

COASTAL GEORGIA

Ecosystem Report Card

for the year 2022



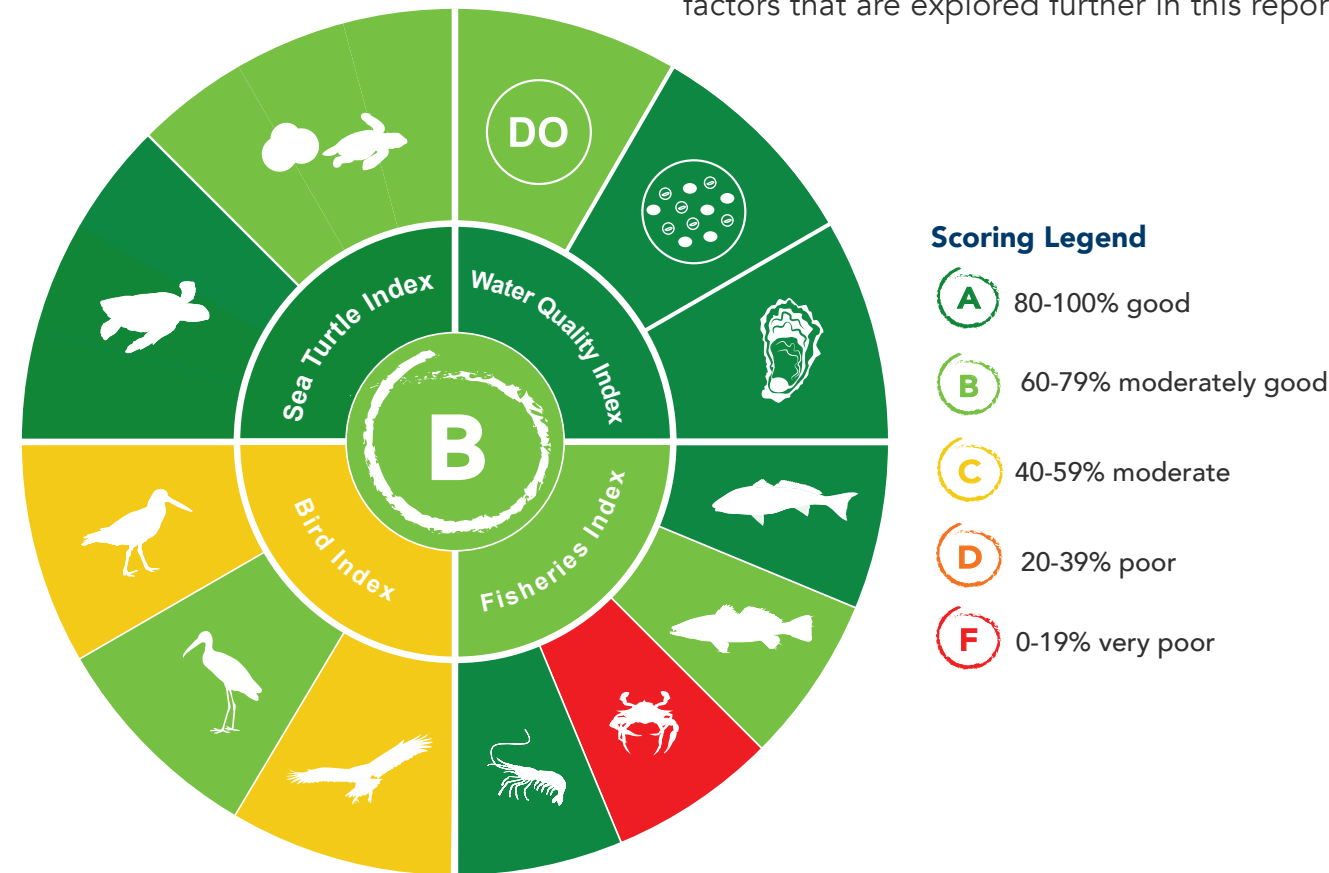
COASTAL RESOURCES DIVISION

Published April 22, 2023

Moderately good ecosystem health

Overall health

Overall, Coastal Georgia received a B, a moderately good score (74%). The twelve indicators that examine human health, fisheries, and wildlife are used to define Coastal Georgia health. The highest scoring indicators were red drum and sea turtle nesting, and both had perfect scores (100%). The lowest scoring indicators this cycle were blue crab (18%) and bald eagles (48%), which are due to factors that are explored further in this report.



