



# CONSERVING FISH IN THE U.S. CARIBBEAN

The waters off Puerto Rico and the U.S. Virgin Islands are a tropical paradise teeming with life. But the brilliant coral reefs and schools of vibrant fish are at risk from pollution and habitat destruction. Overfishing—catching fish faster than they can reproduce—is a principal threat.



Snapper



Grouper



Queen conch



Parrotfish

## ↓ 5% A YEAR

Fish on the Caribbean reef have been declining at about 5 percent annually for the last decade, according to a team of researchers.<sup>1</sup>

- Overfishing is the most likely cause of the loss of large predator fish, such as Nassau grouper.<sup>1</sup> Overfishing also is linked to the decline of coral reefs.<sup>2</sup>
- Snapper, grouper, conch and parrotfish are being fished too fast to ensure their survival, and unless the rules are changed, fishermen eventually will run out of fish to catch.
- There are no regulations limiting the number or size of snappers, groupers or parrotfish that can be caught. As a result, these fish populations have suffered from decades of high fishing mortality. Congress changed the nation's fisheries law in 2007 to mandate a quick end to overfishing. The law says fishery managers must set limits on amounts of fish caught annually based on sound scientific research.
- The Caribbean Fishery Management Council is considering the adoption of science-based fishing limits and accountability measures to ensure future generations will enjoy the livelihoods and wonders of the Caribbean Sea's bounty.



Fishery managers want to add black grouper to the list of species in decline that need protection. Black groupers can change gender as they grow and age. Heavy fishing pressure on larger fish, generally males, often reduces the number available for reproduction.

<sup>1</sup> Paddock, M.J., et al., Recent Region-wide Declines in Caribbean Reef Fish Abundance. *Current Biology* (2009), DOI: 10.1016/j.cub.2009.02.041.

<sup>2</sup> Mumby, P., et al., Thresholds and the resilience of Caribbean coral reefs. *Nature* (Nov. 1, 2007), 450: 98-101.

## CASE STUDY: PARROTFISH



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## They create sand ...



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## ... and idyllic beaches

Parrotfish are named for their tightly packed mosaic of teeth on the outside of the jawbone that form a parrot-like beak. Parrotfish create the sand on the idyllic Caribbean beaches that draw tourists from around the world. As the fish eat organisms that live on coral, including algae, they bite off bits of coral that are excreted as sand. In a year, a parrotfish can produce up to 200 pounds of sand.

- Parrotfish have become a more important commercial species for fishermen because the number of prized fisheries and marketable fish of other species such as snapper and groupers have dropped to dangerously low levels.<sup>2</sup>
- Parrotfish are herbivorous and keep corals healthy by removing algae and debris that can damage these delicate structures.
- Parrotfish, like most herbivores, serve a vital role as prey for larger fish species.
- The overfishing of parrotfish has been directly linked to the declining health of the Caribbean coral reefs.<sup>2</sup>
- The fishing rate for parrotfish in the U.S. Caribbean is now greater than their reproductive rate.
- The science committee of the Caribbean Fishery Management Council has recommended that fishing be prohibited for certain parrotfish, such as the midnight parrotfish.
- The council, along with the Virgin Islands territorial government, is bound by law to end overfishing and return parrotfish to a healthy population size.

### HOW TO CONTACT US

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### THE U.S. CARIBBEAN FISH CONSERVATION CAMPAIGN

The Pew Environment Group is leading efforts to work with the Caribbean Fishery Management Council and the National Marine Fisheries Service to establish science-based annual catch limits by 2010 for species undergoing overfishing and by 2011 for all other species. The campaign works to bring scientific expertise to bear on fishery management plans and seeks common ground with fishermen to find solutions. PEG is the conservation arm of The Pew Charitable Trusts.

### THE VIRGIN ISLANDS CONSERVATION SOCIETY

VICS is a network of U.S. Virgin Islands conservation groups. VICS and its affiliates work to address a broad range of issues that impact coastal waters, coral reefs and fish populations, including pollution, development and energy projects.