

Common Tern Breeding Colonies in Southeast Michigan

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Common terns (*Sterna hirundo*) are a migratory species that winter in South America and breed in the northern United States. In the Great Lakes, they nest primarily in Michigan and New York (Figure 1). The nesting population has declined 19.1% in the last three decades (Morris et al., 2010) and they are listed as “Threatened” in Michigan. There have been 16 active colony sites recorded in Michigan since 2011 (Michigan Wildlife Action Plan, 2015), including several in the Detroit River and Lake St. Clair where they utilize artificial sites such as navigational piers, dredge piles, break walls (Cuthbert et al., 2003), and even a decommissioned lighthouse.



Figure 1. Common Tern – a “Threatened” species in Michigan (credit: U.S. Fish and Wildlife Service).

Human activity and the associated man-made structures in the Detroit River created ample nesting habitat for common terns in the 1960s. At that time, more than 4,000 pairs of common terns were recorded nesting at five sites in the river (Norwood, 2011). However, many of these sites were lost as breeding habitat due to vegetation succession, erosion, gull competition, and predator pressures. By 2012 common terns were restricted to four navigational piers in the Trenton Channel at Grosse Ile, where the number fluctuated between 135 and 316 nesting pairs (Norwood, 2011). Since then, high water has made the two sites at the county bridge uninhabitable, but birds still utilize the piers at the toll bridge piers. Detailed censusing has not occurred since 2011.

In 2010, a U.S.-Canada roundtable was held at the Detroit Zoo with common tern managers and researchers to develop a quantitative target for the number of breeding pairs and

their productivity that considers the population ecology of the species (Norwood et al., 2011). Resource managers and researchers agreed that there should be expansion into new colony sites, including Belle Isle and other river island sites. The previous five-year mean for the number of breeding pairs was 361 across the region, with a goal of 780 pairs by 2020 (Norwood et al., 2001). Since that time, the number of birds has continued to decline, with birds nesting only at the toll bridge and at the South Channel lighthouse in 2019. Continued monitoring, management, and restoration will be required to achieve the common tern restoration target.

There have been several efforts to restore nesting habitat in the Detroit River. An historical site located on Belle Isle, an island park located near the head of the Detroit River, was the most productive breeding site in southeast Michigan, with over 1,200 nesting pairs and more than 2,000 chicks banded in 1959 and 1960, respectively (Nickell, 1959-60). The site is located on an artificial peninsula at the northern end of the island at the City of Detroit municipal water intake, now managed by the Great Lakes Water Authority. Terns abandoned the site in the mid-1960s due to human disturbance and in 2009 the Detroit Zoological Society, the Detroit Water and Sewerage Department, and the Detroit River International Wildlife Refuge removed vegetation, added gravel substrate, and social attraction methods consisting of tern calls and deployed decoys. In 2011, terns began nesting at the site in small numbers; less than 20 pairs nested and produced a limited number of chicks. However, predation pressure from raccoons, snakes, and birds limited reproductive success, and management efforts at this site stopped in 2018.

More recently, Friends of the Detroit River received a Great Lakes Restoration Initiative grant from National Oceanic and Atmospheric Administration to build dikes to protect coastal wetlands on Stony Island (2017) and Celeron Islands (2019) in the Detroit River (Figure 2).



Figure 2. Tern nesting habitat at Stony Island (credit: Detroit Zoo).

These dikes were designed to both protect coastal wetlands and to create common tern nesting habitat with gravel placed on the top. The Detroit Zoological Society has been monitoring these sites, and in 2018 and 2019 tern decoys were placed in the hopes of attracting nesting terns. However, common terns have not nested at either site, although many birds have been observed using the sites for perching. In 2020, decoys and a sound system will be deployed on Celeron Island with the goal of attracting nesting terns.

Common tern numbers have increased in Lake St. Clair. Sometime after 2000, common terns colonized a lighthouse site in the St. Clair Flats when Save Our South Channel Lights restored the two decommissioned lighthouses (Figure 3). The restoration work included constructing cribbing around both houses and the first report of terns nesting occurred in 2012. The Detroit Zoological Society began monitoring the site and managing vegetation in 2013, and the colony has grown from 65 nesting pairs in 2013 to 180 nesting pairs in 2019. In 2018, Detroit Zoological Society received U.S. Fish and Wildlife Service Coastal grant funding to improve the nesting substrate, remove hazards, and lower the grading; with the goal of improving nesting success. Detroit Zoological Society and Save Our South Channel Lights will continue to manage this site for tern nesting, and it appears to be one of the most secure sites for common terns in southeast Michigan.



Figure 3. Lighthouse with improved tern nesting habitat (credit: Detroit Zoo).

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