

ACRONYMS AND ABBREVIATIONS

(r ₀)	charge radius	CMP	Coastal Management Program
μg	micrograms(s)	CO	carbon monoxide
μg/g	microgram(s)/gram	CO ₂	carbon dioxide
μg/L	microgram(s) per liter	CO ₂ Eq	carbon dioxide equivalent
μm	micrometers	CSG	Carrier Strike Group
μPa	micropascal(s)	CV	Coefficient of Variation
μPa-m	micropascal-meter	CVN	Aircraft Carrier (Nuclear)
μPa ² -s	micropascal squared seconds	CWA	Clean Water Act
°	degrees	CZMA	Coastal Zone Management Act
AAW	Anti-Air Warfare	dB	decibel(s)
ac.	acre(s)	dB re 1 μPa	decibels referenced to 1 micropascal
ACM	Air Combat Maneuver	dba	A-weighted decibels
ACMP	Alaska Coastal Management Program	DDG	Destroyer
ADFG	Alaska Department of Fish and Game	DDT	dichlorodiphenyltrichlorethane
AGM	Air-to-Ground Missile	DEIS	Draft Environmental Impact Statement
AIM	Air Intercept Missile	DICASS	Directional Command Activated Sonobuoy
Air Force	United States Department of the Air Force	DIFAR	Directional Frequency and Ranging
ALTRV	Altitude Reservation	DOC	Department of Commerce
AOE	Fast Combat Support Ship	DoD	Department of Defense
Army	United States Department of the Army	DOI	Department of Interior
ARTCC	Air Route Traffic Control Center	DPS	Distinct Population Segments
ASUW	Anti-Surface Warfare	D _{Rm}	depth of receiver (animal) in meters
ASW	Anti-Submarine Warfare	DS	Doppler Sonar
ATAs	Alaska Training Areas	EA	Electronic Attack
ATCAA	Air Traffic Control Assigned Airspace	EC	Electronic Combat
AtoN	Aids to Navigation	EER	Extended Echo Ranging
AUTEC	Atlantic Undersea Test and Evaluation Center	EEZ	Exclusive Economic Zone
AUV	Autonomous Underwater Vehicle	EFH	Essential Fish Habitat
BA	Biological Assessment	EIS	Environmental Impact Statement
BDU	Bomb Dummy Unit	EL	Exposure Level
BO	Biological Opinion	EMATT	Expendable Mobile Anti-Submarine Warfare Training Target
BOEM	Bureau of Ocean Energy Management	EO	Executive Order
BOMBEX	Bombing Exercise	EOD	Explosive Ordnance Disposal
BQM	Aerial Target Drone Designation	EPA	Environmental Protection Agency
BRF	Behavioral Risk Function	ERL	effects range – low
BWPT	Bilge Water Processing Tank	ERM	effects range – median
C	Celsius	ESA	Endangered Species Act
CAA	Clean Air Act	ESU	Evolutionarily Significant Units
cal	Caliber	EW	Electronic Warfare
CATM	Captive Air Training Missile	F	Fahrenheit
C _{eHF}	High-Frequency Cetacean Weighting Function	FAA	Federal Aviation Administration
C _{eLF}	Low Frequency Cetacean Weighting Function	FACSFAC	Fleet Area Control Surveillance Facility
C _{eMF}	Mid-Frequency Cetacean Weighting Function	FEIS	Final Environmental Impact Statement
CEQ	Council on Environmental Quality	FERC	Federal Energy Regulatory Commission
C.F.R.	Code of Federal Regulations	FFG	Frigate
CG	Cruiser	FL	flight level
CH ₄	methane	FMP	Fishery Management Plan
CIWS	Close-in Weapons System	FR	Federal Register
cm	centimeter(s)	FRR&DP	Fleet Readiness Research and

