

Presentation Overview & Update:

Gulf of Alaska Navy Training Activities

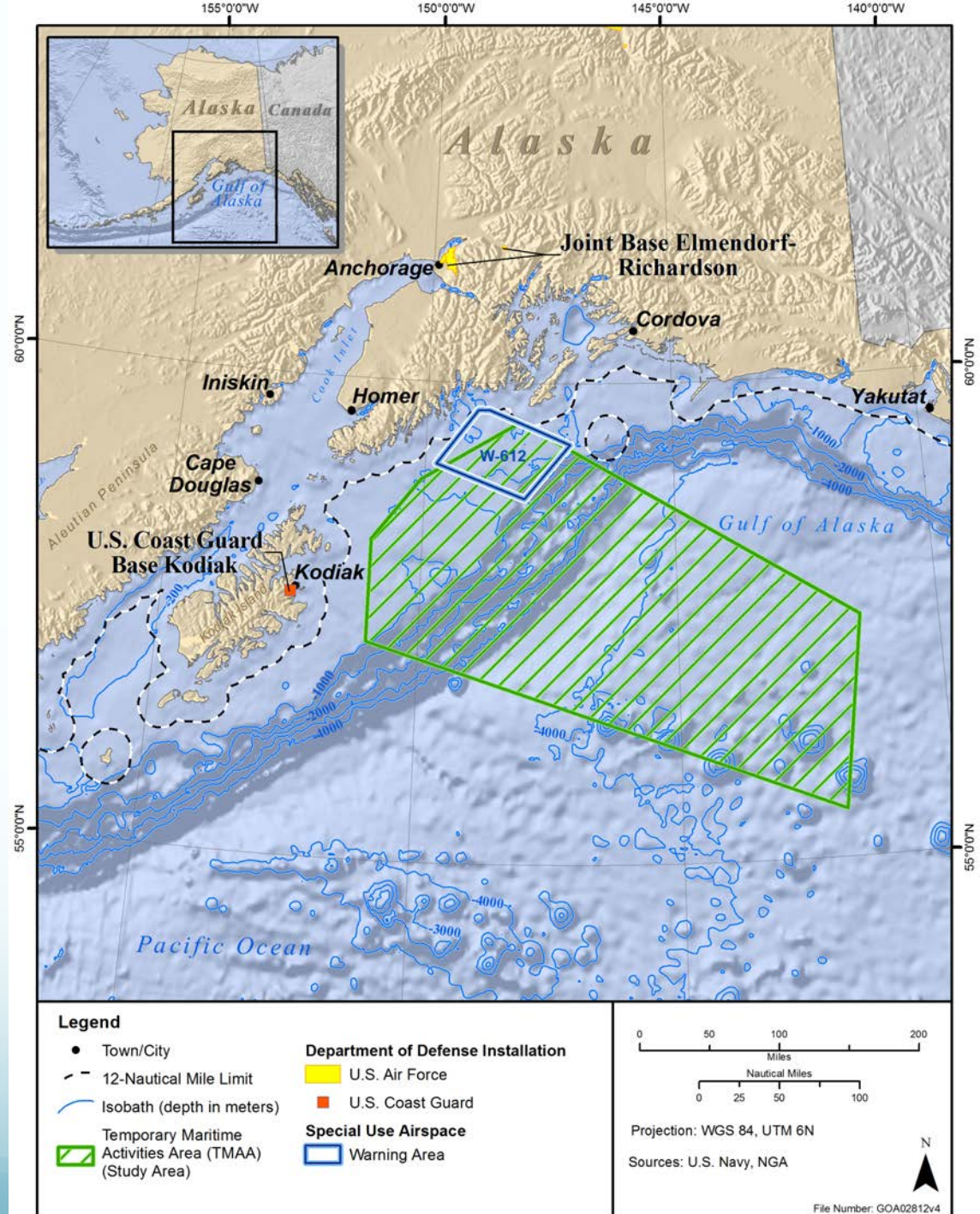
City Council of Valdez, Alaska
October 4th 2016

