Table S1. List of the terms and search criteria used in the bibliographic review performed on the all data bases in the Web of Knowledge inside the respective searches for Marine protected area + effect; Marine protected area + ecosystem service and marine protected area + benefit.

					<u>_</u>						
search criteria	Term	# articles	%	search criteria	Term	# articles	%	search criteria	Term	# articles	100.00
effect*	effect	3,910	100.00	ecosystem service	Ecosystem Service	853	100.00	benefit	benefits	1722	100.00
Dh i - I - thaile . t b - b - b - t											
Physical attributes, habitats, seascapes and ecosystems climate	climate	11	0.28	provisioning services wind or wave	wind or waves	54	6.33	provisioning service benefits	wind anargy and ways anargy	1	0.06
	on hydrology	0	0.28	wind facilit* or wave facilit*	wind or waves wind or wave facilities	5	0.59	wind energy and wave energy seafood quality	wind energy and wave energy seafood quality	1	0.06
"on hydrology"	on nyurology	U	0.00	willu facility of wave facility	willd of wave facilities	3	0.59	recreational fishing or "recreational fishery" or	searoou quanty	1	0.00
"on habitat"	on habitat	84	2.15	wind or wave and energy	wind or waves energy	25	2.93	"recreational fisheries" or "sport fishing"	recreational fishing	68	3.95
coast* near/4 integrity	coastal integrity	2	0.05	protect NEAR/4 rocky shore	protect rocky shore	0	0.00	abiotic resource	abiotic resources	0	0.00
refuge near/4 life history or refuge near/4 larva* or	refuge areas for life history	-	0.05	protect NEARY 4 rocky shore	protect rocky shore	Ü	0.00	abiotic resource	abiotic resources	Ů	0.00
refuge near/4 juvenil*	phases	2	0.05	protect NEAR/4 beach	protect beaches	3	0.35	"ornamental" or "ornamental resource"	ornamental resources	3	0.17
Refuge	refuge	113	2.89	beach	beaches	41	4.81	traditional fishing or traditional fisher*	traditional fishing	73	4.24
nerwge	rerage	115	2.03	Deach.	beddines	'-	1.01	commercial fishing or "commercial fisheries" or	traditional risking	,,,	
habitat NEAR/4 naturality	habitat naturality	0	0.00	rocky shore	rocky shore	5	0.59	"commercial fishing"	comercial fishing	445	25.84
,,	,			protect NEAR/4 dune or protect							
habitat NEAR/4 complexity	habitat complexity	75	1.92	NEAR/4 sand dune	protect sand dunes	2	0.23	chemical	chemical	30	1.74
, ,								chemic* near/5 benef* or chemic* near/5			
habitat near4 quality	habitat quality	60	1.53	dune OR sand dune	sand dunes	11	1.29	resource*	chemical resources	0	0.00
"critical habitat" or "key habitat"	critical or key habitat	28	0.72	vegetal or shell or sand	vegetal/shell/sand	28	3.28	medical or medicinal	medical or medicinal	11	0.64
				bigger fish or larger fish or							
				bigger individ* or larger							
Species, populations and fisheries				individ*	bigger fish	111	13.01	Pharmaceutical	Pharmaceutical	3	0.17
individual* NEAR/4 size or fish* NEAR/4 size	individual size	204	5.22	smaller fish	smaller fish	57	6.68	genetic resource	genetic resources	38	2.21
"size at maturity"	size at maturity	13	0.33	fish size	fish size	41	4.81	genetic near/4 resource*	genetic resource	10	0.58
population NEAR4 abundance or fish NEAR4 abundance	e population abundance	213	5.45	more abundant fish	more abundant fish	14	1.64	Traditional resources	traditional resources	0	0.00
population near/4 structure	population structure	286	7.31	less abundant fish	less abundant fish	5	0.59	habitat near/5 benefit*	Habitat	49	2.85
"life span"	life span	7	0.18	fish abundance	fish abundance	59	6.92	Regulating service benefits			0.00
"carrying capacity"	carrying capacity	32	0.82	higher biomass	higher biomass	48	5.63	coastal protection	coastal protection	16	0.93
