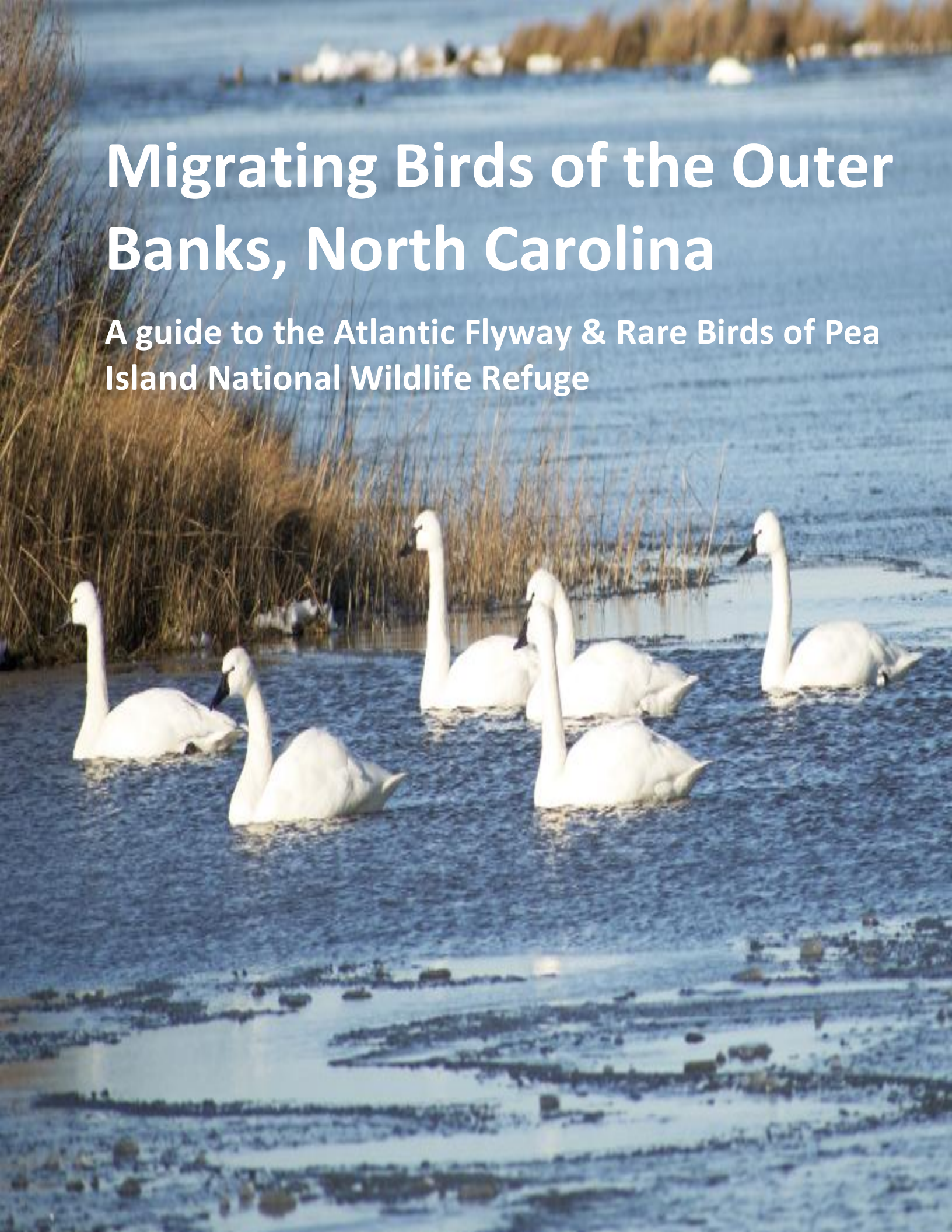


Migrating Birds of the Outer Banks, North Carolina

A guide to the Atlantic Flyway & Rare Birds of Pea Island National Wildlife Refuge