Emily Stolarcyk
Program Manger
Eyak Preservation Council
Cordova, AK

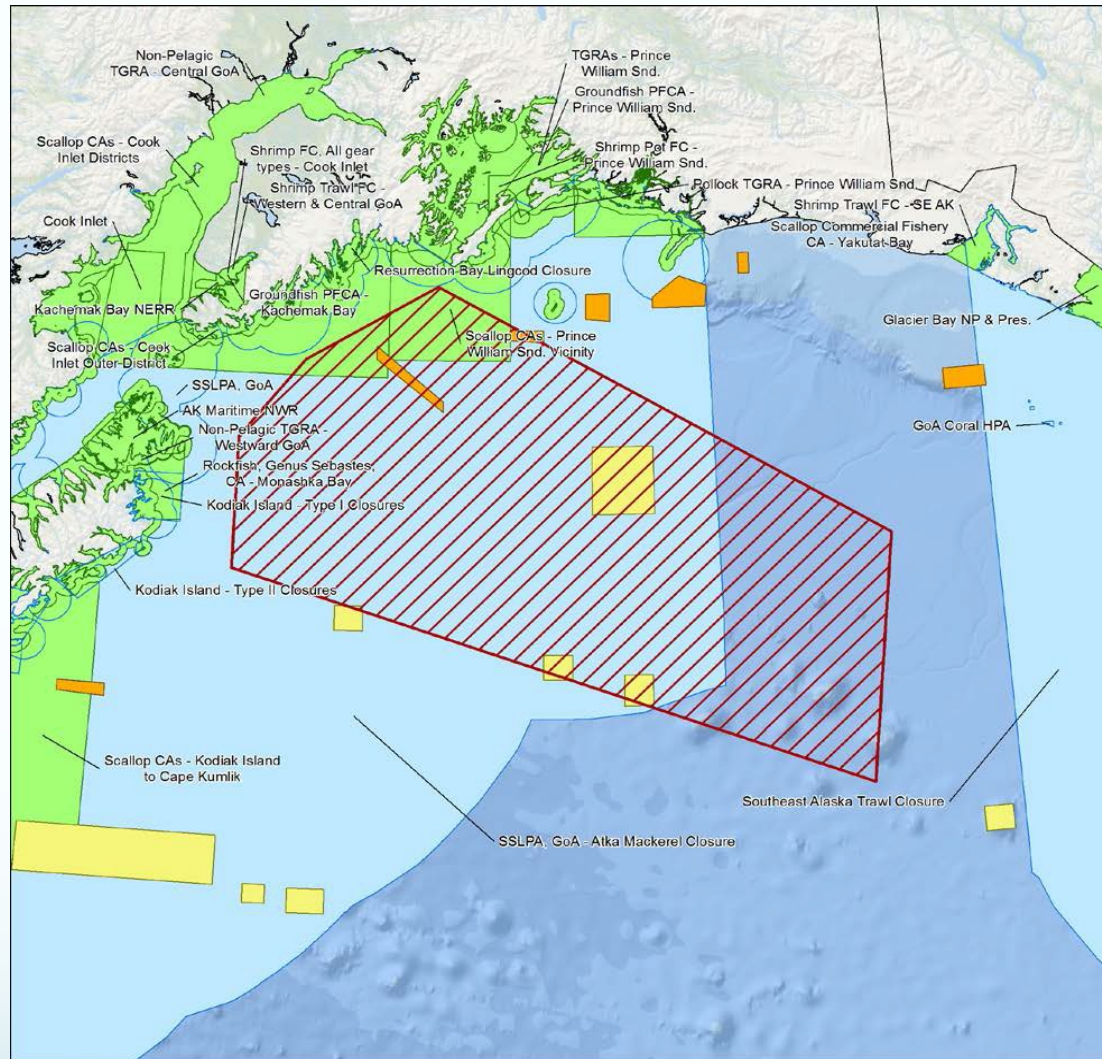


TMAA Map – (Temp Maritime Training Area)

- 20 - 24 nautical miles from most shoreline
- 12 miles from nearest point of land
- US EPA laws extend 12 miles from land
- approximately 300 nautical miles (nm) long by 150 Nm wide
- 42,146 nm² of surface and subsurface waters



