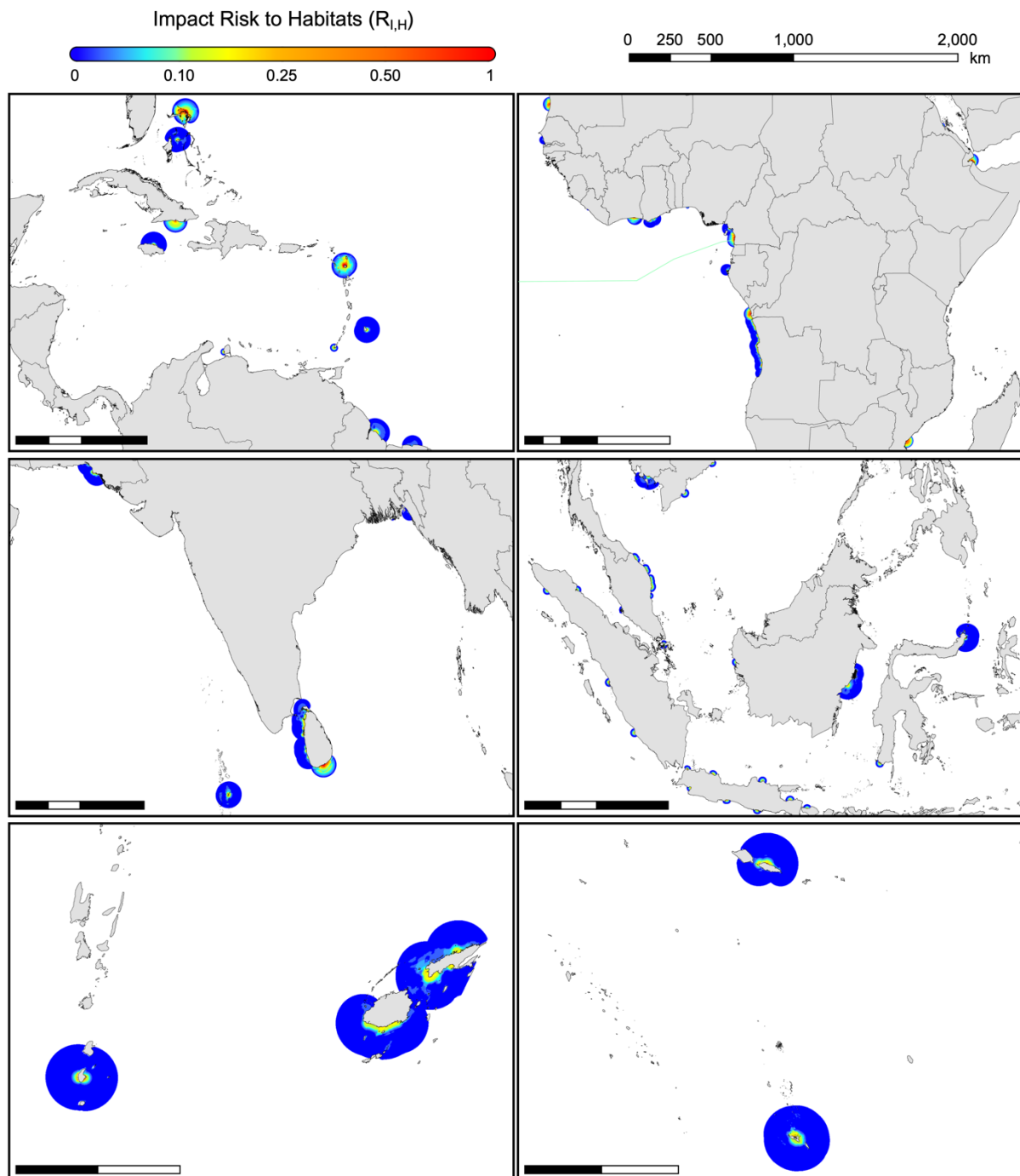
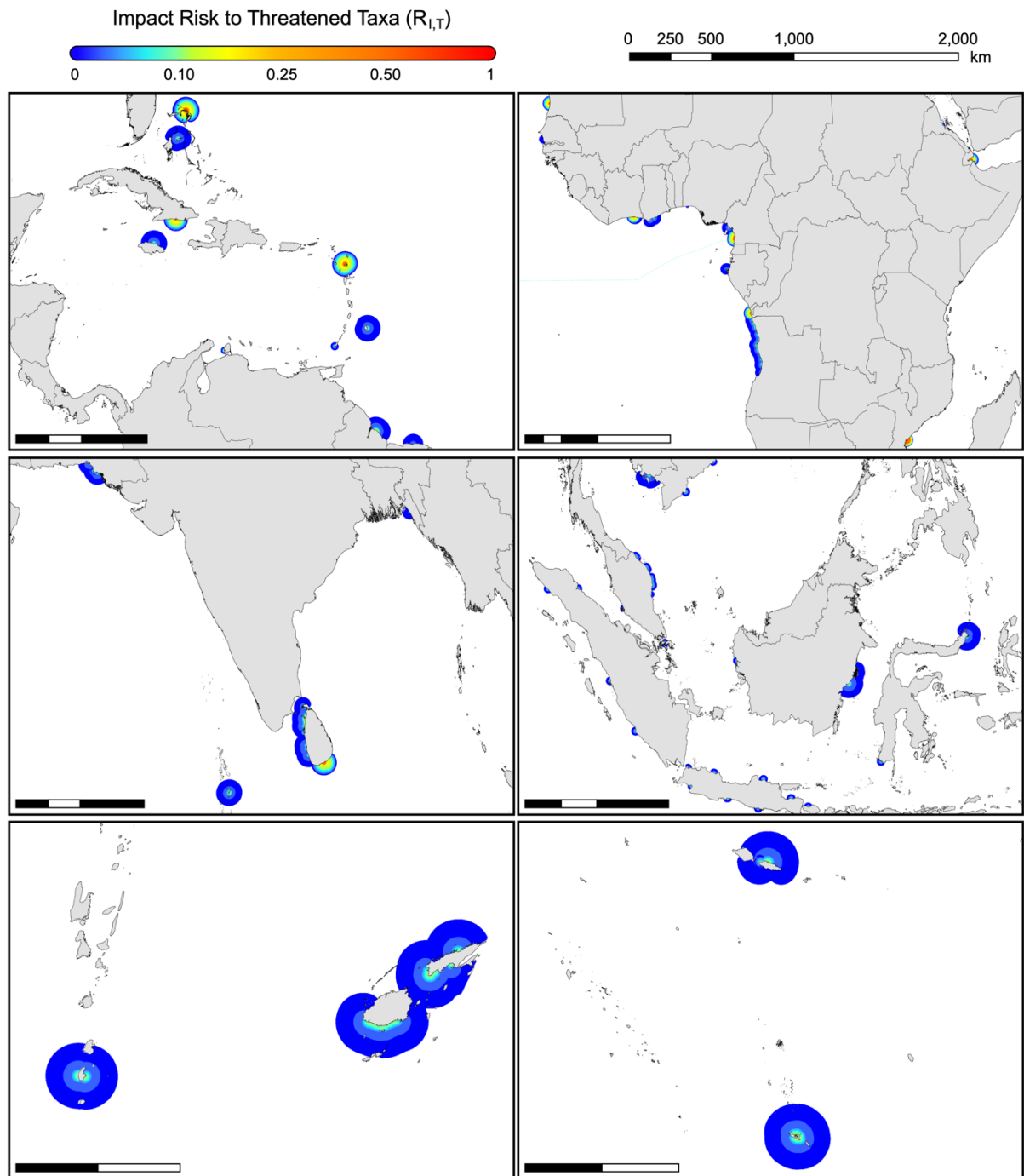


