



Coastal Georgia

Ecosystem Report Card 2020

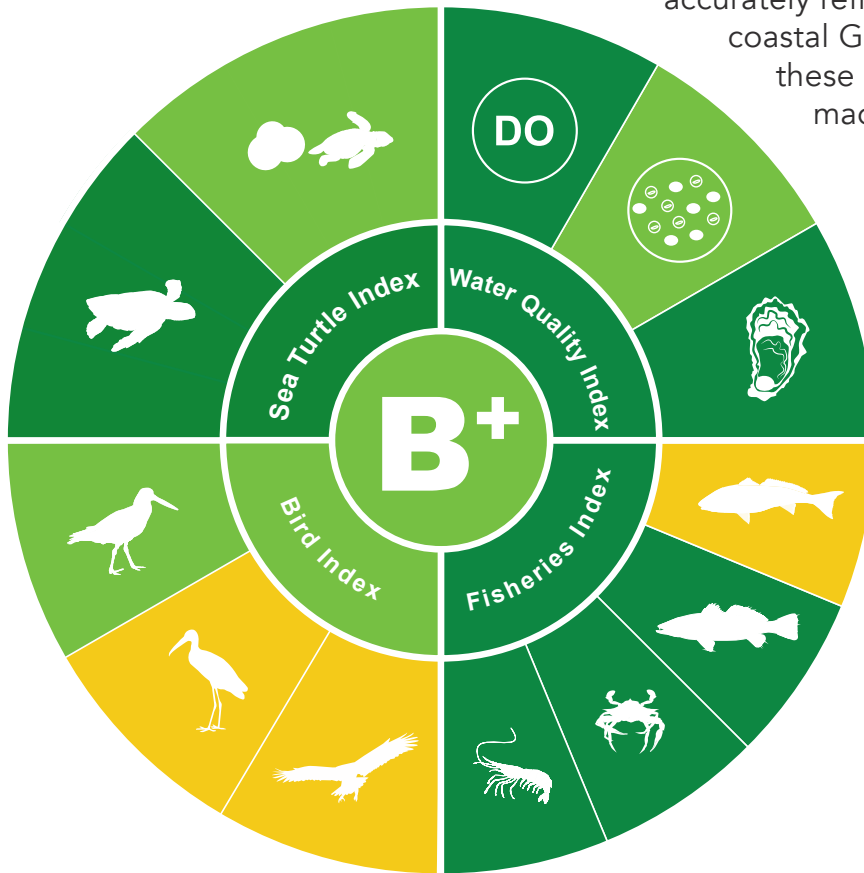


Moderately good ecosystem health

Overall health

Overall, Coastal Georgia received a B+, a moderately good score (77%). The highest scoring indicators were blue crab, spotted seatrout, and sea turtle nesting, and all had perfect scores (100%). This year's report card makes some changes in the indicators used to grade the ecosystem's overall health. These changes removed right whales as an indicator species and added spotted seatrout and bald eagles. The changes reflect a more holistic

approach to the report card with the goal of more accurately reflecting the overall health of coastal Georgia. You can learn more about these changes and why they were made further inside this report card.



Scoring Legend

- A** ≥80-100% good
- B** ≥60-<80% moderately good
- C** ≥40-<60% moderate
- D** ≥20-<40% poor
- F** 0-<20% very poor

Grading scale

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-<80%

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-<60%

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-<40%

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-<20%

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.

90%



fecal coliform

72%



enterococcus

90%



dissolved oxygen

92%



shrimp

40%



red drum

100%



blue crabs

Indexes highlights

Fisheries index

The fisheries index scored 83%, an A-, in 2020. Overall, fisheries indicators are good, which means that sustainable fishing practices are used, and the coastal environment is able to support most commercial and recreational species. Blue crab, spotted seatrout, and shrimp all had good scores. Red drum had a moderate score of 40%. While the reason for this is still being studied, population changes like this may be due to environmental factors such as salinity or temperature.



A spotted seatrout caught by recreational fisherman Mike Smith. Recreational fishing licenses can be purchased at GoOutdoorsGeorgia.com. Provided photo.

Water quality index

The water quality index scored 84%, an A-, in 2020. 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. Dissolved oxygen and fecal coliform had good scores, and enterococcus had a moderately good score.



