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Coastal Rhode Island National Wildlife Refuge Complex
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Long Island National Wildlife Refuge Complex
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Edwin B. Forsythe National Wildlife Refuge
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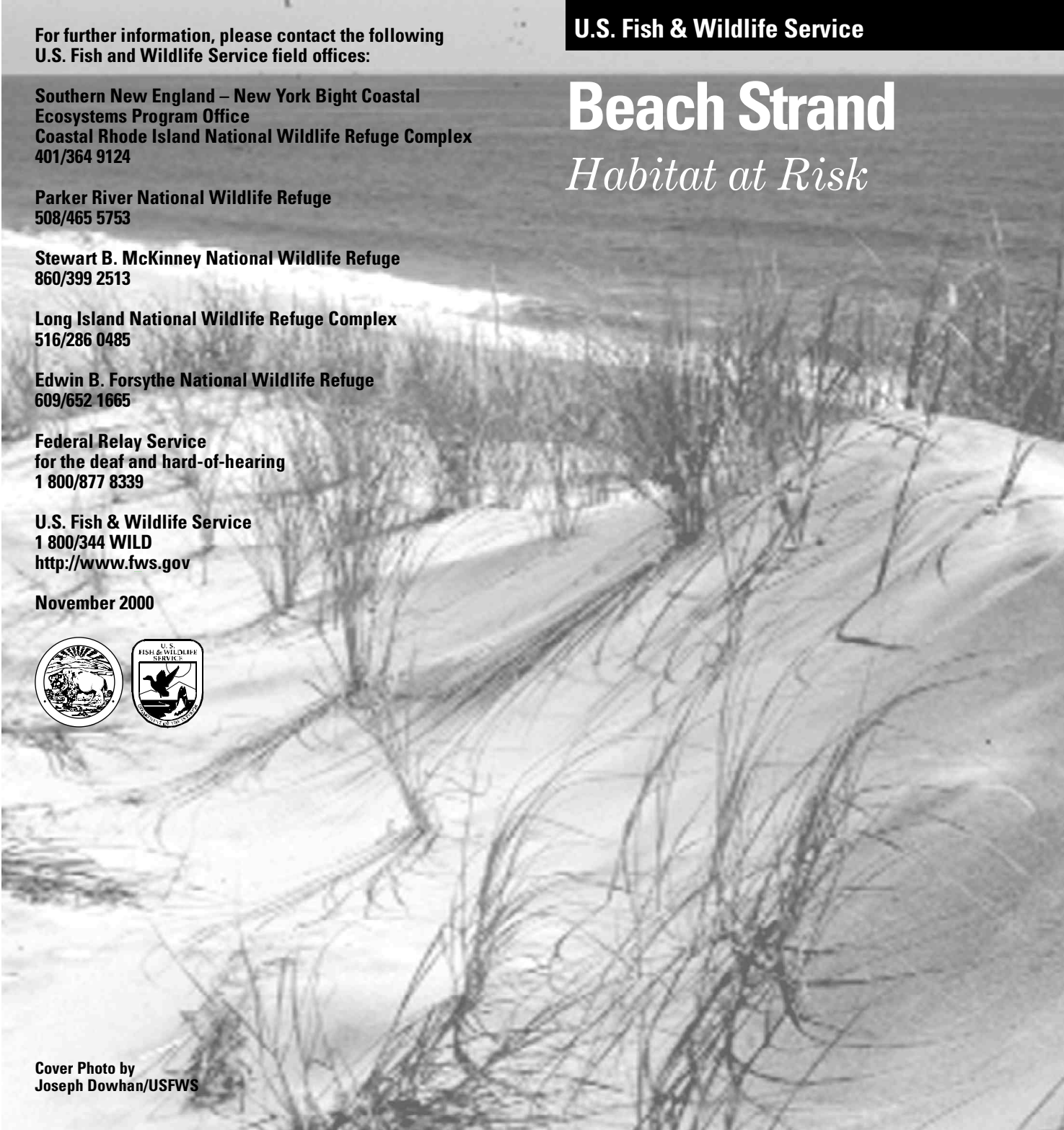
November 2000

Beach Strand

Habitat at Risk



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Joseph Dowhan/USFWS

Beach strand — what is it?

Beach strand, the transitional sandy shoreline area between the land and the ocean, is commonly called coastal beach or seashore. It borders estuaries, sounds, or open ocean, and is one of the most dynamic natural systems on the planet. The ceaseless movement of the tides, currents, and waves shapes it, and high-energy storms like hurricanes are a very real and important part of this coastal system. Even a beach that appears to be stable is constantly changing, with periods of erosion balanced over time by periods of deposition.

