GEORGIA
DEPARTMENT OF NATURAL RESOURCES
COASTAL RESOURCES DIVISION

Coastal Georgia Ecosystem Report Card

Take Home Messages

- This report card represents information gathered by various DNR programs.
- Coastal Georgia's ecosystem is in moderately good health.
- Our purpose for preparing a report card is to share with the public what we know about the state of Georgia's coastal natural resources.

Frequently Asked Questions

What is an ecosystem report card?

Ecosystem report cards are considered a public friendly way to provide a timely, geographically detailed and science-based assessment of ecosystems or rivers. Report cards provide a numeric grade or letter that is similar to a school report card, allowing for quick and understandable results to a broad audience. One key aspect of report cards is that they integrate and synthesize diverse data sources and types.

The Coastal Georgia Ecosystem Report Card is an important tool for communicating resource management activities. It provides a transparent, timely, and coast-wide assessment of health in coastal Georgia. Coastal Georgia health is defined as the progress of indicators toward scientifically-derived thresholds or goals. The twelve indicators in the report card examine human health, fisheries, and wildlife.

Who prepared the report card?

The report card is a collaboration of the Coastal Resources Division (CRD), Wildlife Resources Division (WRD) and Environmental Protection Division (EPD) of the Georgia Department of Natural Resources with the University of Maryland Center for Environmental Science.

How was the report card funded?

CRD used funds provided to the Georgia Coastal Management Program from the NOAA Office for Coastal Management, grant # NA12NOS4090171. CRD, WRD and EPD provided subject matter experts to deliver datasets for consideration and, if selected, assessment.

How does the grading scale work?

The report card scoring is based on a twenty-point scale (0-20% = F, 20-40% = D, etc). This is the scale accepted for ecosystem health report cards (such as the Chesapeake Bay and Mississippi River) as it is able to provide a clearer picture of health. Following the typical school grading scale overall (<60% = F, 60-70% = D, etc.) would result in consistently similar grades, which does not provide information about small improvements or declines in ecosystem health. The equally divided grading scale allows for evaluation of small changes in ecosystem health, even at the very poor, poor, and moderately poor ranges.

How is coastal Georgia's health?

Based on the twelve indicators used, the health of Coastal Georgia is moderately good. This means that most human health, fisheries, and wildlife indicators meet desired levels. Indicators in these locations tend to be good, often leading to acceptable habitat conditions. While there is always more work to be done, compared to other ecosystem report cards in the United States, Coastal Georgia has very high scores. This is mainly due to the relatively undeveloped coastal landscape in Georgia and good stewardship by Georgia's citizens.

How were the indicators selected?
CRD, WRD and EPD subject matter experts met with UMCES staff to determine what data were available for assessment in the report card. Data needed to be part of long-term monitoring programs, be linked to resource management activities, and needed to be coast-wide. Lists of potential indicators were prioritized and final selections were made by DNR staff.

How were thresholds determined?
Once the indicators were identified, targets or thresholds for each indicator were developed. Establishing targets for each indicator was done by developing thresholds or using management goals. A threshold ideally indicates a tipping point where current knowledge predicts an abrupt change in an aspect or some aspects of ecosystem condition. Thus, from the perspective of choosing meaningful, health-related thresholds, this must be the point beyond which prolonged exposure to unhealthful conditions actually elicits a negative response.

How were scores calculated?
Once thresholds were identified, data were scored using either a pass/fail or multiple threshold method. Ideally, multiple thresholds were used to provide some gradation of results from poor to excellent, rather than just pass or fail, but this method was not available or appropriate for all indicators.

A pass/fail scoring was a simple method used to calculate many indicator scores based on whether or not the threshold was met. Results were scored on a scale of 0 to 100%, where the higher percentage values represented more healthy conditions. Once each indicator was compared to a pass/fail or multiple threshold scale, assigned a score, and averaged into a station score, if applicable, a grade was assigned.

How will the report card's results change the way DNR manages resources?
DNR has been collecting the types of data used in the report card for many years, and in some cases several decades. Data are collected to support ongoing management efforts and goals and are routinely factored into management decisions. For example, the *Enterococcus* indicator is used to determine when and where beach swimming advisories should be activated or deactivated. Several beaches with chronically high *Enterococcus* levels have been placed under permanent advisory.

Why isn't there an index representing coastal water quality?
DNR and EPD collect water samples throughout the coastal zone. These data were considered throughout the development of the report card. However, while the data were generally available, the water quality thresholds against which to compare the data are still under development by EPD. There are a variety of *national* water quality standards available but many of them do not account for Georgia's unique coastal system that includes blackwater rivers and 7-8 foot daily tidal exchanges. Rather than use a water quality index based on standards that are likely to change in the near future, DNR instead provided a snapshot of one key water quality indicator, dissolved oxygen, as compared to a national standard used by EPA.

Should we be concerned about the blue crabs?
Yes. Although the Department initiated a fishery management plan in 2008 in response to a decline in the blue crab population following a 5-year drought, abundance has been mostly below average the last 15 years. Commercial fishing effort continues to decline with an industry-supported moratorium on new crab licenses reducing the number of commercial crabbers from 159 to 129 with an ultimate goal of 100. Above average precipitation and flooded rivers in the spring of 2013 most likely impacted larval recruitment resulting in the lower spawning stock observed in 2014. DNR is working with the Blue Crab Advisory Panel to address these issues.