

## Key Site 78: Coastal Maine

**Location:** 44°12'59"N, 68°19'39"W

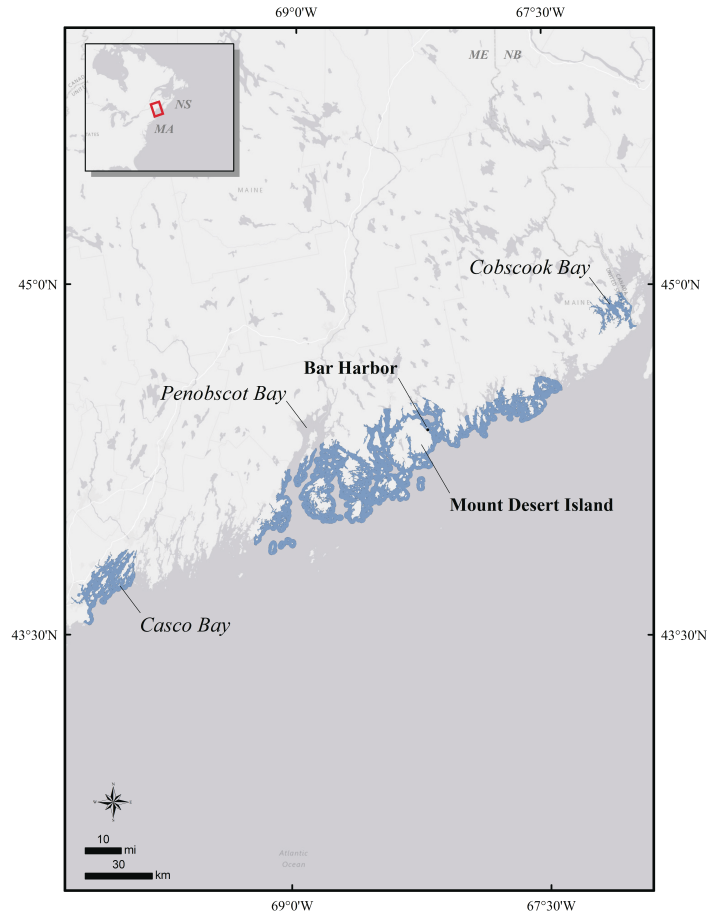
**Size:** 1974 km<sup>2</sup>

**Description:** The Coastal Maine key site stretches as a contiguous area from the communities of Jonesport to St. George, and also includes sections of Cobscook Bay to the east and Casco Bay to the west. This area encompasses several bays such as Western Bay, Wohoa Bay, Narraguagus Bay, Dyer Bay, Gouldsboro Bay, Mount Desert Narrows, Frenchman Bay, Blue Hill Bay, Jericho Bay, Isle Au Haut Bay, and east and west Penobscot Bay. Mount Desert Island is the largest island off the coast of Maine. Other islands such as Isle Au Haut, North Haven, Deer Isle, Swan's Island, Sheep Porcupine Island, Ironbound Island, and dozens of smaller islands dot the waters of the coast. Vegetation on the islands is variable, with some islands sparsely vegetated, many treeless, and some grazed by sheep; most of the small islands have no permanent human presence. There are abundant cobble beaches, few sandy beaches, and most of the coast is rugged with small bays, fjords, and inlets. The inlets and narrows that separate the mainland and the coastal islands vary in depth. For example, Frenchman Bay, which separates Bar Harbor and mainland, is approximately 16 km long and 6.4 km wide with depths of 1.8 to 24 m. It includes a deep channel that allows passage for large cruise ships and commercial vessels.

### Precision and Correction of Abundance

**Estimates Presented:** Abundance estimates are based on data from the Atlantic Coast Wintering Sea Duck Survey (see Silverman et al. 2012 for methods; also see Methods section in this atlas) and related surveys (Mid-Winter Survey [MWS; Eggeman and Johnson 1989] or Atlantic Marine Assessment Program for Protected Species [AMAPPS 2015]). Abundance estimates presented for this key habitat site have not been adjusted to account for incomplete detecting or other biases. Further, abundance estimates do not include the Cobscook Bay section of the key site; therefore, abundance estimates should be considered minimum estimates.