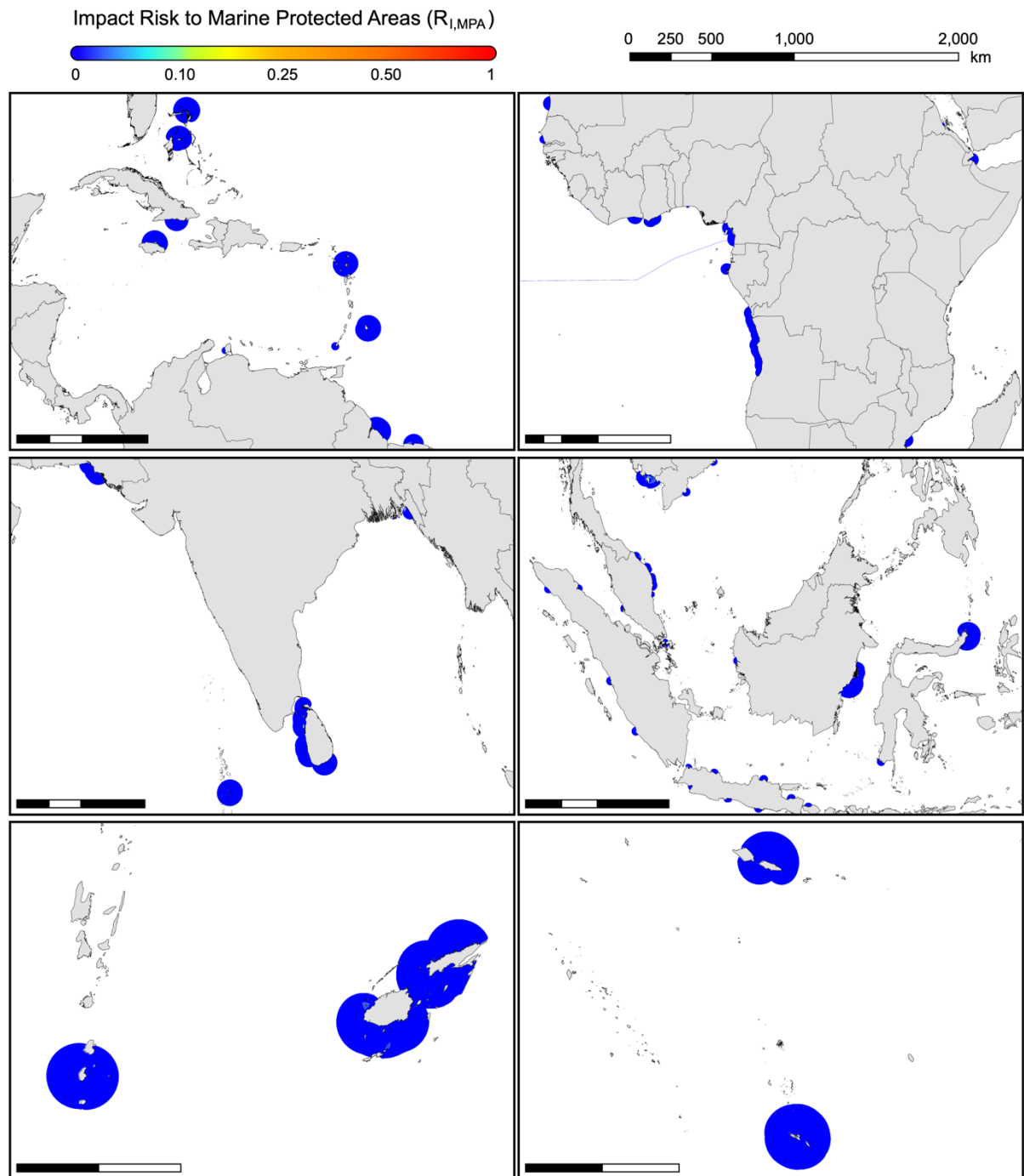
## Supplementary Figures



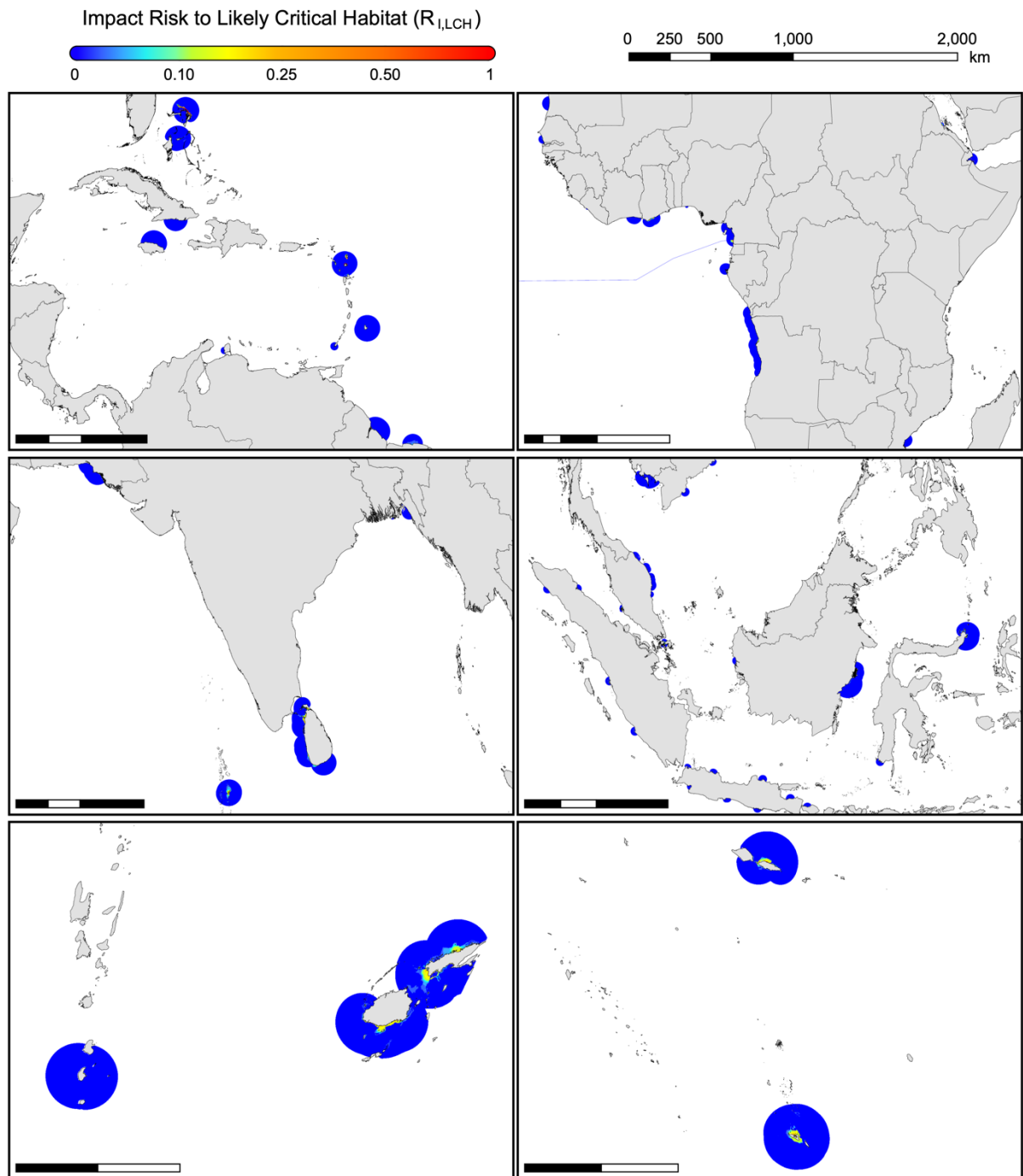
**Supplementary Fig. 1.** Larger regional maps of the distribution of impact risks to near- and off-shore habitats ( $R_{I,H}$ ) from each DFI project site (see Fig. 1b).



