

The following supplements accompany the article

Effective protection of fish on inshore coral reefs depends on the scale of mangrove–reef connectivity

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Table S1: Distribution of reefs into treatment groups

Location	Reserve		Fished	
	Near	Far	Near	Far
Great Sandy	1	1	3	4
Woongarra	2	2	1	1

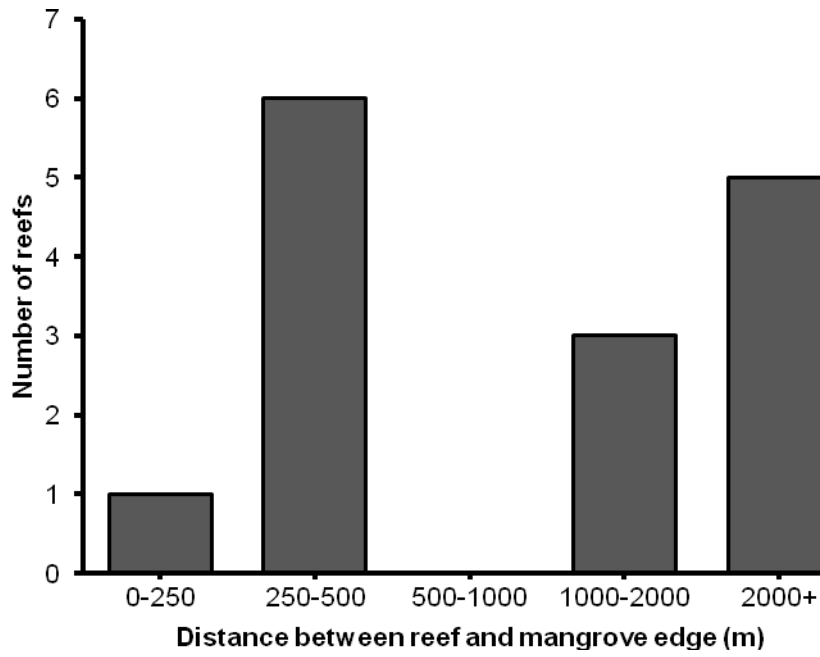


Figure S1: Distance of all reefs to mangroves in the Hervey Bay. The average distance of 'near' and 'far' reefs to mangroves in Hervey Bay is 370 and 3240m respectively.

Table S2: Species of fish in each functional group.

Functional group	Family	Species
Harvested fish	Haemulidae	<i>Diagramma pictum</i>
	Labridae	<i>Choerodon cephalotes, Choerodon schoenleinii</i>
	Latidae	<i>Psammoperca waigiensis</i>
	Lethrinidae	<i>Lethrinus laticaudis</i>
	Lutjanidae	<i>Lutjanus carponotatus, Lutjanus russelli, Lutjanus fulviflamma</i>
	Mullidae	<i>Upeneus tragula</i>
	Platycephalidae	<i>Platycephalus fuscus</i>
	Scaridae	<i>Scarus ghobban</i>
	Scombridae	<i>Scomberomorus queenslandicus</i>
	Serranidae	<i>Epinephelus coioides, Plectropomus maculatus</i>
	Siganidae	<i>Siganus fuscescens</i>
	Sparidae	<i>Acanthopagrus australis</i>
	Herbivorous fish	Acanthuridae
Scaridae		<i>Scarus ghobban</i>
Siganidae		<i>Siganus fuscescens</i>
Kyphosidae		<i>Kyphosus sydneyanus</i>
Pomacentridae		<i>Abudefduf bengalensis, Neopomacentrus bankeri, Pomacentrus bankanensis, Pomacentrus simsiang</i>
Piscivorous fish	Lutjanidae	<i>Lutjanus carponotatus, Lutjanus fulviflamma, Lutjanus russelli, Symphorus nematophorus</i>
	Platycephalidae	<i>Cymbacephalus nematophthalmus, Platycephalus fuscus</i>
	Scombridae	<i>Scomberomorus queenslandicus</i>
	Serranidae	<i>Epinephelus coioides, Plectropomus maculatus</i>
	Sparidae	<i>Acanthopagrus australis</i>
	Sphyraenidae	<i>Sphyraena obtusata</i>
Prey fish	Atherinidae	<i>Atherinomorus vaigiensis</i>
	Gerreidae	<i>Gerres subfasciatus</i>

Table S3: Results of correlation analysis between distance to boat ramp (m) and distance to mangroves (m)

Correlation	n	Pearson Correlation	p
Distance to boat ramp (m) vs. distance to mangroves (m)	75	-0.114	0.328

Table S4: Summary of PERMANOVA results examining spatial variation in the abundance of harvested fish species and fish functional groups. Bold text indicates significant results ($p < 0.05$).