**Biological Value:** Coastal Maine is an important wintering area for several species of waterfowl. The geography of the coastline includes large intertidal



areas that support bivalves, such as blue mussels and crustaceans (Department of Marine Resources: <https://www.maine.gov/dmr/science-research/species/bluemussel.html>). Mollusks and crustaceans are the most common food item of Common Eider (*Somateria mollissima*), Long-tailed Duck (*Clangula hyemalis*), and scoters (*Melanitta* spp.) (Cantin et al. 1974, Cottam 1939, Krasnov et al. 2009), and blue mussels make up most of their diet in this area, although mussels are becoming less abundant in recent years. Eelgrass beds have expanded greatly since 2007 due to comprehensive restoration projects north of Bar Harbor (Kidder et al. 2015). Eelgrass beds provide excellent habitat for aquatic insects, crustaceans, and mollusks. The varying depths of the bays and inlets accommodate benthic feeders such as White-winged Scoters (*Melanitta deglandi*), which can dive up to 20 m (Brown and Fredrickson 1997) and Long-tailed Ducks (Schorger 1947). The intertidal areas attract shallow divers such as scaup (Kessel et al. 2002) and Surf Scoters (*Melanitta perspicillata*) (Cottam 1939). Silverman et al. (2012; see Methods section in this atlas) estimated a

minimum of 3800 scoters, 33,000 Common Eiders, and 10,000 Long-tailed Ducks in the key site.

**Sensitivities:** The coast of Maine is vulnerable to the same host of threats as other coastal habitat along the Atlantic coast. Shipbuilding, commercial fishing, and tourism are important economic activities on the coast. Commercial shipping creates opportunities for oil spills, pollution, and introduction of invasive species. During the summer, intense tourist and recreational activity may disturb eelgrass beds and wildlife. Commercial fishing for blue mussels via dragging destroys eelgrass beds and can overharvest local stocks (Neckles et al. 2015). Aquatic invasive species are another common threat in this area because of boating and commercial activities, which carry unwanted species on their hulls. The coastal waters of Maine are warming because of climate change; the increase in water temperature allows invasive species such as the green crab to flourish and has negative impacts on eelgrass beds and invertebrate communities important to sea ducks and other waterbirds (Neckles 2005). The apparent decline of blue mussel beds in Maine is likely a major factor in the declines in wintering eiders and scoters. Climate change also increases the acidification of the coastal oceans, reducing the abundance and densities of soft-shell clams, a valuable local resource.

**Potential Conflicts:** Conflicts with commercial shipping, commercial fishing, and tourism may become more common as population increases, and tourism accounts for a large part of the local economy. One of the most common conflicts in this area is between the mussel fishing industry and eelgrass restoration projects. Several boat launches around the area can serve as introduction points of invasive species. More recently, a wind energy initiative in the Gulf of Maine may create conflicts with sea duck use of this key site.

**Status:** Coastal Maine is a mosaic of lands under various land ownership, including private, commercial, and residential developments. Land managers include the Maine Department of Inland Fisheries and Wildlife, Maine Bureau of Parks and Lands, National Park Service, Nature Conservancy, U.S. Fish and Wildlife Service, and other nongovernment organizations and municipalities. The previously small fishing communities on the mainland and on the islands are growing into large towns and increasing pressure on the local resources. No designated

Marine Protected Areas currently exist within the key site. Commercial fisheries are regulated and monitored by the State of Maine Department of Marine Resources (<https://www.maine.gov/dmr/laws-regulations/index.html>). This area is open to commercial shipping and to recreational boating.

### Literature Cited

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American Common Eiders roosting. Photo: Christine Lepage.