Map of Marine Protected Areas Near the Study Area



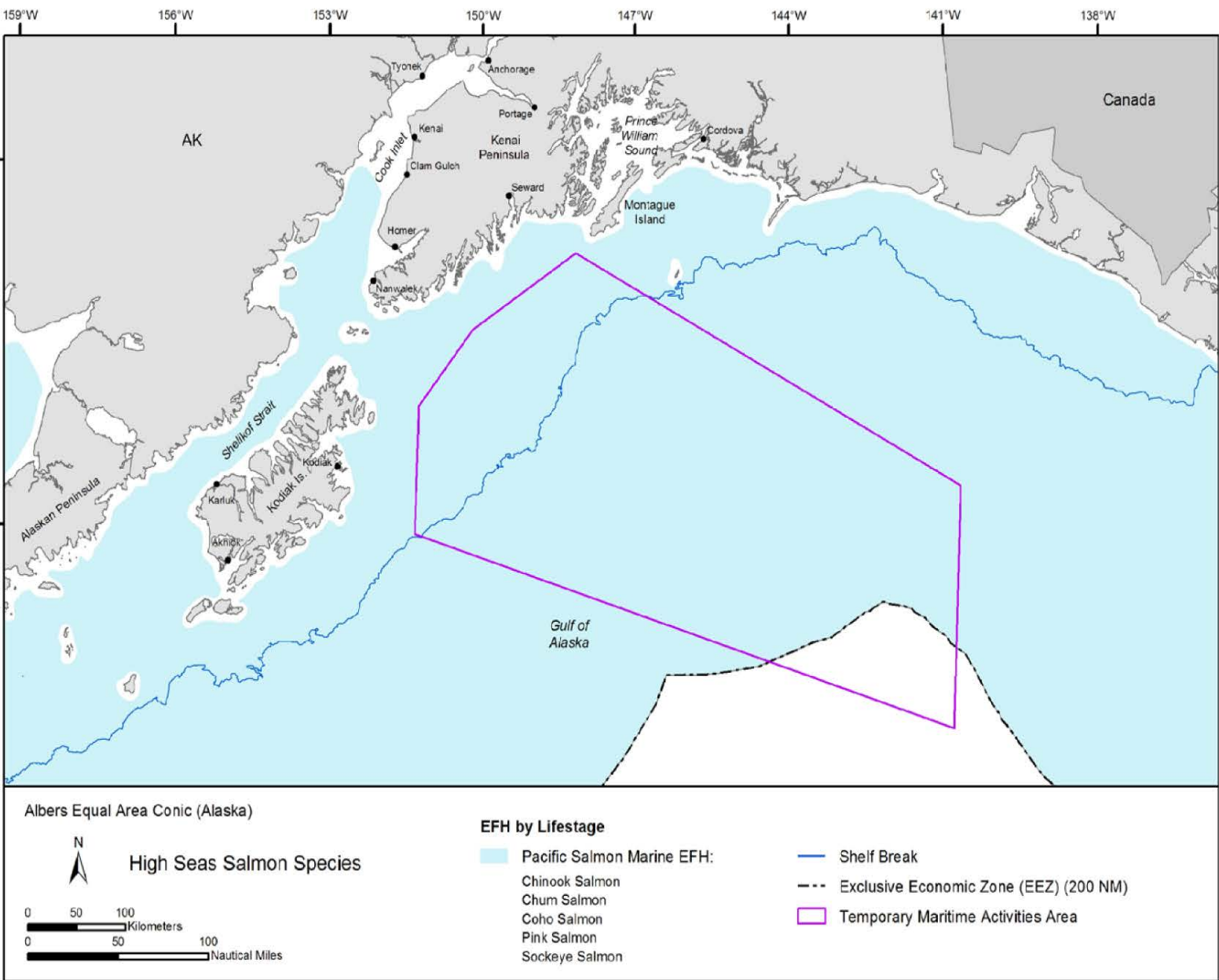
Legend

- Temporary Maritime Activities Area
- State Marine Protected Area
- Gulf of Alaska Seamount Habitat Protection Area
- NOAA Fisheries Marine Protected Area
- Gulf of Alaska Slope Habitat Conservation Area



0 25 50 100 Miles

0 25 50 100 Kilometers



2015 Northern Edge Re-Cap:

- June 15th – 26th
- 3 Community Resolutions passed
 - Cordova
 - Kodiak
 - Homer
- 3 Tribal Resolutions passed
- 3 Government to Government Consultations
- Senator Murkowski launched Congressional Investigation and added an amendment to the National Defense Authorization Act
- Only 3% of authorized ordinance used
- Formerly classified Mini-drone tested – no studies
- A year's worth of FOIA requests denied: Unknown length of sonar used & outright refusal to tell us the Sound Pressure level of NE 15.