"spawning stock"	spawning stock	21	0.54	biomass	biomass	88	10.32	"climate change" and mitigation	climate change mitigation	25	1.45
				species fecundity or							
larva NEAR4 survival	larval survival	9	0.23	reproductive capacity	species fecundity/reproductive capacity	4	0.47	"climate regulation" or "climate mitigation"	climate regulation/mitigation	8	0.46
"life history"	life history	243	6.21	fishery stock	fishery stock	38	4.45	spawning stock	spawning stock	11	0.64
home-range or home range or homerange	home range	55	1.41	traditional resources	traditional resources	30	3.52	ecosystem stability	ecosystem stability	1	0.06
				new resource or new potential							
at-risk NEAR/4 species	at-risk species	19	0.49	resource	new/potential resources	227	26.61	stability and ecosystem	stability and ecosystem	11	0.64
		_		chemical defense or resistant							
"rare species"	"rare species"	7	0.18	material	chemical defenses/resistant materials	1	0.12	stability	stability	27	1.57
"key species" "endemic species"	"key species" "endemic species"	23 42	0.59 1.07	Regulating services erosion or sedimentation	erosion/sedimentation	69	8.09	market stability market	market stability	1 83	0.06 4.82
endernic species	endernic species	42	1.07	prevent sedimentation or avoid	•	69	8.09	market	market	85	4.02
				sedimentation or reduce							
"focal species"	focal species	9	0.23	sedimentation	prevent sedimentation	10	1.17	shoreline and stability	shoreline and stability	1	0.06
commercial fishing or "commercial fisheries" or	rocar species	,	0.25	prevent erosion or avoid	prevent scumentation	10	1.17	Shoreline and Stability	Shoreline and Stability		0.00
"commercial fishing"	commercial fishing	923	23.61	erosion or reduce erosion	prevent erosion	20	2.34	larval dispersal	larval dispersal	51	2.96
traditional fishing or traditional fisher*	traditional fishing	95	2.43	protect NEAR/4 shore	protect the shore	1	0.12	uncertaint	uncertaint	0	0.00
fisher	fishing aspects	1671	42.74	at-risk NEAR/4 species	at-risk species	2	0.23	ecosystem imbalance	ecosystem imbalance	1	0.06
Ecosystem functioning and regulations				"rare species"	"rare species"	2	0.23	"prevention mass mortality"	Prevention of mass mortality	0	0.00
biodiversity	biodiversity	1061	27.14	"key species"	"key species"	3	0.35	cultural service benefits			0.00
Connectivity	Connectivity	213	5.45	"endemic species"	"endemic species"	7	0.82	Landscape and seascape	landscape/seascape	87	5.05
species NEAR4 richness	species richness	284	7.26	"focal species"	focal species	1	0.12	ecotourism	ecotourism	54	3.14
				apical specie or long-living							
"interspecific relationship"	Interspecific relationship	9	0.23	predator	apical specie or long-living predator	1	0.12	photography	photography	7	0.41
"natural selection"	Natural selection	12	0.31	at-risk NEAR/4 ecosystem	at-risk ecosystems	2	0.23	Nautical sport	nautical sport	0	0.00
"genetic diversity"	genetic diversity	62	1.59	at-risk NEAR/4 communit*	at-risk communities	1	0.12	recreational	recreational	176	10.22
				rare NEAR/4 communit* OR							
				singular NEAR/4 communit* OR							
genetic or genomic	genetic	186	4.76	unique NEAR/4 communit*	unique communities	1	0.12	Reference condition	Reference condition	0	0.00
				rare NEAR/4 ecosyst* OR							
				singular NEAR/4 ecosyst* OR							
"genetic structure"	genetic structure	54	1.38	unique NEAR/4 ecosyst*	unique ecosystems	7	0.82	tourist or touristic or tourism	tourist or touristic or tourism	214	12.43
"food web"	food web	121	3.09	"key ecosystem"	key ecosystems	6	0.70	aquatic activity	aquatic activity	0	0.00