Scoring Legend

- A** 80-100% good
- B** 60-79% moderately good
- C** 40-59% moderate
- D** 20-39% poor
- F** 0-19% very poor

Indexes highlights

Fisheries index

The fisheries index scored 69% in 2022. Red drum and shrimp had good scores, and spotted seatrout had a moderately good score. Blue crabs had a poor score most likely due to high salinity conditions trigger movement upriver to areas that are outside of DNR's stationary sampling areas.



Water quality index

The water quality index scored an 86%, an A, in 2022. Overall, water quality indicators are good, meaning that it is generally safe to swim and to eat local shellfish, and that there are oxygen levels that support fish and other species. Fecal coliform and enterococcus had good scores, while dissolved oxygen had a moderately good score.



Sea turtle index

The sea turtle index scored an 87%, an A, in 2022. Overall, sea turtle indicators are good. Sea turtle nesting had a perfect score of 100%, while sea turtle hatching had a moderately good score. Sea turtle management is promoting populations and maintaining excellent nesting.



Bird index

The bird index scored a 53%, a C, in 2022. Wood storks had a moderately good score. American oystercatchers had moderate scores likely due to significant mammalian depredation and tidal flooding at some nesting locations.



Notable developments

Statewide survey efforts in 2022 recorded 229 occupied bald eagle nest territories, a record number for Georgia.

On the coast, the 73 nest territories recorded was typical, but only 47% fledged at least one young. Nests successfully fledged 1.5 young each, which is average. However, the 50 eaglets that fledged fell shy of the approximate 80 the coast normally produces.

The survey revealed more failed nests than expected. Some had dead eaglets. Others were missing young that usually would not have left the nest by that time. The carcasses of three bald eagles collected on the coast in February and March tested positive for highly pathogenic avian influenza virus (HPAIV). It's likely some eagles were infected by preying or scavenging on dead or sick waterfowl that often gather in large rafts in coastal waters during winter.



A bald eagle (*Haliaeetus leucocephalus*) is seen perched. DNR photo.