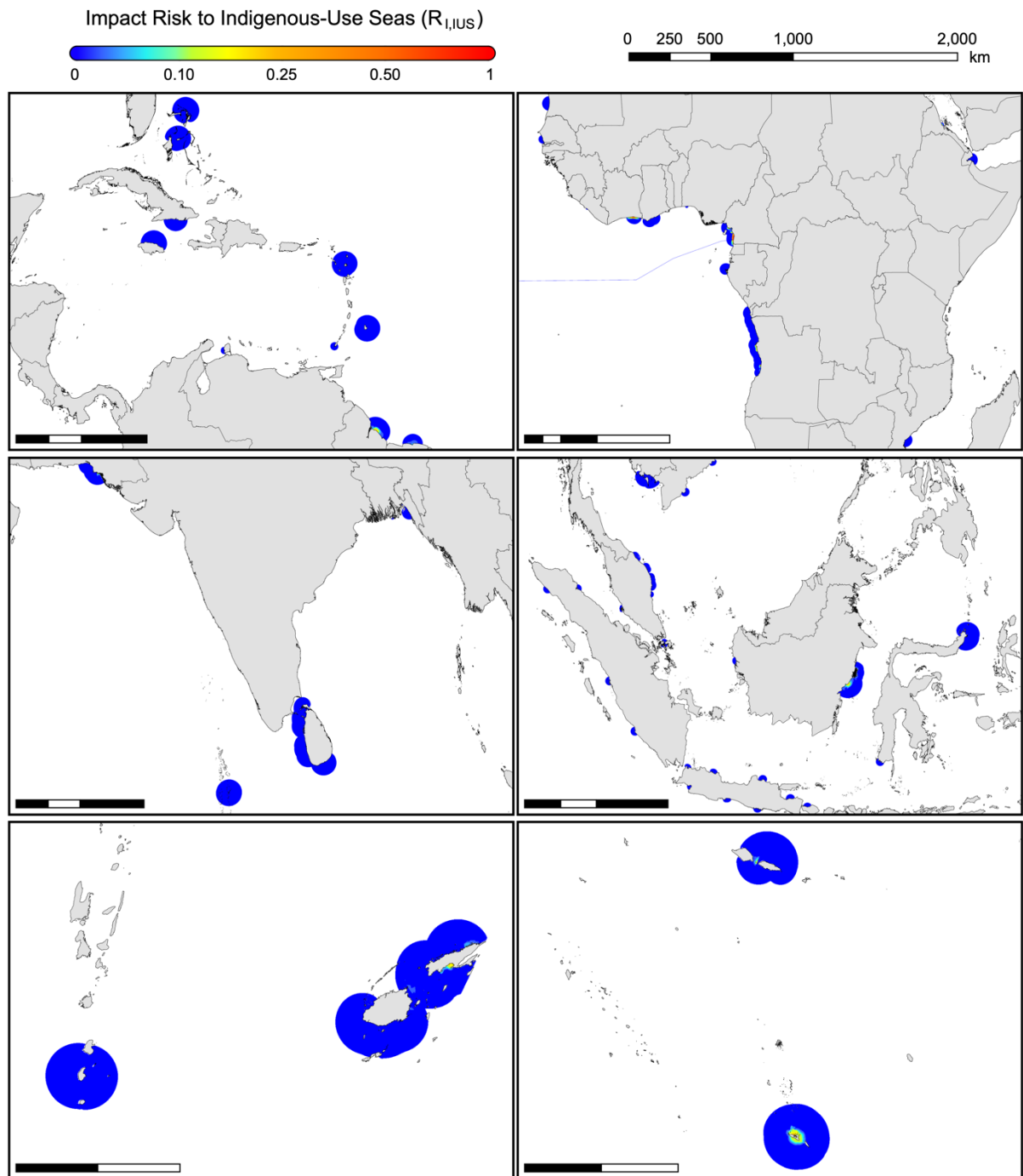
**Supplementary Fig. 2.** Regional maps of the distribution of impact risks to threatened taxa ( $R_{I,T}$ ).



**Supplementary Fig. 3.** Regional maps of the distribution of impact risks to marine protected areas ( $R_{I,MPA}$ ).



**Supplementary Fig. 4.** Regional maps of the distribution of impact risks to likely critical habitats ( $R_{I,LCH}$ ).



**Supplementary Fig. 5.** Regional maps of the distribution of impact risks to Indigenous-use seas ( $R_{I, IUS}$ ).

## **Supplementary Tables**

**Supplementary Table 1.** Description of 114 projects financed by Chinese development finance institutions (DFIs) included in this study. Additional finance characteristics (including spatial data) for each project are available from the Chinese Overseas Development Finance (CODF) dataset (Ray et al. 2021).

