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Importance of jumbo squid *Dosidicus gigas* (Orbigny, 1835) in the pelagic ecosystem of the central Gulf of California

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The Humboldt squid is an important predator in the pelagic ecosystem of the central Gulf of California to the commercial catch of this species has increased over the past decade, probable due to a decrease of several top predators (sharks, large pelagic fish and the marine mammals) and the optimal feeding conditions in this area. Its high abundance and important position in the pelagic food web was quantified through two trophic models of the pelagic ecosystem of the central Gulf of California. Models represented conditions in 1980 and 2002, to document the decadal changes in ecosystem structure and function. The models were composed of 18 functional groups, including marine mammals, birds, fish, mollusks, crustaceans, and primary producers. Model results show direct negative effects on principal prey groups such as myctophids and pelagic red crab and positive effects on sharks, marine mammals and specifically sperm whales. It thus appears that the jumbo squid has an important role in the ecosystem and plays a central part in the overall energy flow as main food item for most top predators, and doe to its predation of organisms on lower tropic levels.

Palabras clave: Specialist, Ecopath, Dosidicus gigas, Jumbo squid, Energy flows, Ecological role, Trophic impact

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