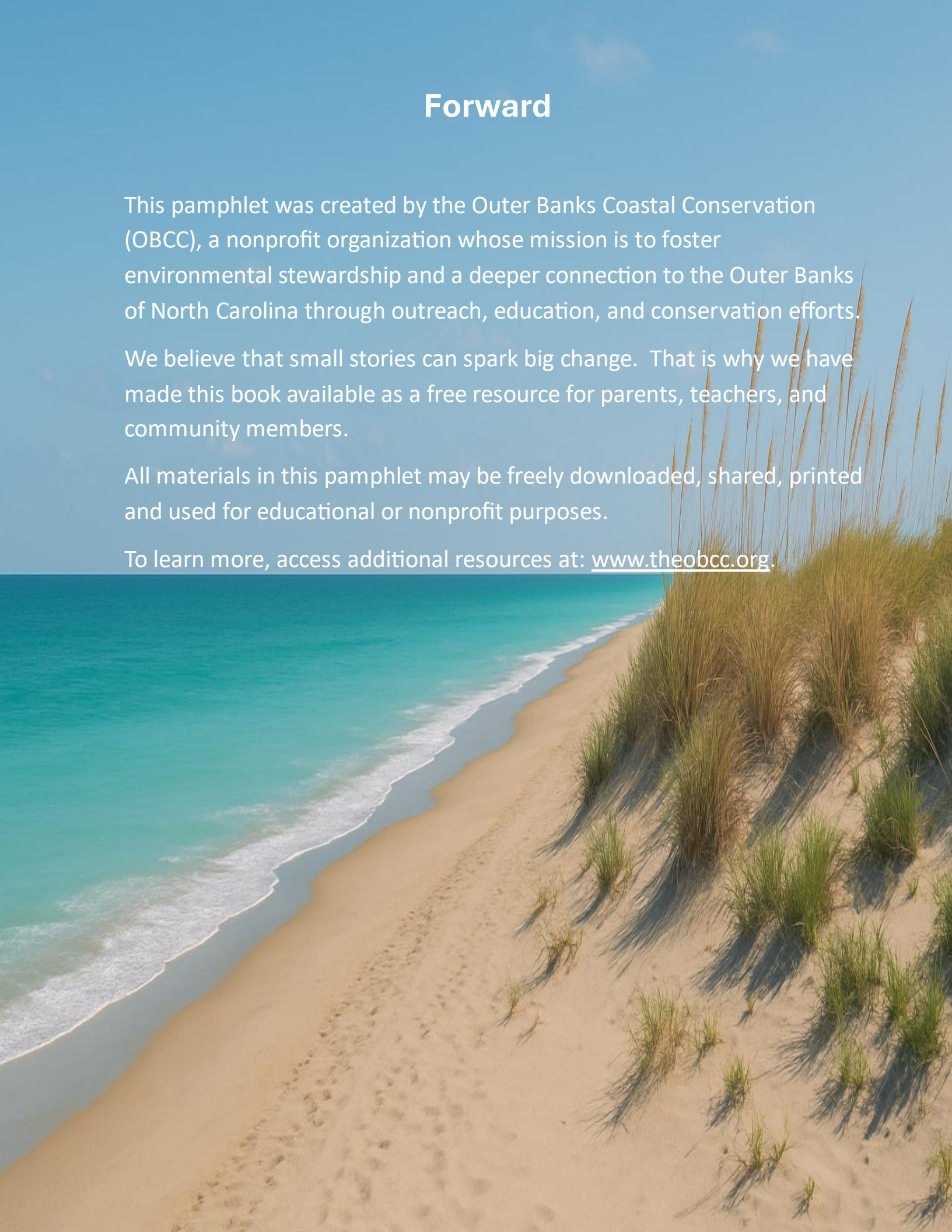
Forward

This pamphlet was created by the Outer Banks Coastal Conservation (OBCC), a nonprofit organization whose mission is to foster environmental stewardship and a deeper connection to the Outer Banks of North Carolina through outreach, education, and conservation efforts.