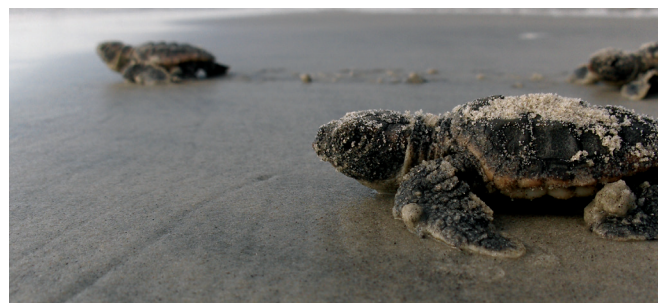
Bird index

The bird index scored 61%, a B-, in 2020. Overall, bird indicators are moderately good. American oystercatchers had a moderately good score. Bald eagles and wood storks had moderate scores. The lower wood stork score was most likely due to repeated storms affecting one colony right as they were establishing their nests and in the early egg-laying stage. Overall, wood stork populations are being maintained, American oystercatcher nesting is healthy, and bald eagle nest success is moderate.



Sea turtle index

The sea turtle index scored a 80%, an A-, in 2020. Overall, sea turtle indicators are good. Sea turtle nesting is good, while sea turtle hatching is moderately good. Sea turtle management is promoting populations and maintaining excellent nesting.



Sea turtle nesting season is May to mid-August, and females typically nest on the same beach annually. DNR photo by Adam Mackinnon.



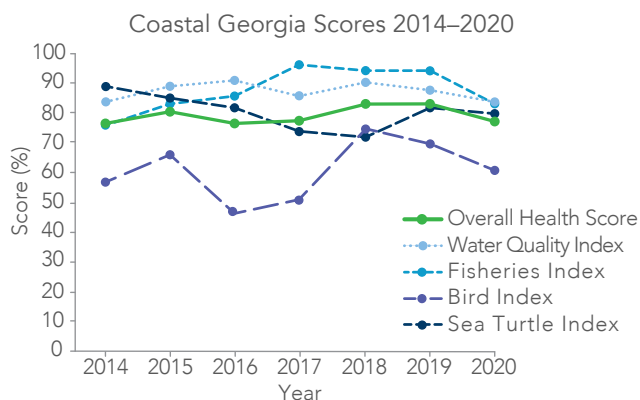
New indicators and methods for 2020

For the past five years, two human health indicators, three fisheries indicators, and six wildlife indicators have been averaged into three indices and then averaged into an overall Coastal Georgia ecosystem health score. In 2020, the values and threats to Coastal Georgia were revisited and the importance and relevance of indicators was reviewed. This led to the addition of three new indicators: dissolved oxygen, bald eagles, and spotted seatrout. The two indicators covering right whales (population and calves) were removed from the report card scoring.

While the right whale is an important species, its population viability is influenced by much more than the time they spend in Georgia waters. The indicators were reorganized into four indices: water quality, fisheries, birds, and sea turtles. Despite the change in methodology, the scores from 2014 to 2019 were recalculated and showed similar results as past report cards.

Report card scores from 2014–2020

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 habitat creation, predator management and nesting area closures to prevent disturbances.



Conditions in Coastal Georgia have been relatively good over the last seven years.

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

Importance of a report card

Environmental report cards are powerful tools 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 provides accountability that is beneficial to support environmental protection efforts. A five-step process is used to develop report cards.

THE REPORT CARD PROCESS



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 salt marshes, filter pollutants as water runs downstream, which improves water quality for species in the estuary, like marine mammals. DNR photo.



Maintaining a healthy coastal ecosystem is an important way to support recreational uses, such as kayaking, and commercial uses, like fishing and ecotourism. DNR photos.

Report card highlights in 2020



Wood storks are an important indicator species because they depend on varying wetland types to successfully nest and raise young. DNR photo by Tim Keyes.

Wood stork

Wood storks received a moderate score of 59% in 2020. While populations fluctuate annually, environmental factors such as food and habitat availability throughout their range can influence their success.

Spotted seatrout

Spotted seatrout received a good score of 100% in 2020. This indicator was added in 2020 to help give a more holistic view of fisheries health in coastal Georgia. Seatrout are a relevant indicator because they spend a majority of their lifecycle in multiple habitats within Georgia estuaries.

Bald eagles are a new indicator in 2020

Bald eagle productivity on the coast was above average in 2020. No new occupied nest territories were discovered, and no nests were lost to storm damage. Some pairs built new nests within existing territories or rebuilt nests previously lost. The percentage of dead and dying nest trees on barrier islands is increasing, likely from saltwater damage caused by tropical storms and hurricanes in recent years. Coordinating with landowners and developers helps prevent disturbance-related nest failures or abandonment. Eagles hit by cars while feeding on roadside carrion continues to be a leading cause of mortality for the species.



Bald eagles are an important species in coastal Georgia. Wikimedia Commons photo by Martin Falbisoner.

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

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