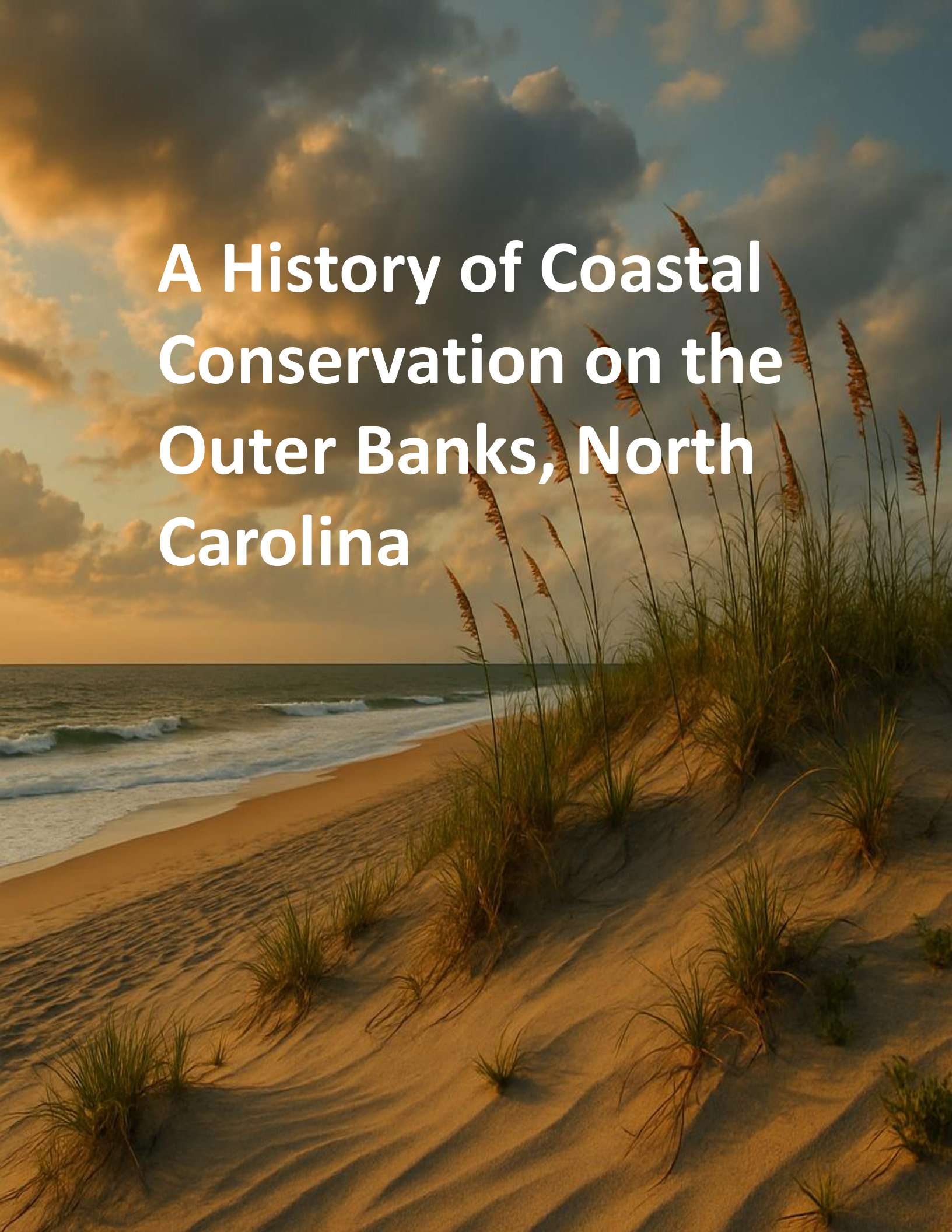


A History of Coastal Conservation on the Outer Banks, North Carolina

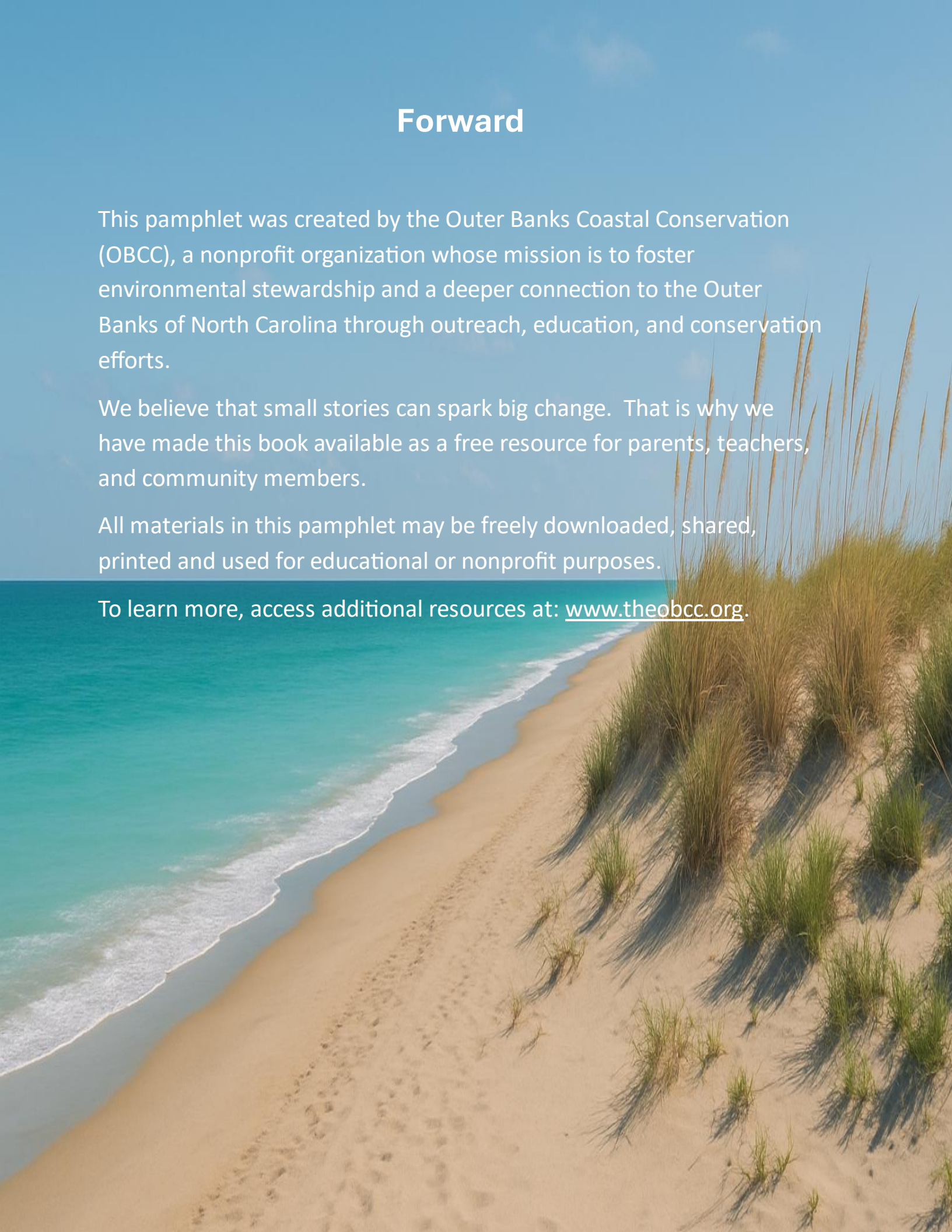
Forward

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.



Introduction: A Coast That Refuses to Stand Still

The Outer Banks are a ribbon of shifting barrier islands stretching more than 175 miles along the North Carolina coast. Unlike rocky shorelines, these islands move, bend, erode, wash over, and rebuild constantly. For thousands of years, human communities have adapted to these rhythms—sometimes embracing them, sometimes fighting them, and sometimes reshaping the islands by accident.