Grading scale

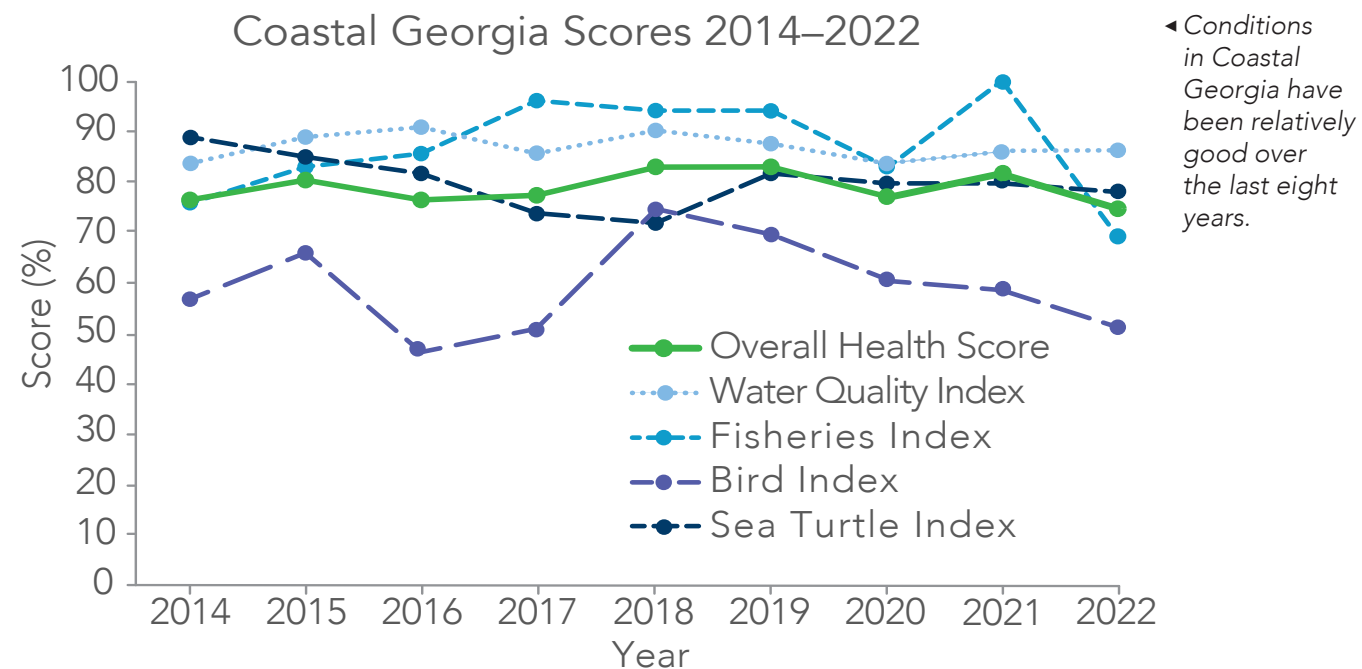
Rounded to the nearest whole number

- A** 80-100%
All water quality, fisheries, bird, and sea turtle indicators meet desired levels. Indicators in these locations tend to be very good, most often leading to preferred habitat conditions.
- B** 60-79%
Most water quality, fisheries, bird, and sea turtle indicators meet desired levels. Indicators in these locations tend to be good, often leading to acceptable habitat conditions.
- C** 40-59%
There is a mix of good and poor levels of water quality, fisheries, bird, and sea turtle indicators. Indicators in these locations tend to be fair, leading to sufficient habitat conditions.
- D** 20-39%
Few water quality, fisheries, bird, and sea turtle indicators meet desired levels. Indicators in these locations tend to be poor, often leading to degraded habitat conditions.
- F** 0-19%
Very few or no water quality, fisheries, bird, and sea turtle indicators meet desired levels. Indicators in these locations tend to be very poor, most often leading to unacceptable habitat conditions.



Report card scores from 2014-2022

In Coastal Georgia, report card scores vary from year-to-year. By tracking health over time, we can evaluate changes in the environment and prioritize management and restoration. For example, DNR actively manages wood stork and American oystercatcher populations by considering habitat creation, predator management and nesting area closures to prevent disturbances.



Indicator	2014	2015	2016	2017	2018	2019	2020	2021	2022
fecal coliform	92%	92%	92%	80%	90%	98%	90%	95%	99%
enterococcus	82%	91%	94%	94%	96%	78%	72%	78%	83%
dissolved oxygen	79%	85%	87%	84%	84%	87%	90%	85%	75%
shrimp	100%	100%	96%	84%	84%	75%	92%	100%	86%
red drum	83%	69%	100%	100%	91%	100%	40%	100%	100%
blue crabs	22%	62%	47%	100%	100%	100%	100%	100%	18%
spotted seatrout	99%	100%	100%	100%	100%	100%	100%	100%	70%
American oystercatchers	47%	61%	28%	13%	78%	78%	66%	47%	40%
wood storks	67%	70%	64%	84%	81%	78%	59%	68%	70%
bald eagles	NA	66%	46%	57%	62%	51%	57%	62%	48%
sea turtle hatching	77%	69%	64%	47%	44%	64%	60%	59%	73%
sea turtle nesting	100%	100%	100%	100%	100%	100%	100%	100%	100%

Importance of a report card

Environmental report cards are used around the world to describe ecosystem status, increase public awareness, and inform and influence decision makers to act to improve the health of a watershed. Developing rigorous, quantitative assessments is beneficial to support environmental protection efforts. A five-step process is used to develop report cards.



Coastal Georgia is a gem of biodiversity and natural wonders

Marshes, wetlands, and barrier islands make up the diverse habitats of Coastal Georgia. The region is rich in abundant wildlife like sea turtles, fishes, shellfish, birds, and mammals. Recreational opportunities abound, such as boating, fishing, bird watching, kayaking, and swimming. Protecting the ecosystems and their inhabitants helps support not only recreational opportunities, but also the local economy, seafood industry and tourism.



Coastal wetlands, like those seen here, filter pollutants as water runs downstream, which improve water quality. DNR photo by Tyler Jones.

Report card highlights in 2022



Loggerhead sea turtle hatchlings enter the ocean. DNR photo by Mark Dodd.

Sea turtles

Sea turtles continue to fare well on the Georgia coast. The nesting score has remained at 100% since the Report Card's inception, and this year, sea turtle hatching improved by 14 points from 59% to 73%. This increase was attributed to a record number of nests in Georgia this cycle, the absence of major storm events, and human intervention through nest protection and predator management.