				prevent* NEAR/4 species							
				NEAR/4 extinct* or reduc*							
				NEAR/4 species NEAR/4							
				extinct* or avoid* NEAR/4							
"top down" or "top-down"	top-down	81	2.07	species	preventing species extinction	3	0.35	art or artist or artistic	art or artist or artistic	6	0.35
				"alien species" or "invasive							
"cascade effect"	cascade effect	4	0.10	species"	alien species or invasive species	20	2.34	Artistic inspiration	artistic inspiration	0	0.00
proliferation	proliferation	24	0.61	preserve NEAR/4 process*	preserve process	1	0.12	invertebrate and watch	invertebrate and watch	1	0.06
"primary production"	primary production	29	0.74	preserve NEAR/4function*	preserve function	0	0.00	bird and watch	bird watching	1	0.06
"ecological processes"	ecological processes	51	1.30	"alpha diversity"	alpha diversity	2	0.23	bird* near/4 watch*	bird watching	0	0.00
ecosystem NEAR/4 complexity	ecosystem complexity	9	0.23	"beta diversity"	beta diversity	5	0.59	whale and watch	whale watching	12	0.70
				integrity NEAR/4 landscape* OF		_					
ecosystem NEAR4 structure	ecosystem structure	69	1.76	integrity NEAR/4 seascape*	landscape or seascape integrity	0	0.00	whale* near/4 watch*	whale watching	11	0.64
				conserv* NEAR/4 landscape* OR preserv* NEAR/4 landscape* OR conserv* NEAR/4 seascape* OR preserv*							
Homeostatic	Homeostatic	0	0.00	NEAR/4 seascape* habitat NEAR/4 former OR	preserve landscapes or seascapes	9	1.06	shark and watch	shark watching	1	0.06
resilience	resilience	280	7.16	habitat NEAR/4 builder	habitat formers	1	0.12	shark* near/4 watch*	shark watching	1	0.06
increase NEAR/4 resilience	increase resilience	23	0.59	mangrove	mangroves	85	9.96	fish and watch	fish watching	4	0.23
decrease NEAR/4 resilience	decrease resilience	0	0.00	vermet*	vermetid	0	0.00	fish* near/4 watch*	fish watching	2	0.12
•				seagras* or marine							
water quality	water quality	218	5.58	phanerogam*	seagrass meadows	81	9.50	life watch	life watching	0	0.00
increas* NEAR/4 water NEAR/4 quality or improv*											
NEAR/4 water NEAR/4 quality	improve water quality	15	0.38	coral	coral	212	24.85	life near/4 watch*	life watching	0	0.00
disease	disease	225	5.75	coral NEAR/4 reef*	coral reefs	187	21.92	financial support	financial support	2	0.12
ameliorate NEAR/4 disease or reduce NEAR/4 disease	ameliorate disease	7	0.18	wetland*	wetlands	99	11.61	Gastronomy	gastronomy	0	0.00
species NEAR/4 extinct*	species extinction	41	1.05	coastal lagoon	coastal lagoon	17	1.99	Traditional food	traditional food	0	0.00
prevent NEAR/4 species NEAR/4 extinct* or reduce				_							
NEAR/4 species NEAR/4 extinct* or avoid NEAR/4											
species NEAR/4 extinct*	prevent extintion	3	0.08	estuar*	estuaries	95	11.14	Symbolic	symbolic	1	0.06
"alien species" or "invasive species"	alien/invasive species	126	3.22	"blue carbon ecosystem"	blue carbon ecosystem	26	3.05	Spiritual	spiritual	6	0.35
