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# Human-Caused Mortality and Injury of NMFS-Managed Alaska Marine Mammal Stocks 2013-2017

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# Human-Caused Mortality and Injury of NMFS-Managed Alaska Marine Mammal Stocks 2013-2017

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## **Abstract**

Section 117 of the Marine Mammal Protection Act (MMPA) requires the National Marine Fisheries Service (NMFS) to estimate human-caused marine mammal mortality and serious injury. Data from documented interactions between human activities and pinnipeds or cetaceans belonging to stocks which appear in the Alaska Marine Mammal Stock Assessment Reports (SARs) were compiled for the 5-year period from 2013 through 2017. A total of 922 unique interactions with evidence of human-caused mortality or injury are summarized in this report. Details for all reported human-marine mammal interactions (approximately 3,500) were first assessed for evidence of human-caused injury or mortality to the marine mammal; injuries and mortalities that could not be attributed with high confidence to human causes were excluded from further analysis. Injury severity determinations were then made for those injuries considered to be human-caused with high confidence. Injury determination details, including the injury source, type, severity, and criteria supporting the determination are presented in the appendices. Records of human-caused mortality are also included in this report and assigned to source. Mortality and injury values were assigned to each interaction for comparison with the potential biological removal (PBR) levels for each stock calculated under the MMPA and appearing within the Alaska SARs. The mortality and serious injury values included in this report are derived solely from documented interactions. Not all human-caused mortality and serious injury to marine mammals is documented, so this report represents a minimum count of human-caused mortality and serious injury to Alaska marine mammal stocks.



## Contents

|  |    |
|--|----|
| Introduction .....   | 1  |
| Methods .....  | 2  |
| Results .....  | 5  |
| Overall .....  | 5  |
| Pinnipeds.....   | 6  |
| Large Cetaceans .....  | 7  |
| Small Cetaceans.....   | 8  |
| Discussion .....   | 8  |
| Acknowledgments .....  | 11 |
| Citations.....   | 13 |
| Guide to Acronyms and Abbreviations Found in Appendix 1..... | 14 |
| Appendix 1.....  | 15 |
| Appendix 2.....  | 17 |





## Introduction

The Marine Mammal Protection Act (MMPA, 1972) requires the National Oceanic and Atmospheric Administration (NOAA), National Marine Fisheries Service (NMFS), to estimate the annual human-caused mortality and serious injury of marine mammal stocks by source (MMPA, section 117) and to classify commercial fisheries based on each fishery's rate of incidental mortality and serious injury of marine mammals (MMPA, section 118). NMFS evaluates the annual level of known or estimated human-caused mortality and serious injury for each stock from all sources, including specific commercial fishing operations, relative to the potential biological removal (PBR) levels calculated under the MMPA (Wade 1998). Mortality events are summed, assigned to source, and annual mortality estimates calculated. Assessing the severity of an injury and likelihood that an injury will result in mortality requires information about the biology of the animal, the type and severity of the injury, and the injury source. Thorough examination of human-caused injuries to marine mammals is often not possible because these events often occur in extremely remote areas of Alaska and observed injuries are often not documented in sufficient detail to understand the level of injury severity.

A serious injury is defined in regulations as "*any injury that will likely result in mortality*" (50 CFR 229.2). To accurately and consistently estimate the number of serious injuries occurring in each stock, NMFS clarified its definition of "serious injury" (SI) in 2012, and stated its interpretation of the regulatory definition of serious injury as any injury that is "more likely than not" to result in mortality, or any injury that presents a greater than 50% chance of death to the marine mammal (77 Federal Register 3233, 23 January 2012; NMFS 2012a). NMFS also established a consistent and transparent process within NMFS for distinguishing non-serious injuries (NSI) from SI and for documenting pertinent information considered in making injury determinations (NMFS 2012a, b). Substantial information is known about the likely outcomes of particular injuries of large whales due to the analysis of historical large whale injuries with known outcomes. This allows NMFS to better estimate, or prorate, the chance that a particular injury is likely to result in mortality. For example, at the time NMFS established its injury determination criteria, there were 25 records with known outcomes involving large whales that sustained vessel-strike lacerations of unknown severity, and in 13 of these instances (52%) the result was a decline in health status or death of the animal. These data are then used to inform decision-making in situations where the severity of the laceration (superficial vs. deep) is unknown. The rate of serious injury for this category is prorated by multiplying the number of events assigned to this criterion by 0.52 (NMFS 2012b).

This report consists of records from 2013 through 2017 that were assessed for human-caused mortality or injury of cetaceans and pinnipeds occurring in Alaska and U.S. West

Coast waters and assessed within the Alaska Marine Mammal Stock Assessment Reports (SARs). For marine mammal stocks that are assessed in the U.S. Pacific Marine Mammal SARs, but are found injured or dead in Alaska waters, the records are sent to the NMFS Southwest Fisheries Science Center (SWFSC) for inclusion in the report summarizing mortality and injury for U.S. Pacific West Coast marine mammal stocks (e.g., Carretta et al. 2019). Examples of stocks assessed in the U.S. Pacific SARs that range into Alaska waters include the Eastern North Pacific gray whale and the California breeding stock of northern elephant seals, whereas some stocks which range as far south as California, such as Eastern U.S. stock of Steller sea lions and Eastern Pacific northern fur seals, are reported in the Alaska SARs. Mortality and injury data may be reported by marine mammal stranding networks, research programs, fisheries observer programs, fishermen, and disentangle networks. Mortality and injury of marine mammals resulting from Alaska Native subsistence harvest data are not reported in this document except in cases with rare circumstances, but these data are reported in the SARs. Mortality and serious injury data were summarized by stock, source, and year and used for estimates reported in the 2019 SARs (Muto et al. in press). All information pertinent to decisions of NSI, SI, or prorated SI is presented in this report.

