9. Tope (*Galeorhinus galeus*)

Sensitivity Assessment

Table A11.9. Sensitivity assessment for tope (*Galeorhinus galeus*). Associated sectors include activities related to offshore renewable energy (O), Fishing (F), or shipping (S). NR = not relevant, NA = not assessed, NEv = no evidence, H = high, M = medium, L = low, NS = not sensitive.

Pressures		**Associated sector(s)**	**Resistance**				**Resilience**				**Sensitivity**				**References**
Classification	**Pressure type**		**Score**	**QoE**	**AoE**	**DoC**	**Score**	**QoE**	**AoE**	**DoC**	**Score**	**QoE**	**AoE**	**DoC**	
Physical	Physical loss (to land or freshwater habitat)	O	H	L	L	NR	H	L	L	NR	NS	L	L	NR	-
	Physical change (to another seabed type)	O, F	H	H	L	L	L	L	L	L	L	L	L	L	3, 11, 23
	Physical change (to another sediment type)	O, F	H	H	L	L	L	L	L	L	L	L	L	L	3, 11, 23

	Habitat structure change-removal of substratum (extraction)	O	H	H	L	L	L	L	L	L	L	L	L	L	3, 11, 23
	Abrasion/disturbance of substratum surface or seabed	O, F	NEv	NR	NR	NR	NEv	NR	NR	NR	NEv	NR	NR	NR	-
	Penetration or disturbance of substratum subsurface	O, F	NEv	NR	NR	NR	NEv	NR	NR	NR	NEv	NR	NR	NR	-
	Changes in suspended solids (water clarity)	O, F	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	-
Physical	Smothering and siltation changes (light)	O	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	-
	Smothering and siltation changes (heavy)	O	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	-

	Underwater noise	O, F, S	H	L	M	NR	H	L	M	NR	NS	L	M	NR	28, 41
	Electromagnetic energy	O	NEv	NR	NR	NR	NEv	NR	NR	NR	NEv	NR	NR	NR	-
	Barrier to species movement	O, F	NEv	NR	NR	NR	NEv	NR	NR	NR	NEv	NR	NR	NR	-
	Death or injury by collision	O, F, S	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	-
Hydrological	Water flow changes	O	H	M	M	H	H	M	M	H	NS	M	M	H	2, 5, 20
Chemical	Transition elements & organo-metal contamination	O, F, S	NEv	M	M	H	H	L	M	H	Sensitive	L	M	H	9, 16, 21
	Hydrocarbon & PAH contamination	O, F, S	NEv	L	M	H	H	L	M	H	Sensitive	L	M	H	-
	Synthetic compound contamination	O, F, S	NEv	NR	NR	NR	NEv	NR	NR	NR	NEv	NR	NR	NR	-

	Introduction of other substances	O, F, S	NEv	NR	NR	NR	NEv	NR	NR	NR	NEv	NR	NR	NR	-
	Deoxygenation	O	NEv	NR	NR	NR	NEv	NR	NR	NR	NEv	NR	NR	NR	-
Biological	Introduction or spread of invasive non-indigenous species	O, F, S	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	-
Biological	Removal of target species	F	L	H	M	H	L	H	M	H	H	H	M	H	3, 4, 6, 8, 10, 12, 17, 22, 24, 25, 27, 29, 30, 32, 33, 34, 35, 36, 37, 38, 39, 40
	Removal of non-target species	F	L	H	M	H	L	H	M	H	H	H	M	H	1, 3, 7, 10, 12, 13, 14, 15, 18, 19, 22, 26, 30, 37

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Literature search

Web of Science search terms

AB=("tope" OR "Galeorhinus galeus" OR "G. galeus" OR "school shark*" OR "snapper shark*" OR "soupfin shark*" OR "sharpie shark*" OR "vitamin shark*" OR "Requin-hâ" OR "Cazón" OR "Galeorhinus vitaminicus" OR "tiburón aceitoso" AND "angl*" OR "beam" OR "bottom trawl*" OR "by-catch" OR "dredge*" OR "fish*" OR "gear" OR "gillnet*" OR "hook*" OR "injury" OR "net*" OR "otter trawl*" OR "remov*" **OR** "aggregate*" OR "anchor*" OR "ballast" OR "barrier*"OR "beach*" OR "launch*" OR "moor*" OR "noise" OR "ship*" OR "steaming" **OR** "collision*" OR "construction" OR "electro*" OR "turbine*"OR "renewable*" OR "wave" OR "wind" OR "wind farm*" **OR** "anoxia" OR "copper" OR "current*" OR "disease*" OR "disturbance" OR "endocrine disru*" OR "eutrophication" OR "exposure" OR "heavy metals" OR "hydrocarbon" OR "hypoxia" OR "litter" OR "nitrate*" OR "nitrite*" OR "noise" OR "radionuclide" OR "nutrient*" OR "oil" OR "oil" OR "PAH*" OR "pathogen*" OR "PCB*" OR "plastic*" OR "regime" OR "salinity" OR "sedimentation" OR "silt*" OR "temperatur*" OR "translocation" OR "tributyltin" OR "turbid*" OR "visual" OR "warm*")

Database

ISI Web of Science

Search date

30th January 2023 - 177 results

9th April 2024 - 200 results

Search output and screening process

Abstracts screened for relevance i.e. must describe tope sharks and mention of one of the listed sectors and/or pressures from MARESA. Workflow follows the Rapid Evidence Assessment approach. The title and all auxiliary information (including abstract) were downloaded from ISI Web of Science in a .ris and excel format. In Excel, abstracts were read and listed to either pass or fail the initial screening process with a reason provided.

Outcome from screening

January 2023 review

71 (36%) abstracts passed initial screening. Of these 71, 19 (27%) did not pass secondary screening (i.e., on further reading were determined as not relevant), 12 (17%) could not be accessed and therefore applicability could not be determined, and 40 (56%) passed secondary screening and were accessible, sensitivity assessments were therefore made based on evidence provided by the resultant 40 papers.

April 2024 review

75 (38%) abstracts passed initial screening. Of these, 41 (57%) passed secondary screening and were accessible, sensitivity assessments were therefore made based on evidence provided by the resultant 41 papers.