Land conservation

DNR added more than 24,000 acres of conserved land to the Ceylon Wildlife Management Area in Camden County. This area is home to multiple important species, such as gopher tortoises, wood storks, Florida manatees, and bald eagles.

Marine fisheries

Annual species abundances in DNR's sampling can be affected by natural variability in environmental conditions. This is especially true for blue crabs and high salinity, where populations move away from DNR's stationary sampling stations. DNR fisheries staff observed above average salinity at sampling sites in 2022, likely causing blue crabs to have migrated to other areas not sampled by DNR with lower salinity.



A CRD marine technician holds a blue crab during sampling aboard the R/V Reid W. Harris on July 7, 2022. DNR photo by Ava Peters.



The Coastal Resources Division of the Georgia Department of Natural Resources, headquartered above in Brunswick, is committed to balancing development and protection of the coast's natural assets, socio-cultural heritage and recreational resources for the benefit of present and future generations. DNR photo by Tyler Jones.

About the Coastal Resources Division

The Coastal Resources Division is one of five divisions of the Georgia Department of Natural Resources. Its mission is to balance coastal development and protection of the coast's natural assets, socio-cultural heritage, and recreational resources for the benefit of present and future generations.

Fishery management

CRD ensures that saltwater fishes, crustaceans, and shellfish popular with anglers and commercial fishermen remain abundant, healthy and accessible for present and future generations. We achieve this through surveys, research projects, monitoring water quality and representing Georgia in federal and interstate fishery management processes.

Data collection and surveys

The Division conducts a variety of surveys to collect data for effective fishery management. Our fishery-independent surveys, such as the Ecological Monitoring Trawl Survey conducted aboard the 56-foot Research Vessel Reid W. Harris, and the Coastal Longline Survey, are conducted by CRD biologists to learn about the health of fisheries populations. Fishery-dependent surveys are similarly important, but rely on the public's participation. Dependent surveys include the Cooperative Angler Tagging Project, and the Recreational Angler Survey. CRD shares the data it collects with federal and interstate fishery management bodies.

Protection of marshlands and shores

The vast coastal marshlands, tidal waterways, and barrier island beaches are irreplaceable treasures delivering ecological and human benefits ranging from seafood to hurricane protection. To protect them, the Division administers the Coastal Marshlands and Shore Protection acts, issues revocable licenses for waterbottoms, and coordinates with other state and federal agencies to implement sound regulatory policy. Since 1997, many of these functions have been carried out by the Georgia Coastal Management Program, a partnership with the federal government and a mandate from the state legislature.



Tybee Island is one of Georgia's 14 barrier islands along its 105-mile coastline. DNR photo by Tyler Jones.

You can help protect the coast



Septic maintenance

Maintaining your septic system prevents bacteria from entering waterways and can help reduce beach advisories and shellfish harvest closures.



Lighting rules

Preventing sea turtles from becoming disoriented by artificial light is the law, and beach lighting ordinances occur during nesting and hatching seasons.



No litter

Taking trash with you after visiting recreation areas will help keep waterways and parks free of debris that could harm wildlife.



Purchase licenses

Buying a Georgia hunting or fishing license supports research and conservation of coastal species and habitats.



Catch limits

Following recreational fishing catch-and-size regulations help sustain a healthy community of fish species.

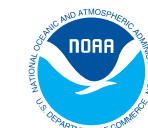


Citizen science

Participating in monitoring and clean-up activities in local waterways can help alert managers to potential issues.

Acknowledgments

This report card was produced by the Integration & Application Network, University of Maryland Center for Environmental Science and Georgia DNR and published in April 2023. Data were collected by Georgia DNR's Coastal Resources Division and Wildlife Resources Division. This report card provides an assessment of coastal Georgia ecosystem health for 2022. This report card was funded by grant award # NA22NOS4190152 from the Office for Coastal Management, National Oceanic and Atmospheric Administration. The statements, findings, and conclusions do not necessarily reflect the views of OCM or NOAA. All photos from Georgia DNR's Coastal Resources Division, unless otherwise specified. For detailed information on indicators, thresholds, and methodology visit CoastalGaDNR.org/ReportCard. Cover photo provided by Tyler Jones.



Visit CoastalGaDNR.org to learn more.



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