

Recommend Specific Measures by Species:



Insular False Killer Whale



Southern Resident Killer Whale





Hawaiian Monk Seal



Western Steller Sea Lion



Proposed Rule for Safely Deterring Marine Mammals

Conflicts between humans and marine mammals can arise when the animals interact with fishing gear or catch, damage property, or endanger people. Although the Marine Mammal Protection Act of 1972 (MMPA) and the Endangered Species Act of 1973 (ESA) prohibit the "taking" of marine mammals, there are limited exceptions to the prohibitions under certain circumstances. Section 101(a)(4)(A) of the MMPA allows "specified persons" (e.g., the owner of fishing gear or catch, the owner of private property, or an employee or agent of such owner as well as any person deterring a marine mammal from endangering personal safety and any government employee to deter a marine mammal from damaging public property) to use measures that deter marine mammals from damaging fishing gear, catch, personal or public property, or endangering personal safety, **as long as those measures do not result in death or serious injury of marine mammals**.

What is NOAA Fisheries proposing?

NOAA Fisheries has developed proposed guidelines under the authority of the MMPA for deterring marine mammals under our jurisdiction¹ and recommended specific measures for species of marine mammals listed under ESA, which are intended to provide tools for fishermen and property owners to protect their fishing gear, catch, and property, while also reducing intentional lethal takes and serious injuries of marine mammals.

While the guidelines and specific measures are not mandatory, section 101(a)(4)(B) of the MMPA provides protection from liability for take resulting from such deterrence measures by specifying that any actions taken to deter marine mammals that are consistent with the guidelines or recommendations are not a violation of the MMPA. The rule also proposes to prohibit some deterrents that would have a significant adverse effect on marine mammals. Specified persons may choose to deter marine mammals using deterrents not included in the guidelines, recommended specific measures, or prohibitions. However, if a marine mammal is killed or seriously injured as a result of such deterrence, the protection from liability in section 101(a)(4)(B) would not apply and the take would constitute a violation of the MMPA.

How long is the public comment period?

The public comment period is open for 60 days from August 31, 2020 to October 30, 2020.

Has NOAA Fisheries evaluated some of the deterrents already available?

Yes, NOAA Fisheries has evaluated several different types of deterrents that can be classified broadly as either "acoustic" or "non-acoustic" deterrents. However, the evaluation did not include an analysis of the effectiveness of the devices or methods — it only considered the potential impacts to the health and welfare of marine mammals.

¹NOAA Fisheries and the U.S. Fish and Wildlife Service share responsibility for implementing the MMPA and the ESA. Under the MMPA, NOAA Fisheries has jurisdiction over cetaceans (whales, dolphins, and porpoises) and most pinnipeds (seals and sea lions). The U.S. Fish and Wildlife Service has jurisdiction over manatees, sea otters, polar bears, and walrus. This proposed rule only applies to species of marine mammals under NOAA Fisheries jurisdiction.

Deterrent Types:

Non-Acoustic Visual







Chemosensory



ACOUSTIC Impulsive: Explosive



Impulsive: Non-Explosive



Non-Impulsive



What happens if a marine mammal is accidentally injured or killed by a deterrent?

The proposed rule includes a requirement for any marine mammals injured or killed in the course of deterrence to be reported to NOAA Fisheries via either an online form or postage-paid mailing, which is similar to the requirement for commercial fishermen to report marine mammals incidentally killed or injured during commercial fishing operations. This would help us monitor and evaluate the impacts of various deterrents and update the guidelines and recommended specific measures as needed.

Are there alternatives to using deterrents?

NOAA Fisheries strongly encourages fishermen, private property owners, and government officials to practice avoidance techniques prior to attempting to deter any marine mammal. Avoiding interactions is the safest method for preventing death or serious injury to marine mammals and the most definitive way to minimize risks to human safety. If deterrents are needed, NOAA Fisheries strongly recommends starting with less impactful techniques first (*e.g.*, visual, physical barriers, in-air noisemakers, water deterrents), before using more impactful deterrents (*e.g.*, tactile – projectiles, explosives).

Where is the proposed rule posted?

