



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Silver Spring, MD 20910

MEMORANDUM FOR: The Record
FROM: *for* *W. Sloan*
John Harrison, Chief
Permits and Conservation Division
Office of Protected Resources

FEB 03 2016

SUBJECT: Environmental Review for Issuance of an Incidental Harassment Authorization to the Partnership for Interdisciplinary Study of Coastal Oceans (PISCO)

ENCLOSURE: (1) Community Structure Monitoring Sites and Biodiversity Sites in Oregon and California

NOAA Administrative Order (NAO) 216-6, "Environmental Review Procedures for Implementing the National Environmental Policy Act", requires all proposed actions to be reviewed with respect to environmental consequences on the human environment. This memorandum addresses the determination that the issuance of an Incidental Harassment Authorization (IHA) to the Partnership for Interdisciplinary Study of Coastal Oceans (PISCO) is adequately assessed in a previous Environmental Assessment (EA) prepared by the National Marine Fisheries Service (NMFS) and that no further National Environmental Policy Act (NEPA) review is required.

Federal Action

NMFS proposes to issue an IHA to PISCO pursuant to Section 101(a)(5)(A) of the Marine Mammal Protection Act of 1972, as amended (MMPA; 16 U.S.C. §§ 1631 *et seq.*) and the regulations governing the taking and importing of marine mammals (50 Code of Federal Regulations (CFR) Part 216). The IHA will be valid from February 3, 2016 through February 2, 2017 and authorizes takes, by Level B harassment, of marine mammals including California sea lions (*Zalophus californianus*), harbor seals (*Phoca vitulina richardii*) and northern elephant seals (*Mirounga angustirostris*) incidental to rocky intertidal monitoring surveys along the coasts of California and Oregon. The IHA prescribes permissible methods of takes and includes mitigation, monitoring and reporting requirements.

The MMPA prohibits the incidental taking of marine mammals. The incidental take of a marine mammal falls under three categories: Mortality, Serious injury or Harassment (injury and behavioral effects). Harassment, as defined by the MMPA, is any act of pursuit, torment, or annoyance that has the potential to injure a marine mammal or marine mammal stock in the wild (Level A harassment) or has the potential to disturb a marine mammal or marine mammal stock in the wild by causing disruption of behavioral patterns (Level B harassment). Disruption of behavioral patterns includes, but is not limited to, migration, breathing, nursing, breeding,



feeding or sheltering. However, there are exceptions to the prohibition on take under the MMPA that gives NMFS the authority to permit the incidental taking of small numbers of marine mammals by harassment upon request from a U.S. citizen, provided certain determinations are made and statutory and regulatory procedures are met. NMFS criteria for issuing IHAs requires that the taking of marine mammals have a negligible impact on the species or stock(s) and, where relevant, will not have an unmitigable adverse impact on the availability of the species or stock(s) for subsistence uses. In addition, the IHA must set forth, where applicable, the permissible methods of taking, other means of effecting the least practicable adverse impact on the species or stock and its habitat, and requirements pertaining to the monitoring and reporting of such takings.

Background

PISCO is a research group at the University of California - Santa Cruz and is responsible for many of the ongoing rocky intertidal monitoring programs along the Pacific coast. Monitoring occurs at rocky intertidal sites, often large bedrock benches, from the high intertidal to the water's edge. Long-term monitoring projects include Community Structure Monitoring, and Intertidal Biodiversity Surveys.

Community structure monitoring involves the use of permanent photoplot quadrats which target specific algal and invertebrate assemblages (e.g. mussels, rockweeds, barnacles). Each photoplot is photographed and scored for percent cover. In addition, permanent plots and transects are sampled to determine patterns of abundance of targeted species including ochre sea stars (*Pisaster ochraceus*), owl limpets (*Lottia gigantea*), abalone (*Haliotis spp.*), surfgrass (*Phyllospadix spp.*), and sea palms (*Postelsia palmaeformis*). Barnacle recruitment and sea surface temperature data are also collected. Community structure monitoring follows the established protocols of MARINE. For more information please visit www.marine.gov and www.pacificrockyintertidal.org. The community structure monitoring approach is based largely on surveys that quantify the percent cover and distribution of algae and invertebrates that constitute these communities. This approach allows us to quantify both the patterns of abundance of targeted species as well as characterize changes within the communities in which they reside. Such information provides managers with insight into the causes and consequences of changes in species abundance and forms the basis of "ecosystem-based management" of rocky intertidal communities. Each community structure site is surveyed over a one day period during a low tide series one to two times a year.

