

Maryland Coastal Bays Colonial Waterbird and Islands Report 2018



THE REPORT

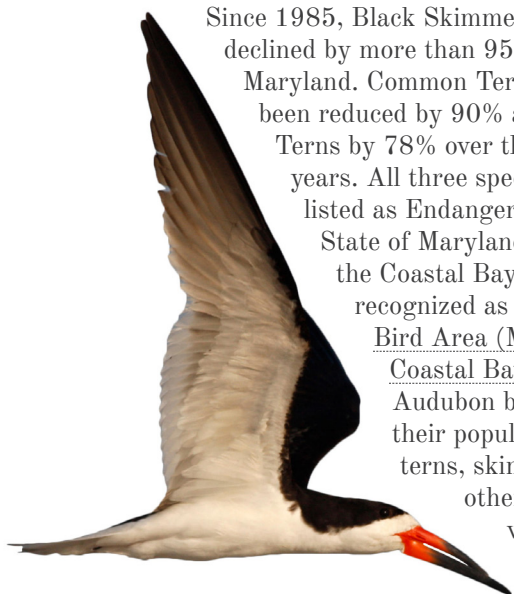
This report provides an assessment of the current state of colonial waterbird breeding in the Coastal Bays of Maryland behind Ocean City and Assateague. This is the first of what will be an annual report on their status.

HISTORY OF THE BIRDS

Terns and skimmers

Iconic species of terns and skimmers that define the essence of the Coastal Bays' birdlife are in serious decline because the islands that they depend on for nesting are rapidly eroding as a result of sea level rise and increased storm events. Moreover, human-induced disturbance is directly taking its toll on the birds. Terns and skimmers evolved to breed only on sandy islands where their nests on the sand are safe from predators. Wading birds also require predator-free islands but with shrubs or small trees.

Since 1985, Black Skimmers have declined by more than 95% in Maryland. Common Terns have been reduced by 90% and Royal Terns by 78% over the past 16 years. All three species are listed as Endangered in the State of Maryland. In 2009, the Coastal Bays were recognized as an Important Bird Area (Maryland Coastal Bays IBA) by Audubon because of their populations of terns, skimmers, and other colonial waterbirds.



Black Skimmer

Wading birds

Skimmers and terns aren't the only struggling species in the Coastal Bays. A large suite of wading birds also only use islands in the Coastal Bays to breed. These include Snowy Egrets, Cattle Egrets, Little Blue Herons, Tricolored Herons, Great Egrets, Black-crowned Night-herons, and Glossy Ibis. Like skimmers and terns, these species suffer from island disturbance, erosion, and sea level rise. As a result of these factors, more than 95% of all wading birds in the Coastal Bays now breed on just one island, South Point Spoils. This report includes information on their current status.



Tricolored Heron

Monitoring

Waterbird populations have been monitored in the Coastal Bays since 1985, coordinated by Maryland Department of Natural Resources (DNR), and assisted by Assateague Island National Seashore (AINS), the Maryland Coastal Bays Program (MCBP), and public volunteers. The DNR Colonial Waterbird Survey coordinates a complete statewide census of breeding terns, gulls, skimmers, pelicans, cormorants, herons, egrets and ibis every five years. In each intervening year between complete censuses, a partial census is carried out to keep track of rare, threatened, and endangered species and other species of special interest.