2016 – 2021 NEPA Permit Process:

- 2011 – 2015 Permit no longer valid

A new, updated Supplemental EIS for 2016 – 2020:

- Draft released 2014
- Final Supplemental EIS delayed by 8 months
- Navy applies for a Letter of Authorization from NMFS & public comment period (Feb – March 2016)
- Navy Releases Final EIS & final comment period (7/29/16 – 8/29/16)
- Navy Issues a new Record of Decision for next 5 years (early 2017)

Updates:

- Northern Edge '17 – Currently planned for May 1 – 12th
- Two court cases settled since Northern Edge '15
 - Hawaii/ SoCal - September 2015
 - First time protections for certain BIA's
 - Pritzker case - July 15th, 2016
 - 4 week assessment period
 - No final rule yet for GOA
- Cordova City Council passed updated resolution June 22nd 2016
- Homer City Council passed updated resolution August 8th 2016
- Gov't to Gov't Consultation with Kodiak tribes July 6th 2016
 - Awarded exclusion for Portlock Bank

Studying Sounds & Sonar thresholds:

- Hearing capability exists for less than 100 of 29,000 fish species
 - < 0.3% known, or 99.7% unknown
- Navy MFA & LFA Sonar & Bombs are 235 dB
 - Loudest sound on earth
 - Human hearing damage >85 dB
 - Gunshot ~ 145 -155 dB
 - Logarithmic dB scale
 - 300 miles away = 140 dB – 240 dB

Ships Underway	Broadband Source Level (underwater dB at 1 m)
Tug and Barge (18 km/hour) ^[6]	171
Supply Ship (<i>Kigoriak</i>) ^[6]	181
Large Tanker ^[6]	186
Icebreaking ^[6]	193

Military Sonars	Broadband Source Level (underwater dB at 1 m)
AN/SQS-53C (U. S. Navy tactical mid-frequency sonar, center frequencies 2.6 and 3.3 kHz)	235
AN/SQS-56 (U. S. Navy tactical mid-frequency sonar, center frequencies 6.8 to 8.2 kHz)	223
SURTASS-LFA (100-500 Hz)	215 underwater dB for a single projector, with up to 18 projectors operating simultaneously in a vertical array

Source	Broadband Source Level (underwater dB at 1 m)
Sperm Whale Clicks ^{[1][2][3][4]}	163 - 223
Spinner Dolphin Pulse Bursts ^[5]	108-115
Bottlenose Dolphin Whistles ^[6]	125-173
Fin Whale Moans ^{[7][8][9][10]}	155 - 186
Blue Whale Moans ^{[11][12][13]}	155 - 188
Gray Whale Moans ^{[14][15][16]}	142 - 185
Bowhead Whale Tonals, Moans and Song ^{[17][18]}	128 - 189
Humpback Whale Song ^{[19][20][21]}	144 - 174
Humpback Whale Fluke and Flipper Slap ^[22]	183 - 192
Southern Right Whale Pulsive Call ^{[23][24][25]}	172 - 187

Environmental Effects (of the trainings) on Fish

- Direct physical injury, death or **failure to reach the next developmental stage** from explosives and/or sound and shock waves
- Stress from acoustic effects of underwater sounds, underwater impulsive sounds, explosive ordnance, nonexplosive ordnance, and expended materials.
- Vessel movements (disturbance and collisions), aircraft overflights (disturbance), weapons firing/nonexplosive ordnance use
- Disruption of habitat; **exposure to chemical by-products**;
- Indirect effects including those on prey species and other components of the food web.