## **Methods**

Data were acquired primarily from databases and archives maintained by the NMFS Alaska Regional Office (AKRO) stranding network, the NMFS Alaska Fisheries Science Center (AFSC) fisheries observer program, the NMFS West Coast Regional Office (WCRO) stranding network, the NMFS Northwest Fisheries Science Center (NWFSC) fisheries observer program, the NMFS Southwest Fisheries Science Center (SWFSC), the Marine Mammal Authorization Program (MMAP), the NMFS Office of Protected Resources (OPR), and the Alaska Department of Fish and Game (ADF&G). Typically in the course of reviewing five years of human-marine mammal interaction data, an injury determination team at the AFSC's Marine Mammal Laboratory (MML) reviews approximately 3,500 records for evidence of human-caused mortality or injury to the marine mammal(s) involved in the interaction. All available documentation (reports, emails, images, re-sight information, and necropsy results) was considered to assess interactions, make injury determinations, and attribute mortality and injury to a source. If more information was necessary for a determination, we contacted the primary source of information.

Any interaction which met an injury category criterion in NMFS Instruction 02-038-01(2012b; e.g., ingested gear or hook(s), entanglements, ship strikes, lacerations, etc.) was deemed to potentially document a human-caused injury, and a summary of all relevant information was recorded as a unique entry in an Access database (NMFS 2012b). Any mortality which the MML injury determination team was able to confidently assign to a human cause was also summarized and recorded as a unique entry in the database. When

multiple records documenting a single instance of human-caused mortality or injury were identified, the relevant information from each record was consolidated into a single entry within the database. The database allows MML staff to quickly sort and summarize a large number of entries. Primary records, such as Level-A forms, necropsy reports, and imagery were retained for reference. Follow-up information for a previously documented event, such as additional sightings or reports of a decline in health condition, was added to the existing database entry. When dependent calves or pups of injured or dead animals were observed, a separate database entry was added and the offspring were assessed as unique, but associated, events. Interaction records in which there was no potential for human-caused injury to the marine mammal, such as reports of animals feeding on fishery discards or interactions that lacked sufficient information to assign an injury to a human cause, were retained for reference but excluded from the database and report.

Following the initial review of ~3,500 primary records of human-marine mammal interactions, 922 unique cases of human-caused mortality or injury to marine mammals were identified. Each of these was evaluated using NMFS' injury determination criteria (NMFS 2012b). Different sets of criteria, specific to large cetaceans (mysticetes and sperm whales), small cetaceans (all odontocetes except sperm whales), and pinnipeds, were used to evaluate each injury event and assign it to the most appropriate injury category (NMFS 2012b; Appendix Tables 2.1 to 2.3). Some interactions fit more than one injury category. In these cases, the most severe injury category was used to determine whether an injury should be considered serious or non-serious.

An initial and final injury determination was made for each record included in this report. The initial and final determinations were the same for events in which the animal was dead when first observed or was observed for a brief period of time. Initial and final determinations may differ if an animal was determined to be seriously injured but, over time and through human intervention, its condition improved. Two examples of situations where initial and final determinations may differ include events where disentanglement teams successfully remove gear from a seriously injured entangled whale (assuming there was no evidence of health decline or other injury) or the rehabilitation and release of stranded pinniped pups. In these cases, the final injury determination is reported in the SARs for comparison to PBR while the initial injury determination is used for commercial fisheries-related interactions to classify fisheries in the MMPA List of Fisheries (LOF).

Initial and final injury determinations do not differ in situations where commercial fishermen, or others, release animals from gear in real-time (i.e., at the time of the interaction). In these situations the injury determination is made after the animal is released from the gear and this determination is used when classifying fisheries for the LOF or for comparison to PBR within the SARs (NMFS 2012a). For example, if a humpback whale became entangled in an active commercial gillnet and was released by fishermen at

the time of the interaction and the whale swam away free of gear without any sign of injury, the initial and final determinations would be NSI and the same injury determination would be reflected in the SARs and the LOF. In contrast, if a humpback whale became entangled in an active commercial gillnet and broke free with a portion of gillnet forming a constricting entanglement, it would initially be considered a serious injury. However, if an experienced disentanglement team removed all gear from the animal, and there was no other sign of serious injury, the final determination would be NSI. This injury would not be counted in the mortality and serious injury estimates reported in the SARs or compared to PBR, since the human intervention activities mitigated the serious injury of the animal. However, for the purposes of categorizing commercial fisheries for the MMPA LOF, the whale would be considered a SI and included in the tier analysis for classifying that specific commercial fishery.

Serious injury determinations and assignment to source are discussed and agreed upon by an injury determination team at MML. If necessary, experts at MML are consulted when making determinations. All determinations and assignments are then reviewed by experienced staff at other NMFS Science Centers to ensure determinations are consistent across the Science Centers. The determinations are also reviewed by the AKRO and the Alaska Scientific Review Group. The AKRO provided fishery assignments for fisheries-related injuries and mortality for records that were not obtained from a fisheries observer program.

Alaska Native subsistence harvest information, including numbers of struck and lost animals, is generally not included in this report, but is reported in the SARs. However, during the time period covered by this report, two bowhead whales and three beluga whales entangled in fishing gear were harvested for subsistence use immediately following their discovery. These whales are included in this report's table of human-marine mammal interaction records reviewed for serious injury and mortality (Appendix Tables 1.1) due to their entanglements, but they were counted as subsistence take and were not assigned values for comparison against PBR or for use in classifying fisheries on the MMPA LOF (i.e., "N/A" in the Suggested Value for PBR and Suggested Value for LOF fields). They were also not included in any of this report's summary statistics. Pinnipeds with gunshot wounds reported to the NMFS AKRO stranding network were assumed to be struck and lost animals associated with the Alaska Native subsistence hunt unless there was information which indicated the animals were illegally shot. These struck and lost animals are not included in this report. In contrast, pinnipeds with gunshot wounds reported to the NMFS WCRO stranding network, such as Eastern U.S. Steller sea lions in Washington, Oregon, or California, are included in this report.

Some records from the NMFS AKRO stranding network (n = 4) and MMAP self-reports (n = 10) document fisheries-related interactions of marine mammal stocks for which we

calculate bycatch estimates from observer data. Thus, these interactions are already accounted for in the total (extrapolated) bycatch estimates presented in the SARs. Such records are included in Appendix Tables 1.1 for completeness, but because they should not be counted toward the mortality and serious injury estimates reported in the SARs or used for fishery classification on the MMPA LOF, they are not assigned values (i.e., “N/A” in the Suggested Value for PBR and Suggested Value for LOF fields).