The Proposed Rule was published in the Federal Register on August 31, 2020 and can be found online at https://www.fisheries.noaa.gov/action/guidelines-safely-deterring-marine-mammals

NOAA Fisheries is accepting comments until October 30, 2020 and can be submitted at: www.regulations.gov/#!docketDetail;D=NOAA-NMFS-2020-0109

Additional Resources

Long, K.J., M.L. DeAngelis, L.K. Engleby, D.A. Fauquier, A.J. Johnson, S.D. Kraus, and S.P. Northridge. Marine Mammal Non-Lethal Deterrents: Summary of the Technical Expert Workshop on Marine Mammal Non-Lethal Deterrents, 10-12 February 2015, Seattle, Washington. U.S. Dep. Commer., NOAA Tech. Memo. NMFS-OPR-50. 38 p. https://repository.library.noaa.gov/view/noaa/15852

"Deterring 'Nuisance' Pinnipeds on the West Coast of the U.S.": https://www.fisheries.noaa.gov/west-coast/marine-mammal-protection/deterringnuisance-pinnipeds

"Deterring Steller Sea Lions in Alaska": <u>https://www.fisheries.noaa.gov/alaska/endangered-</u> species-conservation/deterring-steller-sea-lions-alaska

"Draft NMFS Acoustic Deterrent Web Tool": https://jmlondon.shinyapps.io/NMFSAcousticDeterrentWebTool/



Deterrent Types NOAA Fisheries Evaluated

(See the remaining tables in this Fact Sheet for guidelines, specific measures, & prohibitions for specific deterrent types.)

	Non-Ac	Acous	tic Deterrent	t Types				
Visual Phys Barr		Tactile: Projectiles	Tactile: Manual	Tactile: Electrical	Tactile: Water	Impulsive: Explosive	Impulsive: Non-Explosive	Non-Impulsive
			*****		\$ 30			
 pinwheels, (in ai streamers, & Horiz air dancers Bubble Bull r curtains Flashing & Close strobe lights 	ontal Alls ails bails bails chemicals • Taste deterrents deterrents inment s way rs step	 Projectiles with compressed air/gas Projectiles with firearms Other projectiles (arrows, spears, darts) 	 Fixed sharp (nails & barbed wire) Manual sharp (gaffs & hooks) Manual blunt (crowder boards, blunt-tipped poles, & broom or mop handle) 	 Electric fencing (in air/water) Electric mats 	 Hose Sprinkler Water gun 	 Fireworks Bird banger Bird whistler Bird screamer Bear banger using pencil launcher Propane cannon Explosive pest control devices (seal bombs & cracker shells) 	 Banging objects (in air/water) Passive acoustic deterrent (in air) Low frequency, broadband devices Pulsed power devices 	 Acoustic alarms (pingers & transducers) In-air noise makers (air horns, sirens, whistles) Predator sounds & alarm vocalizations (via underwater speaker)

	Non-Acoustic Deterrents: Non-ESA Cetacean (Mysticete & Odontocete) Taxa										
		GUIDE	LINES*				PROHI	BITIONS			
Таха	Visual	Physical Barriers	Tactile: Projectile	Tactile: Manual	Tactile: Water	Visual	Chemo- sensory	Tactile: Projectile	Tactile: Manual		
	 Bubble curtains Flashing or strobe lights Predator shapes Vessel patrolling Unmanned Aircraft Systems 	Containment booms, waterway barriers, & log booms	Foam projectiles with toy guns	Blunt objects: blunt tip poles, brooms, mop handles, etc.	Water hoses, sprinklers, & water guns	Vessel chasing	Any chemical irritants, corrosive chemicals, & other taste deterrents	Firearm, bow, or spear gun	Sharp objects		

*These guidelines include additional implementation provisions for some deterrents; see proposed rule for details.

GENERAL PROHIBITIONS

- Targeting a deterrent action at a marine mammal calf or pup •
- Striking a marine mammal's head or blowhole when attempting to deter a • marine mammal
- Deploying or attempting to deploy a deterrent into the middle of a group of • marine mammals
- Feeding or attempting to feed a marine mammal pursuant to 50 CFR 226.3 • even for the purposes of deterrence
- aggression, including charging, lunging, or vocalizing, except when
- killer whales in Washington, pursuant to 50 CFR 223.214 and 224.103

Deterring or attempting to deter any marine mammal demonstrating signs of necessary to deter a marine mammal from endangering personal safety Approaching certain ESA-listed marine mammals, including humpback whales in Alaska, North Atlantic right whales, western Steller sea lions, and