Biodiversity surveys involve point contact identification along permanent transects, mobile invertebrate quadrat counts, sea star band counts, and tidal height topographic measurements. These surveys are complimentary with the community structure monitoring approach and provide greater information on species richness at a site. Biodiversity surveys are conducted every 3-5 years at established sites. For more information on sites and protocols please visit www.pacificrockyintertidal.org. Monitoring activities will continue indefinitely. Most sites are sampled one to two times per year over a four to six-hour period during a negative low tide series.

The research PISCO is supporting focuses on understanding the near-shore ecosystems of the Pacific coast and the information obtained from PISCO's research is used to inform marine

policy and is made available to the public through outreach and educational programs. Although rare, hauled-out pinnipeds are encountered by researchers at some monitoring sites and Level B harassment may occur.

A. Applicants Incidental Take Request(s)

- i. Current Request. On August 10, 2015, NMFS received an application for an incidental take authorization from PISCO, UC Santa Cruz. This IHA is being requested to allow researchers to continue to conduct rocky intertidal monitoring at sites where pinnipeds are present. Community structure monitoring sites are listed in Enclosure (1), Table 1 which includes information on individual sites, location, number of times sampled per year, and typical sampling months for each site. Biodiversity sites are listed in Enclosure (1) Table 2. Sites highlighted in grey indicate those that are likely to be sampled in 2016.

Based on the application, NMFS published a proposed IHA in the Federal Register (FR) on December 9, 2015 (80 FR 76448), which included the following:

- Detailed description of the proposed action and an assessment of the potential impacts on marine mammals and the availability of marine mammals for subsistence uses
 - Proposed mitigation and monitoring measures to avoid and minimize potential adverse impacts to marine mammals and their habitat
 - Proposed reporting requirements
 - Preliminary findings under the MMPA
 - A link to the EA and Finding of No Significant Impact for the IHA published in 2012
- ii. Previous Request(s). On December 5, 2012, NMFS issued the initial 1-year IHA to PISCO to take marine mammals, by Level B harassment, incidental to the initial rocky intertidal monitoring surveys along the coast of Oregon and California (77 FR 72327). In subsequent years, NMFS issued annual IHAs to PISCO for the same proposed activities (December 30, 2013 (78 FR 79403) and December 17, 2014 (79 FR 73048)). There is no data from the 2012 IHA. The monitoring report from the December 30, 2013 IHA indicated that research monitoring activities took place at 65 sites over 50 days. There were 86 takes of harbor seals, 11 takes of California sea lions, and 7 takes of northern elephant seals while authorized takes for these species, were 337, 60 and 36 respectively. The monitoring report from the IHA issued on December 17, 2014 indicated that research monitoring activities took place at 61 sites over 48 days. There were 37 takes of harbor seals, 19 takes of California sea lions, and 4 takes of northern elephant seals while authorized takes for these species were 187, 60, and 30 respectively.

B. Previous Environmental Assessment

NMFS issuance of an IHA is considered a major federal action under NEPA, therefore, the Office of Protected Resources (OPR) prepared an EA¹ for the initial incidental take request in accordance with NEPA, the Council on Environmental Quality (CEQ) regulations in 40 CFR §§ 1500-1508, and NAO 216-6. The analysis in the Final EA addressed the potential impacts to the human environment and natural resources; specifically from NMFS proposed action to authorize takes of marine mammals incidental to PISCO's rocky intertidal monitoring surveys. The range of alternatives included the No Action alternative (not issuing an IHA) and the Preferred Alternative (the issuance of IHAs for the take of marine mammals by Level B harassment, incidental to PISCO's activities along the Oregon and California coasts. NMFS analyzed direct, indirect and cumulative impacts and based the scope of its proposed action and alternatives on the relevant requirements in section 101(a)(5)(A) of the MMPA. Based on the findings under the MMPA for PISCO's proposed activities and the conclusions in the Final EA, NMFS determined that no significant impacts to the human environment would occur from issuing an IHA and signed a Finding of No Significant Impact (FONSI) on November 26, 2012. The 2012 NEPA documents are available for review at www.nmfs.noaa.gov/pr/permits/incidental/construction.htm.