We believe that small stories can spark big change. That is why we have made this book available as a free resource for parents, teachers, and community members.

All materials in this pamphlet may be freely downloaded, shared, printed and used for educational or nonprofit purposes.

To learn more, access additional resources at: www.theobcc.org.



A large flock of birds, likely shorebirds or terns, is captured in a dynamic scene over a body of water. The birds are in various stages of flight, with wings spread wide, creating a sense of movement and energy. The water is a deep blue, and the sky is a lighter blue, suggesting a clear day. The birds are densely packed in some areas, particularly near the water's surface where they appear to be landing or taking off. The overall composition is vibrant and emphasizes the natural beauty and activity of the Outer Banks.

The Outer Banks: A Migratory Superhighway

The Atlantic Flyway

The Outer Banks lie directly on the Atlantic Flyway, one of the world's great bird-migration corridors stretching from the Arctic tundra to the Caribbean, Central America, and South America.

Each spring and fall, millions of birds travel this invisible sky path, relying on the Outer Banks as a critical refueling stop, rest area, and safe haven.

Why the Outer Banks Matters

- Barrier islands act as guiding lines along the coast, helping birds stay oriented.
- Soundside shallows (Pamlico, Roanoke, Currituck) are rich in invertebrates and fish.
- Freshwater and brackish impoundments provide sheltered feeding grounds.
- Maritime forests and shrub thickets offer cover for exhausted songbirds.
- Remote beaches and shoals support large gatherings of shorebirds and terns.

More than 400 species have been documented across the Outer Banks — one of the highest totals on the entire East Coast.

Migration Seasons on the Outer Banks



Spring Migration (March–May)

Birds push northward toward breeding grounds. Expect:

- Huge waves of shorebirds (Dunlin, Red Knot, Sanderling).
- Terns and skimmers returning to nest.
- Bright flashes of warblers, tanagers, orioles, and other songbirds in the forests.
- Raptors like Osprey, Merlin, Peregrine Falcon following coastline updrafts.

Summer (June–August)

Not a major migration season, but key for:

- Breeding colonies of Least Terns, Black Skimmers, and Common Terns.
- Brown Pelicans feeding chicks on nearby islands.
- Young herons and ibis dispersing from rookeries.

Fall Migration (August–December) — the Grand Finale

This is peak birding season on the Outer Banks.

- Tens of thousands of ducks, geese, and swans gather on Pea Island's ponds.
- Shorebird diversity peaks — more than 30 species possible in a day.
- Hurricane season brings opportunities for storm-blown rarities like tropical seabirds.
- Massive songbird flights occur after cold fronts.

Winter (December–February)

The Outer Banks becomes a waterfowl paradise.

- Tundra Swans, Snow Geese, and Northern Pintail dominate the skies.
- Raptors like Northern Harrier, Short-eared Owl, and Bald Eagle hunt the marshes.
- Loons, scoters, and gannets populate nearshore waters.

The Atlantic Flyway

The Atlantic Flyway is one of the four major bird-migration superhighways in North America. It stretches from:

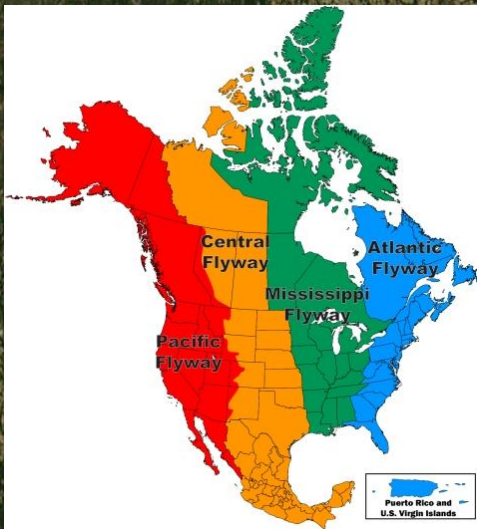
Arctic Canada → Eastern U.S. → Caribbean → Central & South America

Millions of birds travel this route every spring and fall.