Source of variation	df	p value			
		Harvested fish	Herbivorous fish	Piscivorous fish	Prey fish
Connectivity (C)	1	0.746	0.724	0.467	0.666
Status (S)	1	0.002	0.002	0.009	<0.001
Location (L)	1	0.624	0.890	0.474	0.819
Distance to ramp	1	0.097	<0.001	0.591	0.025
Hard coral cover	1	0.091	0.334	0.569	0.163
C x S	1	0.007	0.002	0.008	<0.001
S x L	1	0.102	0.147	0.920	0.203
C x L	1	0.344	0.620	0.560	0.458
C x S x L	1	0.181	0.297	0.360	0.382

Table S5: Summary of PERMANOVA pairwise test results examining significant interactions for the fish abundance. C, Connectivity; L, Location; S, Status; N, Near to mangroves; F, Far from mangroves. Bold text indicates significant results ($p < 0.05$).

Analysis	Functional group	Interaction	p	
Abundance	Harvested fish	C x S	N: <0.001	F: 0.204
	Herbivorous fish	C x S	N: 0.005	F: 0.106
	Prey fish	C x S	N: <0.001	F: 0.218
	Piscivorous fish	C x S	N: <0.001	F: 0.09

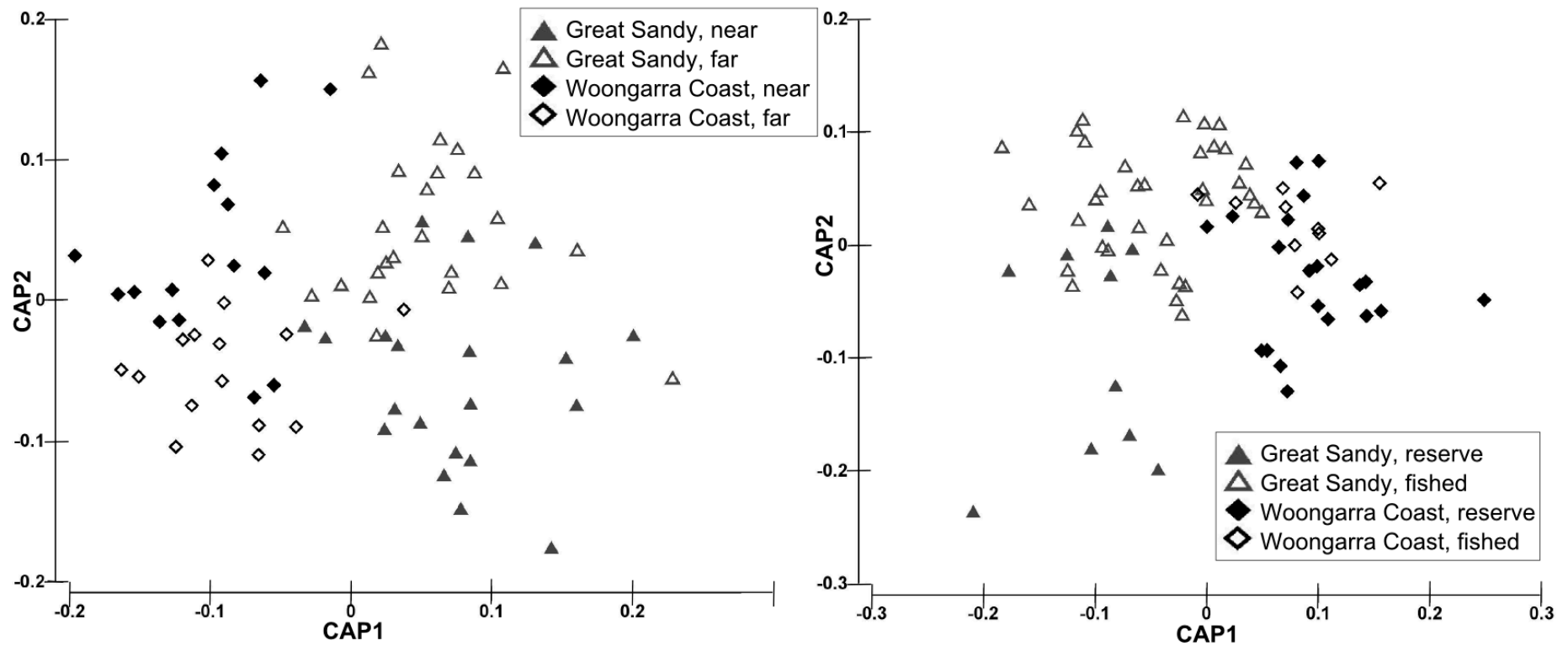


Figure S2: Constrained CAP ordination illustrating the interactive effect of location and mangrove-reef connectivity on coral reef fish (left side) ($\delta^2 = 0.96$, $m = 14$, $LoA = 65\%$) and the interactive effect of location and status (right side) ($\delta^2 = 0.86$, $m = 10$, $LoA = 68\%$). Ordinations based on modified Gower (Log 2) dissimilarities.