Findings and Conclusions

A. Environmental Review

After reviewing and considering (1) the application, (2) public comments received for the proposed IHA (3) the 2012 EA and FONSI, and (4) 2013 and 2014 monitoring report, NMFS determined renewing PISCO's IHA falls within the scope of the analysis in the 2012 Final EA. There are no changes to NMFS proposed action and alternatives for the IHA renewal and there were no changes to the affected environment or impacts to resources. No new significant circumstances or information relevant to environmental concerns associated with the IHA renewal were identified during the environmental review or the public comment period. There were no new sites added to the original site list, no new species for which take has been authorized, and monitoring and mitigation requirements have remained the same. PISCO is proposing to continue conducting rocky intertidal monitoring surveys in similar locations (Enclosure 1) and in the same manner or methods previously authorized under the IHAs issued in 2012, 2013 and 2014.

B. MMPA Findings

Authorization for incidental takings shall be granted if NMFS finds that the taking will have a negligible impact on the species or stock(s), will not have an unmitigable adverse impact on the availability of the species or stock(s) for subsistence uses (where relevant), and if the permissible methods of taking and requirements pertaining to the mitigation, monitoring and reporting of such takings are set forth. NMFS defined "negligible impact" in 50 CFR 216.103 as "...an impact resulting from the specified activity that cannot be reasonably expected to, and is not reasonably

¹ *Environmental Assessment for the Issuance of Incidental Harassment Authorizations to the Gulf of the Farallones National Marine Sanctuary and University of California Santa Cruz to Take Marine Mammals by Harassment Incidental to Rocky Intertidal Monitoring along the U.S. Pacific Coast*

likely to, adversely affect the species or stock through effects on annual rates of recruitment or survival."

An estimate of the number of Level B harassment takes, alone, is not enough information on which to base an impact determination. In addition to considering estimates of the number of marine mammals that might be "taken" through behavioral harassment, NMFS must consider other factors, such as the likely nature of any responses (their intensity, duration, etc.), the context of any responses (critical reproductive time or location, feeding, migration, etc.), as well as the number and nature of estimated Level A harassment takes, the number of estimated mortalities, effects on habitat, and the status of the species.

No injuries or mortalities are anticipated to occur as a result of PISCO's rocky intertidal monitoring, and none are authorized. The risk of marine mammal injury, serious injury, or mortality associated with rocky intertidal monitoring increases somewhat if disturbances occur during breeding season. These situations present increased potential for mothers and dependent pups to become separated and, if separated pairs do not quickly reunite, the risk of mortality to pups (through starvation) may increase. Separately, adult male elephant seals may trample elephant seal pups if disturbed, which could potentially result in the injury, serious injury, or mortality of the pups. The risk of either of these situations is greater in the event of a stampede.

Very few pups are anticipated to be encountered during the monitoring surveys. However, a small number of harbor seal, northern elephant seal and California sea lion pups have been observed at several of the monitoring sites during past years. Harbor seals are very precocious with only a short period of time in which separation of a mother from a pup could occur. Though elephant seal pups are occasionally present when researchers visit survey sites, risk of pup mortalities is very low because elephant seals are far less reactive to researcher presence than the other two species. Furthermore, pups are typically found on sand beaches, while study sites are located in the rocky intertidal zone, meaning that there is typically a buffer between researchers and pups. Finally, the caution used by researchers in approaching sites generally precludes the possibility of behavior, such as stampeding, that could result in extended separation of mothers and dependent pups or trampling of pups. No research would occur where separation of mother and her nursing pup or crushing of pups can become a concern.

Typically, even those reactions constituting Level B harassment would result at most in temporary, short-term disturbance. In any given study season, researchers will visit sites one to two times per year for a total of 4-6 hours per visit. Therefore, disturbance of pinnipeds resulting from the presence of researchers lasts only for short periods of time and is separated by significant amounts of time in which no disturbance occurs. Some of the pinniped species may use some of the sites during certain times of year to conduct pupping and/or breeding. However, some of these species prefer to use the offshore islands for these activities. At the sites where pups may be present, PISCO has shall implement certain mitigation measures, such as no intentional flushing if

dependent pups are present, which will avoid mother/pup separation and trampling of pups.