Birds follow the Atlantic coast because it provides:

- Clear directional guidance (shoreline acts like a natural map)
- Consistent habitats at predictable intervals — beaches, marshes, estuaries, forests
- Rich feeding and resting areas (insect hatches, seed beds, fish, invertebrates)

It is essentially the I-95 of migration, but for birds.



Pea Island National Wildlife Refuge (NWR): Migration Heartland

Why Pea Island Is One of America's Top Migration Sites

Pea Island NWR (est. 1938) is internationally recognized for its bird diversity due to:

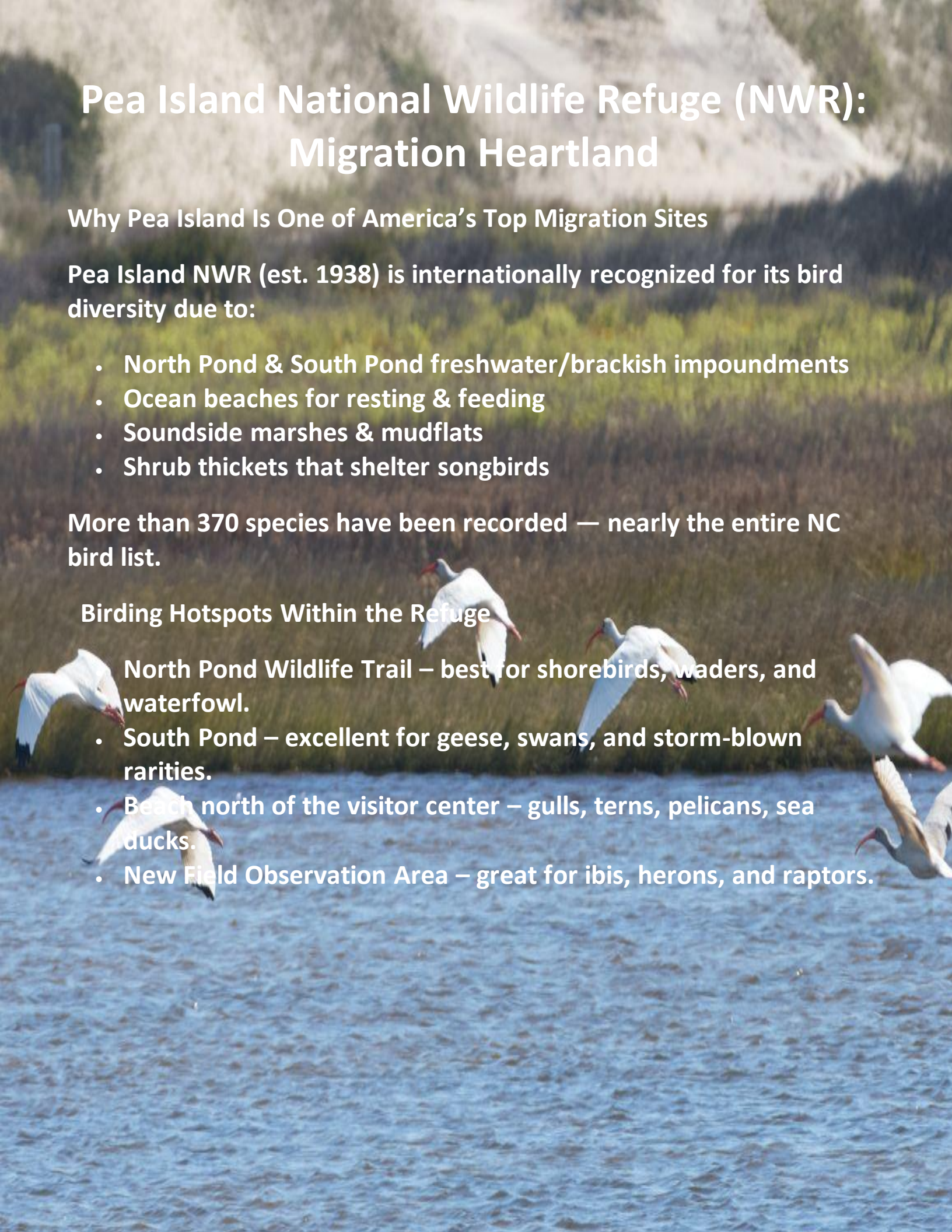
- North Pond & South Pond freshwater/brackish impoundments
- Ocean beaches for resting & feeding
- Soundside marshes & mudflats
- Shrub thickets that shelter songbirds