Beach strand is dynamic — and exciting

Storm waves hit beaches, stripping away sand and changing the beach profile; yet the waves replace the sand within a few days, and the beach returns to a normal appearance. How can this occur? Sand removed from the upper beach and dunes by storm waves is carried to the lower beach and even beyond to the continental shelf. Under natural conditions, much of the removed sand is simply stored temporarily offshore in storm bars. Fair-weather waves return most of the sand that was borrowed from the beach, and sea breezes rebuild the dunes. Dunes constantly shift and change as the forces of wind and wave action mold them.

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American Oystercatcher

Joseph Dowhan/USFWS

Beach heather

Beach strand wildlife and plants are at risk

Beach strand wildlife and plants have evolved strategies enabling them to live and thrive in an ecosystem of constant natural change. Native beach plants such as beach grass trap blowing sand, building and stabilizing the dunes and providing cover for wildlife. Several beach strand species, such as piping plover, roseate tern, northeastern beach tiger beetle, and seabeach amaranth are on the nation's List of Threatened and Endangered Species. Other animals and plants are becoming so scarce, so few in number, that they could become tomorrow's endangered species — northern diamondback terrapin; birds like American oystercatcher, black skimmer, and least and common terns; and nearly a dozen different plant species. They live, or nest and breed, in the narrow, moving, sandy stretch along the northeast United States where the land meets the sea. These

disappearing plants and animals are in trouble because their beach strand home is itself in trouble. Beach strand could readily be called an endangered habitat.

At risk from what?

Beach strand is in critically short supply due to the loss and degradation of this habitat from development and shoreline stabilization. The demand for developmental and recreational uses of these areas is intense; the result is an alarmingly high rate of habitat loss and the decline of virtually all beach strand plant and animal species. Coastal development attempts to force a permanence on a fragile landscape created and maintained by constant change. The removal of dunes is one of the most damaging aspects of development. With the loss of dune habitat, the beach strand cannot effectively absorb large waves, nor can it supply the sand needed to adjust the beach profile during storms. Without the natural process of sand removal and replenishment, erosion occurs, and developed property ultimately requires protection. Costly engineering projects provide only temporary solutions. Seawalls, groins, bulkheads, jetties, and other human-made structures all seek to "harden" beach sands to keep them from shifting or moving. These projects fail invariably because the natural forces exerted upon the beach cannot be changed.

Joseph Dowhan/USFWS

Diamondback terrapin

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Piping plover

What we must do

We must accept that structures constructed in the transitional sandy shoreline are temporary, high-risk enterprises, threatening the existence of plant and animal species by destroying the natural habitat upon which they depend. These structures themselves are also likely to be destroyed or damaged by the dynamic natural forces of the coastal processes. We also must understand that human recreational activities in the beach strand can cause severe damage to this fragile habitat and to its plant and animal life. Walking or driving off-road vehicles on dunes destroys stabilizing vegetation and contributes to dune erosion. Driving on the beach face destroys the rare plants that grow there. Vehicle and foot traffic on the beach often destroys the nests, eggs, and young of beach-nesting birds. It may cause nesting birds to leave their nests, exposing eggs or chicks to summer

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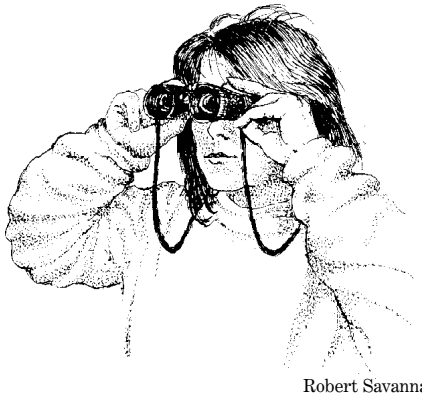
Sandpipers

sun and predators, including human pets. Although the area exposed by low tide is the least damaging place for foot or vehicle traffic, it is also where young birds forage for food. They cannot tolerate prolonged interruption by humans.

Our enjoyment of coastal areas need not be destructive. Beach strands permit quiet walks, birdwatching, nature photography, swimming, sunbathing, and many other passive recreational activities. Timing recreational activities around the critical nesting and fledging period to minimize our impact on birds can help determine the fate of threatened and endangered species. Avoid walking on dunes. Walk on established trails to get to the beach. Walk on the beach area exposed by low tide if at all possible. Be alert for, and avoid, wildlife. Pick up litter and trash, and leave pets at home.



Robert Savannah

The U.S. Fish and Wildlife Service considers beach strand habitats and their dependent species a priority resource concern along the Atlantic coast. Working with other federal agencies, coastal states, and private partners, the Service seeks to eliminate or reduce threats to coastal habitats and species through education, conservation, protection, and restoration. The dynamic beach strand ecosystem must be protected if we are to enjoy its many benefits and ensure those benefits will exist for future generations. Coastal lands are valuable — too valuable to waste.

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Willets