NOAA FISHERIES

Shedding Light on Threatened Corals

How Pacific Coral Traits Change With Depth

15 CORALS in the U.S. Pacific and abroad are listed as threatened under the Endangered Species Act (ESA).

Threats to Pacific Corals

- Ocean warming
- Ocean acidification
- Coral disease
- Land-based pollution
- Unsustainable fishing

Importance of Corals

Coral reefs provide coastal protection for communities, essential habitat for fish and other marine life, and millions of dollars in recreation and tourism to the Pacific Islands.

Learn what NOAA Fisheries is doing to protect threatened corals in the Pacific.

LIGHT LEVELS

WAVE ENERGY

Acropora retusa

ESA THREATENED

Thick, finger-like branches that appear spiky. Typically brown or green in color.

5 METERS (15 feet)

Anacropora spinosa

ESA THREATENED

Closely packed, tapering branches. Pale brown in color, occasionally with white tips.

15 METERS (50 feet)

Acropora speciosa

ESA THREATENED

"Bottlebrush" branches. Cream or light brown in color, with lighter-colored branch tips.

40 METERS (130 feet)

Acropora tenella

ESA THREATENED

Flattened branches, which usually have a central ridge. Typically cream-colored with blue or white tips.

70 METERS (230 feet)

Zooxanthellae—tiny organisms that live inside corals—turn sunlight into sugar. They provide food and oxygen for corals.

Why Do Corals Look Different With Depth?

In shallow water, corals tend to have thicker, vertically-arranged branches that help optimize sunlight exposure and withstand stronger waves. But as the water gets deeper, wave energy and sunlight decrease. Corals in deeper water can have thinner, more horizontally-arranged branches that help maximize exposure to light.

Corals are highly vulnerable to changing environmental conditions such as ocean warming, reduced water quality, and intensifying storms.