This guide traces the long arc of coastal conservation on the Outer Banks, from Indigenous stewardship to 20th-century engineering to modern climate resilience.

Indigenous Stewardship (Thousands of Years Ago – 1600s)

Living *With* the Coast Instead of Controlling It

The First Inhabitants: Algonquian-speaking Peoples

The Algonquian peoples—ancestors of the Croatoan, Secotan, and other coastal tribes—lived along the sounds, marshes, and beaches for thousands of years. Their practices form the deepest roots of Outer Banks conservation.

Core Stewardship Practices

Indigenous communities used natural resources with care:

- **Seasonal harvesting to avoid depleting fish, oysters, and waterfowl**
- **Wampum crafting only from naturally broken quahog and whelk shells**
- **Small movable villages placed on high ground safe from overwash**
- **Controlled burns to renew maritime forests and reduce catastrophic wildfires**
- **Respect for waterways, keeping canoe routes free of pollution and blockages**
- **Light ecological footprint—villages and structures were biodegradable or could be relocated**

Conservation Beliefs

These communities viewed land and water as relatives, not commodities. Their worldview included:

- ***Take only what you need***
- ***Keep waters clean***
- ***Let the islands move***
- ***Respect the balance of dunes, forests, and marshes***

This mindset allowed the islands to function naturally for millennia.

European Arrival & Early Impacts (1500s–1800s)

The arrival of Europeans introduced new pressures, including:

Increased Logging and Agriculture

Maritime forests were cleared for:

- Shipbuilding
- Home construction
- Early agriculture
- Fuel (especially live oak and cedar)

This removed vegetation that anchored dunes and stabilized soil.

Waterway Alteration

European settlers dug canals and drained wetlands to create farmland, reducing the resilience of marshes to storms.

Hunting, Fishing, and Overharvesting

Market hunting intensified dramatically:

- Waterfowl hunted for feathers and meat
- Oysters, fish, and turtles harvested commercially
- Whale hunting and processing surged in the 1700s–1800s

Some species began declining by the early 1800s.

Shipwrecks & Lighthouse Construction

Storms, shifting shoals, and heavy shipping traffic caused thousands of shipwrecks. In response, the U.S. government built:

- Ocracoke Lighthouse (1823)
- Cape Hatteras Lighthouse (1870; moved in 1999 for preservation)
- Bodie Island Lighthouse (1872)
- Currituck Beach Lighthouse (1875)

Lighthouses helped mariners—but construction sometimes altered shoreline dynamics.

Early Conservation Awareness (Late 1800s–1930s)

Recognizing That the Islands Needed Protection

By the late 1800s, the Outer Banks was showing visible ecological stress.

Waterfowl and Wildlife Declines

Market hunting decimated many species:

- **Pelicans nearly vanished**
- **Egrets were hunted for plume hats**
- **Ducks and geese declined sharply**
- **Sea turtle harvests were unsustainable**

Rise of Conservation Movements

Concerns led to new protections:

- **Migratory Bird Treaty Act (1918)**
- **Creation of wildlife refuges**
- **Early forestry and soil conservation programs**

These laid the foundation for modern Outer Banks conservation.

The Era of Stabilization: Fighting Nature (1930s–1970s)

Trying to "Fix" Islands That Are Supposed to Move

During the 20th century, the U.S. government and North Carolina state agencies attempted to control the natural movement of the islands.

The Civilian Conservation Corps (CCC) and the National Park Service

The CCC (1930s–1940s) launched massive projects:

- **Planting millions of sand-binding grasses**
- **Constructing sand fences**
- **Bulldozing dunes into a continuous barrier**
- **Paving early roads across fragile sand**

These efforts stabilized the landscape but altered natural processes.