## Results

### *Overall*

Of the 922 human-marine mammal interactions summarized in this report (which, as described above, do not include the entangled bowhead and beluga whales harvested for subsistence use, nor the reported fisheries interactions already accounted for in extrapolated bycatch estimates), 791 interactions were determined to have caused a mortality, SI, removal from the population, or were prorated to reflect the likelihood of serious injury of the marine mammal involved in the interaction. The remaining 131 interactions were found to have resulted in an NSI to the marine mammal.

Across all 922 interactions, entanglement/entrapment<sup>1</sup> was the most common mechanism of injury (n = 589), 481 of which resulted in SI, prorated SI, and mortality (collectively referred to as mortality and serious injury, or M/SI). The majority of these entanglement/entrapment-related M/SI occurred in fishing gear (n = 295) and marine debris (n = 182), with a few other assorted sources (n = 4). The remaining 310 confirmed cases of human-caused M/SI included animals that were hooked by fishing gear (n = 174), illegally shot (n = 84), struck by vessels (n = 28), or suffered M/SI due to other assorted causes (n = 24).

Of the 363 interaction records that were provided by the AKRO and WCRO stranding networks, including records from the North Pacific Large Whale Entanglement Response Network, 305 records were found to have documented M/SI to the animal involved in the interaction, resulting in 284.44 M/SI. The M/SI in these records was due to illegal shootings (n = 80), entanglement in marine debris (n = 78), entanglement in fishing gear (n = 61), hookings (n = 51), ship strikes (n = 27), and other assorted causes (n = 8).

Fisheries observers in the North Pacific Groundfish Observer Program, West Coast Groundfish Observer Program, and At-Sea Hake Observer Program reported 282 interaction events in federal groundfish fisheries. The majority of these events resulted in

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<sup>1</sup> When considering the statistics presented in this report, “entanglement/entrapment” or “entanglement” also includes “constricting entanglements,” unless specifically distinguished.

mortality (n = 210), with 59 NSI and a relatively small number of SI and prorated SI (n = 13), resulting in a total of 221.75 M/SI.

Approximately 400 observations of Steller sea lion entanglements and fishery gear interactions, many of which were repeat sightings, were documented and reviewed by ADF&G based on standardized annual summer surveys conducted at nearly every sea lion haulout and rookery in Southeast Alaska, Prince William Sound, the Barren Islands, and Bristol Bay. From these observations, 228 incidents of seriously injured Steller sea lions were determined to be unique animals. Among these records, hooking and/or fishing gear ingestion (n = 114) and entanglement/entrapment in fishing gear and marine debris (n = 107) were most prevalent; the remainder (n = 7) were dependent pups with seriously injured mothers.

### ***Pinnipeds***

Steller sea lions were the most common species in reports of human-caused M/SI between 2013 and 2017 (n = 539). The most common cause of M/SI for the Eastern U.S. stock of Steller sea lions was entanglement (n = 186), primarily in marine debris or fishery gear, followed by injuries related to hookings in fishing gear (n = 164), primarily in troll fisheries. Steller sea lion interactions with troll fishery gear, sometimes referred to as “flashers,” generally involves the ingestion of the hook. Of reported flasher entanglements, differentiation between commercial and recreational troll gear could be made only for a small number of the records of M/SI. Based on 15 years of annual summer surveys of Steller sea lions, ADF&G documented 15 marked individual Steller sea lions that have interacted with troll fisheries as evidenced by a flasher at the edge of the mouth. ADF&G has gained information on the fate of some of these animals. Seven were able to liberate themselves from the flasher (presumably by biting through the monofilament line that connects the swallowed hook to the flasher) and survived at least one year beyond the date initially seen with the entanglement. The flasher was not present when these seven animals were resighted in subsequent years. Of the remaining eight animals, one was found dead due to the flasher and swallowed hook combination, one was subsistence harvested (rumored to be, in part, a “mercy killing” because the animal appeared emaciated and sickly), and six were never sighted again following the initial report (ADF&G Steller Sea Lion Research Program, unpubl. data).

ADF&G analyzed data from 1,439 individually marked Steller sea lions that were resighted from 2001 through 2015. The analyses indicated that Steller sea lions that had ingested commercial or recreational salmon troll fishing gear had lower survival than comparable animals that had not ingested fishing gear (ADF&G Steller Sea Lion Research Program, unpubl. data). Post-mortem exams of Steller sea lions with flasher entanglements typically revealed a hook lodged in the esophagus, penetrating the pleural cavity or pericardium.

Human-caused mortality and serious injury of the Western U.S. stock of Steller sea lions (n = 118) was primarily caused by federal groundfish trawl fisheries (n = 79), which are observed by federal fisheries observers. These interactions typically resulted in mortality (the animal was already dead by the time it was observed); injuries are rare (Breiwick 2013). Other causes of M/SI were entanglements in marine debris (n = 14) and other types of fishing gear (n = 8), illegal shootings (n = 10), hooking in fishing gear (n = 4), and mortalities incidental to MMPA-authorized research (n = 3). The differences in the leading causes of M/SI between the Eastern U.S. and Western U.S. stock of Steller sea lions may be due to the geographical distribution of commercial and recreational salmon troll fishing effort, which is much higher in Southeast Alaska than in any other part of the state. It is unknown whether differences in reported entanglement numbers for each stock are due to lower actual entanglement rates in the Western U.S. stock of Steller sea lions, or the result of other factors which result in fewer reports of entanglement.

The majority of mortality and serious injury involving northern fur seals (n = 61) was due to circumferential neck entanglements in unidentified marine debris, packing bands, and various components of fishing gear (n = 49). Because Eastern Pacific northern fur seals are known to occur off the U.S. West Coast in winter/spring, any M/SI reported off the coasts of Washington, Oregon, and California during December through May was assigned to both the Eastern Pacific and California stocks of northern fur seals.

Most M/SI to phocids involved harbor (n = 34) and ringed seals (n = 16), with a few records of bearded (n = 11), spotted (n = 7), and ribbon seals (n = 4). Three unidentified phocid mortalities were also observed in federal fisheries. Of the 75 records of phocid M/SI, entanglement/entrapment in trawl fishery gear (n = 45) was the leading cause.

