



Atlas of the Reefs of West Maui

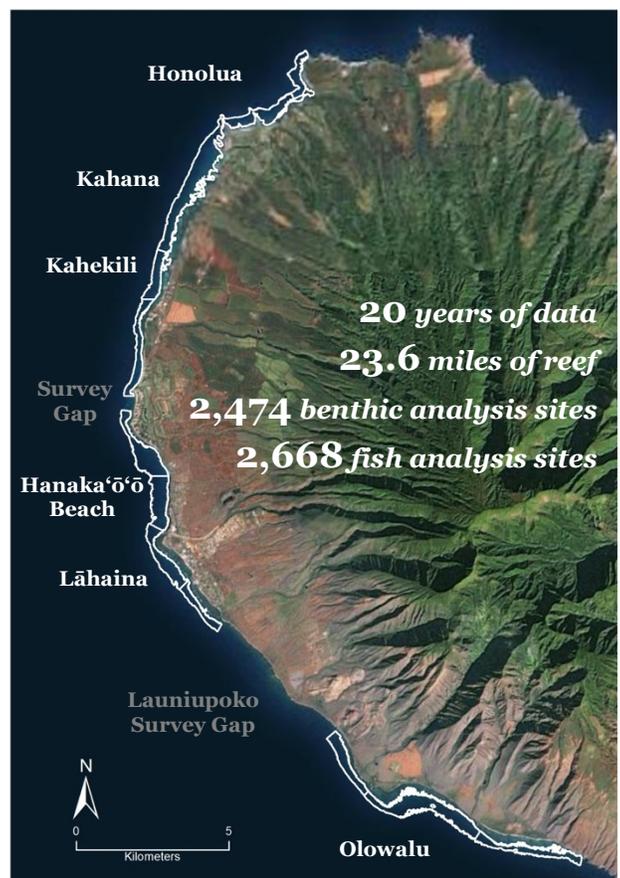
What 20 Years of Research Tells Us

West Maui reef fish and corals © Don McLeish

Healthy, productive coral reefs are vitally important to Hawai'i's people, culture, and economy. West Maui's shallow, protected waters harbor some of the islands' best remaining reefs. Yet, over the past 20 years, researchers have documented significant declines in the health of West Maui's coral reefs and the marine life they support.

Maui's coastal communities recognize this and are embracing our shared responsibility to protect the coastal resources we depend on for our lives and livelihoods. The *Atlas of the Reefs of West Maui* provides communities and government agencies working to restore and manage our reefs with a shared understanding of how, when, and why the reefs have changed, so that they can develop targeted and effective strategies to reduce local impacts and increase reef resilience.

Compiled by The Nature Conservancy, the Atlas is a first of its kind that summarizes survey data collected across 23.6 miles (38 km) of coral reefs and other hardbottom areas extending from the Pali Tunnel on Honoapi'ilani Highway to Lipoa Point north of Honolua Bay. The Atlas details changes in abundance, biomass, and diversity of marine life. The compiled data – collected by public and private organizations at more than 2,600 sites over 20 years (1999-2019) – will help managers direct limited resources to priority areas and targeted strategies that are best able to reduce pressures from a growing population (e.g., land-based sources of pollution, unsustainable harvest of ocean resources) and warming climate (rising sea levels, temperatures, and ocean acidification) on the reefs of West Maui.



ATLAS HIGHLIGHTS

The Big Picture

- Coral cover and reef fish biomass (combined weight of all fish) in West Maui were higher than the statewide average. However, the statewide average reflects decades of declines, indicating reefs statewide and in West Maui have room to recover.
- Most reef tracts had considerable diversity of reef fish.
- Coral cover varied considerably, with lobe, rice, finger, and sandpaper corals tending to be the most abundant.
- Reef tracts with high coral cover tended to have high species richness of benthic (sea floor) organisms.

ATLAS HIGHLIGHTS *By Location*

Honolua	Honolua had below average coral cover yet high benthic diversity when compared to West Maui regional averages. The effect of marine protected areas was detectable in reef fish communities, with the Honolua-Mokulē'ia Marine Life Conservation District having the highest biomass of the largest prized food fishes, which produce the most and highest quality eggs for seeding the next generation.
Kahana	In the West Maui Region, coral cover was the lowest in Kahana, while total fish biomass was medium-high and the biomass of prized food fish was average.
Kahekili	The North Kā'anapali reef tract had average to high abundance, biomass, and diversity of benthic and fish assemblages, with evidence that the Kahekili Herbivore Fisheries Management Area is increasing herbivore biomass and helping restore reef resilience (e.g., increasing crustose coralline algae).
Hanaka'ō'ō Beach	Reef resources at Hanaka'ō'ō Beach were highly variable and of mixed quality, ranging from low to high coral cover and species richness. The fish assemblage had average abundance, biomass, and diversity for the region.
Lāhaina	Lāhaina's reef tract is heavily affected by fishing and has obvious impacts from land-based sources of pollution, yet patches of benthic and reef resources were above average for the region.
Olowalu	Comprised of three reef tracts, the Olowalu survey area ranged from low to high when compared to regional averages. The centermost Olowalu reef tract ranked among the best reef areas in the region with high coral cover and benthic diversity, and medium-high total fish and resource fish biomass.

In general, coral reefs north of Hanaka'ō'ō Beach tended to have higher abundance, biomass, and diversity of reef fish than their counterparts to the south, with the Olowalu reef tract being a notable exception.