More than 370 species have been recorded — nearly the entire NC bird list.

Birding Hotspots Within the Refuge

North Pond Wildlife Trail — best for shorebirds, waders, and waterfowl.

- South Pond — excellent for geese, swans, and storm-blown rarities.
- Beach north of the visitor center — gulls, terns, pelicans, sea ducks.
- New Field Observation Area — great for ibis, herons, and raptors.



Signature Migrant Species of the Outer Banks

A large flock of birds, likely waterfowl, is seen in flight over a body of water. In the foreground, several white swans are swimming. The background shows a distant shoreline with some buildings and trees under a clear blue sky.

Waterfowl

- Tundra Swan
- Snow Goose
- Northern Pintail
- Green-winged Teal
- Redhead & Canvasback (near Oregon Inlet)

Shorebirds

- Red Knot
- Marbled Godwit
- Black-bellied & Semipalmated Plover
- Stilt Sandpiper
- White-rumped Sandpiper
- Western Sandpiper
- Willet
- Whimbrel

Wading Birds

- Great Egret
- Snowy Egret
- Glossy Ibis
- Tricolored Heron
- Little Blue Heron
- Occasional Reddish Egret (rare but increasing)

Raptors

- Peregrine Falcon
- Merlin
- Osprey
- Northern Harrier
- Bald Eagle
- Occasional Golden Eagle

Seabirds

- Brown Pelican
- Northern Gannet
- Black Skimmer
- Royal, Caspian, Forster's, and Sandwich Terns
- Scoters, loons, shearwaters offshore

Rare Bird Records from Pea Island NWR

Below is an expanded list of documented rare and remarkable sightings at Pea Island NWR, drawn from refuge reports, state records, and ornithological accounts.

Reddish Egret

Status: Rare but increasingly regular stray from Florida/Gulf Coast. Multiple documented sightings at North Pond and New Field. Famous event: A juvenile lingered at North Pond in 2025 and was widely photographed.

Roseate Spoonbill

A tropical species expanding northward. Rare but increasingly frequent in late summer. Notable sightings include a bird lingering in the impoundments in 2023.

American Flamingos after Hurricane Idalia (2023)

One of the most extraordinary events in NC birding history. Storm winds pushed dozens of flamingos into the Carolinas, including individuals seen at or near Pea Island — a first state record.

Curlew Sandpiper (Eurasia)

A striking global rarity. One bird was seen at Pea Island in July 2018 — NC's first in 10 years. Typically wanders from Europe/Asia.

White-cheeked Pintail

A Caribbean duck not normally seen in the U.S. A fully documented individual photographed at Pea Island in September 2015 became North Carolina's first accepted state record.

Black-tailed Gull

Extraordinary vagrant from East Asia. Briefly seen on the Pea Island beach during a Christmas Bird Count — one of the Southeast's only records.