### ***Large Cetaceans***

Human-caused mortality and injury was reported during the 5-year period from 2013 to 2017 for humpback whales, sperm whales, fin whales, bowhead whales, and unidentified whales (n = 117), resulting in 66.69 M/SI. Entanglements of humpback whales (n = 63, resulting in 38.5 M/SI) comprised the majority of the large whale M/SI, followed by vessel strikes of humpback whales (n = 29, resulting in 11.92 M/SI). Mortality and injury events that occurred in the area where the Western North Pacific and Central North Pacific stocks of humpback whales are known to overlap were assigned to both stocks. Sperm whale entanglements in federal longline fishing gear (n = 6) resulted in 3 M/SI. Sperm whales (and killer whales) are known to deplete fish from longline gear during hauling back, increasing the susceptibility for interaction with these fisheries (Sigler et al. 2008, Peterson and Hanselman 2017).

Many of the large whale entanglements were assigned to injury category L10 “evidence of entanglement” (Appendix Table 2.1), in which an entanglement was known to have

occurred but there was insufficient information available on the configuration of the entanglement to determine whether the gear was wrapped in a constricting manner, loosely wrapped, bridled, or draped (categories L2 and L3). More details on the configuration of entanglements (such as written descriptions from observations; aerial, underwater, and surface images; or follow-up information from resights of entangled whales) are needed to improve the accuracy of injury determinations.

### ***Small Cetaceans***

There were relatively few reports of human-caused mortality or injury to Alaska stocks of small cetaceans (n = 28). From 2013 through 2017, 4 M/SI and 2 NSI occurred incidental to various gillnet or unknown net fisheries for all three stocks (Bering Sea, Gulf of Alaska, and Southeast Alaska) of harbor porpoise. Reports of beluga whale mortality (n = 3) and NSI (n = 1) were due to fisheries interactions (n = 3) and incidental to MMPA-directed and NMFS-authorized research (n = 1). Dall's porpoise mortality (n = 3) occurred incidental to Alaska commercial gillnet or seine fisheries. Mortality and serious injury (n = 7) and NSI (n = 1) of killer whales occurred in the federal groundfish trawl fisheries (n = 2), federal longline fisheries (n = 2), California Dungeness crab pot fishery (n = 2), and an unknown pot fishery. When ecotype and/or stock was unknown, the injury or mortality was assigned to killer whale stocks that could occur in the area. A killer whale found stranded in northern California, entangled in Dungeness crab pot gear, was included in this report because genetic analysis indicated it was a transient killer whale. Because the stock could not be identified, this mortality was assigned to the Eastern North Pacific (ENP) Gulf of Alaska, Aleutian Islands, and Bering Sea Transient and West Coast Transient killer whale stocks; it was not assigned to the AT1 Transient killer whale stock because none of the whales in this population are missing. A killer whale observed entangled in unknown pot gear in Southeast Alaska was assigned to the ENP Alaska Resident, ENP Northern Resident, and West Coast Transient killer whale stocks because the ecotype and stock were unknown. Finally, 7 mortalities of unidentified small cetaceans in various Alaska gillnet and set-net fisheries were self-reported by fishermen through the MMAP.

## **Discussion**

All records of human-caused mortality and serious injury to marine mammal stocks assessed in the Alaska SARs are obtained through dedicated efforts, such as commercial fisheries observer programs and ongoing agency research and monitoring programs, or opportunistic reports from stranding networks, researchers, or at-sea sightings from vessel and aircraft operators. Because of the vastness and remoteness of Alaska's coastlines and the fact that not all dead or injured marine mammals wash ashore, we understand the detection and reporting of stranded marine mammals to be particularly limited in Alaska



compared with other Regions. Consequently, the opportunistic reports represent minimum values for human-caused injury and mortality of marine mammals in Alaska. Actual levels of human-caused serious injury and mortality of Alaska pinniped and cetacean stocks are certainly greater than the values in this report.

The quality and quantity of information available for each mortality or injury record was highly variable. Some records contained a very limited amount of information, while others consisted of multiple images or videos which depicted the full nature of the injury or entanglement (e.g., underwater, aerial, and surface images). Imagery of entanglements captured from varying perspectives can confirm or rule out the presence of constricting wraps of line or fishing gear, reducing the number of L10 (evidence of entanglement) classifications, which is used when not enough information is known about the configuration of the entanglement to differentiate between L2 (SI) and L3 (NSI) injury categories. Even in the absence of imagery, records with detailed information about an incident can increase the chance of appropriately classifying the injury and properly assigning the interaction to the specific fishery involved. Without sufficient information, injuries must be classified simply as “evidence of entanglement” as opposed to more accurate injury categories. When documenting marine mammal mortality or injury, stranding responders, disentanglement teams, and fisheries observers should be encouraged to provide as many details as possible regarding entanglement configurations and document the event with pictures and video. NMFS should also ensure that people responding to or reporting on injured marine mammals are informed of key information that needs to be assessed to distinguish serious from non-serious injuries. For management purposes, fisheries observers and stranding network participants reporting fishery interactions should also be encouraged to include details that can aid in determining and documenting mortality and injury in specific fisheries. It is also helpful for reporters to differentiate between commercial, recreational, and subsistence fishing gear or fishery interactions, when possible. In some situations, the same type of fishing gear can be used by commercial and recreational fisheries (e.g., there is overlap in the gear used to troll for salmon in Southeast Alaska by these two groups), thus making it difficult to definitively assign fishery gear to a user group *ad hoc*.



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## **Guide to Acronyms and Abbreviations Found in Appendix 1**

The following acronyms and abbreviations are used in Appendix Tables 1.1.