	Non-Acoustic Deterrents: Non-ESA Pinniped Taxa											
	GUIDELINES*								PROHIBITIONS			
Таха	Visual	Physical Barriers	Tactile: Electrical	Tactile: Projectile	Tactile: Manual	Tactile: Water	Visual	Chemo- sensory	Tactile: Projectile	Tactile: Manual		
	 Bubble curtains Flashing or strobe lights Predator shapes Vessel patrolling Unmanned Aircraft Systems Air dancers, flags, pinwheels, & streamers Human attendants 	 Containment booms, waterway barriers, & log booms Horizontal bars/bull rails Rigid fencing (in air) Swim step protectors 	voltage electric mats	 Foam projectiles with toy gun Paintballs with paintball gun Sponge grenades with hand held launcher Blunt objects with slingshot 	Blunt objects: blunt tip poles, brooms, mop handles, etc.	Water hoses, sprinklers, & water guns	 Vessel chasing Patrolling animals 	corrosive chemicals, & other taste deterrents	 Using a firearm, except for bird bombs and cracker shells Discharging a firearm at or within 100 yards (91.4 m) of a Steller sea lion west of 144 °W longitude 	Sharp objects		
3												

*These guidelines include additional implementation provisions for some deterrents; see proposed rule for details.

GENERAL PROHIBITIONS

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	Acoustic Deterrents: N GUIDELINES*	on-ESA Cetacean (Mysti	cete & Odontoce PR
Таха	Impulsive: Non-Explosives	Non-Impulsive: <170 dB RMS	Impulsive: Explosive
	Banging objects (e.g., Oikomi pipes) underwater when visibility <u>▶</u> 100 m	 Acoustic alarm (i.e., pingers/transducers) Predator sounds/alarm vocalizations using underwater speakers 	Any impulsive explosive

*These guidelines include additional implementation provisions for some deterrents; see proposed rule for details.

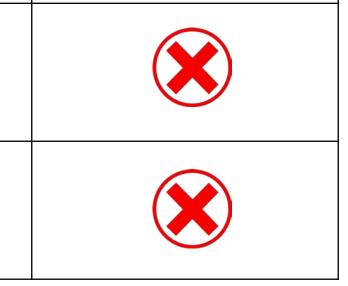
GENERAL PROHIBITIONS

- Targeting a deterrent action at a marine mammal calf or pup •
- Striking a marine mammal's head or blowhole when attempting to deter a • marine mammal
- Deploying or attempting to deploy a deterrent into the middle of a group of • marine mammals
- Feeding or attempting to feed a marine mammal pursuant to 50 CFR 226.3 • even for the purposes of deterrence
- aggression, including charging, lunging, or vocalizing, except when

ete) Taxa ROHIBITIONS

Non-Impulsive

Any non-impulsive device with an underwater source level ≥170 dB RMS, unless that device has been evaluated and meets NMFS criterion via the NMFS Acoustic Deterrent Web Tool



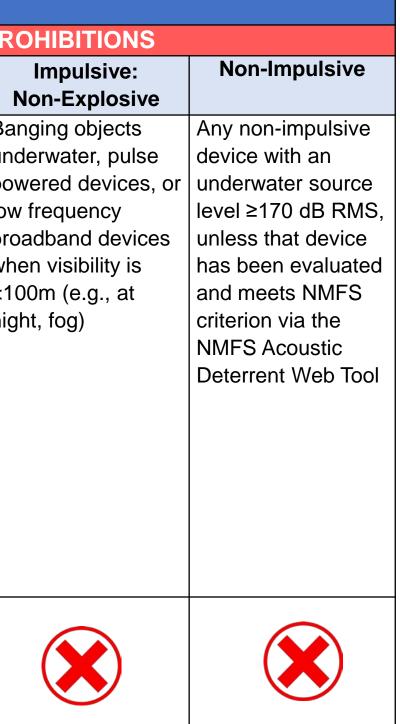
Deterring or attempting to deter any marine mammal demonstrating signs of necessary to deter a marine mammal from endangering personal safety Approaching certain ESA-listed marine mammals, including humpback whales in Alaska, North Atlantic right whales, western Steller sea lions, and killer whales in Washington, pursuant to 50 CFR 223.214 and 224.103

