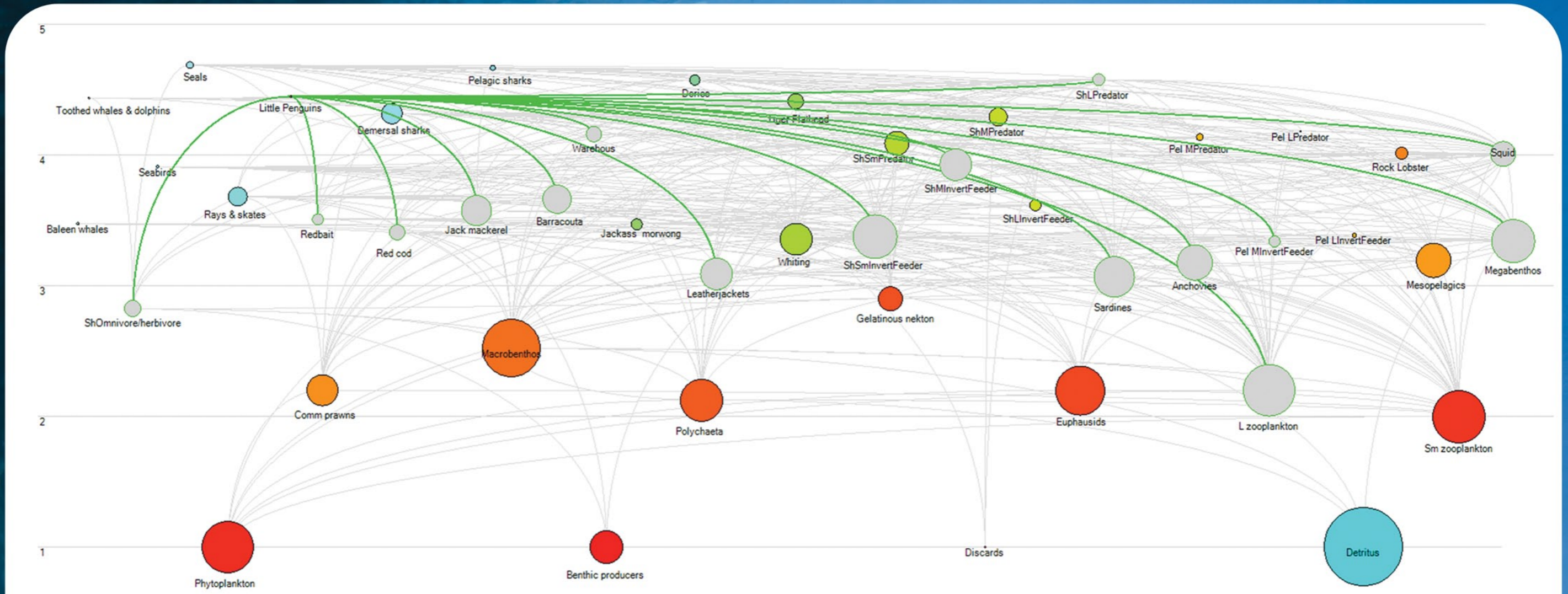


The marine ecosystem of Little Penguins in Bass Strait, Australia

An integrate snapshot using ecosystem modelling - Ecopath

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Trophic flows in the north-west Bass Strait. Each functional group is represented in scale to the group's biomass. Little penguins have a small biomass, but their diet strong overlaps with diets of key coexisting predator species, short-tailed shearwaters (*Ardena tenuirostris*), crested terns (*Thalasseus bergii*) and Australian fur-seals (*Arctocephalus pusillus doriferus*).

Food web models are powerful tools for describing ecosystem structure, for quantifying direct and indirect effects of environmental factors and human activities on trophic relationships and for examining the ecological role of the species.

Even such small fishery activity has a potential interaction with penguins via bycatch in commercial gillnet fishery, which represents 35% of the total landing in north-west Bass Strait.



Mixed trophic impact analysis that estimates the negative or positive effect of changes in the biomass for each functional groups, including fishery. An impact on biomass of Australian anchovy (*Engraulis australis*), barracouta (*Thyrstites atun*) or sardines (*Sardinops sagax*) is likely to have a negative effect on little penguin biomass.

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