The following supplements accompany the article

Global baselines and benchmarks for fish biomass: comparing remote reefs and fisheries closures

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Marine Ecology Progress Series 612: 167–192 (2019)

Table S1. Data sources in the evaluation of global baselines and benchmarks as well as the total number of samples provided at the ecoregion level and time periods.

Contact person	Institution	Ecoregion	Year	Number of samples
Tim McClanahan	Wildlife Conservation Society	Delagoa	2009	3
Tim McClanahan	Wildlife Conservation Society	Delagoa	2010	5
Tim McClanahan	Wildlife Conservation Society	East African Coral Coast	2012	4
Tim McClanahan	Wildlife Conservation Society	East African Coral Coast	2015	5
Tim McClanahan	Wildlife Conservation Society	East African Coral Coast	2013	7
Tim McClanahan	Wildlife Conservation Society	East African Coral Coast	2008	1
Tim McClanahan	Wildlife Conservation Society	East African Coral Coast	2010	1
Tim McClanahan	Wildlife Conservation Society	East African Coral Coast	2009	7
Tim McClanahan	Wildlife Conservation Society	East African Coral Coast	2006	4
Tim McClanahan	Wildlife Conservation Society	East African Coral Coast	2014	8
Tim McClanahan	Wildlife Conservation Society	East African Coral Coast	2005	3
Tim McClanahan	Wildlife Conservation Society	East African Coral Coast	2007	3
Tim McClanahan	Wildlife Conservation Society	East African Coral Coast	2011	3
Tim McClanahan	Wildlife Conservation Society	East African Coral Coast	2016	4
Tim McClanahan	Wildlife Conservation Society	Western and Northern Madagascar	2009	4
Alan Friedlander	National Geographic Society/University of Hawaii	Seychelles	2016	70
Alan Friedlander	National Geographic Society/University of Hawaii	Seychelles	2009	27
Nick Graham	Lancaster University	Seychelles	2011	3
Nick Graham	Lancaster University	Chagos	2010	26
Nick Graham	Lancaster University	Chagos	2012	7
Sukmaraharja Tarigan	Wildlife Conservation Society	Lesser Sunda	2009	28

Contact person	Institution	Ecoregion	Year	Number of samples
Camilo Mora	University of Hawaii	Exmouth to Broome	2009	4
Robert Schroeder	National Oceanic and Atmospheric Administration Fisheries	Mariana Islands	2005	5
Robert Schroeder	National Oceanic and Atmospheric Administration Fisheries	Mariana Islands	2009	36
Robert Schroeder	National Oceanic and Atmospheric Administration Fisheries	Mariana Islands	2007	4
Nick Graham	Lancaster University	Central and Southern Great Barrier Reef	2010	15
Laurent Vigliola	UMR ENTROPIE	New Caledonia	2013	23
Laurent Vigliola	UMR ENTROPIE	New Caledonia	2012	45
Laurent Wantiez	University of New Caledonia	New Caledonia	2016	17
Laurent Wantiez	University of New Caledonia	New Caledonia	2014	33
Laurent Wantiez	University of New Caledonia	New Caledonia	2013	19
Laurent Wantiez	University of New Caledonia	New Caledonia	2015	9
Shaun Wilson	Kensington/University of Western Australia	Fiji Islands	2006	12
Laurent Vigliola	UMR ENTROPIE	Fiji Islands	2013	32
Robert Schroeder	National Oceanic and Atmospheric Administration Fisheries	Phoenix/Tokelau/Northern Cook Islands	2008	4
Laurent Vigliola	UMR ENTROPIE	Tonga Islands	2013	6
Robert Schroeder	National Oceanic and Atmospheric Administration Fisheries	Hawaii	2008	140
Robert Schroeder	National Oceanic and Atmospheric Administration Fisheries	Hawaii	2009	17
Robert Schroeder	National Oceanic and Atmospheric Administration Fisheries	Hawaii	2007	28
Robert Schroeder	National Oceanic and Atmospheric Administration Fisheries	Hawaii	2005	7
Graham Edgar	University of Tasmania	Samoa Islands	2012	10
Alan Friedlander	National Geographic Society/University of Hawaii	Tonga Islands	2016	1
Alan Friedlander	National Geographic Society/University of Hawaii	Tonga Islands	2016	18
Jennifer Caselle	University of California Santa Barbara	Tonga Islands	2016	18

