



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
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March 23, 2020

Mr. Benjamin Laws
NOAA/NMFS/OPR/PCD
1315 East West Hwy
Bldg. SSMC3
Silver Spring, MD 20910-3282

Subject: 2019 NWFSC Marine Mammal Incidental Take Letter of Authorization Annual Report

Dear Mr. Laws,

I am submitting the 2019 NWFSC Marine Mammal Incidental Take Letter of Authorization Annual Report in fulfillment of the reporting requirements specified in the Letter of Authorization (LOA). This report covers the 2019 Calendar Year for all NWFSC fieldwork.

If you have any questions or concerns, please contact me at (206) 310-6817 or lawrence.c.hufnagle@noaa.gov.

Best regards,

A handwritten signature in black ink that reads "Lawrence C. Hufnagle, Jr." The signature is written in a cursive style.

Lawrence C. Hufnagle, Jr.

NWFSC Environmental Compliance Coordinator

cc:

Mark Strom



2019 NWFSC Letter of Authorization Annual Report to Office of Protected Resources

The 2019 field season was the first full field season for NWFSC under the authorization signed on August 27, 2018. This report is covering CY19 for all field operations conducted by NWFSC within the three Research Areas (RA) defined in the authorizations. These are: Puget Sound RA, Lower Columbia River RA, and California Current RA. Limited additional research activities in riverine systems was conducted and separately permitted outside of this authorization.

(1.) Annual Acoustic line kilometers was 5956 K using an EK60 Scientific Echosounder at five frequencies (18, 38, 70, 120, and 200 kHz) onboard the NOAA Ship *Bell M. Shimada*. The duration of the research Cruise was 48 days on survey, conducted in four Legs from 6/13/19 through 8/20/19. The UAV portion of the survey used multiple Sairdrone vehicles and EK80 WBT Mini Echosounders at two frequencies (38 and 200 kHz). The survey duration was 71 days from 6/17/19 through 8/26/19 and used the same transect design as the NOAA Ship *Bell M. Shimada*. Please see attached calculations for NWFSC Level B Acoustic Take for Hake research and USV operation.

(2.) NWFSC conducts research and surveys using a variety of sampling methods. In 2019 we conducted the following:

Midwater trawls (30 m headrope)	34 trawls
Midwater trawls (100 m to 600 m headrope)	67 trawls
Surface Trawls	123 trawls
Surface Trawls, Pair Trawls, open cod end	113 trawls
Longline	2 parallel sets of 500 hooks each
Rod and Reel Hook and Line up to a maximum of 75 fish	201 sites with 3 anglers, 5 drops each, 5 hooks per line,
Bottom Trawls	369 trawls
Lampara nets	250 sets
Diver operations	multiple diver operations
Beach Seining	181 sets

(3.) Overall, most of NWFSC sampling activities resulted in no marine mammal takes. The exceptions were the following Level B Takes:

- i) Surface trawling in Skagit Bay, PSRA may have attracted or disturbed marine mammals, as marine mammals were observed within 200 yard when trawl operations were underway. Marine mammals observed were: 15 Harbor seals, 1 Steller sea lion and 2 Harbor porpoise.
- ii) PSRA Shoreline Armoring Subtidal Survey 2 Harbor seals went into water as they drove by on survey.
- iii) Surface trawl, pair trawls, open cod end deployments detecting tagged fish in LCRA disturbed 16 California sea lions, 1 Steller sea lions and 8 Harbor seals. Please note this may be an over count since it is possible that we are reporting the same individual animal present throughout a given day as the trawl operations remain in a fixed location for this project over a 6 hour period.



- iv) PSRA Steelhead Mobile Telemetry tracking observed 3-4 Harbor porpoise in area while stopped and drifting with hydrophone deployed.

Takes listed in *i* and *iv* are in question as actual Level B takes but are being reported in order to ensure Level B reporting compliance. NWFSC would appreciate comment on these takes to improve accuracy of our future reporting.

Total NWFSC Level B Takes (excluding Acoustic Level B Takes) for the 2019 calendar year were:

California sea lions	16
Steller sea lions	2**
Harbor seals	25**
Harbor porpoise	6**

**Please note that Level B takes include previously described takes that are in question.

- v) Acoustic takes from Hake research and Unmanned Surface Vehicle (USV) operations. Please see estimates in attached spreadsheets.
- (4.) No additional work on mitigation during CY19, success of low Level B Incidental Takes and no Level A Incidental Takes, appears to indicate our marine mammal watches are sufficient mitigation measures for NWFSC research and surveys. Marine mammal watches were carried out and logged, as has been our practice for several years. It appears that the watches have been effective to date.
- (5.) There were no Level A takes to report.
- (6.) NWFSC provided copies of our training materials to SWFSC, WCR POC and Headquarters NEPA Leads. AFSC coordinator Rebecca Reuter, SWFSC coordinator Elise Kohli, and I continue to work together and discuss common issues.



2018 NWFSC Level B Acoustic Take Estimates

Species	LOA Level B Acoustic Takes	Hake Research	Saildrone	NWFSC Total Level B Acoustic Take
Sperm Whale	6	1	1	2
Pygmy or dwarf sperm whale (<i>Kogia</i> spp.)	3	1	1	2
Cuvier's beaked whale	14	3	2	5
Baird's beaked whale	3	1	0	1
Hubb's, Blainville's, ginkgo- toothed, Perrin's, lesser, or Stejneger's (<i>Mesoplodont</i> spp.)	3	1	0	1
Bottlenose dolphin	6	1	1	2
Striped dolphin	49	6	4	10
Long-beaked common dolphin	55	7	4	11
Short-beaked common dolphin	895	105	67	172
Pacific white-sided dolphin	61	7	5	12
Northern right whale dolphin	28	3	2	5
Risso's dolphin	30	4	2	6
Killer whale	2	0	0	0
Short-finned Pilot whale	1	0	0	0
Harbor porpoise	110	13	8	21
Dall's Porpoise	218	26	16	42
Guadalupe fur seal	22	3	2	5
Northern fur seal	1878	114	72	186
California sea lion	3659	81	51	132
Steller sea lion	174	20	13	33
Harbor seal	86682	17	11	28
Northern elephant seal	622	92	58	150

