



PHOTO MIAMI-DADE DERM

# Will More Reefs Mean More Fish?

Florida's artificial reef program has grown significantly in past decades, rewarding the investment of public dollars with strong economic returns. Divers and fishermen want to see more reef deployed, while scientists explore the ecological trade-offs.

Artificial reefs are man-made underwater habitats that support a variety of marine life in Florida waters — throughout the world for that matter. The kind of structures deployed range from decommissioned aircraft carriers to bridge rubble, but also specially designed concrete structures that mimic fish habitats.

Originally, reef projects focused on fishing access, but that has evolved. Reefs can play a role in improving aquatic habitats, mitigating damage to natural reefs, providing recreational opportunities for divers and stimulating local economies.

Florida has one of the nation's most active artificial reef programs; more than 2,900 public artificial reefs are in place in state and federal waters. What sustains the program is a remarkable "esprit de corps"

led by the Florida Fish and Wildlife Conservation Commission (FWC) that involves individual volunteers, local governments, state universities, regulatory agencies and nonprofits.

A recent economic analysis funded by FWC shows that fishing and diving activity on artificial reefs annually:

- Provides 39,118 jobs for Floridians.
- Generates \$3.1 billion of economic activity.
- Accrues \$1.3 billion in income to Floridians.
- Produces \$250 million in state revenues.

The analysis also showed that nearly eight in 10 saltwater fishermen and divers believe that artificial reefs increase fisheries productivity, but do not think that Florida is investing enough in the development of artificial reefs. Notably, an \$11.4-million project underway in Northwest Florida is expected to deploy nearly 5,000 artificial reef units across 37 sites.



PHOTO TOMMY THOMPSON

## Navigating Expectations with Research and Management

For more than three decades, Florida Sea Grant and UF/IFAS Extension have contributed to the evolution of Florida's artificial reef building community, supporting the science and technical assistance needed to help communities plan their reef programs.

"Coastal communities pursuing artificial reef projects need to have very defined objectives," says Florida Sea Grant fisheries specialist Bill Lindberg. "Artificial reef projects need to focus on either the economic benefits of recreational anglers and divers, or improving the dynamics of fish populations. One has shorter-term benefits, the other longer-term. There may be a trade-off to the coastal community."

Lindberg has led the development of the Steinhatchee Fisheries Management Area, a vast array of specially designed "conservation reefs" placed in the Big Bend region of Florida to help maturing gag grouper grow for better reproduction.

Initial reef construction began in 2005. Today, it has passed a major milestone, the deployment of 500 artificial reef patches strategically

situated across the Big Bend's relatively flat, featureless inner shelf. The reef patches provide safe haven for juvenile fish as they journey from the sheltered nursery of inshore waters to known spawning grounds well offshore.

Lindberg's project typifies the kind of research that fisheries biologists and artificial reef managers stress is needed to assess Florida's artificial reef potential. "There's a balance we need to strike between the desire to just put more reefs in the water and knowing scientifically whether or not the reefs being deployed are meeting their performance objectives," Lindberg says.

"We've also come to realize that one size does not fit all," Lindberg continues. "What works for gag isn't necessarily going to be the same strategy or reef design that would work for red grouper or red snapper or amberjack or Goliath grouper. That's why it's critical that reef managers be equipped with the best available science to ensure reef deployment is done in a cost-effective — and ecologically responsible — manner."

### ABOUT FLORIDA SEA GRANT

Florida Sea Grant is a university-based program that taps into the research expertise of more than 800 coastal and ocean scientists at the state's 16 major universities and research laboratories. The program's goal is to support research, education and extension to enhance economic opportunities for Floridians while protecting coastal resources. Florida Sea Grant is a partnership with the National Oceanic and Atmospheric Administration, the Florida Board of Education and Florida's citizens and governments.

The program is also an integral part of the Institute of Food and Agricultural Sciences at the University of Florida, one of the nation's leading land-grant universities. Extension and education programs are conducted in partnership with UF/IFAS Extension and coastal counties of Florida.

Sea Grant agents live and work in coastal communities. They have a breadth of experiences and tremendous trust from their local residents as reliable sources of science-based information. Seven statewide extension specialists also lead highly relevant programs in seafood safety, boating and waterway planning, land-use law, aquaculture and fisheries management.



You can learn more about Florida's artificial reef program by visiting [FISeaGrant.org/ArtificialReefs](https://www.FISeaGrant.org/ArtificialReefs)

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