Contact person	Institution	Ecoregion	Year	Number of samples
Robert Schroeder	National Oceanic and Atmospheric Administration Fisheries	Line Islands	2008	42
Camilo Mora	University of Hawaii	Line Islands	2005	51
Alan Friedlander	National Oceanic and Atmospheric Administration Fisheries	Rapa-Pitcairn	2014	7
Alan Friedlander	National Oceanic and Atmospheric Administration Fisheries	Rapa-Pitcairn	2014	7
Laurent Vigliola	UMR ENTROPIE	Tuamotus	2013	42
Alan Friedlander	National Geographic Society/University of Hawaii	Rapa-Pitcairn	2012	71
Alan Friedlander	National Geographic Society/University of Hawaii	Revillagigedos	2016	40
Alan Friedlander	National Geographic Society/University of Hawaii	Clipperton	2016	25
Alan Friedlander	National Geographic Society/University of Hawaii	Easter Island	2011	20

Table S2. Criteria applied in the global baselines and benchmarks paper.

Variable	Criteria applied in study
Total Biomass	Includes all fish >10cm in the following families: Anthiinae, Acanthuridae, Balistidae, Carangidae, Chaetodontidae, Cirrhitidae, Diodontidae, Ephippidae, Haemulidae, Holocentridae, Kyphosidae, Labridae, Lethrinidae, Lutjanidae, Monacanthidae, Mullidae, Nemipteridae, Pempheridae, Pinguipedidae, Pomacanthidae, Serranidae, Siganidae, Scaridae, Sparidae, Synodontidae, Sphyraenidae, Tetraodontidae and Zanclidae.
Time since fishing closure	The time period (in years) during which high compliance management was implemented in a marine closure.
Travel time	Travel time was computed using a cost–distance algorithm that computes the least 'cost' (in minutes) of travelling between two locations on a regular raster grid (Maire, 2016)
Gravity	Gravity was calculated by taking the population of the nearest major market/population and dividing that by the squared travel time between the market/population and the site.
Population	Human population density was obtained from the Marine Socio-Environmental Covariates (MSEC) data set (Yeager *et al.*, 2017). Population estimates used were for the year 2015 which are the most recently available population estimates.
Reef area	Reef area (km^2) was determined within a radius of 20 km from quaryable layer of the Marine Socio-Environmental Covariates (MSEC) data set (Yeager *et al.*, 2017).
Photosynthetically Available Radiation (PAR)	PAR (einstein m^{-2} day^{-1}) used in the global benchmark data set was obtained from GlobColour (www.globcolour.info/). Site PAR values are means of the period from the year 2002 (the earliest PAR data available on GlobColour) to the time of sampling for each site.
Chlorophyll-a	Chlorophyll-a data (mg m^{-3}) used in the global benchmark data set was obtained from GlobColour (www.globcolour.info/). Site chlorophyll-a values are means of the period from the year 1998 (the earliest chlorophyll-al data available on GlobColour) to the time of sampling for each site.
Net primary productivity	Net primary productivity (mg C (m^2 day)$^{-1}$) data for each site were obtained from the Marine Socio-Environmental Covariates (MSEC) data set (Yeager *et al.*, 2017).
Wave energy	Wave energy (kW m^{-1}) were obtained from the Marine Socio-

Variable	Criteria applied in study
	Environmental Covariates (MSEC) data set (Yeager *et al.*, 2017).
Hard coral	In shallow sites 6 to 9 10-m standard line-intercept transects were completed in which coral under the line was recorded to the nearest centimeter. In deeper sites, visual estimates of hard coral were made in ~15 2-m^2 quadrats.
Depth	The depths of reef surveys were grouped into the following categories: <4m, 4–10 m, >10 m to account for broad differences in reef fish community structure attributable to a number of inter-linked depth-related factors.
Habitat	(i) Slope - typically on the ocean side of a reef, where the reef slopes down into deeper water. (ii) Crest - the section that joins a reef slope to the reef flat. The zone is typified by high wave energy (that is, where the waves break). It is also typified by a change in the angle of the reef from an inclined slope to a horizontal reef flat. (iii) Flat - typically horizontal and extends back from the reef crest for 10's to 100's of meters; (iv) Lagoon/back reef - where the continuous reef flat breaks up into more patchy reef environments sheltered from wave energy. These habitats can be behind barrier/fringing reefs or within atolls. Back reef habitats are similar broken habitats where the wave energy does not typically reach the reefs and thus forms a less continuous 'lagoon style' reef habitat.
High compliance closures	Age >15 years, and no fishing is enforced.
Remoteness	A remote reef area is an area that requires a travel time of >9 hrs. from a permanent fishing community using commonly used fisher transport to access the reef.