ID	Project Description	Country	Year Financed	Project Type	Project Type Details
123	Faleolo International Airport Terminal	Samoa	2015	Airport	
396	Maurice Bishop International Airport Upgrade	Grenada	2017	Airport	
792	Roberts International Airport Rehabilitation	Liberia	2017	Airport	
991	Expansion, Upgrading of Ibrahim Nasir International Airport in Hulhule'	Maldives	2015	Airport	
993	Construction and Development of the Seaplane Facilities at VIA	Maldives	2018	Airport	Includes land reclamation
565	Luanda/Soyo Highway Construction (Bridge over M'Bridge River)	Angola	2011	Bridge	
262	Maputo-Catembe Bridge Construction	Mozambique	2012	Bridge	
992	China Maldives Friendship Bridge	Maldives	2016	Bridge	
130	Foundiougne Bridge Construction	Senegal	2016	Bridge	
462	Karnaphuli River Bridge	Bangladesh	2014	Bridge	
141 <sup>a</sup>	Abaco infrastructure works: Little Abaco Bridge	Bahamas	2012	Bridge	
20	Convention Centre and Government Offices	Samoa	2008	Facility	Offices
42	Rehabilitation of Sam Lord's Castle Hotel	Barbados	2015	Facility	Hotel
419	Tonga High school Sports Complex for 2019 Pacific Games	Tonga	2017	Facility	Sports complex
801	Attorney General's Office/Mozambican Office of Auditor	Mozambique	2011	Facility	Offices
672	National Telecom Broadband Network Project (Phase II)	Cameroon	2015	Facility	Offices
532	Bunkering Facility and Tank Farm Project at Hambantota port	Sri Lanka	2009	Facility	Port facilities
767	Cape Coast Kotokuraba Market Project	Ghana	2012	Facility	Marketplace
656	Limbe Stadium Construction	Cameroon	2009	Facility	Stadium
994	Development of 1000 Housing Units in Hulhumale	Maldives	2010	Facility	Housing development
997	Development of 1530 Housing Units in Hulhumale	Maldives	2017	Facility	Housing development
1014	West Side of the Lae Tidal Basin and Huon Industrial Park	Papua New Guinea	2016	Facility	Industrial Park
544	Oil refinery	Venezuela	2010	Oil Refinery	
229	Sino-Myanmar Pipeline	Myanmar	2009	Pipeline	
805	Beira Fishing Port Rehabilitation	Mozambique	2014	Port	Fishing port
3	Abidjan Port Expansion	Cote d'Ivoire	2014	Port	Shipping port
141 <sup>a</sup>	Abaco infrastructure works: North Abaco Port	Bahamas	2012	Port	Shipping port
225	Kribi Port Project (Phase I)	Cameroon	2011	Port	Shipping port
311	Nouakchott Friendship Port Expansion	Mauritania	2009	Port	Shipping port
381	Santiago de Cuba port	Cuba	2015	Port	Shipping port
452	St John Port	Antigua & Barbuda	2016	Port	Shipping port
703	Kribi Port Project (Phase II); PEBC portion	Cameroon	2016	Port	Shipping port
707	Doraleh Multipurpose Port and Damerjob Livestock Port Project	Djibouti	2016	Port	Shipping port

952	Hambantota Deep Sea Port Phase II (PPP)	Sri Lanka	2012	Port	Shipping port
592	Cabinda Breakwater Construction	Angola	2016	Port	Shipping port
33	PLTU Nangroe Aceh Darussalam Thermal Power Plant	Indonesia	2009	Power Plant	Coal
38	Tanjung Kasam Power Station with Sinosure	Indonesia	2014	Power Plant	Coal
45	Bengkulu Power Station	Indonesia	2016	Power Plant	Coal
52	Paiton Power Plant Unit 9	Indonesia	2008	Power Plant	Coal
53	Vinh Tan 2 Power Plant	Vietnam	2010	Power Plant	Coal
55	Vinh Tan 1 Coal-Fired Thermal Power Plant	Vietnam	2014	Power Plant	Coal
61	Teluk Sirih Coal-Fired Power Plant (224MW)	Indonesia	2013	Power Plant	Coal
63	Adipala Power Station	Indonesia	2009	Power Plant	Coal
70	Celukan Bawang	Indonesia	2012	Power Plant	Coal
86	Cilacap Sumber Power Station with BOC and Bank Rakyat Indonesia	Indonesia	2013	Power Plant	Coal
154	Hubco Coal Power Plant	Pakistan	2017	Power Plant	Coal
171	Parit Baru Power Station	Indonesia	2011	Power Plant	Coal
174	Payra 1320 MW Thermal Power Plant Project (Kalapara Phase I)	Bangladesh	2016	Power Plant	Coal
228	Vung Ang Power Station	Vietnam	2011	Power Plant	Coal
309	Norochcholai (Lakvijaya) Power Plant Phase 2	Sri Lanka	2009	Power Plant	Coal
336	Pelabuhan Ratu Power Station	Indonesia	2009	Power Plant	Coal
354	Takalar Steam Coal-Fired Power Plant (200MW)	Indonesia	2014	Power Plant	Coal
359	Quang Ninh-1 Unit 1	Vietnam	2009	Power Plant	Coal
367	Rembang Power Station	Indonesia	2008	Power Plant	Coal
398	Pacitan Coal Power Plant	Indonesia	2009	Power Plant	Coal
403	Hai Phong Thermal Power Plant Phase 2	Vietnam	2008	Power Plant	Coal
408	Java-7 Coal-Fired Power Plant (2000MW)	Indonesia	2016	Power Plant	Coal
434	Indramayu Sumuradem Power Station	Indonesia	2008	Power Plant	Coal
495	Cilacap Power Plant Extension Project	Indonesia	2013	Power Plant	Coal
935	Nagan Raya Thermal Power Plant (Meulaboh Power Station)	Indonesia	2009	Power Plant	Coal
957	Vinh Tan Coal Fired Power Plant III Unit I, II, III	Vietnam	2015	Power Plant	Coal
111	Duyen Hai 1 with Sinosure	Vietnam	2011	Power Plant	Coal
112	Duyen Hai 3 with Sinosure/BOC & ICBC	Vietnam	2012	Power Plant	Coal
113	Duyen Hai 2 Thermal Power Plant	Vietnam	2017	Power Plant	Coal
334	Pangkalan Susu Unit 3 & 4 Coal Fired Power Plant	Indonesia	2013	Power Plant	Coal
931	Pangkalan Susu Power Plant Phase II Unit I	Indonesia	2014	Power Plant	Coal
1040	Hunutlu Thermal Power Plant Project with ICBC, BOC	Turkey	2019	Power Plant	Coal
526	Mabini LNG hub	Philippines	2019	Power Plant	Gas
332	Karachi Nuclear Power Complex (K-2/K-3)	Pakistan	2014	Power Plant	Nuclear
743	Hirgigo Thermal Power Plant Upgrade	Eritrea	2014	Power Plant	Oil
996	STELCO 5th Power Development	Maldives	2016	Power Plant	Oil
91	East Coast Rail Link	Malaysia	2016	Railway	



