

Key Site 73: Central Lake Erie–Long Point Bay, Ontario

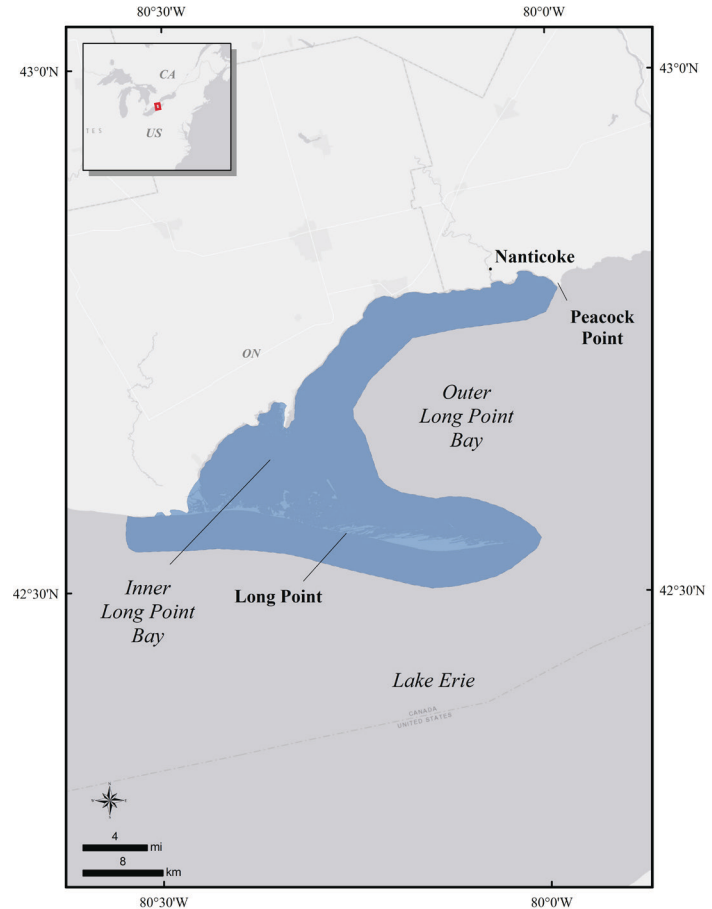
Location: 42°37'9"N, 80°17'37"W

Size: 585 km²

Description: Lake Erie is one of the lower Laurentian Great Lakes, located between the province of Ontario, Canada, and the states of New York, Pennsylvania, Ohio, and Michigan, USA. Long Point Bay is in the central portion of the Canadian side of Lake Erie. This site extends west from Peacock Point near Nanticoke, Ontario, to the base of the Long Point peninsula near Clear Creek, Ontario. Several creeks flow into the area, including Nanticoke Creek, Black Creek, Hay Creek, Young's Creek, Fisher's Creek, Normandale Creek, Dedrick's Creek, and Big Creek. Outer Long Point Bay is an open, deep water embayment with extensive emergent marsh habitat predominantly along the north side of the Long Point peninsula from Pottohawk Point to its tip. Inner Long Point Bay, located south of the Pottohawk sand bar between Turkey Point and Pottohawk Point, is a shallow embayment that contains extensive beds of submerged aquatic plants bordered by extensive emergent marsh habitats, including the Long Point Company Marsh, Long Point National Wildlife Area Thoroughfare and Crown Marsh units (south), Big Creek National Wildlife Area (west), and Turkey Point Marsh (north). The south shoreline of the Long Point peninsula is exposed to prevailing winds and associated wave action so this area is predominantly an open, deep water habitat with little emergent marsh or submerged aquatic vegetation. For more detailed information about waterfowl and wetland habitats in the Great Lakes region and the benthic community, limnology, and geomorphology of this part of Lake Erie, see Prince et al. (1992), Bolsenga and Herdendorf (1993), Petrie (1998), Makarewicz et al. (2000), and Holcombe et al. (2005).

Precision and Correction of Abundance

Estimates Presented: Abundance values are based on several sources: (1) Shoreline surveys conducted as part of the Mid-Winter Waterfowl Survey [MWS] (Environment and Climate Change Canada/Canadian Wildlife Service, Ontario), Lower Great Lakes Migrant Waterfowl Survey [LGLMWS] (Environment and Climate Change Canada/Canadian Wildlife Service, Ontario), and Long Point



Waterfowl Surveys [LPWS] (Bird Studies Canada/Long Point Waterfowl and Wetlands Research Program). Observed counts were adjusted by species-specific or species group detection rates estimated for aerial fixed-wing surveys by Hodges et al. (2008) for coastal surveys in Alaska. (2) Ground-based estimates made during Christmas bird counts (CBC) (National Audubon Society 2015) from 1997 to 2015 and from Canadian Migration Monitoring Network Daily Estimated Totals (CMMN-DET) (Bird Studies Canada/Long Point Bird Observatory). Observed counts (not adjusted for incomplete detection) were derived from summing annual data from CBC circles included within the key site boundaries or summing the daily total estimated counts from the three banding stations located along the Long Point peninsula.

