

ACRONYMS AND ABBREVIATIONS

(r ₀)	charge radius		
μg	micrograms(s)	COMNAVREGNW	Commander, Navy Region Northwest
μg/g	microgram(s)/gram		
μg/L	microgram(s) per liter	CRG	Coastal Riverine Group
μm	micrometer(s)	CV	Coefficient of Variation
μPa	micropascal(s)	CWA	Clean Water Act
μPa ² -s	micropascal squared second(s)	CZMA	Coastal Zone Management Act
°	degrees	CZMP	Coastal Zone Management Program
AASP	Acoustic Augmentation Support Program	dB	decibel(s)
AAW	Anti-Air Warfare	dB re 1 μPa	decibels referenced to 1 micropascal
ac.	acre(s)	db re 1 μPa @ 1 m	decibels referenced to 1 micropascal at 1 meter
ACM	Air Combat Maneuver		
ACMP	Alaska Coastal Management Program	dBA	A-weighted decibels
AEA	Airborne Electronic Attack	DBRC	Dabob Bay Range Complex
APE	Area of Potential Effects	DDG	Destroyer
ASUW	Anti-Surface Warfare	DDT	dichlorodiphenyltrichlorethane
ASW	Anti-Submarine Warfare	DEIS	Draft Environmental Impact Statement
ATBA	Area to Be Avoided	DICASS	Directional Command Activated Sonobuoy
ATCAA	Air Traffic Control Assigned Airspace	DLCD	Department of Land Conservation and Development
ATN	Aid to Navigation		
AUTEC	Atlantic Undersea Test and Evaluation Center	DOC	Department of Commerce
		DoD	Department of Defense
AUV	Autonomous Underwater Vehicle	DOE (Washington State)	Department of Ecology
AWOIS	Automated Wreck and Obstruction Information System	DOI	Department of Interior
		DPS	Distinct Population Segments
BA	Biological Assessment	D _{Rm}	depth of receiver (animal) in meters
BDU	Bomb Dummy Unit	DS	Doppler Sonar
BIA	Biologically Important Area	DT	Developmental Testing
BO	Biological Opinion	EEZ	Exclusive Economic Zone
BOMBEX	Bombing Exercise	EFH	Essential Fish Habitat
BP	Before Present	EFHA	Essential Fish Habitat Assessment
BRF	Behavioral Risk Function	EHW	Explosive Handling Wharf
BTS	Bureau of Transportation Statistics	EIS	Environmental Impact Statement
C	Celsius	EL	Exposure Level
CAA	Clean Air Act	EMATT	Expendable Mobile Anti-Submarine Warfare Training Target
CATM	Captive Air Training Missile		
CCC	California Coastal Commission	EO	Executive Order
CEE	Controlled Exposure Experiment	EOD	Explosive Ordnance Disposal
Ce _{HF}	High-Frequency Cetacean Weighting Function	ERL	effects range–low
Ce _{LF}	Low Frequency Cetacean Weighting Function	ERM	effects range–median
Ce _{MF}	Mid-Frequency Cetacean Weighting Function	ESA	Endangered Species Act
CEQ	Council on Environmental Quality	ESU	Evolutionarily Significant Unit
C.F.R.	Code of Federal Regulations	EW	Electronic Warfare
CG	Cruiser	F	Fahrenheit
CH ₄	methane	FEIS	Final Environmental Impact Statement
cm	centimeter(s)	FFG	Frigate
CMP	Coastal Management Program	FL	flight level
CO	carbon monoxide	FR	Federal Register
CO ₂	carbon dioxide	FRR&DP	Fleet Readiness Research and Development Program
CO ₂ Eq	carbon dioxide equivalent		