### **Areas:**

AK: Alaska

BC: British Columbia

BS: Bering Sea

BSAI: Bering Sea/Aleutian Islands

GOA: Gulf of Alaska

SCAK: Southcentral Alaska

SEAK: Southeast Alaska

WA: Washington

WAK: Western Alaska

WC: U.S. West Coast

### **Sources of Information:**

ADF&G: Alaska Department of Fish and Game

AKRO: National Marine Fisheries Service, Alaska Regional Office

AMMOP: National Marine Fisheries Service, Alaska Marine Mammal Observer Program

A-SHOP: National Marine Fisheries Service, At Sea Hake Observer Program

MMAP: Marine Mammal Authorization Program

NPGOP: National Marine Fisheries Service, North Pacific Groundfish Observer Program

NPLWERN: North Pacific Large Whale Entanglement Response Network

NWFSC: National Marine Fisheries Service, Northwest Fisheries Science Center

WCRO: National Marine Fisheries Service, West Coast Regional Office

SWFSC: National Marine Fisheries Service, Southwest Fisheries Science Center

WCGOP: National Marine Fisheries Service, West Coast Groundfish Observer Program

### **Initial Assessment and Final Determination Codes:**

CBD: Cannot be Determined

COD: Cause of Death

NSI: Non-Serious Injury

SI: Serious Injury

### **Other:**

ASLC: Alaska Sea Life Center

ID: Species Identity

LOF: List of Fisheries

MMPA: Marine Mammal Protection Act

SSL: Steller Sea Lion

**Appendix Table 1.1 -- Human / marine mammal interaction records reviewed for serious injury and mortality.**

| Source of Record | Date      | Area   | Common Name  | Stock  | Initial Assessment | MML Determination Details   | Final Determination | Mechanism of Injury     | Source of Injury         | Fishery Name                                    | Fishery Type | Fishery Method | SI Criteria | Suggested Value for PBR | Suggested Value for LOF |
|------------------|-----------|--------|--------------|--|--------------------|---|---------------------|-------------------------|--------------------------|---|--------------|----------------|-------------|-------------------------|-------------------------|
| NPGOP            | 5/21/2013 | WAK    | Bearded Seal | Alaska   | DEAD               | A male bearded seal was caught and killed by AK BSAI Pacific cod trawl gear.  | DEAD                | Entangled / entrapped   | Fishery gear             | AK BSAI Pacific cod trawl                       | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| NPGOP            | 3/3/2014  | WAK    | Bearded Seal | Alaska   | DEAD               | A bearded seal was found dead in the vessel's live tank following an AK BSAI flatfish trawl.  | DEAD                | Entangled / entrapped   | Fishery gear             | AK BSAI flatfish trawl                          | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| NPGOP            | 7/27/2014 | WAK    | Bearded Seal | Alaska   | DEAD               | A freshly dead bearded seal was found in the vessel's live tank following an AK BSAI pollock trawl.   | DEAD                | Entangled / entrapped   | Fishery gear             | AK BSAI pollock trawl                           | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| NMFS OPR/HQ      | 10/7/2014 | Arctic | Bearded Seal | Alaska   | REMOVAL            | A bearded seal was captured in Kotzebue Sound and removed from the population for MMPA-authorized research purposes. This animal died in captivity on 03/25/2016.   | REMOVAL             | Removal from population | MMPA authorized research | N/A   | N/A          | N/A            | N/A         | 1                       | 0                       |
| NPGOP            | 5/26/2015 | WAK    | Bearded Seal | Alaska   | DEAD               | A bearded seal was caught and killed in AK BSAI flatfish trawl gear.  | DEAD                | Entangled / entrapped   | Fishery gear             | AK BSAI flatfish trawl                          | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| NPGOP            | 8/26/2015 | WAK    | Bearded Seal | Alaska   | DEAD               | A bearded seal was caught and killed in AK BSAI flatfish trawl gear.  | DEAD                | Entangled / entrapped   | Fishery gear             | AK BSAI flatfish trawl                          | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| NMFS OPR/HQ      | 9/14/2015 | Arctic | Bearded Seal | Alaska   | REMOVAL            | A bearded seal was captured in Kotzebue Sound and removed from the population for MMPA-authorized research purposes.  | REMOVAL             | Removal from population | MMPA authorized research | N/A   | N/A          | N/A            | N/A         | 1                       | 0                       |
| NPGOP            | 5/11/2016 | BS     | Bearded Seal | Alaska   | DEAD               | A bearded seal was caught and killed in trawl gear.   | DEAD                | Entangled / entrapped   | Fishery gear             | AK BSAI flatfish trawl                          | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| NPGOP            | 8/26/2016 | AK     | Bearded Seal | Alaska   | DEAD               | A bearded seal was caught and killed in trawl gear.   | DEAD                | Entangled / entrapped   | Fishery gear             | AK BSAI pollock trawl                           | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| NPGOP            | 6/2/2017  | BS     | Bearded Seal | Alaska   | DEAD               | A male bearded seal was caught and killed by AK BSAI flatfish trawl gear.   | DEAD                | Entangled / entrapped   | Fishery gear             | AK BSAI flatfish trawl                          | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| NPGOP            | 8/8/2017  | BS     | Bearded Seal | Alaska   | DEAD               | A bearded seal was caught and killed by trawl gear.   | DEAD                | Entangled / entrapped   | Fishery gear             | AK BSAI pollock trawl                           | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| AKRO             | 5/29/2013 | WAK    | Beluga Whale | Bristol Bay  | SI                 | A large group of people observed a beluga swim into a king salmon subsistence set net. The beluga became entangled and drowned. The carcass was then recovered by the net owner, who butchered the carcass for subsistence purposes. Some samples were also taken. The whale appeared to be a juvenile and had a bluish tint. This case has been counted as a subsistence take and therefore will not be assigned a PBR or LOF value.   | DEAD                | Entangled / entrapped   | Fishery gear             | AK Bristol Bay (Naknek) king salmon set gillnet | Subsistence  | Gillnet        | N/A         | N/A                     | N/A                     |
| AKRO             | 7/1/2013  | WAK    | Beluga Whale | Bristol Bay  | DEAD               | A juvenile beluga whale was caught in a subsistence salmon gillnet, and then harvested for subsistence purposes. This case has been counted as a subsistence take and therefore will not be assigned a PBR or LOF value.  | DEAD                | Entangled / entrapped   | Fishery gear             | AK Bristol Bay salmon set gillnet               | Subsistence  | Gillnet        | N/A         | N/A                     | N/A                     |
| AKRO             | 7/18/2013 | WAK    | Beluga Whale | Bristol Bay  | DEAD               | A dead juvenile beluga whale was found stranded in Bristol Bay. The carcass was relatively fresh, was estimated to be dead for 1-2 days, and exhibited signs consistent with gillnet entanglement, including many "thin cut marks," particularly across the animal's spine.   | DEAD                | Entangled / entrapped   | Fishery gear             | AK Bristol Bay unknown salmon gillnet           | Unknown      | Gillnet        | N/A         | 1                       | 0                       |
| AKRO             | 10/1/2014 | WAK    | Beluga Whale | Bristol Bay  | DEAD               | An adult beluga whale was caught in a subsistence salmon gillnet, and then harvested for subsistence purposes. This case has been counted as a subsistence take and therefore will not be assigned a PBR or LOF value.  | DEAD                | Entangled / entrapped   | Fishery gear             | AK Bristol Bay salmon set gillnet               | Subsistence  | Gillnet        | N/A         | N/A                     | N/A                     |
| NMFS OPR/HQ      | 9/17/2016 | BS     | Beluga Whale | Bristol Bay  | DEAD               | A beluga whale died as a result of marine mammal research activities in Bristol Bay, AK.  | DEAD                | Research related injury | MMPA authorized research | N/A   | N/A          | N/A            | N/A         | 1                       | 0                       |
| AKRO             | 6/27/2014 | WAK    | Beluga Whale | Eastern Bering Sea                                   | NSI                | A live beluga whale was discovered in the morning by a fisherman returning to his gillnet. The subsistence salmon set gillnet had been set the evening before. Despite entanglement, the whale was observed to be surfacing regularly. Upon closer inspection the fisherman noticed the beluga had punched through the gillnet and only had the anchor line wrapped around its tailstock. After some time to assess the situation the fisherman then cut the anchor line, releasing the beluga alive. A MML beluga researcher was consulted on whether this interaction qualified as a serious injury- and his opinion was that the beluga would survive the interaction. | NSI                 | Entangled / entrapped   | Fishery gear             | AK Nome salmon set gillnet                      | Subsistence  | Gillnet        | S7b         | 0                       | 0                       |
| NPGOP            | 7/11/2013 | WAK    | Beluga Whale | Eastern Chukchi Sea, Eastern Bering Sea, Bristol Bay | DEAD               | A beluga whale was caught and killed by AK BSAI trawl gear.   | DEAD                | Entangled / entrapped   | Fishery gear             | AK BSAI pollock trawl                           | Commercial   | Trawl          | N/A         | 1                       | 1                       |