277	SGR Phase I - Mombasa to Nairobi (Commercial Loan portion)	Kenya	2014	Railway
517	Expansion And Reconstruction Of Existing Line ML-1	Pakistan	2017	Railway
816	Lagos-Ibadan Railway Modernization (Project II)	Nigeria	2017	Railway
104	Dhaka-Chittagong railway	Bangladesh	2014	Railway
156	Subic-Clark Railway Project	Philippines	2016	Railway
959	National Infrastructure Projects (Dalian IV)	Suriname	2016	Road
955	Colombo-Katunayake Expressway (Construction)	Sri Lanka	2008	Road
956	E01 Southern Expressway (Construction)	Sri Lanka	2015	Road
5	Abidjan-Grand Bassam Highway Construction	Cote d'Ivoire	2012	Road
197	Karachi-Lahore highway	Pakistan	2014	Road
203	North/South toll highway construction	Jamaica	2013	Road
493	East Coast Demerara highway	Guyana	2017	Road
564	Luanda/Soyo Highway Construction (for Nzeto/Soyo section)	Angola	2011	Road
566	Luanda/Soyo Highway Construction (Package 5)	Angola	2011	Road
567	Luanda/Soyo Highway Construction (Package 6)	Angola	2011	Road
683	Yaoundé-Douala Highway Construction (Phase I)	Cameroon	2012	Road
44	Construction of Bar-Boljare Motorway	Montenegro	2014	Road
949	Peshawar-Karachi Motorway (PKM) Project	Pakistan	2016	Road
93	Manado-Bitung Toll Road	Indonesia	2017	Road
48	Road Upgrading Project Nabouwalu Dreketi	Fiji	2012	Road
127	National Road No.3 Construction Project from Phnom Penh (Chom Chao)-Bek Kus-Kampot Town	Cambodia	2018	Road
230	Buca Bay and Moto Road improvement	Fiji	2013	Road
231	Road Reconstruction	Vanuatu	2014	Road
313	National Road Improvement Program	Tonga	2010	Road
343	Benguela, EN100 Road Rehabilitation, Cabo Ledo-Lobito (Lot 5), Ponte do Rio Eval/Ponte do Rio Culango	Angola	2016	Road
344	Cuanza-Sul, EN100 Rehabilitation, Cabo Ledo-Lobito Road (Lot 4), Sumbe-Ponte do Rio Eval	Angola	2016	Road
345	Cuanza-Sul, EN100 Road Rehabilitation, Cabo Ledo-Lobito Road (Lot 2), Ponte do Rio Longa-Ponte do Rio Keve	Angola	2016	Road
355	Rehabilitation & Improvement of Puttalam-Marichchikade-Mannar Road	Sri Lanka	2011	Road
386	Roads Improvement Sigatoka-Serea	Fiji	2014	Road
606	Cuanza-Sul EN100 Road Rehabilitation	Angola	2016	Road
766	Road Construction (Farasol Mbega to Port-Gentil)	Gabon	2016	Road
930	Balikpapan – Samarinda Road Development	Indonesia	2010	Road
249	EN6 Road Repair (Beira to Machipanda); 287km (Loan 1)	Mozambique	2013	Road
296	Nassau Airport Gateway Project	Bahamas	2011	Road
934	Solo-Kertosono Toll Road Project	Indonesia	2014	Road

164	Luanda-Soyo Highway; Nzeto-Soyo section (Package 7)	Angola	2011	Road
162	Rehabilitation and Improvement of Navatkuli-Karaitivu-Mannar Road	Sri Lanka	2011	Road
645	Takoradi Port Expansion (Phase I) - Access Road	Ghana	2011	Road
661	South Atlantic Inter Link (SAIL) Project	Cameroon	2015	Submarine Cable
1009	Kumul Submarine Cable	Papua New Guinea	2013	Submarine Cable
582	Soyo-Kapary Transmission and Transformation Project	Angola	2013	Transmission Line
857	Dakar Loop Power Transmission (Phase II)	Senegal	2010	Transmission Line

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<sup>a</sup> Single loan split into two distinct projects.

**Supplementary Table 2.** Specifications of taxonomic groups considered for analysis.

<b>Taxonomic Group</b>	<b>Kingdom</b>	<b>Phylum</b>	<b>Class</b>	<b>Subclass</b>
Fish	Animalia	Chordata	Actinopterygii	
Sea birds	Animalia	Chordata	Aves	
Elasmobranchs	Animalia	Chordata	Chondrichthyes	Elasmobranchii
Mammals	Animalia	Chordata	Mammalia	
Reptiles	Animalia	Chordata	Reptilia	

**Supplementary Table 3.** IUCN Red List search criteria for marine species included in analysis.

<b>Field</b>	<b>Criteria</b>
Taxonomy	KINGDOM: Animalia PHYLUM: Chordata CLASS: Actinopterygii CLASS: Aves CLASS: Reptilia CLASS: Mammalia CLASS: Chondrichthyes ORDER: Carcharhiniformes ORDER: Heterodontiformes ORDER: Hexanchiformes ORDER: Lamniformes ORDER: Orectolobiformes ORDER: Pristiophoriformes ORDER: Rajiformes ORDER: Squaliformes ORDER: Squatiniformes ORDER: Torpediniformes
Red List Category	CR – Critically Endangered EN – Endangered VU – Vulnerable
Systems	Marine Terrestrial and Marine Freshwater (=Inland waters) and Marine Terrestrial and Freshwater (=Inland waters) and Marine
Country Legends	Extant (resident) Extant & Reintroduced
Include	Species

**Supplementary Table 4.** Threatened species ranges included in the analysis. CR = critically endangered; EN = endangered; VU = vulnerable.

