Data were collected from 28 artificial reefs varying in size and supporting different densities of transplanted kelp (Ecklonia radiata). We used rope fibre habitats (RFHs) attached to the benthos of the reefs and destructive sampling of understory algae to collect data on epifaunal invertebrates that naturally colonised the reefs (e.g. secondary productivity, species richness, Shannon diversity).

Epifauna were also separated into different feeding strategies and the productivity of each group was determined (detritivore, herbivore, carnivore, MPB (microphytobenthic feeder), filter feeder, MPB/detritivore).

Terms:

Patch\_size = reef area (m2)

Kelp\_density = kelp transplant density: zero = 0, low = 4.1, medium = 8.3, high = 16.6 kelp/m2

Productivity = secondary productivity (mg/day) of epifauna associated with understory algae destructively sampled from the reef (mg/day/g(dry weight of algae) or RFH (mg/day/RFH)

PB = productivity to biomass ratio

Sampled area = the area of the reef (m2) that was destructively sampled for epifauna

Diversity = Shannon diversity

Ulva\_density = dry biomass (g) of Ulva per m2 of reef surface area determined by destructive sampling

Productivity\_per\_area = secondary productivity of epifauna per m2 of reef surface area

cent\_ = RFHs placed in the centre of reefs

n\_ = RFHs placed at the northern (light exposed) edge of reefs