Black Skimmer eggs

HISTORY OF THE ISLANDS

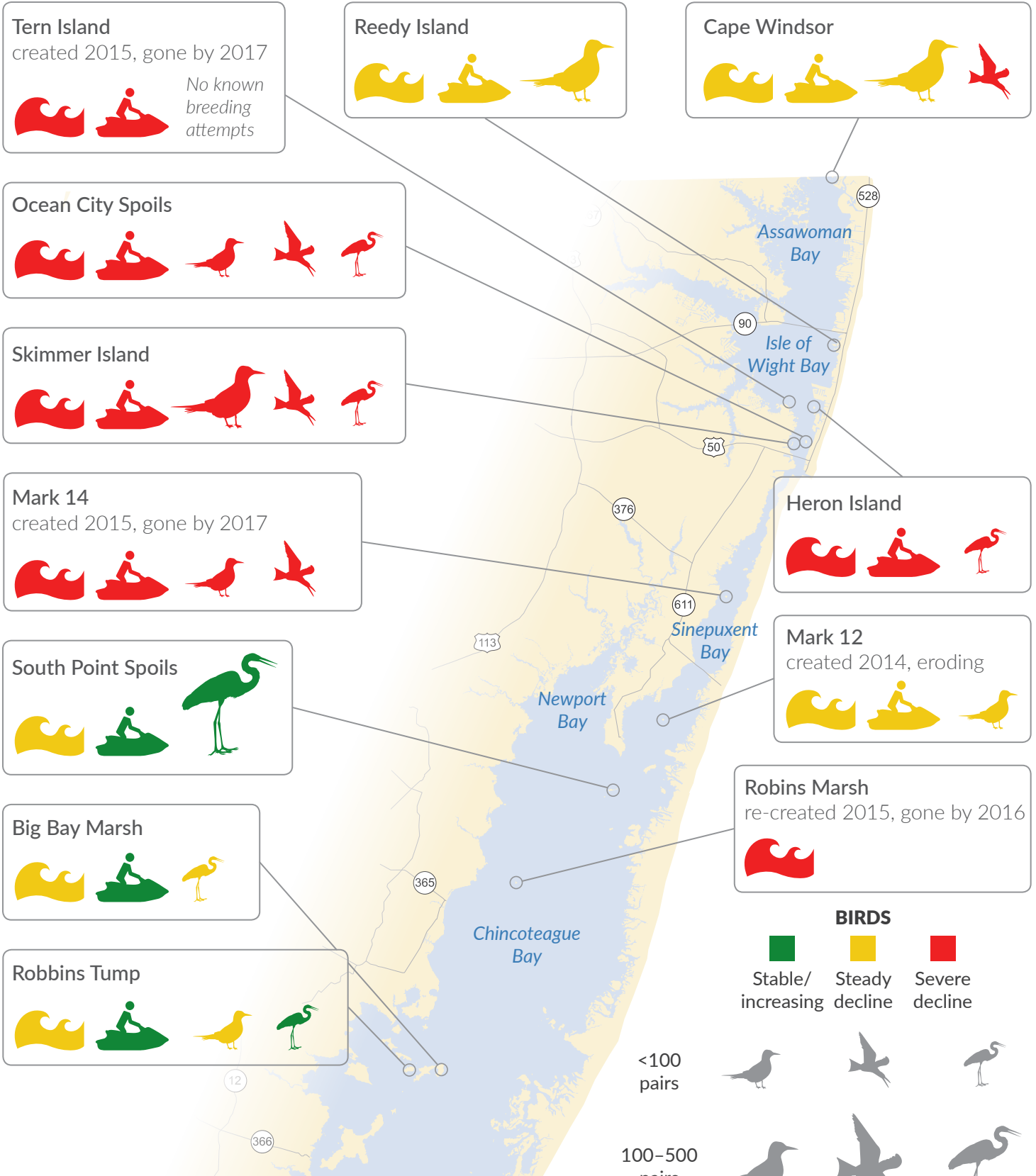
In the past, the Coastal Bays ecosystem was very dynamic with periodic breaches in Assateague Island providing new sand and sediment which naturally maintained islands in the bays. However, such breaches no longer occur, and eroding islands now simply disappear. In the past 25 years, more than 120 acres of islands have eroded away. Few of the islands that supported nesting colonies in 1985 remain today.

In 1998, the US Army Corps of Engineers (USACE) completed the Ocean City Water Resources Study which proposed using dredged material to restore nesting islands lost to erosion in the Coastal Bays. Nourishment of the state-owned Skimmer Island behind Ocean City near the US50 bridge was a state-private partnership project undertaken annually from 2011 through 2014. Skimmer Island has not been nourished since 2014 and is quickly eroding away.

From late 2014 through early 2016, the USACE did channel maintenance dredging that created or restored four islands in the Coastal Bays (see map, next page). Since creation, severe storms eroded away three of the four islands that were rebuilt just two years earlier.



Some 95% of all wading birds nest on one vulnerable island—South Point Spoils.