Of the three marine mammal species anticipated to occur in the activity areas, none are listed under the Endangered Species Act. Taking into account the mitigation measures that are planned, effects to marine mammals are generally expected to be restricted to short-term changes in behavior or temporary abandonment of haulout sites. Pinnipeds are not expected to permanently abandon any area that is surveyed by researchers, as is evidenced by continued presence of pinnipeds at the sites during annual monitoring counts. Based on the analysis contained herein of the likely effects of the specified activity on marine mammals and their habitat, and taking into consideration the implementation of the mitigation and monitoring measures, NMFS finds that the total marine mammal take from PISCO's rocky intertidal monitoring program will not adversely affect annual rates of recruitment or survival and therefore will have a negligible impact on the affected species or stocks.

There are no relevant subsistence uses of marine mammals implicated by this action. Therefore, NMFS has determined that the total taking of affected species or stocks would not have an unmitigable adverse impact on the availability of such species or stocks for taking for subsistence purposes.

Sections 101(a)(5)(A) and (D) of the MMPA (16 U.S.C. 1361 *et seq.*) direct the Secretary of Commerce to allow, upon request, the incidental, but not intentional, taking of small numbers of marine mammals by U.S. citizens who engage in a specified activity (other than commercial fishing) within a specified geographical region if certain findings are made and either regulations are issued or, if the taking is limited to harassment, a notice of a proposed authorization is provided to the public for review. The small numbers analysis conducted by NMFS determined that PISCO would take less than 0.8% of each species or stock for which take is authorized. Because these are maximum estimates, actual take numbers are likely to be lower, as some animals may select other haulout sites the day the researchers are present. Based on the analysis contained herein of the likely effects of the specified activity on marine mammals and their habitat, and taking into consideration the implementation of the mitigation and monitoring measures, which are expected to reduce the number of marine mammals potentially affected by the action, NMFS finds that small numbers of marine mammals will be taken relative to the populations of the affected species or stocks.

In view of the information presented in this document, OPR determined issuing another IHA to PISCO would not result in significant adverse effects, individually or cumulatively, on the human environment. As such, this IHA renewal does not require the preparation of a Supplemental Environmental Assessment.

ENCLOSURE 1

Table 1. UCSC Community Structure Monitoring Sites

Site	Latitude (dd)	Longitude (dd)	Samples/year	Sampling seasons
Ecola (Oregon)	45.91809	-123.98031	1	July
Fogarty Creek (Oregon)	44.83684	-124.05875	1	July
Bob Creek (Oregon)	44.24456	-124.11443	1	July
Cape Arago (Oregon)	43.30894	-124.40077	1	July
Burnt Hill (Oregon)	42.22814	-124.38786	1	July
Enderts	41.69	-124.14257	2	May/June, November/December
Damnation Creek	41.65249	-124.12784	2	May/June, November/December
False Klamath Cove	41.59476	-124.10643	2	May/June, November/December
Cape Mendocino	40.341	-124.36317	1	June
Shelter Cove	40.02254	-124.07366	1	June
Kibesillah Hill	39.60412	-123.78887	1	June
Stornetta	38.93787	-123.7288	1	June
Sea Ranch	38.7305	-123.48864	1	June
Bodega	38.3182	-123.07365	1	June
Pebble Beach	37.23263	-122.41607	1	May/June
Pigeon Point	37.18361	-122.39529	1	May/June
Franklin Point	37.1495	-122.36101	1	May/June
Scott Creek	37.04425	-122.23493	2	March/April, October/November
Sandhill Bluff	36.98017	-122.15503	2	March/April, October/November
Terrace Point	36.94841	-122.06457	2	March/April, October/November
Hopkins	36.6212	-121.9073	2	March/April, October/November
Point Piños	36.63796	-121.93758	1	May
China Rocks	36.60616	-121.95939	1	May
Pescadero Point	36.56109	-121.95436	1	May
Stillwater	36.56087	-121.94053	2	March/April, October/November
Carmel Point	36.54376	-121.93412	1	May/June
Point Lobos	36.51366	-121.94688	2	March/April, October/November
Mal Paso	36.47994	-121.93913	2	March/April, October/November
Garrapata	36.46904	-121.93444	1	May
Soberanes	36.44787	-121.92874	1	May/June
Andrew Molera	36.28061	-121.86317	2	March/April, October/November
Partington Cove	36.17376	-121.69653	1	May/June
Mill Creek	35.97965	-121.49034	2	March/April, October/November
Pacific Valley	35.94705	-121.48053	1	May/June
Point Sierra Nevada	35.72883	-121.31866	2	March/April, October/November
Piedras Blancas Lighthouse	35.66493	-121.28699	2	March/April, October/November
Vista Del Mar	35.60414	-121.14232	2	March/April, October/November
Rancho Marino Reserve	35.52244	-121.073	2	March/April, October/November
Harmony Headlands	35.47448	-121.01707	2	March/April, October/November
Cayucos	35.44739	-120.94982	2	March/April, October/November
Hazard's	35.28966	-120.88325	2	March/April, October/November
Shell Beach	35.16881	-120.69668	2	March/April, October/November
Oculto	34.88122	-120.63954	2	March/April, October/November
Purisima	34.7556	-120.64076	2	February, October/November
Stairs	34.73038	-120.61546	2	March/April, October/November
Boathouse	34.55388	-120.61167	2	March/April, October/November
Government Point	34.44334	-120.45655	2	March/April, October/November