Biological Value: This site is important to several species of sea ducks during spring, fall, and winter. Long-tailed Duck (*Clangula hyemalis*), White-winged Scoter (*Melanitta deglandi*), Black Scoter (*Melanitta americana*), Surf Scoter (*Melanitta*

perspicillata), Hooded Merganser (*Lophodytes cucullatus*), Common Merganser (*Mergus merganser*), Red-breasted Merganser (*Mergus serrator*), Common Goldeneye (*Bucephala clangula*), and Bufflehead (*Bucephala albeola*) have been observed in varying abundances since the 1990s at this site (Appendix 1). Sea duck numbers at this site and others across the lower Great Lakes have increased substantially since the mid-1980s and the early 1990s (Petrie and Schummer 2002). The establishment of dreissenid (zebra) mussels at Lake Erie in the mid-1980s provided an abundant food source for sea ducks and other diving duck species (Custer and Custer 1996, Schummer et al. 2008a, b). Dreissenid mussels also may provide favorable microhabitats for other important aquatic invertebrates eaten by waterfowl, such as amphipods and chironomids, and may have improved water quality and clarity that benefits merganser forage fish species, such as gizzard shad (*Dorosoma cepedianum*), emerald shiner (*Notropis antherinoides*), and round goby (*Neogobius melanostomus*) and that improves the foraging efficiency of many sea ducks (Wisden and Bailey 1995, Ross et al. 2005, Bur et al. 2008, Schummer et al. 2008b).

Spring: During aerial surveys of the lower Great Lakes shorelines of Ontario conducted during 1999, 2001, 2009, and 2010, the maximum peak abundance of sea ducks at this site has been estimated at 16,900 birds (Environment and Climate Change Canada/Canadian Wildlife Service unpublished data [LGLMWS]). Aerial surveys conducted during migration from 1998 to 2006 annually by Long Point Waterfowl/Bird Studies Canada have generated an estimated maximum peak abundance of 20,608 sea ducks (Bird Studies Canada unpublished data [LPWS]). Ground-based estimates of daily total numbers of sea ducks observed at three bird banding stations along the Long Point peninsula during spring migration (1997–2017) has provided a maximum peak abundance estimate of 16,500 birds (Long Point Bird Observatory/Bird Studies Canada unpublished data, Canadian Migration Monitoring Network, Daily Estimated Totals [CMMN-DET]). Red-breasted Merganser (max. estimated peak abundance: 14,500 [CMMN-DET]), Common Merganser (10,000 [LPMWS]), Common Goldeneye (8,500 [LPWS]), Bufflehead (7,700 [LPWS]), and Long-tailed Duck (2,100 [CMMN-DET]) were among the most abundant species at this site. Hooded Merganser (200 [LGLMWS]), Black Scoter (40

[CMMN-DET]), Surf Scoter (800 [CMMN-DET]), and White-winged Scoter (400 [CMMN-DET]) were other sea duck species observed at lower maximum estimated peak abundances.

Fall: Maximum peak abundances of sea ducks at this site were estimated to be 9400, 14,800 and 24,100, respectively, from LGLMWS (1999, 2000, 2009, 2010), LPWS (1998–2006), and CMMN-DET (1997–2017) data collected within this site. Red-breasted Merganser (max. estimated peak abundance 23,400 [CMMN-DET]), Common Merganser (3000 [LGLMWS]), Bufflehead (7500 [LPWS]), Common Goldeneye (1,800 [LPWS]), and Long-tailed Duck (1,400 [LGLMWS]) were the most common and abundant species at this site during winter. Hooded Merganser (300 [LGLMWS]), Black Scoter (700 [CMMN-DET]), Surf Scoter (1,000 [CMMN-DET]), and White-winged Scoter (800 [CMMN-DET]) were other sea duck species observed at lower maximum estimated peak abundances.

Winter: During annual aerial waterfowl surveys of the Ontario shorelines of the lower Great Lakes conducted during January 2002–2018, the maximum peak sea duck abundance at this site was estimated at 32,400 birds (Environment and Climate Change Canada/Canadian Wildlife Service unpublished data [MWS]). CBC circles surveyed annually within this site reported a maximum count of 11,500 sea ducks between 1997 and 2015 (National Audubon Society and Bird Studies Canada unpublished data [CBC]). Red-breasted Merganser (max. estimated peak abundance 30,800 [MWS]), Common Merganser (5,900 [CBC]), Bufflehead (3,700 [MWS]), and Common Goldeneye (1,900 [MWS]) were among the most common species at this site during winter. Other species commonly observed at lower maximum estimated peak abundances at this site during winter included Hooded Merganser (100 [CBC]) Long-tailed Duck (600 [MWS]), Black Scoter (70 [MWS]), Surf Scoter (1 [CBC]), and White-winged Scoter (800 [MWS]).

Sensitivities: Waterfowl are sensitive to human disturbance, mostly small vessel and/or shipping traffic, during migration and winter periods. Food resource availability and quality could be influenced by industrial, urban or cottage development, and agricultural pollution and invasive and other problematic species. Type E botulism (*Clostridium botulinum*)

outbreaks that can kill large numbers of sea ducks and/or waterbirds occur periodically at the lower Great Lakes (Canadian Cooperative Wildlife Health Centre 2003, 2005), particularly during fall migration. Other epizootic disease outbreaks can also occur where large numbers of waterfowl congregate.

Potential Conflicts: Disturbance associated with small vessel and shipping traffic remains a potential conflict at this site. Chemical and oil spills, water contamination, and eutrophication from several sources, including shipping, urban or cottage development, industry, and agriculture can also impact waterfowl. There is potential for offshore wind development within high sea duck use areas throughout the lower Great Lakes region.

Status: Two Important Bird Areas (IBA) have been designated within this area (<http://www.ibacanada.ca/mapviewer.jsp>), including the Norfolk Forest Complex (located along the shoreline of Outer Long Point Bay between Fisher's Glen and Turkey Point) and the Long Point Peninsula and Marshes. The Long Point peninsula and marshes are also designated as an International Monarch Butterfly Reserve, a Ramsar Site (Wetland of International Significance), and a World Biosphere Reserve. The area also contains Long Point Provincial Park, the Long Point National Wildlife Area (Thoroughfare and Long Point units), and the Big Creek National Wildlife Area (Big Creek and Hahn Marsh units).

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Red-breasted Mergansers. Photo: William Larned.