**Appendix Table 1.1 -- Human / marine mammal interaction records reviewed for serious injury and mortality.**

| Source of Record | Date      | Area   | Common Name     | Stock             | Initial Assessment | MML Determination Details   | Final Determination | Mechanism of Injury       | Source of Injury    | Fishery Name                   | Fishery Type | Fishery Method | SI Criteria | Suggested Value for PBR | Suggested Value for LOF |
|------------------|-----------|--------|-----------------|-------------------|--------------------|---|---------------------|---------------------------|---------------------|--------------------------------|--------------|----------------|-------------|-------------------------|-------------------------|
| AKRO             | 7/7/2015  | WAK    | Bowhead Whale   | Western Arctic    | DEAD               | A dead adult female bowhead whale was discovered on the north shore of St. Lawrence Island. The whale had a considerable length (>200 ft) of line wrapped around and trailing from its peduncle. This line was also attached to two vinyl floats. A reporting party noted that the tendons were visible at the region of the peduncle where the lines had been wrapped indicating that the whale was entangled before it died. The gear was identified as belonging to a 2012 / 2013 commercial crab pot fishery.   | DEAD                | Entangled / entrapped     | Fishery gear        | AK BSAI blue king crab pot     | Commercial   | Pot            | N/A         | 1                       | 1                       |
| AKRO             | 5/6/2017  | Arctic | Bowhead Whale   | Western Arctic    | SI                 | A subadult bowhead whale was observed to be entangled in 100 - 200 meters of 3/4 inch synthetic line. The line went laterally through the mouth of the whale and was tightly fixed through the baleen rack, went caudally with a single wrap to the left pectoral fin, and then made six tight wraps around the peduncle. Hundreds of feet of line trailed behind the whale's flukes/peduncle. The line had cut 10 cm into the peduncle. There was white scar tissue associated with the peduncle injury. The whale's tongue was severely injured. The whale was harvested for subsistence immediately following its discovery. Based on the hunter's observations and an evaluation by the onsite veterinarian, this whale was in the process of dying prior to the harvest. The entanglement gear is suggested to be from the commercial Bering Sea pot fishery, but this is unconfirmed. This case has been counted as a subsistence take and therefore will not be assigned a PBR or LOF value. | SI                  | Constricting entanglement | Fishery gear        | Unconfirmed                    | Unknown      | Pot            | L2          | N/A                     | N/A                     |
| AKRO             | 5/15/2017 | Arctic | Bowhead Whale   | Western Arctic    | SI                 | A bowhead whale was observed to be entangled in 3/4 inch synthetic line. The entanglement involved considerable wraps through the mouth and around the neck and left pectoral fin. The tongue was badly injured with scar tissue and puffy white patches. Following its discovery, the whale was immediately harvested by Inupiat hunters in part because the whale was clearly "injured and suffering." The entanglement gear is suggested to be from the commercial Bering Sea pot fishery, but this is unconfirmed. This case has been counted as a subsistence take and therefore will not be assigned a PBR or LOF value.  | SI                  | Constricting entanglement | Fishery gear        | Unconfirmed                    | Unknown      | Pot            | L2          | N/A                     | N/A                     |
| MMAP             | 6/15/2013 | PWS    | Dall's Porpoise | Alaska            | DEAD               | A Dall's porpoise was caught and killed in salmon drift gillnet gear.   | DEAD                | Entangled / entrapped     | Fishery gear        | AK PWS salmon drift gillnet    | Commercial   | Gillnet        | N/A         | 1                       | 1                       |
| MMAP             | 6/27/2013 | GOA    | Dall's Porpoise | Alaska            | DEAD               | A Dall's porpoise was caught and killed by salmon seine gear.   | DEAD                | Entangled / entrapped     | Fishery gear        | AK Kodiak salmon purse seine   | Commercial   | Seine          | N/A         | 1                       | 1                       |
| MMAP             | 6/23/2014 | SEAK   | Dall's Porpoise | Alaska            | DEAD               | A Dall's porpoise was caught and killed by drift gillnet gear.  | DEAD                | Entangled / entrapped     | Fishery gear        | AK SEAK salmon drift gillnet   | Commercial   | Gillnet        | N/A         | 1                       | 1                       |
| AKRO             | 7/13/2014 | WAK    | Fin Whale       | Northeast Pacific | DEAD               | The captain of an 800+ ft container ship discovered that a fresh dead fin whale was lodged on the vessel's bulbous bow. In order to free the dead whale from the bow, the vessel had to back down. The captain believed the vessel struck the whale 75 miles south of Buldir Island. The strike occurred at night and no necropsy was conducted. Assigning cause of death to a ship strike may be speculative as it is possible the whale was already dead when it was picked up by the bulbous bow; although, because the whale appeared to be fresh dead, it is likely that it was killed by the ship.  | DEAD                | Ship strike               | Vessel (commercial) | N/A                            | N/A          | N/A            | N/A         | 1                       | 0                       |
| AKRO             | 5/29/2016 | SEAK   | Fin Whale       | Northeast Pacific | DEAD               | A freshly dead fin whale carcass was discovered on the bulbous bow of a cruise ship. The carcass was removed, a necropsy was conducted, and it was confirmed that the whale was killed by ship strike.  | DEAD                | Ship strike               | Vessel (commercial) | N/A                            | N/A          | N/A            | N/A         | 1                       | 0                       |
| AKRO             | 8/2/2013  | WAK    | Harbor Porpoise | Bering Sea        | DEAD               | A young harbor porpoise was found dead in a fishing net near the mouth of the Noatak River in Kotzebue Sound. The carcass was in good condition and was fairly fresh so it was shipped to Anchorage for necropsy. The necropsy revealed the animal most likely drowned in the net.  | DEAD                | Entangled / entrapped     | Fishery gear        | AK Kotzebue salmon set gillnet | Commercial   | Gillnet        | N/A         | 1                       | 1                       |