<b>Taxon group</b>	<b>Threatened species within study areas (Red List Category)</b>
Elasmobranchs (N = 126)	<i>Alopias pelagicus</i> (EN), <i>Alopias superciliosus</i> (VU), <i>Alopias vulpinus</i> (VU), <i>Carcharhinus acronotus</i> (EN), <i>Carcharhinus albimarginatus</i> (VU), <i>Carcharhinus amblyrhynchos</i> (EN), <i>Carcharhinus borneensis</i> (EN), <i>Carcharhinus brachyurus</i> (VU), <i>Carcharhinus brevipinna</i> (VU), <i>Carcharhinus cerdale</i> (CR), <i>Carcharhinus dussumieri</i> (EN), <i>Carcharhinus falciformis</i> (VU), <i>Carcharhinus longimanus</i> (CR), <i>Carcharhinus melanopterus</i> (VU), <i>Carcharhinus obscurus</i> (EN), <i>Carcharhinus perezii</i> (EN), <i>Carcharhinus plumbeus</i> (VU), <i>Carcharhinus porosus</i> (CR), <i>Carcharhinus signatus</i> (EN), <i>Carcharhinus tjtjtjot</i> (VU), <i>Carcharias taurus</i> (VU), <i>Carcharodon carcharias</i> (VU), <i>Centrophorus atromarginatus</i> (CR), <i>Centrophorus granulosus</i> (EN), <i>Centrophorus isodon</i> (EN), <i>Centrophorus longipinnis</i> (EN), <i>Centrophorus moluccensis</i> (VU), <i>Centrophorus squamosus</i> (EN), <i>Centrophorus tessellatus</i> (EN), <i>Centrophorus uyato</i> (EN), <i>Centroscymnus owstonii</i> (VU), <i>Cephaloscyllium fasciatum</i> (CR), <i>Cephaloscyllium silasi</i> (CR), <i>Cetorhinus maximus</i> (EN), <i>Chaenogaleus macrostoma</i> (VU), <i>Chiloscyllium burmensis</i> (VU), <i>Chiloscyllium griseum</i> (VU), <i>Chiloscyllium hasselti</i> (EN), <i>Chiloscyllium indicum</i> (VU), <i>Dalatias licha</i> (VU), <i>Deania quadrispinosa</i> (VU), <i>Diplobatis guamachensis</i> (VU), <i>Diplobatis picta</i> (VU), <i>Dipturus batis</i> (CR), <i>Echinorhinus brucus</i> (EN), <i>Eusphyra blochii</i> (EN), <i>Galeorhinus galeus</i> (CR), <i>Ginglymostoma cirratum</i> (VU), <i>Ginglymostoma unami</i> (EN), <i>Glyphis gangeticus</i> (CR), <i>Glyphis garricki</i> (CR), <i>Glyphis glyphis</i> (EN), <i>Halaelurus natalensis</i> (VU), <i>Hemigaleus microstoma</i> (VU), <i>Hemipristis elongata</i> (VU), <i>Hemiscyllium hallstromi</i> (VU), <i>Hemiscyllium michaeli</i> (VU), <i>Hemiscyllium strahani</i> (VU), <i>Hemitriakis leucoperiptera</i> (EN), <i>Holohalaelurus favus</i> (EN), <i>Holohalaelurus punctatus</i> (EN), <i>Isogomphodon oxyrinchus</i> (CR), <i>Isurus oxyrinchus</i> (EN), <i>Isurus paucus</i> (EN), <i>Lamiopsis temminckii</i> (EN), <i>Lamna nasus</i> (VU), <i>Leucoraja circularis</i> (EN), <i>Leucoraja fullonica</i> (VU), <i>Leucoraja wallacei</i> (VU), <i>Mustelus dorsalis</i> (VU), <i>Mustelus griseus</i> (EN), <i>Mustelus higmani</i> (EN), <i>Mustelus manazo</i> (EN), <i>Mustelus minicanis</i> (EN), <i>Mustelus mustelus</i> (VU), <i>Mustelus punctulatus</i> (VU), <i>Narcine breviliabata</i> (VU), <i>Narcine entemedor</i> (VU), <i>Narcine lingula</i> (VU), <i>Narcine maculata</i> (VU), <i>Nasolamia velox</i> (EN), <i>Nebrius ferrugineus</i> (VU), <i>Negaprion acutidens</i> (VU), <i>Negaprion brevirostris</i> (VU), <i>Notorynchus cepedianus</i> (VU), <i>Odontaspis ferox</i> (VU), <i>Okamejei boesemani</i> (VU), <i>Okamejei hollandi</i> (VU), <i>Oxynotus centrina</i> (VU), <i>Oxynotus japonicus</i> (VU), <i>Paragaleus leucolomatus</i> (VU), <i>Paragaleus tengi</i> (EN), <i>Platyrrhina sinensis</i> (EN), <i>Platyrrhina tangi</i> (VU), <i>Proscyllium habereri</i> (VU), <i>Pseudoginglymostoma breviceaudatum</i> (CR), <i>Raja radula</i> (EN), <i>Raja undulata</i> (EN), <i>Rhincodon typus</i> (EN), <i>Rhizoprionodon acutus</i> (VU), <i>Rhizoprionodon lalandii</i> (VU), <i>Rhizoprionodon longurio</i> (VU), <i>Rhizoprionodon porosus</i> (VU), <i>Rostroraja alba</i> (EN), <i>Rostroraja equatorialis</i> (VU), <i>Scymnodon ringens</i> (VU), <i>Somniosus microcephalus</i> (VU), <i>Sphyrna corona</i> (CR), <i>Sphyrna lewini</i> (CR), <i>Sphyrna media</i> (CR), <i>Sphyrna mokarran</i> (CR), <i>Sphyrna tiburo</i> (EN), <i>Sphyrna tudes</i> (CR), <i>Sphyrna zygaena</i> (VU), <i>Squalus acanthias</i> (VU), <i>Squalus hemipinnis</i> (VU), <i>Squalus mitsukurii</i> (EN), <i>Squalus montalbani</i> (VU), <i>Squatina aculeata</i> (CR), <i>Squatina armata</i> (CR), <i>Squatina oculata</i> (CR), <i>Squatina squatina</i> (CR), <i>Squatina tergozellatoides</i> (EN), <i>Stegostoma tigrinum</i> (EN), <i>Temera hardwickii</i> (VU), <i>Triacodon obesus</i> (VU)
Fish (N = 101)	<i>Acanthopagrus vagus</i> (VU), <i>Acentrogobius griseus</i> (VU), <i>Albula glossodonta</i> (VU), <i>Amblyglyphidodon batunai</i> (VU), <i>Amblyglyphidodon ternatensis</i> (VU), <i>Anguilla anguilla</i> (CR), <i>Anguilla borneensis</i> (VU), <i>Anguilla japonica</i> (EN), <i>Anguilla luzonensis</i> (VU), <i>Anguilla rostrata</i> (EN), <i>Argyrosomus japonicus</i> (EN), <i>Argyrosomus thorpei</i> (EN), <i>Balistes capriscus</i> (VU), <i>Balistes punctatus</i> (VU), <i>Bathygobius burtoni</i> (EN), <i>Bolbometopon muricatum</i> (VU), <i>Chaetodontoplus vanderloosi</i> (EN), <i>Coilia mystus</i> (EN), <i>Corcyrogobius lubbocki</i> (VU), <i>Coryphopterus alloides</i> (VU), <i>Coryphopterus eidolon</i> (VU), <i>Coryphopterus hyalinus</i> (VU), <i>Coryphopterus lipernes</i> (VU), <i>Coryphopterus personatus</i> (VU), <i>Coryphopterus thrinx</i> (VU), <i>Coryphopterus tortugae</i> (VU), <i>Coryphopterus venezuelae</i> (VU), <i>Cynoglossus macrostomus</i> (VU), <i>Cynoscion acoupa</i> (VU), <i>Dentex dentex</i> (VU), <i>Didogobius amicuscaridis</i> (VU), <i>Elacatinus atronatus</i> (EN), <i>Elacatinus prochilos</i> (VU), <i>Epinephelus akaara</i> (EN), <i>Epinephelus albomarginatus</i> (VU), <i>Epinephelus fusvoguttatus</i> (VU), <i>Epinephelus itajara</i> (VU), <i>Epinephelus marginatus</i> (VU), <i>Epinephelus morio</i> (VU), <i>Epinephelus polyphekadion</i> (VU), <i>Epinephelus striatus</i> (CR), <i>Evynnis cardinalis</i> (EN), <i>Gobiodon aoyagii</i> (VU), <i>Gobiodon axillaris</i> (VU), <i>Gobiodon erythrospilus</i> (VU), <i>Gobiodon fulvus</i> (VU), <i>Gobiodon reticulatus</i> (VU), <i>Gorogobius stevcici</i> (VU), <i>Hippocampus algiricus</i> (VU), <i>Hippocampus barbouri</i> (VU), <i>Hippocampus comes</i> (VU),