			eterrents: Non-ES	
Таха	GUID Impulsive: Explosives	ELINES* Impulsive: Non-Explosives	Non-Impulsive: <170 dB RMS	PR Impulsive: Explosive
	 Aerial pyrotechnics/fireworks Bird bangers, bird whistlers/screamers Bear bangers using pencil launcher Propane cannons Cracker shells, bird bombs, seal bombs, & underwater firecrackers when visibility <u>></u> 100 m 	 Banging objects (e.g., Oikomi pipes) underwater; low frequency broadband devices; or pulsed powered devices when visibility <u>></u> 100m In-air passive acoustic devices (e.g., hanging chains, cans) 	 Acoustic alarm (i.e., pingers/transducers) Predator sounds/alarm vocalizations using underwater speakers Air horns, in-air noisemakers, sirens, & whistles 	 included in the guidelines or guidelines or specific measures Seal bombs, who underwater & <1 cracker shells, when night

*These guidelines include additional provisions for some deterrents; see proposed rule for details.

GENERAL PROHIBITIONS

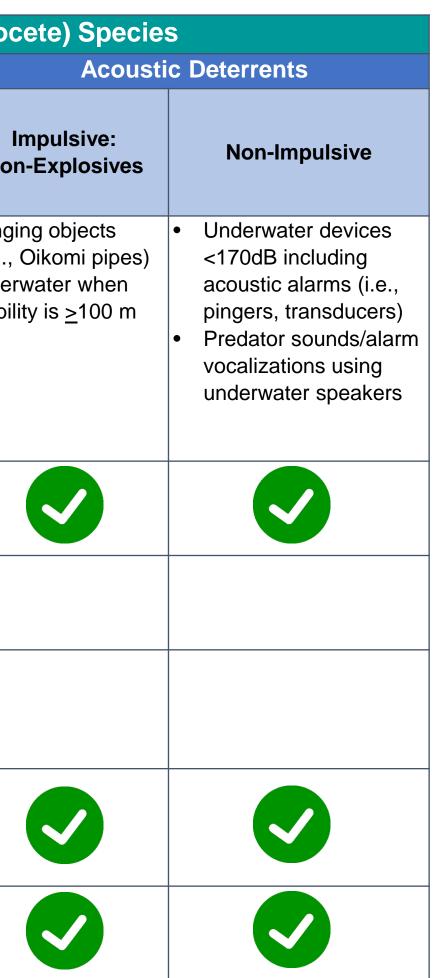
- Targeting a deterrent action at a marine mammal calf or pup
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- •
- •



Deterring or attempting to deter any marine mammal demonstrating signs of aggression, including charging, lunging, or vocalizing, except when necessary to deter a marine mammal from endangering personal safety Approaching certain ESA-listed marine mammals, including humpback whales in Alaska, North Atlantic right whales, western Steller sea lions, and killer whales in Washington, pursuant to 50 CFR 223.214 and 224.103

	Recommen	ded Specific M	easures*: ES/	A Cetacean (My	ysticete & Oo	donto				
	Non-Acoustic Deterrents									
ESA Cetacean species	Visual	Physical Barriers	Tactile: Projectile	Tactile: Manual	Tactile: Water	No				
	 Bubble curtains Flashing or strobe lights Predator shapes Vessel patrolling Unmanned Aircraft Systems 		Foam projectiles with toy guns	 Crowder boards Blunt objects: blunt tip poles, brooms, mop handles, etc. 	Water hoses, sprinklers, & water guns	Bang (e.g., unde visibi				
ESA Mysticetes										
Cook Inlet Beluga										
Insular False Killer Whale										
Southern Resident Killer Whale										
Sperm Whale										

*The specific measures include additional implementation provisions; see proposed rule for details. Blank cells indicate those deterrents are not included as specific measures.



