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Relative abundance and health of megabenthic invertebrate species on the southern California shelf in 1994

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ABSTRACT

Megabenthic (trawl-caught) invertebrate populations have been monitored locally in southern California for more than 25 years, but the populations have not been described synoptically. This study describes the distribution, relative importance, and health of dominant invertebrate species in the first synoptic survey of the southern California mainland shelf. Invertebrates were collected by 7.6-m head rope semiballoon otter trawls from 114 stations at depths of 10-200 m from Point Conception, California, to the United States-Mexico international border in July-August 1994. Species were identified, counted, examined for anomalies, and weighed. In all, 204 megabenthic invertebrate species from 110 families were collected; mollusks were the most diverse phylum and malacostracan crustaceans the most diverse class. Overall, ridgeback rock shrimp (*Sicyonia ingentis*), California sand star (*Astropecten verrilli*), gray sand star (*Luidia foliolata*), white sea urchin (*Lytechinus pictus*), brokenspine brittlestar (*Ophiura luetkenii*), California sea cucumber (*Parastichopus californicus*), fragile sea urchin (*Allocentrotus fragilis*), and California heart urchin (*Spatangus californicus*) were among the top three species in areal coverage, total abundance, or total biomass. All are echinoderms except the ridgeback rock shrimp. A single anomaly was found among 66,333 invertebrates; burnspot disease occurred on a southern spinyhead (*Metacrangon spinosissima*), a deepwater shrimp from northern Santa Monica Bay. Relative to earlier non-synoptic studies, anomaly prevalence has decreased significantly since the early 1970s, when crabs and sea urchins from outfall areas exhibited exoskeletal lesions and spine loss. Regionwide, megabenthic invertebrate populations appear to be relatively healthy.

Full Text

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