Habitat is the Future of Florida Fisheries ANGLERS ARE THE VOICE FOR HABITAT

Florida has lost a vast amount of coastal habitat to development, altered water flows, and pollution from nutrient runoff and contaminants entering the watershed. The only way to protect and improve our fisheries is through habitat conservation and restoration. To do this we must include **Habitat in Fisheries Management Plans.**

Florida's habitats continue to decline, and this is impacting our fisheries:

- Florida Bay has lost 1/3 of its seagrass.
- Freshwater discharges from Lake Okeechobee into the Caloosahatchee and St. Lucie rivers are killing seagrass and oysters, and causing fish kills.
- More than 44% of Florida's wetlands have been lost.
- Tampa Bay has lost nearly 50% of its mangrove forests.
- Charlotte Harbor has lost nearly 60% of its mangrove habitat.
- In the Indian River Lagoon, mosquito ditches and impoundments have made nearly 85% of mangroves less accessible to fish and unusable as nursery habitat.
- In some areas, more than 80% of oyster reefs have been lost.
- The number of Keys flats classified as "severely degraded" due to propeller scarring has increased by 90% over the last 20 years.
- Statewide, changes to the amount, timing, and quality of fresh water flowing into our estuaries are disrupting the estuaries in ways that damage the fisheries.
- Excess nutrients entering our waterways are causing red tides, blue-green algae blooms, brown tides, and other harmful algal blooms that are causing habitat die-offs and fish kills.

More fish means better fishing, which will boost the economic contribution of the recreational fishing sector throughout Florida.



Too many nutrients entering our estuaries cause algae blooms, making many areas uninhabitable for fish.



Harmful algae blooms can block out sunlight for an entire estuary, killing seagrasses, oysters, fish, and shellfish.

How productive our fisheries are depends on us. Anglers need to advocate for better management of fish habitat.



The amount of appropriate habitat determines the population size for each species. In other words, as habitats are lost, the ability of the ecosystem to support healthy fish populations declines.

Of special concern are nursery habitats that support juvenile fish. For many fish species, the amount of healthy nursery habitat determines the adult population size. Often, these habitats are in close proximity to human impacts.

Unlike adults, juvenile fish can't just move to other habitats if their nursery habitats are degraded or destroyed. It takes years for juveniles to grow large enough to be adults in the fishery. This means that many of the declines in fish populations we are seeing today reflect loss of habitat in the past.

These declines will continue unless habitats are protected and restored.

Habitat Produces Fish



Mangroves: Mangroves are "fish factories" that provide critical habitat for adult fish and act as nursery habitats for juveniles. They also provide critical habitat for many prey species.

Saltmarsh: Saltmarshes play a crucial role in supporting the estuarine food chain by providing habitat for invertebrates (crabs, shrimp, oysters), nursery habitat for fish, and are used by fish when inundated by high tides.

Seagrass: Seagrasses provide bottom stabilization as well as food and habitat for many species. About 70% of fish species in Florida spend at least part of their life cycle within seagrass communities. Seagrasses are also essential for maintaining good water quality.

Oysters: Oysters are capable of filtering up to 50 gallons of water per day, providing a natural filter of coastal waters. They also provide habitat for hundreds of species, including juveniles of economically important fish, as well as their prey.

Water Quality: Fish and their prey are very sensitive to the quality of water in which they live. Contaminants, too many nutrients, herbicides, pesticides, other pollutants, and changes in patterns of water flow prevent sportfish and their prey from living in affected habitat areas.

The major declines in Florida fish habitat have a compounding effect on our economy. Recreational fishing is important, not only because so many of us enjoy this sport, but also because it is the backbone of many regional economies throughout Florida. For example, in 2016, recreational and commercial fisheries in Florida generated \$27.8 billion. This economic impact depends on healthy habitats.

We need to protect the habitat that remains.

Healthy marshes filter freshwater runoff, ensuring clean water for fish and their prey and habitats, like seagrasses.



Mangroves





Healthy Habitats = Healthy Fisheries

In the Florida Keys, the success rate of anglers targeting **bonefish** has dropped from a 60-70% chance in the early 90s to a 30% chance in 2012.

For **snook**, spawning biomass (the amount of mature fish) is stable. However, recruitment (the number of juveniles) is declining on the east coast of Florida.

"We see half as many **permit** as we did 15 years ago it is getting really bad" - Capt. Doug Kilpatrick, Commodore of the Lower Keys Guides Association

A 2014 International Union for Conservation of Nature (IUCN) report listed Atlantic **tarpon** as "vulnerable," meaning the species has declined by at least 30%, due in large part to habitat loss and degradation.



The traditional mode of fisheries management is based on fishing effort and harvest—this includes fish that are kept and fish that die after being released. The problem is that this approach is no longer adequate.



It is important to test different habitat restoration designs to see which provides the best habitat for fish.

Habitat Protection and Restoration are the Key to Healthy Fisheries

It is essential that habitat becomes a core component of fisheries management. The historical and continuing degradation and loss of habitat results in loss of fisheries. A fish population that has been overfished can be restored through strict regulations that reduce harvest. In contrast, loss of habitats, especially nursery habitats, limits the size of future generations of fish no matter the fisheries management strategy.

The more **healthy habitat** we have, the better our fisheries are.



A former canal being restored to a shallow mangrove creek for fish nursery habitat.



ANGLERS ARE THE VOICE FOR HABITAT

Healthy Habitats 😑 Healthy Fisheries



What Can Anglers Do?







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- Visit btt.org/habitat to learn how you can contact your representatives and resource managers
- Advocate for habitat protection in your social media posts and attend public meetings to make sure habitats are protected and restored.
- Take measures to avoid disrupting fisheries habitats, report violations, and demand enforcement.