Hippocampus erectus (VU), Hippocampus histrix (VU), Hippocampus ingens (VU), Hippocampus kelloggi (VU), Hippocampus spinosissimus (VU), Hippocampus trimaculatus (VU), Horadandia atukorali (VU), Hyporthodus acanthistius (VU), Hyporthodus flavolimbatus (VU), Hyporthodus niveatus (VU), Kajikia albida (VU), Labrus viridis (VU), Lachnolaimus maximus (VU), Lethrinus mahsena (EN), Lopholatilus chamaeleonticeps (EN), Lucifuga lucayana (EN), Lucifuga spelaeotes (VU), Lutjanus cyanopterus (VU), Makaira nigricans (VU), Meiacanthus abruptus (VU), Merluccius senegalensis (EN), Mola mola (VU), Mycteroperca interstitialis (VU), Nemipterus virgatus (VU), Omobranchus hikkaduwensis (VU), Omobranchus mekranensis (VU), Omobranchus smithi (VU), Oxymonacanthus halli (VU), Oxymonacanthus longirostris (VU), Parablennius lodosus (VU), Paraclinus fehlmanni (VU), Pentanemus quinquarius (VU), Plectropomus areolatus (VU), Plectropomus marisrubri (VU), Polysteganus praeorbitalis (VU), Pomatomus saltatrix (VU), Pseudolithus senegalensis (EN), Pseudolithus senegallus (VU), Pseudupeneus prayensis (VU), Rhomboplites aurorubens (VU), Sardinella maderensis (VU), Scarus trispinosus (EN), Sciades parkeri (VU), Siganus niger (VU), Stiphodon rubromaculatus (CR), Thunnus obesus (VU), Thunnus thynnus (EN), Trachurus indicus (VU), Trachurus trachurus (VU), Umbrina cirrosa (VU)

Mammals  
(N = 19)

Aonyx cinereus (VU), Balaenoptera borealis (EN), Balaenoptera musculus (EN), Balaenoptera physalus (VU), Dugong dugon (VU), Eubalaena glacialis (CR), Hippopotamus amphibius (VU), Lutra sumatrana (EN), Lutrogale perspicillata (VU), Monachus monachus (EN), Neophocaena phocaenoides (VU), Orcaella brevirostris (EN), Physeter macrocephalus (VU), Sousa chinensis (VU), Sousa plumbea (EN), Sousa sahalensis (VU), Sousa teuszii (CR), Trichechus manatus (VU), Trichechus senegalensis (VU)

Reptiles  
(N = 14)

Aipysurus fuscus (EN), Batagur affinis (CR), Batagur baska (CR), Batagur borneoensis (CR), Caretta caretta (VU), Carettochelys insculpta (EN), Chelonia mydas (EN), Crocodylus acutus (VU), Dermochelys coriacea (VU), Eretmochelys imbricata (CR), Lepidochelys olivacea (VU), Pelochelys bibroni (VU), Pelochelys signifera (VU), Trionyx triunguis (VU)

Sea birds  
(N = 64)

Anas luzonica (VU), Ardena bulleri (VU), Ardena creatopus (VU), Ardeola idae (EN), Aythya ferina (VU), Calidris pygmaea (CR), Calidris tenuirostris (EN), Diomedea dabbenena (CR), Egretta eulophotes (VU), Eurostopodus nigripennis (VU), Falco cherrug (EN), Fregata andrewsi (CR), Fregata aquila (VU), Glareola ocularis (VU), Haliaeetus sanfordi (VU), Hydrobates leucorhous (VU), Hydrobates matsudairae (VU), Larus audouinii (VU), Leptoptilos javanicus (VU), Macrocephalon maleo (EN), Marmaronetta angustirostris (VU), Morus capensis (EN), Mycteria cinerea (EN), Nesofregatta fuliginosa (EN), Numenius madagascariensis (EN), Numenius tenuirostris (CR), Phalacrocorax capensis (EN), Phalacrocorax nigrogularis (VU), Phoebeastria irrorata (CR), Platalea minor (EN), Podiceps auritus (VU), Procellaria aequinoctialis (VU), Procellaria parkinsoni (VU), Pseudobulweria becki (CR), Pseudobulweria macgillivrayi (CR), Pterodroma alba (EN), Pterodroma arminjoniana (VU), Pterodroma axillaris (VU), Pterodroma brevipes (VU), Pterodroma cahow (EN), Pterodroma cervicalis (VU), Pterodroma cookii (VU), Pterodroma deserta (VU), Pterodroma hasitata (EN), Pterodroma leucoptera (VU), Pterodroma madeira (EN), Pterodroma phaeopygia (CR), Pterodroma pycrofti (VU), Pterodroma solandri (VU), Puffinus heinrothi (VU), Puffinus mauretanicus (CR), Puffinus yelkouan (VU), Rissa tridactyla (VU), Saundersilarus saundersi (VU), Spheniscus demersus (EN), Sterna aurantia (VU), Sternula balaenarum (VU), Sternula lorata (EN), Thalassarche carteri (EN), Thalassarche chlororhynchus (EN), Thalassarche eremita (VU), Thalassarche salvini (VU), Tringa guttifer (EN), Vultur gryphus (VU)

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**Supplementary Table 5.** Taxa vulnerability weights for each stressor adapted from Butt et al. (2021). Values represent the expected mean vulnerability for all species within each taxonomic group.

