Evaluation of an indigenous fishing calendar using recreational catch rates of snapper *Pagrus auratus* in the North Island of New Zealand

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Recreational fishers participating in a 12 mo diary survey provided per-trip data on number of snapper *Pagrus auratus* caught per unit effort (CPUE) in upper North Island, New Zealand. These data were analyzed for seasonal trends, differences between lunar quarters, and for an ordinal relationship with the daily ranking (on a scale of 1 to 5) of the duration of active feeding as predicted by a Maori fishing calendar. A strong seasonal trend explained 30% of the variation in CPUE, with CPUE peaking in early April and subsequently declining until late August. There was modest evidence of both a difference in CPUE between lunar quarters, and a relationship with the rankings of feeding duration given by the fishing calendar (p-values $\approx 0.1$), but neither explained more than 2% of the variation in seasonally detrended CPUE. Days having the highest ranking of feeding duration sometimes had below average CPUE, but were never among the extremely low CPUE days. Conversely, days having the lowest ranking of feeding duration sometimes had above average CPUE, but never had extremely high CPUE.

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Fishing calendar · CPUE · Snapper · Lunar effects · Seasonal effects · New Zealand · Recreational fishing