Creation of the Cape Hatteras National Seashore (1953–1957)

America's first national seashore preserved miles of coastline but also encouraged:

- **Road building**
- **Visitor access**
- **Infrastructure that required the islands to remain stable**

Highway 12 and the Era of Coastal Engineering

NC Highway 12 (completed 1950s–1960s):

- Connected villages
- Boosted tourism
- Introduced chronic problems: erosion, washouts, and overwash issues

To protect the road, agencies began:

- Beach nourishment
- Dune reinforcement
- Jetties, groins, and hard structures (later restricted)

These solutions often created new erosion hotspots down-drift.

Modern Conservation (1980s–Present)

Shifting From Control to Resilience

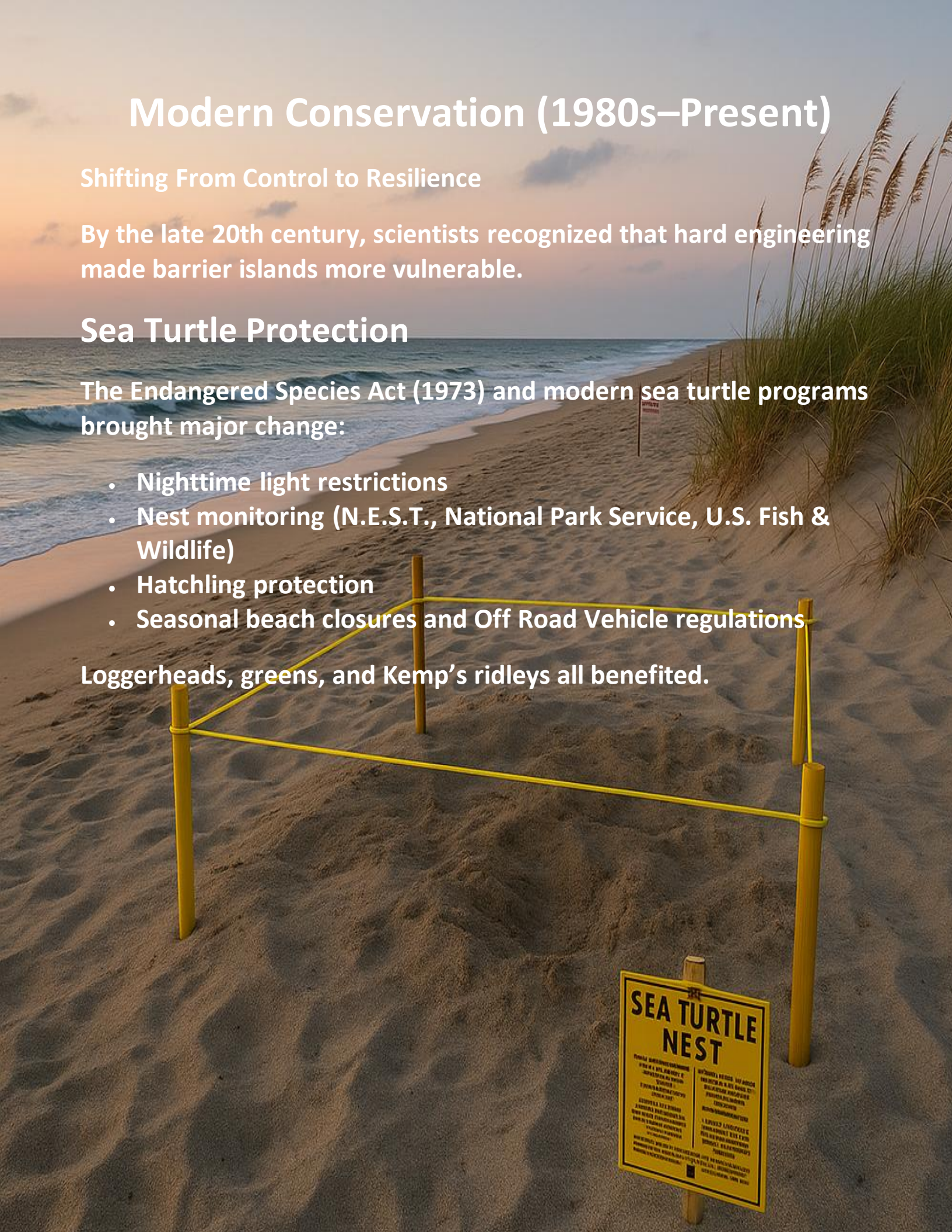
By the late 20th century, scientists recognized that hard engineering made barrier islands more vulnerable.

