

Herbivores Gardeners of the Reefs

Which fish are herbivores?

Fish that primarily eat seaweed and algae are herbivores. There are many species of herbivorous fishes in Hawai'i. The most commonly fished herbivores are parrotfish (uhu), chubs/ rudderfish (nenuē), and surgeonfish (manini, kole, pualu, umaumalei, kala and palani). These species play many important roles in Hawai'i's nearshore waters.

Why are herbivores important?

Coral reefs rely upon abundant populations of herbivores to remain healthy and resilient. Herbivores play a critical role maintaining the balance between coral and algae on reefs. Herbivorous fish graze the reef, preventing corals from becoming overgrown with algae. These cleared surfaces are ideal for coral larvae to settle and grow. Parrotfish are known to use their "beaks" of tightly packed teeth to scrape algae off corals and produce sand for our beaches.

Herbivorous fish are a culturally significant important food source. Catching and eating herbivorous fish is a part of Hawaii's local culture as well as an important contributor to the islands' food security. Fishing brings communities together as a way to spend time with our friends, teach our keiki, and feed our neighbors and ohana. Some herbivores, such as pāku'iku'i, are important in traditional Native Hawaiian cultural practices.

As a primary catch for many nearshore fishers, herbivores are also economically valuable to the Main Hawaiian Islands.



How does Hawai'i maintain herbivore populations?

Size Restrictions

Statewide, several species of herbivores have size restrictions, which means that fish must be smaller or larger than a certain size to keep. A size limit gives individual fish a chance to reproduce before they are caught. For example, larger female fish produce more, bigger, and better-quality eggs, which enhances future generations of the species.

Place-based Regulations

Place-based fishing regulations can also be used to manage herbivores. In the Kahekili Herbivore Fisheries Management Area on Maui, it is prohibited to fish for any herbivorous species, including sea urchins. Since this area was established in 2009 there has been a 139% increase in parrotfish and a 28% increase in surgeonfish. These increases mean more fish are available to catch outside of the management area; this is called spillover.

Gear Restrictions

In West Hawai'i, some areas have gear restrictions, for example only hook and line fishing is allowed. Gear restrictions are useful because they allow fishing to continue in an area, but limit the numbers of fish or the types of fish that can be easily caught. This protects certain types of fish that may be in decline.



Why are regulations needed?

Regulations are used to ensure responsible and sustainable fishing practices. By limiting the number and/or size of fish that are caught at one time, communities can benefit from more fish in the future and have plenty of food on the table for family and friends. Regulations ensure fair and sustainable fishing opportunities for Hawai'i's present and future fishers.

How can I get involved?

- Fish responsibly and encourage others to do the same. We can start by taking only what is needed for consumption.
- Be part of the discussion and let your voice be heard on the importance of protecting herbivores to help protect our reefs.
- Report violations to fishing regulations to DLNR through their tipline **808-643-DLNR**.