	Development Program	mi.	mile(s)
ft.	feet	mi. ²	square mile(s)
ft. ²	square feet	min.	minute(s)
FY	Fiscal Year	ml	milliliter(s)
g	gram(s)	mm	millimeter(s)
g(0)	Detection Probability	MMA	Multi-mission Aircraft
G	gauss	MMPA	Marine Mammal Protection Act
gal.	gallon(s)	MOA	Military Operations Area
GI	gastrointestinal	MPA (1)	Maritime Patrol Aircraft
GOA	Gulf of Alaska	MPA (2)	Marine Protected Area
GOALS	Gulf of Alaska Line-Transsect Survey	msec	millisecond(s)
GUNEX	Gunnery Exercise	MSL	mean sea level
h	depth	MW	mine warfare
ha	hectare(s)	MIW	Mine Warfare
HARM	High Speed Anti-Radiation Missile	N	North
HARP	High-Frequency Acoustic Recording Package	N ₂ O	nitrous oxide
		N/A	not applicable
HDC	High Duty Cycle	NAEMO	Navy Acoustics Effects Model
HF	high-frequency	NAS	Naval Air Station
HRC	Hawaii Range Complex	NAVSEA	Naval Sea Systems Command
HSMST	High-Speed Maneuverable Surface Target	Navy	United States Department of the Navy
Hz	Hertz	NEPA	National Environmental Policy Act
IEER	Improved Extended Echo Ranging	NEPM	Non-explosive Practice Munition
i-ENCON	Incentivized Energy Conservation	NEW	Net Explosive Weight
IFR	Instrument Flight Rules	NHPA	National Historic Preservation Act
in.	inch(es)	nm	nautical mile(s)
ISR	Intelligence, Surveillance, Reconnaissance	nm ²	square nautical mile(s)
JPARC	Joint Pacific Alaska Range Complex	NMFS	National Marine Fisheries Service
kg	kilogram(s)	NMML	National Marine Mammal Lab
kHz	kilohertz	NMS	National Marine Sanctuary
km	kilometer(s)	NMSA	National Marine Sanctuaries Act
km ²	square kilometer(s)	NO	nitric oxide
kW	kilowatt(s)	NO ₂	nitrogen dioxide
L	liter(s)	NO _x	nitrogen oxides
lb.	pound(s)	NOAA	National Oceanographic and Atmospheric Administration
LCAC	Landing Craft, Air Cushion		
LF	low-frequency	NOI	Notice of Intent
LFA	low-frequency active	NOTAM	Notice to Airmen
Lmax	maximum peak sound level	NRHP	National Register of Historic Places
LOA	Letter of Authorization	NSW	Naval Special Warfare
m	meter(s)	NTM	Notice to Mariners
m ²	square meter(s)	O ₃	ozone
m ³	cubic meter(s)	OBIS-SEAMAP	Ocean Biogeographic Information System-Spatial Ecological Analysis of Megavertebrate
M	acoustic modems		
MAC	Multistatic Active Coherent		
MARPOL	International Convention for the Prevention of Pollution from Ships	OCE	Officer Conducting the Exercise
		OCM	Oil Content Monitor
MBTA	Migratory Bird Treaty Act	OEIS	Overseas Environmental Impact Statement
MF	mid-frequency	OPAREA	Operating Area
MFA	Mid-Frequency Active	OPNAVINST	Chief of Naval Operations Instruction
MFAS	Mid-Frequency Active Sonar	OPNAV M	Chief of Naval Operations Manual
mg	milligram(s)	OWS	Oil/Water Separator
mg/L	milligram(s) per liter	oz.	ounce(s)

P	Pinger	SPLASH	Structure of Populations, Levels of
Pa	Pascal		Abundance, and Status of Humpbacks
Pb	lead	SQT	SEAL Qualification Training
Pa-s	Pascal-seconds	SSN	Navy submarine
PCAD	Population Consequences of Acoustic Disturbance	Study Area	GOA (TMAA) Study Area
PCBs	polychlorinated biphenyls	STW	Strike Warfare
PCE	Primary Constituent Element	SUA	Special Use Airspace
PM	particulate matter	SURTASS	Surveillance Towed Array Sensor System
PM ₁₀	PM ≤10 microns in diameter	SUS	Signal Underwater Sound
PM _{2.5}	PM ≤2.5 microns in diameter	SWAG	Shock Wave Action Generator
PMAP	Protective Measures Assessment Protocol	SWFSC	Southwest Fisheries Science Center
PMRF	Pacific Missile Range Facility	TALD	Tactical Air Launched Decoy
P _o	Otariid Pinniped Weighting Function	TDU	Target Drone Unit
POPS	Project Operations	Tg	tetragram(s)
P _p	Phocid Pinniped Weighting Function	TL	transmission loss
ppb	parts per billion	TMAA	Temporary Maritime Activities Area
ppm	parts per million	TNT	trinitrotoluene
PRST	Post Refit Sea Trial	TOC	total organic carbon
PSA	Post Shakedown Availability	TORP	torpedoes
psi	pounds per square inch	TRACKEX	tracking exercise
PTS	permanent threshold shift	TTS	temporary threshold shift
R	Restricted Area	T-weighting	turtle-weighting
RAM	Rolling Airframe Missile	UAS	Unmanned Aerial System
RDT&E	Research, Development, Testing and Evaluation	UEWS	Underwater Emergency Warning System
RDX	royal demolition explosive	U.S.	United States
re	referenced to	U.S.C.	United States Code
RHIB	Rigid Hull Inflatable Boat	USCG	United States Coast Guard
RL	Received Level	USEPA	U.S. Environmental Protection Agency
rms	root mean square	USFWS	U.S. Fish and Wildlife Service
RMMV	Remote Multi-Mission Vehicle	USSOCOM	U.S. Special Operations Command
ROD	Record of Decision	USV	Unmanned Surface Vehicle
ROI	Region of Influence	UUV	Unmanned Underwater Vehicle
ROP	Range Operating Policies and Procedures Manual	VDS	Variable Depth Sonar
ROV	Remotely Operated Vehicle	VFR	Visual Flight Rules
S	south	VHF	Very High Frequency
SAR	Stock Assessment Report	VOC	volatile organic compounds
SAS	Synthetic Aperture Sonar	W (1)	Warning Area
SD	Swimmer Detection Sonar	W (2)	west
SDV	SEAL Delivery Vehicle	yd.	yard(s)
SEAL	Sea, Air, Land		
sec	second(s)		
SEL	Sound Exposure Level		
SINKEX	Sinking Exercise		
SIP	State Implementation Plan		
SL	source level		
SO ₂	sulfur dioxide		
SOCAL	Southern California		
Sonar	SOund Navigation and Ranging		
SOP	Standard Operating Procedure		
SPL	Sound Pressure Level		

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