Sea Turtle Protection

The Endangered Species Act (1973) and modern sea turtle programs brought major change:

- **Nighttime light restrictions**
- **Nest monitoring (N.E.S.T., National Park Service, U.S. Fish & Wildlife)**
- **Hatchling protection**
- **Seasonal beach closures and Off Road Vehicle regulations**

Loggerheads, greens, and Kemp's ridleys all benefited.



Wildlife Refuge Expansion

Today the Outer Banks hosts major refuges:

- **Pea Island National Wildlife Refuge**
- **Alligator River NWR**
- **Mackay Island NWR**
- **Currituck NWR**

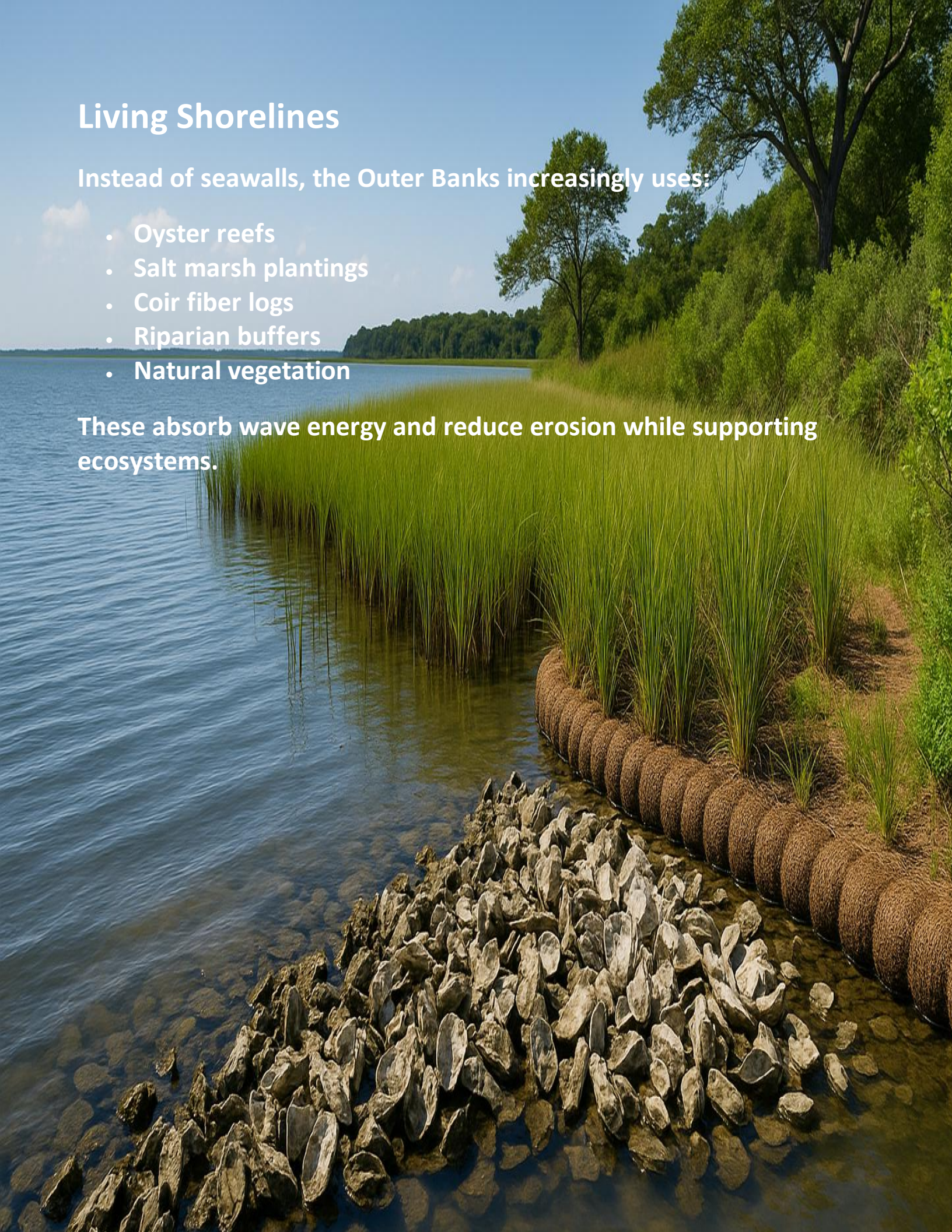
These protect acres of marsh, soundside forest, and beach habitat.