**Appendix Table 1.1 -- Human / marine mammal interaction records reviewed for serious injury and mortality.**

| Source of Record | Date      | Area | Common Name     | Stock            | Initial Assessment | MML Determination Details   | Final Determination | Mechanism of Injury   | Source of Injury | Fishery Name                       | Fishery Type | Fishery Method | SI Criteria | Suggested Value for PBR | Suggested Value for LOF |
|------------------|-----------|------|-----------------|------------------|--------------------|---|---------------------|-----------------------|------------------|------------------------------------|--------------|----------------|-------------|-------------------------|-------------------------|
| AKRO             | 7/14/2013 | SCAK | Harbor Porpoise | Gulf of Alaska   | DEAD               | A fishing vessel caught a harbor porpoise in a drift gillnet. The carcass was recovered from the net and frozen for future necropsy. The necropsy showed that the cause of death was drowning. Mortality and serious injury estimates for this stock in this fishery are obtained from observer data and not stranding data or fishermen self-reported (MMAP) data; therefore, this record will not be assigned a PBR or LOF value.   | DEAD                | Entangled / entrapped | Fishery gear     | AK Cook Inlet salmon drift gillnet | Commercial   | Gillnet        | N/A         | N/A                     | N/A                     |
| AKRO             | 7/22/2014 | GOA  | Harbor Porpoise | Gulf of Alaska   | DEAD               | A one to two month old harbor porpoise calf was found dead near the Homer spit. The animal was necropsied, and it was determined the animal drowned in a net due to marked pulmonary edema and trauma associated with entanglement.   | DEAD                | Entangled / entrapped | Fishery gear     | Unknown net                        | Unknown      | Net            | N/A         | 1                       | 0                       |
| AKRO             | 6/28/2016 | SCAK | Harbor Porpoise | Gulf of Alaska   | DEAD               | A harbor porpoise was caught and killed in salmon drift gillnet gear. Mortality and serious injury estimates for this stock in this fishery are obtained from observer data and not stranding data or fishermen self-reported (MMAP) data; therefore, this record will not be assigned a PBR or LOF value.  | DEAD                | Entangled / entrapped | Fishery gear     | AK PWS salmon drift gillnet        | Commercial   | Gillnet        | N/A         | N/A                     | N/A                     |
| AMMOP            | 7/8/2013  | SEAK | Harbor Porpoise | Southeast Alaska | SI                 | A harbor porpoise was entangled repeatedly in a salmon drift gillnet. It had a deep laceration on its fluke and some smaller lacerations on its lower jaw and pectoral fin. It was cut free and no gear remained. When it was finally released it swam away strongly. This interaction will be considered under criterion S7b (case specific injury value). Although the lacerations alone would not be considered serious, the entire interaction is considered a serious injury because 1) the animal was entangled repeatedly, 2) it was lifted out of the water by its tail fluke, and 3) this species is known to be sensitive to capture myopathy during handling/entanglements. As with criterion S4 (animal brought on deck of vessel; a serious injury), lifting a porpoise out of the water by its tail fluke would cause substantial stress and subject it to a high risk of later death due to capture myopathy or hidden injuries. | SI                  | Entangled / entrapped | Fishery gear     | AK SEAK salmon drift gillnet       | Commercial   | Gillnet        | S7b         | 1                       | 1                       |
| AMMOP            | 7/9/2013  | SEAK | Harbor Porpoise | Southeast Alaska | SI                 | The observer reported a porpoise was briefly entangled in a salmon drift gillnet before the permit holder was able to free the animal. The animal was released quickly, without apparent injury, and was not trailing gear.   | NSI                 | Entangled / entrapped | Fishery gear     | AK SEAK salmon drift gillnet       | Commercial   | Gillnet        | S7b         | 0                       | 0                       |
| MMAP             | 7/9/2013  | SEAK | Harbor Porpoise | Southeast Alaska | NSI                | A harbor porpoise was caught in an actively fished gillnet. The fisherman disentangled the porpoise entirely from the net while the animal was still in the water. The fisherman noted minor cuts on the porpoise's fins associated with a small amount of blood. The animal was reportedly released in "good health." This interaction will be considered a non-serious injury under criterion S7b due to the fisherman's ability to entirely disentangle the porpoise within the water, the report of good health, and the report of only minor lacerations. Mortality and serious injury estimates for this stock in this fishery are obtained from observer data and not stranding data or fishermen self-reported (MMAP) data; therefore, this record will not be assigned a PBR or LOF value.   | NSI                 | Entangled / entrapped | Fishery gear     | AK SEAK salmon drift gillnet       | Commercial   | Gillnet        | S7b         | N/A                     | N/A                     |
| AMMOP            | 7/31/2013 | SEAK | Harbor Porpoise | Southeast Alaska | SI                 | A harbor porpoise became entangled in a salmon drift gillnet. The harbor porpoise was released after a couple minutes and was reportedly able to breathe at the surface during this time. It became re-entangled but was successfully disentangled without any apparent injury. It swam away rapidly, free of gear. This interaction qualifies as S7b (case specific injury value). Given the lack of any apparent injury, the conditions of entanglement, and the short entanglement period this is considered a non-serious injury.   | NSI                 | Entangled / entrapped | Fishery gear     | AK SEAK salmon drift gillnet       | Commercial   | Gillnet        | S7b         | 0                       | 0                       |