Taxon group	Taxa stressor														
	Habitat loss	Noise pollution	Light pollution	Thermal pollution	Inorganic pollution	Nutrient pollution	Organic pollution	Sediment.	Plastic pollution	Invasive species	Wildlife injury	Biomass removal	Bycatch	Entangle.	Poisons, toxins
Elasmobranchs	0.38697	0.03655	0.00157	0.00836	0.19369	0.21362	0.28757	0.20003	0.22607	0.00227	0.02369	0.88223	0.59432	0.28697	0.27425
Fish	0.32936	0.09167	0.16950	0.34268	0.39997	0.33239	0.37642	0.30527	0.33357	0.00000	0.04130	0.62048	0.34440	0.14911	0.31877
Mammals	0.40230	0.33778	0.14207	0.12205	0.18922	0.10748	0.32940	0.09540	0.06595	0.15629	0.61399	0.74095	0.74095	0.58892	0.04637
Reptiles	0.40655	0.00544	0.12459	0.10135	0.24670	0.10177	0.30583	0.23065	0.06392	0.17616	0.53493	0.69705	0.68951	0.54466	0.04600
Sea birds	0.41917	0.37790	0.48457	0.08377	0.19338	0.07575	0.26697	0.21691	0.05503	0.51065	0.46748	0.68188	0.60203	0.36523	0.03836

**Supplementary Table 6.** Habitat vulnerability weights for each stressor, adapted from Halpern et al. (2008) and rescaled between 0 and 1.

Habitat		Habitat stressor											
		Light pollution	Sea surface temp.	Inorganic pollution	Nutrient pollution	Ocean pollution	Direct human	Benthic structures	Shipping	Invasive species	Demersal, destructive fishing	Commercial fishing <sup>a</sup>	Artisanal fishing
Intertidal	Rocky intertidal	0.28	0.56	0.42	0.32	0.26	0.56	0.20	0.06	0.56	0.24	0.12	0.26
	Mud flats	0.28	0.28	0.32	0.32	0.16	0.44	0.18	0.38	0.58	0.28	0.16	0.08
	Beach	0.40	0.12	0.12	0.08	0.10	0.54	0.16	0.38	0.18	0.04	0.08	0.14
	Mangroves	0.18	0.48	0.10	0.36	0.24	0.66	0.26	0.40	0.20	0.00	0.08	0.34
	Salt marsh	0.36	0.28	0.40	0.38	0.24	0.32	0.18	0.28	0.56	0.20	0.14	0.12
Coastal	Coral reefs	0.20	0.56	0.14	0.36	0.24	0.46	0.10	0.30	0.30	0.24	0.20	0.46
	Seagrass beds	0.10	0.42	0.16	0.42	0.10	0.50	0.32	0.38	0.24	0.04	0.10	0.06
	Kelp forests	0.10	0.40	0.00	0.08	0.02	0.32	0.00	0.00	0.26	0.30	0.18	0.16
	Rocky reefs	0.14	0.38	0.44	0.32	0.34	0.50	0.34	0.28	0.50	0.54	0.52	0.44
	Shellfish reefs	0.20	0.16	0.54	0.28	0.00	0.60	0.08	0.00	0.52	0.62	0.06	0.20
	Shallow, soft bottom	0.10	0.10	0.30	0.40	0.22	0.40	0.02	0.06	0.54	0.42	0.22	0.00
Offshore	Continental shelf, soft bottom	0.00	0.50	0.42	0.28	0.24	0.22	0.10	0.34	0.32	0.60	0.28	0.18
	Continental shelf, hard bottom	0.00	0.58	0.04	0.34	0.06	0.58	0.42	0.18	0.30	0.62	0.56	0.38
	Continental slope, soft bottom	0.00	0.46	0.42	0.40	0.28	0.00	0.32	0.02	0.04	0.64	0.22	0.00
	Continental slope, hard bottom	0.00	0.18	0.04	0.12	0.34	0.00	0.44	0.20	0.10	0.56	0.22	0.08
	Deep benthic, soft bottom	0.00	0.50	0.36	0.26	0.46	0.32	0.38	0.18	0.30	0.46	0.28	0.06
	Deep benthic, hard bottom	0.00	0.30	0.00	0.00	0.24	0.00	0.32	0.00	0.00	0.60	0.00	0.00
	Seamounts	0.00	0.36	0.00	0.00	0.24	0.00	0.28	0.00	0.00	0.70	0.00	0.18
	Shallow pelagic	0.08	0.66	0.46	0.24	0.34	0.18	0.30	0.38	0.46	0.42	0.40	0.20
Deep pelagic	0.00	0.46	0.32	0.00	0.08	0.00	0.00	0.00	0.00	0.16	0.14	0.00	

<sup>a</sup> Represents the mean vulnerability across four stressors: demersal non-destructive fishing (high and low bycatch) and pelagic non-destructive fishing (high and low bycatch)



**Supplementary Table 7.** Links between taxa stressors identified by Butt et al. (2021) and habitat stressors identified by Halpern et al. (2008) used to calculate exposure risks to habitats. Habitat stressors reflecting multiple taxa-based stressors (i.e. direct human, shipping, and fishing stressors) are assumed to reflect the average of each associated taxa stressor. Some stressors (e.g. thermal pollution and sea surface temperature) are not directly comparable, but are assumed to threaten marine systems through similar physiological mechanisms.

Taxa stressor	Habitat stressor														
	Light pollution	Sea surface temp.	Inorganic pollution	Nutrient pollution	Ocean pollution	Direct human	Benthic structures <sup>a</sup>	Shipping	Invasive species	Demersal, destructive fishing	Demersal fishing, high bycatch <sup>b</sup>	Demersal fishing, low bycatch <sup>b</sup>	Pelagic fishing, high bycatch <sup>b</sup>	Pelagic fishing, low bycatch <sup>b</sup>	Artisanal fishing
Habitat loss						X <sup>d</sup>	X			X <sup>e</sup>					
Noise pollution						X <sup>d</sup>		X <sup>d</sup>							
Light pollution	X														
Thermal pollution		X													
Inorganic pollution			X												
Nutrient pollution				X											
Organic pollution					X										
Sedimentation <sup>c</sup>															
Plastic pollution						X <sup>d</sup>		X <sup>d</sup>							X <sup>f</sup>
Invasive species									X						
Wildlife injury								X <sup>d</sup>							
Biomass removal										X <sup>e</sup>	X <sup>d</sup>	X <sup>d</sup>	X <sup>d</sup>	X <sup>d</sup>	X <sup>f</sup>
Bycatch										X <sup>e</sup>	X <sup>d</sup>	X <sup>d</sup>	X <sup>d</sup>	X <sup>d</sup>	X <sup>f</sup>
Entanglement										X <sup>e</sup>	X <sup>d</sup>	X <sup>d</sup>	X <sup>d</sup>	X <sup>d</sup>	X <sup>f</sup>
Poisons, toxins															X <sup>f</sup>

<sup>a</sup> Specific to pipelines and submarine cables

<sup>b</sup> Stressors are aggregated in the analysis as “Commercial fishing”

<sup>c</sup> No equivalent habitat stressor (excluded from impact risk estimates to habitats)

<sup>d</sup> Exposure risk divided by 3

<sup>e</sup> Exposure risk divided by 4

<sup>f</sup> Exposure risk divided by 5