Beach Nourishment & Soft Engineering

Communities now favor “soft” solutions:

- **Beach nourishment**
- **Dune restoration**
- **Sand fencing**
- **Planting sea oats, panic grass, and other stabilizers**
- **Removing outdated groins and bulkheads where possible**

These mimic natural island-building processes.



Living Shorelines

Instead of seawalls, the Outer Banks increasingly uses:

- **Oyster reefs**
- **Salt marsh plantings**
- **Coir fiber logs**
- **Riparian buffers**
- **Natural vegetation**

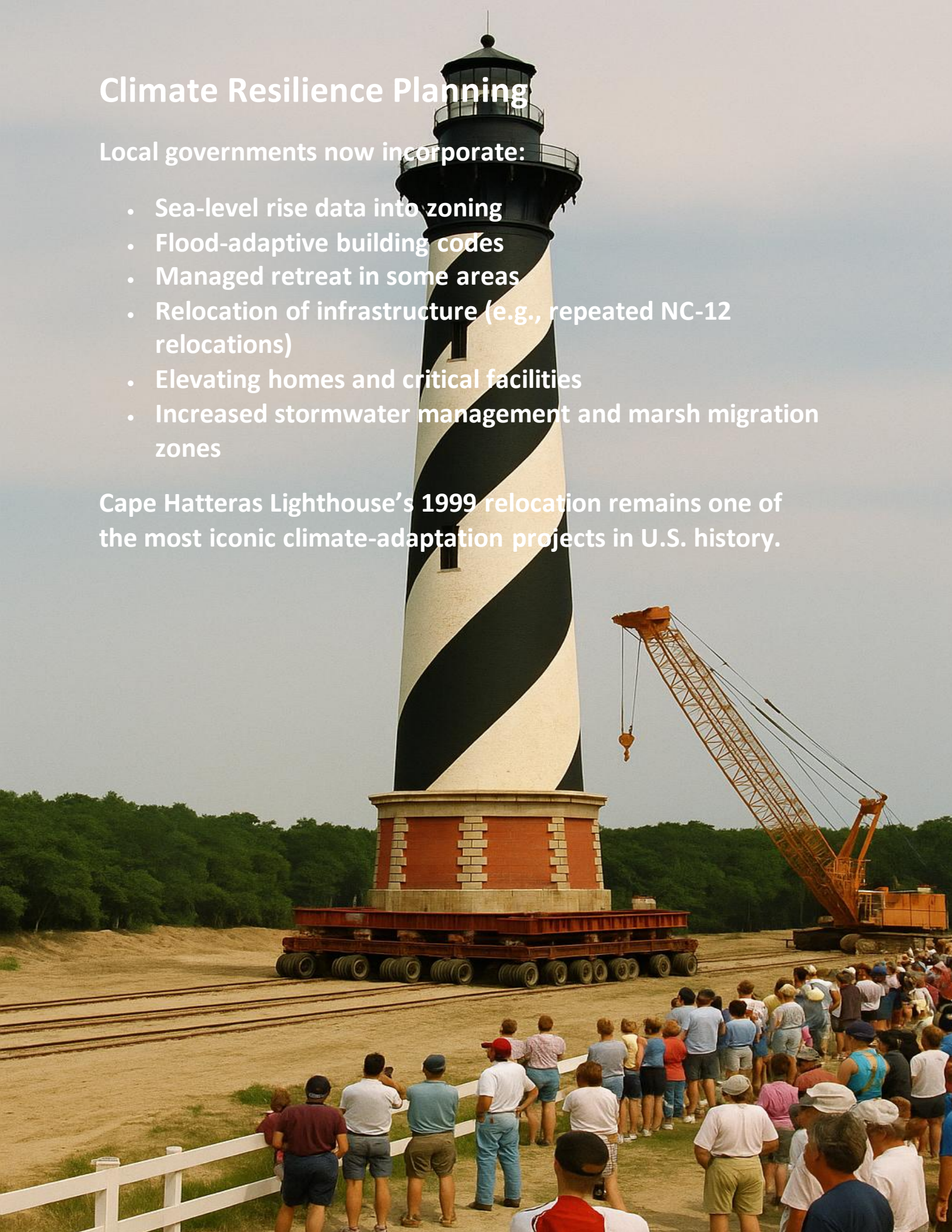
These absorb wave energy and reduce erosion while supporting ecosystems.