Table 2. UCSC Biodiversity Sites in Oregon and California

Site	Latitude (dd)	Longitude	Site	Latitude (dd)	Longitude
Ecola (Oregon)	45.91809	-123.98031	Rancho Marino	35.54028	-121.09283
Cape Meares (Oregon)	45.47179	-123.97204	Cayucos	35.44748	-120.95010
Roads End (Oregon)	45.02575	-124.01265	Hazards	35.28966	-120.88325
Otter Rock (Oregon)	44.75272	-124.06606	Diablo	35.22665	-120.87367
Fogarty Creek (Oregon)	44.83684	-124.05875	Shell Beach	35.16917	-120.69639
Seal Rock (Oregon)	44.49994	-124.08437	Stairs	34.73056	-120.61528
Bob Creek (Oregon)	44.24456	-124.11443	Lompoc Landing	34.71880	-120.60880
Cape Arago (Oregon)	43.30894	-124.40077	Boat House	34.55417	-120.61139
Coquille Point (Oregon)	43.11472	-124.43851	Government Point	34.44334	-120.45655
Burnt Hill (Oregon)	42.22814	-124.38786	Alegria	34.46722	-120.27806
Pyramid Point	41.98984	-124.20930	Arroyo Hondo	34.47361	-120.14444
Point Saint George	41.78464	-124.25513	Ellwood	34.43470	-119.94900
Enderts	41.69568	-124.14362	Coal Oil Point	34.40667	-119.87750
Damnation Creek	41.65300	-124.12983	Carpinteria	34.38703	-119.51407
False Klamath Cove	41.59426	-124.10533	Mussel Shoals	34.35528	-119.44028
Palmers Point	41.13121	-124.16330	Old Stairs	34.06626	-118.99805
Launcher Beach	41.05715	-124.14532	Deer Creek	34.06069	-118.98221
Old Home Beach	41.05527	-124.13683	Sequit Point	34.04324	-118.93700
Cape Mendocino	40.34083	-124.36306	Lechuza Point	34.03446	-118.86179
Shelter Cove	40.03056	-124.07917	Point Dume	34.00036	-118.80703
Mal Coombs	40.02170	-124.06825	Paradise Cove	34.01222	-118.79250
Kibesillah	39.60401	-123.78871	Point Vicente	33.74100	-118.41150
Abalobadiah Creek	39.56906	-123.77182	Abalone Cove	33.73790	-118.37580
Mackerricher	39.48260	-123.80359	Whites Point	33.71578	-118.31993
Fort Bragg	39.43920	-123.81841	Point Fermin	33.70694	-118.28611
Point Arena	38.94337	-123.73301	Buck Gully South	33.58825	-117.86736
Stornetta Ranch	38.93787	-123.72888	Crystal Cove	33.57083	-117.83778
Moat Creek	38.88092	-123.67475	Muddy Canyon	33.56576	-117.83314
Saunders Reef	38.86138	-123.65361	Shaw's Cove	33.54472	-117.79944
Del Mar Landing	38.74051	-123.51086	Heisler Park	33.54259	-117.78928
Sea Ranch	38.73028	-123.48750	Treasure Island	33.51335	-117.75793
Phillips Gulch	38.58585	-123.34147	Dana Point	33.46000	-117.71417
Gerstle Cove	38.56614	-123.32919	Cardiff Reef	32.84760	-117.27900
Windermere Point	38.52394	-123.26747	Scripps	32.87139	-117.25306