ft.	foot/feet	mm	millimeter(s)
ft. ²	square foot/feet	MMPA	Marine Mammal Protection Act
FTCA	Federal Tort Claims Act	MOA	Military Operations Area
FWPCA	Federal Water Pollution Control Act	MPA (1)	Maritime Patrol Aircraft
g	gram(s)	MPA (2)	Marine Protected Area
G	gauss	msec	millisecond(s)
gal.	gallon(s)	MSL	Mean Sea Level
gC	gram(s) of carbon	MSO	Maritime Security Operations
GI	gastrointestinal	N	north
GUNEX	Gunnery Exercise	N ₂ O	nitrous oxide
h	depth	N/A	not applicable
ha	hectare(s)	NAEMO	Navy Acoustic Effects Model
HARM	High Speed Anti-Radiation Missile	NAS	Naval Air Station
HDC (1)	High Duty Cycle	NASWI	Naval Air Station Whidbey Island
HDC (2)	Harbor Defense Command	NAVAIR	Naval Air Systems Command
HE	high explosive	NAVBASE	Naval Base
HF	high-frequency	NAVSEA	Naval Sea Systems Command
Hz	Hertz	NAVSTA	Naval Station
IEER	Improved Extended Echo Ranging	Navy	United States Department of the Navy
i-ENCON	Incentivized Energy Conservation	NBK	Naval Base Kitsap
IFR	Instrument Flight Rules	NEPA	National Environmental Policy Act
IHA	Incidental Harassment Authorization	NEPM	Non-explosive Practice Munition
in.	inch(es)	NEW	Net Explosive Weight
ISR	Intelligence, Surveillance, Reconnaissance	NHPA	National Historic Preservation Act
kg	kilogram(s)	NKB	Naval Base Kitsap
kHz	kilohertz	nm	nautical mile(s)
km	kilometer(s)	nm ²	square nautical mile(s)
km ²	square kilometer(s)	NMFS	National Marine Fisheries Service
L	liter(s)	NMML	National Marine Mammal Lab
lb.	pound(s)	NMSA	National Marine Sanctuaries Act
LCS	Littoral Combat Ship	NO	nitric oxide
LF	low-frequency	NO ₂	nitrogen dioxide
LLC	Limited Liability Company	NO _x	nitrogen oxides
L _{max}	maximum peak sound level	NOAA	National Oceanic and Atmospheric Administration
LOA	Letter of Authorization	NOTAM	Notice to Airmen
m	meter(s)	NRHP	National Register of Historic Places
m ²	square meter(s)	NTM	Notice to Mariners
m ³	cubic meter(s)	NSWCCD	Naval Surface Warfare Center, Carderock Division
M	Acoustic Modems	NUWC	Naval Undersea Warfare Center
MAC	Multistatic Active Coherent	NWTRC	Northwest Training Range Complex
MBTA	Migratory Bird Treaty Act	NWTT	Northwest Training and Testing
MF	mid-frequency	O ₃	ozone
MFA	Mid-Frequency Active	OBIS-SEAMAP	Ocean Biogeographic Information System-Spatial Ecological Analysis of Megavertebate
MFAS	Mid-Frequency Active Sonar	OCE	Officer Conducting the Exercise
mg	milligram(s)	OCMP	Oregon Coastal Management Program
mg/L	milligram(s) per liter	OCNMS	Olympic Coast National Marine Sanctuary
mg chl/m ³	milligram(s) of chlorophyll per cubic meter	OEIS	Overseas Environmental Impact Statement
mi.	mile(s)	OPAREA	Operating Area
mi. ²	square mile(s)	OT	Operational Testing
MINIROV	Miniature Remotely Operated Vehicle		
MIW	Mine Warfare		
ml	milliliter(s)		

oz.		ounce(s)	SEL	Sound Exposure Level
P		Pinger	SINKEX	Sinking Exercise
Pa		Pascal	SIP	State Implementation Plan
PAH		polyaromatic hydrocarbons	SL	source level
Pb		lead	SO ₂	sulfur dioxide
Pa-s		Pascal seconds	Sonar	Sound Navigation and Ranging
PACNW		Pacific Northwest	SPL	Sound Pressure Level
PCAD		Population Consequences of Acoustic Disturbance	SPLASH	Structure of Populations, Levels of Abundance, and Status of Humpbacks
PCBs		polychlorinated biphenyls	SSBN	Fleet Nuclear Ballistic Missile Submarine
PCE		Primary Constituent Element	SSN	Navy submarine
PCoD		Population Consequences of Disturbance	Study Area	NWTT Study Area
PM		particulate matter	SUA	Special Use Airspace
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
PMRF		Pacific Missile Range Facility	SWFSC	Southwest Fisheries Science Center
P _o		Otariid Pinniped Weighting Function	Tg	tetragram(s)
POPS		Project Operations	TL	transmission loss
P _p		Phocid Pinniped Weighting Function	TNT	trinitrotoluene
ppb		parts per billion	TOC	total organic carbon
PRST		Post Refit Sea Trial	TORP	torpedoes
PSA		Post Shakedown Availability	TPS	Transit Protection System
psi		pounds per square inch	TRACKEX	tracking exercise
PSNS&IMFINST		Puget Sound Naval Shipyard and Intermediate Maintenance Facility Instruction	TTS	temporary threshold shift
PSU		Practical Salinity Units	T-weighting	turtle-weighting
PTS		permanent threshold shift	UAS	Unmanned Aircraft System
QUTR		Quinalt Underwater Tracking Range Site	UEWS	Underwater Emergency Warning System
R		Restricted Area	UME	Unusual Mortality Event
RDT&E		Research, Development, Test and Evaluation	UNESCO	United Nations Educational, Scientific and Cultural Organization
RDX		royal demolition explosive	U.S.	United States
re		referenced to	U.S.C.	United States Code
RITA		Research and Innovative Technology Administration	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	USSR	Union of Soviet Socialist Republics
ROD		Record of Decision	USV	Unmanned Surface Vehicle
ROP		Range Operating Policies and Procedures Manual	UUV	Unmanned Underwater Vehicle
ROV		Remotely Operated Vehicle	VAQ	Electronic Attack Squadron
S		south	VDS	Variable Depth Sonar
SAR		Stock Assessment Report	VFR	Visual Flight Rules
SAS		Synthetic Aperture Sonar	VHF	Very High Frequency
SCUBA		Self-Contained Underwater Breathing Apparatus	VOC	volatile organic compounds
SD		Swimmer Detection Sonar	W (1)	Warning Area
SDV		Seal Delivery Vehicle	W (2)	west
SEAFAC		Southeast Alaska Acoustic Measurement Facility	WHC	World Heritage Convention
SECNAVINST		Secretary of the Navy Instruction	yd.	yard(s)
SEAL		Sea, Air, Land		
sec		second(s)		

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