Climate Resilience Planning

Local governments now incorporate:

- **Sea-level rise data into zoning**
- **Flood-adaptive building codes**
- **Managed retreat in some areas**
- **Relocation of infrastructure (e.g., repeated NC-12 relocations)**
- **Elevating homes and critical facilities**
- **Increased stormwater management and marsh migration zones**

Cape Hatteras Lighthouse's 1999 relocation remains one of the most iconic climate-adaptation projects in U.S. history.



Top Conservation Issues Today (2020s–Present)

Sea-Level Rise

Eastern NC experiences some of the fastest sea-level rise on the U.S. East Coast, driven by:

- Global warming
- Land subsidence
- Gulf Stream slowing/position changes
- Regional hydrology shifts

Many low-lying areas now flood multiple times a year.

Barrier Island Narrowing & Overwash

More frequent overwash events reshape the islands—often clashing with development.

Wildlife Protection Challenges

- Sea turtle nests at record highs, but human impacts persist
- Piping plover and least tern nesting areas shrinking
- Dolphins and fish face water-quality stress from runoff
- Marsh migration blocked by development and hardened shorelines

Tourism Pressures

Millions of visitors increase:

- **Plastic pollution**
- **Vehicle impacts on dunes**
- **Over-collection of shells and creatures**
- **Disturbance of habitats**
- **Strain on wastewater systems**

Education and stewardship are more important than ever.

The Future: Toward a Resilient Outer Banks

Scientists and conservationists now agree on a central guiding principle:

The islands must be allowed to move if they are to survive.

Future conservation includes:

Managed Retreat

Relocating infrastructure (as done with Cape Hatteras Lighthouse and repeated NC-12 sections).

Expanding Marsh & Soundside Protection

Marshes must migrate inland to survive sea-level rise.

Restoring Oyster Reefs and Seagrass Meadows

These natural systems filter water, stabilize shorelines, and support fisheries.