North Jenner Beach	38.45618	-123.14244	La Jolla Caves	32.84861	-117.26535
Bodega	38.31750	-123.07278	Wind and Sea	32.81420	-117.27330
Horseshoe Cove	36.98661	-123.37755	Sea Ridge	32.68290	-117.24960
Bodega Head	38.30316	-123.05261	Navy North	32.68290	-117.24960
Chimney Rock	37.99383	-122.96729	Cabrillo Zone I	32.66917	-117.24528
Santa Maria Creek	38.01222	-122.84889	Cabrillo Zone III	32.66583	-117.24417
Bolinas Point	37.90453	-122.72733	Cuyler Harbor SMI	34.04833	-120.33556
Bolinas Point Wreck	37.90262	-122.72420	Crook Point SMI	34.02194	-120.37889
Alder Creek	37.89758	-122.71071	Fossil Reef SRI	33.99333	-120.23806
Mussel Flat Farallones	37.69590	-123.00290	NW Talcott SRI	34.00806	-120.21361
Alcatraz Island	37.82515	-122.42197	East Point SRI	33.94170	-119.96790
Fitzgerald Marine	37.52167	-122.51667	Ford Point SRI	33.91472	-120.05056
Pigeon Point	37.18528	-122.39694	Johnsons Lee SRI	33.90889	-120.08667
Año Nuevo	37.11260	-122.32957	Trailer SCI	34.05194	-119.90306
Scott Creek	37.04528	-122.23694	Fraser SCI	34.06250	-119.91944
Davenport Landing	37.02230	-122.21537	Forney SCI	34.05639	-119.92222
Sandhill Bluff	36.98056	-122.15500	Prisoners SCI	34.02000	-119.68694
Wilder Ranch	36.95608	-122.10405	Willows SCI	33.96194	-119.75500
Terrace Point	36.94778	-122.06472	Valley SCI	33.98389	-119.66583
Natural Bridges	36.94903	-122.06113	Cat Rock AI	34.01000	-119.41870
Hopkins	36.62111	-121.90694	Middle AI	34.00593	-119.39648
Point Piños	36.63796	-121.93758	Frenchys Cove AI	34.00660	-119.41090
Asilomar	36.62960	-121.93852	Thousand Springs SNI	33.28505	-119.52983
China Rocks	36.60567	-121.95975	Tranquility Beach SNI	33.26567	-119.49210
Stillwater Cove	36.56111	-121.94028	Marker Poles SNI	33.21868	-119.49562
Point Lobos	36.51320	-121.94433	Landing Cove SBI	33.48167	-119.02944
Garrapata	36.46890	-121.93434	Sea Lion Rookery SBI	33.47194	-119.03083
Andrew Molera	36.28056	-121.86306	Bird Rock CI	33.45167	-118.48750
Partington Cove	36.17383	-121.69660	Big Fisherman Cove CI	33.44645	-118.48526
Lucia	36.01438	-121.54050	Goat Harbor CI	33.41680	-118.39407
Mill Creek	35.97972	-121.49056	Little Harbor CI	33.38500	-118.47528
Duck Pond	35.85942	-121.42263	North Head SCLI	33.03287	-118.60057
Point Sierra Nevada	35.73083	-121.32389	Graduation Point SCLI	33.03327	-118.57560
Piedras Blancas	35.66568	-121.28653	Boy Scout Camp SCLI	33.00112	-118.54832
San Simeon Point	35.63485	-121.19577	Eel Point SCLI	32.91801	-118.54668
Vista del Mar	35.60434	-121.14227	West Cove, SCLI	33.01494	-118.60614