

THE HEAT IS ON

Species feeling the effects of climate change



Cassin's Auklet

Ptychoramphus aleuticus

Region:

West Coast

Area affected:

California

Climatic change:

Warming oceans

Impact:

Food web changes

ABOUT THIS SPECIES

Cassin's auklets are robin-size seabirds, gray in color with a white "eyebrow." They range along the Pacific Coast, from the Aleutian Islands to Baja California. Colonies nest on small islands in large groups of up to 100,000 pairs. Each pair lays a single egg in a small burrow or protected site under a fallen tree. Both parents incubate the egg and care for the young. Cassin's auklets also forage at sea in large groups, often congregating at upwelling zones where cold, nutrient-rich water rises to the surface from the deep ocean. The nutrients brought to the surface fertilize the phytoplankton that are the basis of a food chain that supports huge concentrations of marine life. Cassin's auklets can dive up to 100 feet to feed on juvenile squid, crabs, krill and small fish.

DESCRIPTION OF IMPACT

The auklet's fidelity to areas with high concentrations of prey makes them vulnerable to changes in ocean productivity associated with warmer water temperatures. This has been demonstrated more than once in El Niño years, when the eastern Pacific Ocean becomes unusually warm. In 2005 to 2006, for instance, Cassin's auklets in the Farallon Islands near San Francisco suffered near total breeding failure, and hundreds of Cassin's and other seabirds began washing up dead—apparently from starvation—on the coasts of California and Oregon. The culprit appears to have been a "switching-off" of the critically important currents that govern nutrient upwelling. The cold-water currents arrived two months after the auklets' breeding season, leaving nesting birds with no nearby source of food for their chicks. **An even worse die-off of seabirds occurred in 2014, when an estimated total of 50,000 to 100,000 washed ashore.** Again, the birds appeared to have died from starvation rather than illness or exposure to toxins. Scientists studying the birds suspect that a "warm blob" of unusually high-temperature water off the Pacific Coast kept vital nutrients out of reach at the bottom of the ocean, causing a dramatic reduction in plankton, with reverberating effects throughout the food chain.

References

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