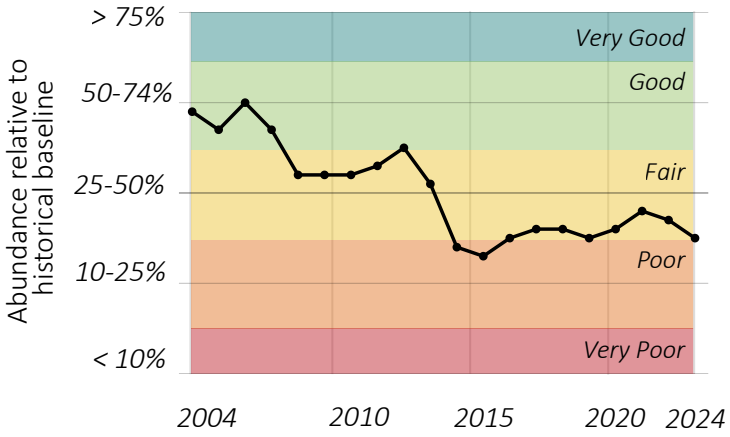
ROCKY INTERTIDAL

California Coast and Ocean Report
Status, Progress, and What's Ahead
2026

Tidepools are one of California's most visited natural wonders, places where someone can crouch down and come face to face with sea stars, anemones, and hermit crabs without a boat or scuba gear. These rocky intertidal habitats, where the shoreline meets the sea, support remarkable biodiversity and offer Californians an unmatched window into ocean life. They are also surprisingly rare and fragile, already showing the effects of heat waves and pollution in ways that scientists are tracking closely.

STATUS

From 2013-2015, a **major marine heat wave and disease outbreak caused populations of ochre sea stars, rockweeds, and other intertidal species to decline**. In some places, rocky intertidal ecosystems are starting to recover from heat wave impacts, but recovery has been highly variable across the state.



The combined status of four key species abundance from 2004- 2023, compared to the historical baseline: rockweeds, surfgrass, mussels, and ochre sea stars.

PROGRESS

California has built **one of the world's most comprehensive tidepool monitoring programs**. The Multi-Agency Rocky Intertidal Network and the citizen science program Snapshot Cal Coast together track hundreds of species at sites across the entire state coastline, generating data that scientists use **to track change over time, detect early warning signs of ecosystem stress, and measure whether marine protected areas are working**.

LOOKING AHEAD

As climate change accelerates, bringing with it impacts like heat waves, increasing ocean temperatures, and rising sea levels, **rocky intertidal ecosystems will be increasingly at risk**. Protecting these rare and sensitive habitats from **overharvest, trampling, pollution, and other human impacts**, as well as **making room for intertidal zones to move inland as sea levels rise**, will help to ensure the long-term health of these ecosystems into the future.

PATTERNS OF CHANGE

California's tidepools are home to algae, invertebrates, fishes, mammals, and shorebirds that feed in these areas. Many of these species are essential for healthy ecosystems. Rockweeds and surfgrasses, for example, provide food and habitat for other species, while ochre sea stars – voracious predators – help maintain biodiversity by keeping other species in check.

As ocean conditions have changed in the last decade, these keystone species have been impacted, resulting in changes to rocky intertidal ecosystems across the state.

NORTHERN CALIFORNIA

Overall, rocky intertidal habitats have changed the least in this region over the last decade. This is the only region in California where ochre sea stars have shown recovery following a major disease outbreak in 2013.

CENTRAL CALIFORNIA

This region has seen major declines in foundational algae and plant species, such as rockweeds and surfgrasses, which began declining in 2019 and have yet to recover.

SOUTHERN CALIFORNIA

Rocky intertidal habitats have changed substantially in this region over the last decade, with marked declines in rockweeds, mussels, and sea stars. Human impact, such as trampling and overharvest, is particularly high in this region.

CHANNEL ISLANDS

In this region, both rockweeds and ochre sea stars declined following a major marine heat wave that lasted from 2014-2016, and these species have not recovered. However, populations of other rocky intertidal species, including the endangered black abalone, have increased in this region.

CALIFORNIA OCEAN PROTECTION COUNCIL

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