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Population size of the jumbo squid *Dosidicus gigas* in the central Gulf of California, Mexico, based on mark-recapture data

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The use of mark-recapture data can be an alternative to other methods for estimating abundance of the jumbo squid *Dosidicus gigas* and can be used when catch-per-unit-effort data applied to depletion models or estimates from survey research are not available. Two mark-recapture events were analyzed in the central Gulf of California, Mexico, during October 2001 and April 2002 to assess the status of jumbo squid. Results from October 2001 yielded a population size of 20.2 million squid with a 95% CI of 16 to 26.5 million squid (p < 0.05). In April the population size was estimated at 132.6 million squid with a 95% CI of 85.5 to 222 million squid (p < 0.05). The results for October and April show 2 different periods of abundance. Estimates of tag return rates were higher in April (5.5%) than in October (1.7%), and recruitment is the most plausible explanation. In the Gulf of California, recruitment of jumbo squid commonly occurs during April and May.

Palabras clave: Dosidicus gigas, Mark-recapture, population size, Binomial distribution, Likelihood estimator

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