			Re	commende	ed Specifi	<u>c Measures</u>	*: ESA Pinnip	ped Species	5		
				n-Acoustic De						c Deterrents	
ESA Pinniped species	Visual	Physical Barriers	Tactile: Electrical	•	Tactile: Projectile		Tactile: Water	Impulsive: Explosives	Impulsive: Explosives	Impulsive: Non- Explosives	Non-Impulsive
	 Bubble curtains Flashing or strobe lights Predator shapes Vessel patrolling Unmanned Aircraft Systems Air dancers, flags, pinwheels, & streamers 	 barriers Rigid fencing (in air) Horizontal bars/bull rails Gates/closely spaced bars Swim stair protectors 	electric mats	projectileswith toy gunsPaintballs		 Crowder boards Blunt objects: blunt tip poles, brooms, mop handles, etc. 	-	Cracker shells, bird bombs, seal bombs, & underwater firecrackers when visibility ≥ 100 m	 Aerial pyrotechnics/ fireworks Bird bangers, bird whistlers/ screamers Bear bangers using pencil launcher Propane cannons 	 Banging objects (e.g., Oikomi pipes) underwater; low frequency broadband devise; or pulsed power devices when visibility ≥ 100 m In-air passive acoustic devices (e.g., hanging chains, cans) 	 transducers) Predator sounds/alarm vocalizations using underwater speakers Air horns, in-air
Other ESA Pinnipeds											
Hawaiian Monk Seal											
Western Steller Sea Lion											

*The specific measures include additional implementation provisions; see proposed rule. Blank cells indicate those deterrents are not included as specific measures.



Mysticetes: Baleen Whales



Odontocetes: Toothed Whales, Dolphins, & Porpoises



Pinnipeds: Seals & Sea Lions

Definitions associated with proposed rule

Acoustic deterrent means any deterrent that produces sound either in air or underwater.

Impulsive acoustic deterrents produce sounds that are typically transient, brief (less than 1 second), broadband (produce sound over a wide frequency range), consist of high peak sound pressure with rapid rise time and rapid decay (peak sound increases and dissipates quickly), and generally have an increased capacity to affect marine mammal hearing sensitivity. Examples include: "seal bombs," firecrackers, banging pipes, "bird bangers," etc.

Non-impulsive acoustic deterrents typically only have small fluctuations in decibel (dB) level, making them less likely to affect hearing sensitivity compared to impulsive sources. Examples include: pingers, predator sounds using underwater speakers, air horns, etc.

Chemo-sensory deterrent means any deterrent that pertains to the sensing of chemicals by taste, including non-regulated substances (*e.g.*, hot sauce, vinegar) and chemical irritants and corrosive chemicals as defined by the Occupational Safety and Health Administration.

Electrical deterrent means any deterrent that produces electricity as a means to deter a marine mammal upon contact.

Explosive means the same as defined in 27 CFR 555.11, any chemical compound, mixture, or device, the primary or common purpose of which is to function by explosion. The term includes, but is not limited to: dynamite and other high explosives, black powder, pellet powder, initiating explosives, detonators, safety fuses, squibs, detonating cord, igniter cord, and igniters.

Physical barrier means any object that blocks passage by a marine mammal, including the following: containment booms, waterway barriers, and log booms; gates or closely spaced poles; horizontal bars such as bull rails; rigid fencing; and swim-step protectors.

Serious injury is any injury that will likely result in death (50 CFR 229.2).

Specified persons means the owner of fishing gear, catch, or private property, or an employee or agent of such owner, to deter marine mammals from damaging fishing gear, catch, or private property as well as any person deterring a marine mammal from endangering personal safety and any government employee to deter a marine mammal from damaging public property.

Tactile deterrent means any deterrent that physically comes in contact with a marine mammal, whether deployed manually or projected by an accompanying device, including: electrical deterrents; projectiles used with firearms; projectiles used with compressed air or gas; projectiles deployed with any other device; sharp or blunt objects, fixed in place or manually deployed; and water deterrents.

Take

MMPA statutory definition: to harass, hunt, capture, or kill, or attempt to harass, hunt, capture, or kill any marine mammal (16 U.S.C. 1362).

MMPA regulatory definition: to harass, hunt, capture, collect, or kill, or attempt to harass, hunt, capture, collect, or kill any marine mammal. This includes, without limitation, any of the following: The collection of dead animals, or parts thereof; the restraint or detention of a marine mammal, no matter how temporary; tagging a marine mammal; the negligent or intentional operation of an aircraft or vessel, or the doing of any other negligent or intentional act which results in disturbing or molesting a marine mammal; and feeding or attempting to feed a marine mammal in the wild (50 CFR 216.3).

ESA statutory definition: to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct (16 U.S.C. 1531).



Visual deterrent means any deterrent that relies on a marine mammal's visual acuity and perception, including the following: air dancers, flags, pinwheels, and streamers; bubble curtains; flashing lights or strobe lights; human attendants; patrol animals; predator shapes; vessel chasing; vessel patrolling; and unmanned aircraft systems.