In reference to Sonar and Explosions:

No studies have established effects of cumulative exposure of fish to any type of sound or have determined whether subtle and long-term effects on behavior or physiology could have an impact upon survival of fish populations.

**End result = many assumptions and conclusions
based on very little evidence**

Hazardous Constituents:

Chromium

Lead

Tungsten

Nickel

Cadmium

Barium chromate

Potassium perchlorate

Chlorides

Phosphorus

Titanium compounds

Lead oxide

Barium chromate

Potassium perchlorate

Lead chromate

Ammonium perchlorate

Fulminate of mercury

Potassium perchlorate

Lead azide

Cyanide

Expendable training materials that come to rest on the ocean floor may:

- 1) Lodge in oxygen-poor sediments ;
- 2) Remain on the ocean floor and corrode; or
- 3) Remain on the ocean floor and become encrusted by marine organisms.

Expendable materials can also be mistaken as prey by a multitude of species, including salmon.

20% of the TMAA would be effected (8,429.2 nm²)

Table 3.2-18: Numbers and Weights of Expended Training Materials – Alternative 2

Type of Training Material	Quantity of Training Materials				Increase under Alternative 2 (%)	
	Alternative 2		No Action Alternative		Number	Weight
	Number	Weight (lb)	Number	Weight (lb)		
Bombs	360	160,000	120	54,000	200	200
Missiles	66	20,300	22	6,770	200	200
Targets/Pyrotechnics	644	11,200	252	3,610	160	210
Naval gun shells	26,376	27,500	10,564	10,700	150	160
Small arms rounds	11,400	420	5,000	180	130	130
Sonobuoys	1,587	61,900	24	936	6,500	6,500
PUTR	7	2,100	0	0	NA	NA
SINKEX ¹	858	70,000	0	0	NA	NA
Total	41,298	352,000	15,982	76,200	160	360

Table 3.2-19: Expended Materials Considered Hazardous – Alternative 2

Type of Training Material	Weight of Material (lb) ¹		Hazardous Content (%)
	Total Expended	Hazardous	
Bombs	160,000	1,130	0.70
Missiles	20,300	169	0.83
Targets and pyrotechnics	11,200	381	3.40
Naval gun shells	27,500	3,310	12.0
Small-caliber rounds	420	4.20	1.00
Sonobuoys	61,900	4,680	7.56
PUTR	2,100	0	0
SINKEX	70,000	850	1.25
Total	352,000	10,500	2.98

Table 3.6-1: The Fish and Invertebrate Species with EFH Designated in the Gulf of Alaska TMAA

Fishery Management Plan	Species	Eggs	Larvae	Early Juvenile	Late Juvenile	Adult
Scallop	Weathervane scallop				X	X
Groundfish	Arrowtooth flounder		X		X	X
	Atka mackerel		X			
	Dover sole	X	X		X	X
	Dusky rockfish		X			X
	Flathead sole	X	X		X	X
	Northern rockfish		X			X
	Pacific cod	X	X		X	X
	Pacific ocean perch		X		X	X
	Rex sole	X	X		X	X
	Rock sole		X		X	X
	Sablefish	X	X		X	X
	Sculpins				X	X

**Table 3.6-1: The Fish and Invertebrate Species with EFH Designated in the Gulf of Alaska TMAA
(continued)**

Fishery Management Plan	Species	Eggs	Larvae	Early Juvenile	Late Juvenile	Adult
Groundfish (continued)	Shortraker / roughey rockfish		X			X
	Skates					X
	Squid				X	X
	Thornyhead rockfish		X		X	X
	Walleye Pollock	X	X		X	X
	Yelloweye rockfish		X		X	X

Table 3.6-2: Salmon Species with EFH Designated in the Gulf of Alaska TMAA

Fishery Management Plan	Species	Freshwater Eggs	Freshwater Larvae/ Juveniles	Estuarine Juveniles	Marine Juveniles	Marine Immature/ Maturing Adults	Freshwater Adults
Salmon	Chinook				X	X	
	Chum				X	X	
	Coho				X	X	
	Pink				X	X	
	Sockeye				X	X	

Questions?

Emily Stolarcyk - emily@redzone.org

Navy's Full EIS - www.goaeis.com

Thank You