				"carbon sequestration" or							
control NEAR/4 "alien species" or "invasive species"	control alien/invasive species	106	2.71	"carbon storage" "habitat carrying capacity" or	carbon sequestration or storage	35	4.10	Customs	customs	3	0.17
pristine NEAR4 conditions or pristine NEAR4 habitat	pristine habitat	6	0.15	"carrying capacity"	habitat carrying capacity	8	0.94	Traditional customs	traditional customs	0	0.00
pristing the first conditions of pristing the first habitat	pristine nubitat	Ü	0.13	"life cycle*" or "biological	national carrying capacity	Ü	0.5 .	Traditional castoms	traditional castoms	ŭ	0.00
biomass NEAR/4 gradient	biomass gradients	7	0.18	trait*"	life cycle/biological trait	30	3.52	Improve knowledge	improve knowledge	19	1.10
export NEAR/4 eggs or export NEAR/4 larvae	export eggs/larvae	8	0.20	nursery	nursery	21	2.46	Knowledge	knowledge	69	4.01
structured near/4 ecosyst*	structured ecosystems	69	1.76	population structure	population structure	103	12.08	Improve research	Improve research	72	4.18
"natural communit*"	natural communities	13	0.33	population near/4 structure	population structure	15	1.76	Research	research	315	18.29
				, .,	, , , , , , , , , , , , , , , , , , , ,						
				population structure target							
"pristine communit*"	pristine communities	1	0.03	species or commercial species	population structure of target species	35	4.10	Cultural know-how	cultural know-how	0	0.00
"well protected communit*"	well protected communities	0	0.00	species NEAR/4 survival	survival of target specie	1	0.12	Historical knowledge	Historical knowledge	0	0.00
, p				,				tradition* near/4 fish* near/4 gear* or tradition*			
protected near/4 communit*	protected communities	66	1.69	survival of commercial specie	survival of commercial specie	4	0.47	near/4 fish* near/4 techn*	traditional fishing gears	4	0.23
"natural ecosyst*"	natural ecosystems	10	0.26	increase recruitment	increase recruitment	15	1.76	Education	Education	60	3.48
"pristine ecosyst*"	pristine ecosystems	2	0.05	replenishment fishery stock	replenishment fishery stock	0	0.00	"nature based solution*"	nature based solutions	1	0.06
"well protected communit*"	well protected ecosystems	0	0.00	spillover or spill-over	spillover or spill-over	12	1.41				
protected near/4 ecosyst*	protected ecosystems	145	3.71	biodiversity	biodiversity	457	53.58				
complex near/4 ecosyst*	complex ecosystems	26	0.66	increase biodiversity	increase biodiversity	157	18.41	Total terms	66		
homeostatic mechanism*	homeostatic mechanisms	0	0.00	decrease biodiversity	decrease biodiversity	30	3.52				
Homeosta	homeostasis	0	0.00	biomass export	biomass export	1	0.12				
prevent NEAR4 species NEAR4 invasive or reduce											
NEARA species NEARA invasiv or avoid NEARA species											