Other notable rare visitors

- Ruff (Eurasian shorebird)
- Hudsonian Godwit (rare migrant)
- Long-billed Curlew (very rare in NC)
- Little Gull
- Black-headed Gull
- American Avocet in huge numbers (common some years, absent others)
- White Pelican flocks in winter
- Sandhill Crane flyovers
- Occasional rare geese (Greater White-fronted Goose, Cackling Goose)



How to Bird the Outer Banks

Best Viewing Seasons

- Fall (September–December): peak diversity, best rarity potential.
- Winter: spectacular for swans, geese, ducks, raptors.
- Spring (April–May): shorebirds + songbird waves.
- Post-storm periods: hurricanes and nor'easters bring unexpected species.

Essential Gear

- 8×42 binoculars
- Spotting scope for impoundments
- Field notebook or eBird app
- Red-light flashlight for dawn/dusk birding
- Weatherproof clothing (Outer Banks winds can be fierce)

Ethical Birding Guidelines

- Stay behind roping and nesting signs.
- Do not flush resting birds, especially during migration.
- Use quiet voices and slow movement.
- Keep dogs leashed or away from refuge beaches.
- Report unusual or rare sightings to the refuge team.

Climate Change, Migration, and the Outer Banks

The Outer Banks are dynamic barrier islands — and changes in sea level, storms, and habitat shape bird migration patterns.

Effects include:

- Loss of nesting beaches for terns, plovers, and skimmers.
- Shifts in waterfowl wintering due to warming temperatures.
- Increased chance of tropical vagrants (flamingos, spoonbills, white ibises).
- Higher storm frequency leading to more impoundment salinity events, affecting food availability.



Species List for Pea Island NWR (Selected Highlights)

Waterfowl (Common to Abundant)

- Snow Goose
- Tundra Swan
- Northern Pintail
- Gadwall
- American Wigeon
- Blue-winged & Green-winged Teal
- Redhead

Shorebirds

- Greater & Lesser Yellowlegs
- Dunlin
- Short-billed Dowitcher
- American Avocet
- Black-necked Stilt
- Ruddy Turnstone
- Red Knot
- Pectoral Sandpiper
- Marbled Godwit
- Rare: Curlew Sandpiper, Ruff

Waders

- Great Blue Heron
- Great & Snowy Egrets
- Glossy Ibis
- Rare: White Ibis in large numbers, Reddish Egret, Spoonbill

Gulls & Terns

- Laughing Gull
- Herring Gull
- Great Black-backed Gull
- Royal, Sandwich, Forster's, Caspian Terns
- Rare: Little Gull, Black-headed Gull

Raptors

- Bald Eagle
- Osprey
- Peregrine Falcon
- Merlin
- Northern Harrier

Did You Know?

- Many migratory birds along the Outer Banks wait for cold fronts before taking off, using the strong tailwinds as an energy-saving “express lane” down the Atlantic Flyway.
- After these fronts pass, Pea Island often experiences overnight bird fallouts—sudden waves of warblers, sandpipers, and even raptors appearing as if the refuge has been restocked with new species.
- Birds traveling the Flyway can journey thousands of miles without stopping, guided by coastlines, stars, magnetic fields, and even the scent of the ocean.
- Some species, like Red Knots, rely on the Outer Banks as a critical refueling station, doubling their body weight on local invertebrates before flying nonstop from the Arctic toward South America.
- Hurricanes and nor’easters can blow in dramatic tropical vagrants—including flamingos, spoonbills, or Caribbean ducks—creating once-in-a-lifetime sightings for birders.
- Pea Island’s freshwater and brackish impoundments act like oases in a desert, providing vital food and rest for tens of thousands of migrating waterfowl each fall and winter.
- More than 400 bird species have been recorded across the Outer Banks—one of the highest totals on the entire East Coast—thanks to its rich mix of beaches, marshes, forests, and soundside shallows.
- Even small shrub thickets on the islands provide lifesaving shelter for exhausted songbirds arriving after long stretches over open ocean.

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