BIRDS

Stable/ increasing	Steady decline	Severe decline

<100 pairs			
100-500 pairs			
>500 pairs			
	Terns	Skimmers	Waders

ISLAND PROCESSES

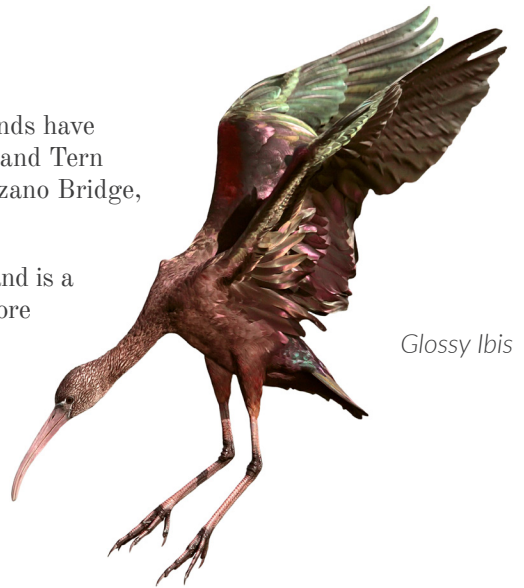
Mild	Moderate	Severe
Erosion	Trespassing	



ISLANDS IN TROUBLE

Despite the best efforts of state and federal agencies, most of the rebuilt islands have again suffered from erosion in severe storms, particularly in 2017. Mark 14 and Tern Island have been washed away completely, and Mark 12, just south of Verrazano Bridge, has been reduced in size from four acres to two acres.

Unlike many of the human-built spoil islands in the Coastal Bays, Skimmer Island is a ‘natural’ ebb tidal shoal island. In 2003, it was 7.5 acres in size and home to more than 1,400 pairs of terns, Black Skimmer, and the full complement of herons, egrets, and ibis. Despite efforts to rebuild the island with sand from nearby Sunset Marina, Skimmer Island has shrunk to just two acres today, and in 2017 supported only 200 pairs of Common Terns and Great Egrets and one pair of skimmers.



Glossy Ibis

BIRDS IN DECLINE

The declining trend in Black Skimmers, Common Terns and Royal Terns continued in 2017 (Table 1). More alarmingly, neither skimmers nor Common Terns produced any young in Maryland’s Coastal Bays in 2017, and only five of 153 Royal Tern nests fledged young. Least Terns, which breed on Assateague Island, and Forster’s Terns appear to be holding their own.

The overall population of wading birds in the Coastal Bays has remained remarkably consistent since 2003 (Table 2), but there is cause for concern that this may not continue in the future. As nesting islands have disappeared, the birds have become concentrated in fewer colonies and by 2013, one island—South Point Spoils—accounted for 95% of the approximately 2,300 pairs nesting in the Coastal Bays.

Table 1: Breeding populations of terns and skimmers in Maryland Coastal Bays, 2003–2017

	2003		2008		2013		2017	
	Pairs	Colonies	Pairs	Colonies	Pairs	Colonies	Pairs	Colonies
Black Skimmer	96	4	12	2	10	1	10	2
Royal Tern	474	1	270	1	319	2	153	3
Common Tern	518	6	438	4	253	2	286	6
Least Tern	114	3	129	2	250	1	453	2
Forster’s Tern	415	16	499	10	322	13	407	11

Table 2: Breeding populations of wading birds and Brown Pelicans in Maryland Coastal Bays 2003–2013

	2003		2008		2013	
	Pairs	Colonies	Pairs	Colonies	Pairs	Colonies
Snowy Egret	367	4	371	4	341	2
Cattle Egret	301	3	304	3	290	2
Great Egret	488	5	493	5	401	4
Little Blue Heron	40	2	42	1	40	1
Tricolored Heron	68	3	71	1	87	1
Black-crowned Night-heron	50	6	56	4	6	2
Glossy Ibis	1031	5	1036	4	1112	2
Brown Pelican	0	0	29	1	0	0