export of eggs or export of larvae

0.00

export NEAR/4 eggs or export

0.03 NEAR/4 larvae

NEAR4 species NEAR4 invasiv or avoid NEAR4 species NEAR4 invasiv NEAR4 species NEAR4 alien or reduce NEAR4 species NEAR4 alien or avoid NEAR4 species

prevent invasive spp

NEAR4 alien

facilitate NEAR/4 species NEAR/4 alien increase NEAR/4 water NEAR/4 quality decrease NEAR4 water NEAR4 quality decrease NEAR4 water NEAR4 quality decrease NEAR4 water NEAR4 quality wilderness wilderness tish NEAR/4 movements fish movements fish movements recover and fish and assemblage near4 structure parasits parasits non target species or non-target species increase near4 non-target or more abundant near4 non-target aesthetic or cultural aesthetic or cultural aesthetic or cultural "ancient activit*" human history human history human tradition* cultural heritage scient* near/5 knowledg* or research scient* near/5 knowledg* scient* finear/5 knowledg* callitate invasive spp 0 actilitate invasive spp 0 0 actilitate invasive spp 0 0 actilitate invasive spp 1 2 actilitate invasive spp 1 2 actilitate invasive spp 1 2 actilitate invasive spp 1 3 actilitate invasive spp 1 1 2 actilitate invasive spp 1 3 actilitate invasive spp 1 3 actilitate invasive spp 1 1 2 actilitate invasive spp 1 3 actilitate invasive spe 1 3 actilitate invasive spe 1 1 actilitate invasive spe 1 actilitate invasive spe 1 acti	facilitate NEAR/4 species NEAR4 invasive or increase NEAR/4 species NEAR/4 invasiv or propitiate NEAR/4 species NEAR/4 invasiv or increase NEAR/4 species NEAR/4 alien or favour NEAR/4 species NEAR/4 alien or		
decrease NEAR4 water NEAR4 quality decrease water quality 3 wilderness wilderness 11 fish NEAR/4 movements fish movements 48 recover and fish and assemblage near4 structure recover fish assemblage structure 3 parasits parasits 0 non target species or non-target species non target species non target species non target or more abundant near4 non-target or cultural aesthetic or cultural aesthetic or cultural "ancient activities" 0 "human history" human history" 1 human tradition* 45 cultur* heritage Cultural heritage 12 scient* near/5 knowledg* or research 198	the state of the s	facilitate invasive spp	0
wilderness wilderness 111 fish NEAR/4 movements fish movements 48 recover and fish and assemblage near4 structure recover fish assemblage structure 3 parasits parasits 0 non target species or non-target species non target species increase near4 non-target or more abundant near4 non-target or more abundant near4 non-target or cultural aesthetic or cultural aesthetic or cultural aesthetic or cultural aesthetic or cultural 40 "ancient activit*" ancient activities 0 "human history" 1 human tradition* 45 cultur* heritage Cultural heritage 12 scient* near/5 knowledg* or research 198	increase NEAR/4 water NEAR/4 quality	increase water quality	3
fish NEAR/4 movements fish movements 48 recover and fish and assemblage near4 structure recover fish assemblage structure 3 parasits parasits parasits 0 non target species or non-target species non target species non target species or cultural aesthetic or cultural aesthetic or cultural aesthetic or cultural aesthetic or cultural human history human history human tradition* cultur* heritage Cultural heritage 12 scient* near/5 knowledg* or research 198	decrease NEAR4 water NEAR4 quality	decrease water quality	3
recover and fish and assemblage near4 structure parasits parasits parasits parasits non target species or non-target species increase near4 non-target or more abundant near4 non-target aesthetic or cultural aesthetic or cultural "ancient activit*" "human history" human tradition* cultural heritage scient* near/5 knowledg* or research recover fish assemblage structure and assemblage structure assemblage structure and assemblage structure and assemblage structure assembl	wilderness	wilderness	11
parasits parasits parasits 0 non target species or non-target species non target species non target species non target species nor target species nor target species nor target species nor abundant near4 non-target or unterparaget more abundant non-target spp 4 aesthetic or cultural aesthetic or cultural aesthetic or cultural and an activities nor uniterparaget nor uni	fish NEAR/4 movements	fish movements	48
non target species or non-target species non target species non target species increase near4 non-target or more abundant near4 non-target or more abundant near4 non-target species more abundant non-target spp 4 aesthetic or cultural aesthetic or cultural 65 "ancient activities 0 1 "human history" human history 2 human tradition* 45 cultur* heritage Cultural heritage 12 scient* near/5 knowledg* or research 198	recover and fish and assemblage near4 structure	recover fish assemblage structure	3
increase near4 non-target or more abundant near4 non- target more abundant non-target spp 4 aesthetic or cultural aesthetic or cultural aesthetic or cultural 65 "ancient activit*" ancient activities 0 "human history" human history 2 human tradition* Human traditions 45 cultur* heritage Cultural heritage 12 scient* near/5 knowledg* or research 198	parasits	parasits	0
target more abundant non-target spp 4 aesthetic or cultural aesthetic or cultural 65 "ancient activit*" ancient activities 0 "human history" human history 2 human tradition* Human traditions 45 cultur* heritage Cultural heritage 12 scient* near/5 knowledg* or research 198	0 1 0 1	0 .	122
aesthetic or cultural ancient activities 0 "human history" human history 2 human tradition* 45 cultur* heritage Cultural heritage 12 scient* near/5 knowledg* or research 198	<u> </u>		
aesthetic or cultural 65 "ancient activities 0 "human history" 2 human tradition* 45 cultur* heritage Cultural heritage 12 scient* near/5 knowledg* or research 198	0	more abundant non-target spp	4
"ancient activit*" "human history" human history human tradition* cultur* heritage cultur* heritage cultur* heritage cultur* heritage scient* near/5 knowledg* or research 198		aesthetic or cultural	65
"human history" human history 2 human tradition* 45 cultur* heritage Cultural heritage 12 scient* near/5 knowledg* or research scientific knowledge or research 198			
human tradition* 45 cultur* heritage Cultural heritage 12 scien* near/5 knowledg* or research scientific knowledge or research 198			-
scien* near/5 knowledg* or research scientific knowledge or research 198		•	45
	cultur* heritage	Cultural heritage	12
	scien* near/5 knowledg* or research	scientific knowledge or research	198
		o o	11