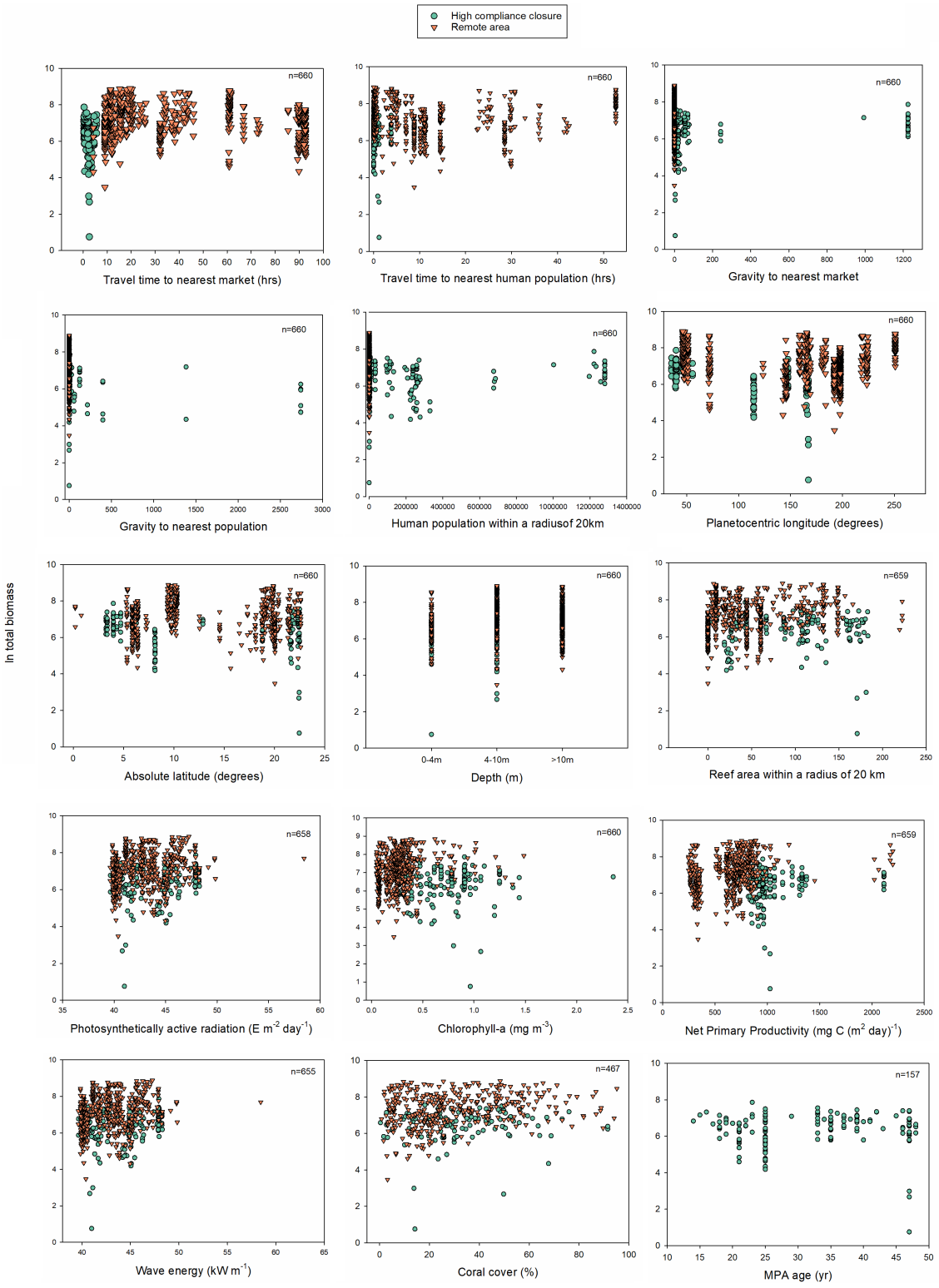

Figure S1. Bivariate plots showing relationships and levels of significance between fish biomass and the variables travel time to nearest market, travel time to nearest human population, gravity to nearest market, gravity to nearest human population, human population within a radius of 20km, planetocentric longitude, absolute latitude, depth, reef area within a radius of 20km, photosynthetically active radiation, chlorophyll-a, net primary productivity, wave energy, coral cover and MPA age.