Conservation Education

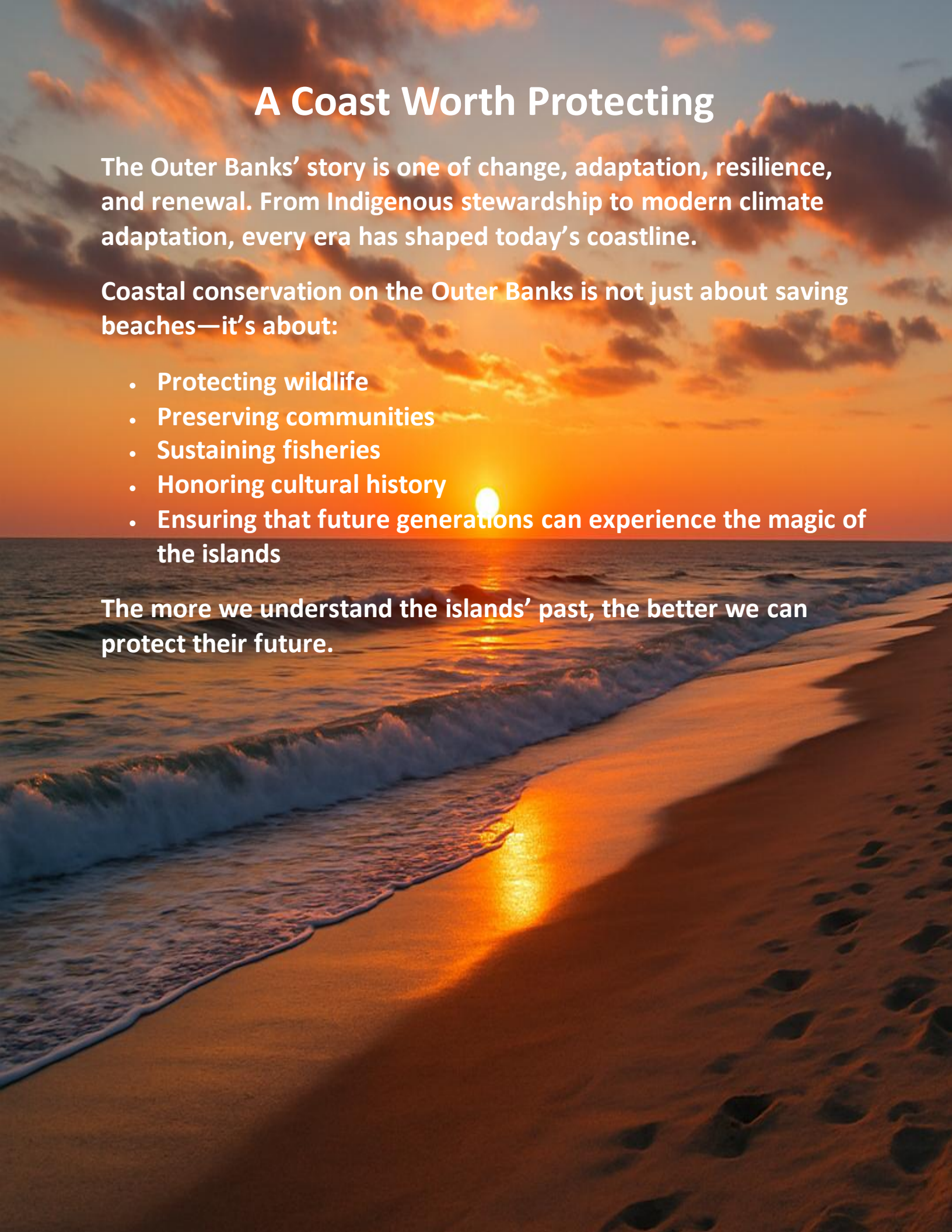
Schools, nonprofits, local governments, and residents play a key role in:

- **Reducing waste**
- **Protecting dunes**
- **Respecting nesting wildlife**
- **Supporting sustainable tourism**
- **Promoting responsible beach behavior**

Honoring Indigenous Principles

The oldest lessons remain the most relevant:

- **Work with water—not against it**
- **Use what you need**
- **Protect living systems**
- **Respect the land as a relative**



A Coast Worth Protecting

The Outer Banks' story is one of change, adaptation, resilience, and renewal. From Indigenous stewardship to modern climate adaptation, every era has shaped today's coastline.

Coastal conservation on the Outer Banks is not just about saving beaches—it's about:

- **Protecting wildlife**
- **Preserving communities**
- **Sustaining fisheries**
- **Honoring cultural history**
- **Ensuring that future generations can experience the magic of the islands**

The more we understand the islands' past, the better we can protect their future.

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