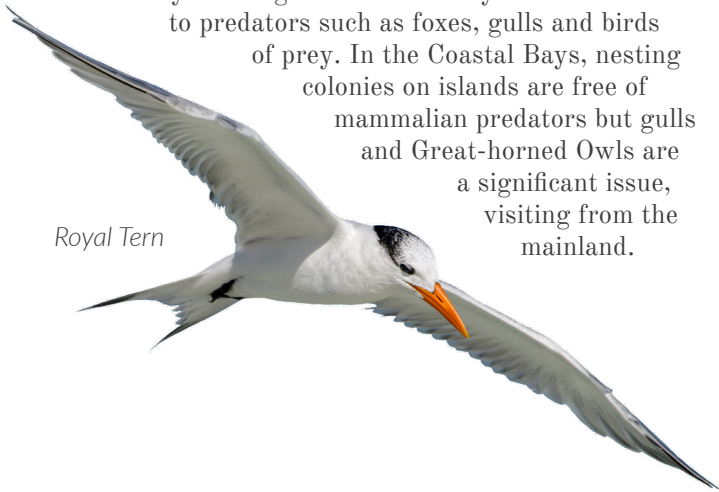
THREATS TO WATERBIRDS

Three main factors have led to the decline of waterbirds in the Maryland Coastal Bays. They include:

Erosion: Islands in the Coastal Bays are eroding more rapidly than in the past for two reasons. Currents no longer supply them naturally with new sand because breaches no longer occur in Assateague Island. And climate change is resulting in rising sea levels and an increase in the frequency and severity of storm events, further increasing erosion rates. Efforts to rebuild islands with sand dredged from boating channels have not been successful—newly created islands have washed away in as little as two years. At islands close to boating activity, boat wakes exacerbate the erosion problem.

Human disturbance: Human disturbance is a significant threat on most islands between the Verrazano Bridge to Assateague and the Rt. 90 bridge to Ocean City. Boats landing on the islands, human visitors and dogs flush birds from their nests, exposing eggs and chicks to predation by gulls and also to the intense heat of the summer sun. A single disturbance event can result in the loss of the entire reproductive effort of a colony.

Predation: Terns and skimmers place their eggs directly on the ground where they are vulnerable to predators such as foxes, gulls and birds of prey. In the Coastal Bays, nesting colonies on islands are free of mammalian predators but gulls and Great-horned Owls are a significant issue, visiting from the mainland.



Royal Tern

WHAT CAN YOU DO?

- Stay off the islands
- Report island trespassers to Natural Resources Police: 410-260-8888
- Educate others about the birds
- Advocate for more protection and restoration



Human disturbance is a problem for colonial nesting birds in the Coastal Bays.



Erosion has taken its toll on Coastal Bays islands. Skimmer Island has been reduced to a third of its former size by storms such as Superstorm Sandy.

SUMMARY AND RECOMMENDATIONS

Island-nesting birds in the Coastal Bays are in trouble. Common Terns, Black Skimmers, and Royal Terns are in serious decline and one island now accounts for 95% of all wading bird pairs. Threats to these birds have been exacerbated by human factors, but human-based solutions are available. With will and resources we can save Maryland's iconic 'beach birds'.

To save these iconic species, substantial resources are needed.

- **To combat island loss**, a coordinated effort is needed to identify more opportunities for rebuilding islands using dredge spoil from boating channels. Rebuilt islands and existing islands need to be protected from erosion without compromising the habitat conditions required by sand-nesting birds. The use of artificial nesting structures for island-nesting birds should also be explored.
- **To reduce human disturbance**, agencies currently post nesting islands each summer with 'No

trespassing' signs, and informational signs are placed at boat ramps and other public places to educate boaters not to disturb nesting birds. However, increased enforcement and more public education, especially of tourists, is needed.

- **To reduce the impact of depredation**, control of owls or other birds of prey visiting the islands may need to be considered. Helping nesting birds to maintain large colonies can allow the birds to defend themselves from gulls. And creating additional nesting islands away from the Ocean City area, would reduce predation impacts by spreading out breeding populations.

Black Skimmers, Royal Terns, and Common Terns can be saved in Maryland and herons and egrets can have their futures secured as well. But it will take energy, money, and a desire to save these avian icons of the coast. With just sand and stewardship, this crusade is winnable.



Assateague Coastal Trust worked with Audubon Maryland-DC and the Maryland Coastal Bays Program to enlist local school students to make signs to help protect the birds.

Acknowledgements

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