0.00

0.08 0.08

0.28 1.23 0.08 0.00 3.12 0.10

1.66 0.00 0.05 1.15

0.31

5.06 0.28

Total terms	88
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migratory specie or waterbird	migratory specie or waterbird	16	1.88
species flux or genetic flux or			
connectivity	species flux or genetic flux or connectivity	56	6.57
community stability	community stability	7	0.82
rare specie or localized specie			
or endemic specie	rare specie or localized specie or endemic specie	27	3.17
sedentary specie diversity or			
resident specie diversity	sedentary specie diversity or resident specie diversity	2	0.23
genetic or genomic	genetic or genomic	27	3.17
genetic diversity or gene pool	genetic diversity or gene pool	15	1.76
large mammal or migration			
route	large mammal or migration route	38	4.45
homeostatic mechanism or			
resilience	homeostatic mechanism or resilience	116	13.60
cascade effect	cascade effect	11	1.29
massive proliferation	massive proliferation	0	0.00
proliferation	proliferation	1	0.12
algal cover or seagrass	algal cover or seagrass	87	10.20
primary production	primary production	18	2.11
emblematic ecosystem or			
representative ecosystem	emblematic ecosystems	35	4.10
native specie	native species	30	3.52
"interspecific relationship"	interspecific relationships	0	0.00
ecosystem stability	ecosystem stability	16	1.88
global change or climat* near/3			
change	climatic change	240	28.14
water quality	water quality	90	10.55
disease	diseases	19	2.23
extinction	extinctions	24	2.81
invasive specie or alien specie			
or introducted specie	invasive/alien species	33	3.87
pristine conditions or pristine			
characteristic	pristine conditions	4	0.47
specie behaviour or specie			
behavior	species behaviour	44	5.16
wilderness	wilderness	8	0.94
cultural services			0.00
landscapes	landscapes	74	8.68
seascapes	seascapes	38	4.45
cultural NEAR/5 heritage	cultural heritage	6	0.70
tradition*	traditions	44	5.16
historical near/5 knowledg* or			
cultur* near/5 knowledg* or			
traditio* near/5 knowledg* or			
stakeholder near/5 knowledge	Historical and stakeholder knowledge	6	0.70
"nature based solution*"	nature based solutions	5	0.59
scien* near/5 knowledg* or			
research	scientific knowledge or research	332	38.92
scien* near/5 knowledg*	scientific knowledge	17	1.99
eco*touris*	ecotourism	25	2.93

Total terms 108