**Appendix Table 1.1 -- Human / marine mammal interaction records reviewed for serious injury and mortality.**

| Source of Record | Date       | Area | Common Name     | Stock               | Initial Assessment | MML Determination Details  | Final Determination | Mechanism of Injury   | Source of Injury  | Fishery Name                     | Fishery Type | Fishery Method | SI Criteria | Suggested Value for PBR | Suggested Value for LOF |
|------------------|------------|------|-----------------|---------------------|--------------------|--|---------------------|-----------------------|-------------------|----------------------------------|--------------|----------------|-------------|-------------------------|-------------------------|
| AMMOP            | 8/26/2013  | SEAK | Harbor Porpoise | Southeast Alaska    | SI                 | A harbor porpoise was entangled in a SEAK salmon drift gillnet. The porpoise was pulled most of the way out the water, cut free, and reportedly swam away free of gear. No large lacerations were observed and observer believed any injuries were minimal. This interaction will be considered criterion S7b (case specific injury value). Although the lacerations alone would not be considered serious, the entire interaction is considered a serious injury because 1) it was lifted out of the water, 2) this species is known to be sensitive to capture myopathy during handling/entanglements. As with criterion S4 (animal brought on deck of vessel; a serious injury), lifting porpoises out of the water by their tail fin would cause "substantial stress to the individual and subjects the individual to a high risk of later death due to capture myopathy or hidden injuries. | SI                  | Entangled / entrapped | Fishery gear      | AK SEAK salmon drift gillnet     | Commercial   | Gillnet        | S7b         | 1                       | 1                       |
| NPGOP            | 6/28/2014  | WAK  | Harbor Seal     | Aleutian Islands    | DEAD               | A harbor seal was found in the vessel's live tanks following an AK BSAI rockfish trawl. The observer took photos and the head as a sample.   | DEAD                | Entangled / entrapped | Fishery gear      | AK BSAI rockfish trawl           | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| NPGOP            | 9/7/2016   | BS   | Harbor Seal     | Aleutian Islands    | DEAD               | A harbor seal was caught and killed in trawl gear.   | DEAD                | Entangled / entrapped | Fishery gear      | AK BSAI Atka mackerel trawl      | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| NPGOP            | 1/6/2014   | WAK  | Harbor Seal     | Bristol Bay         | DEAD               | A harbor seal was caught in an AK BSAI Pacific cod pot. The observer reported the animal had drowned in the pot, and noted foam at the animal's mouth.   | DEAD                | Entangled / entrapped | Fishery gear      | AK BSAI Pacific cod pot          | Commercial   | Pot            | N/A         | 1                       | 1                       |
| NPGOP            | 2/6/2014   | WAK  | Harbor Seal     | Bristol Bay         | DEAD               | A male harbor seal was caught in an AK BSAI pollock trawl. The observer noted foam at the mouth and a lack of visible decay or smell associated with the carcass. The observer took the snout, length, and photos.   | DEAD                | Entangled / entrapped | Fishery gear      | AK BSAI pollock trawl            | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| NPGOP            | 2/11/2014  | WAK  | Harbor Seal     | Bristol Bay         | DEAD               | A harbor seal was caught in AK BSAI pollock trawl gear. The observer noted the animal appeared to have drowned in the net. The observer took photos and saved the head as a specimen.  | DEAD                | Entangled / entrapped | Fishery gear      | AK BSAI pollock trawl            | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| NPGOP            | 10/5/2014  | WAK  | Harbor Seal     | Bristol Bay         | DEAD               | A harbor seal was caught in an AK BSAI Pacific cod pot. The observer took length, photos, and the head as a sample.  | DEAD                | Entangled / entrapped | Fishery gear      | AK BSAI Pacific cod pot          | Commercial   | Pot            | N/A         | 1                       | 1                       |
| NPGOP            | 10/28/2014 | WAK  | Harbor Seal     | Bristol Bay         | DEAD               | A harbor seal was found freshly dead in an AK BSAI Pacific cod pot.  | DEAD                | Entangled / entrapped | Fishery gear      | AK BSAI Pacific cod pot          | Commercial   | Pot            | N/A         | 1                       | 1                       |
| NPGOP            | 12/2/2014  | WAK  | Harbor Seal     | Bristol Bay         | DEAD               | A harbor seal was caught in an AK BSAI Pacific cod pot.  | DEAD                | Entangled / entrapped | Fishery gear      | AK BSAI Pacific cod pot          | Commercial   | Pot            | N/A         | 1                       | 1                       |
| AKRO             | 6/28/2016  | BS   | Harbor Seal     | Bristol Bay         | DEAD               | Six harbor seals were reported dead by Alaska State Troopers on the northern shore of Egegik Bay. All animals were reported to be shot in the head. This record represents animal 1 of 6.  | DEAD                | Shot                  | Projectile weapon | N/A                              | N/A          | N/A            | N/A         | 1                       | 0                       |
| AKRO             | 6/28/2016  | BS   | Harbor Seal     | Bristol Bay         | DEAD               | Six harbor seals were reported dead by Alaska State Troopers on the northern shore of Egegik Bay. All animals were reported to be shot in the head. This record represents animal 2 of 6.  | DEAD                | Shot                  | Projectile weapon | N/A                              | N/A          | N/A            | N/A         | 1                       | 0                       |
| AKRO             | 6/28/2016  | BS   | Harbor Seal     | Bristol Bay         | DEAD               | Six harbor seals were reported dead by Alaska State Troopers on the northern shore of Egegik Bay. All animals were reported to be shot in the head. This record represents animal 3 of 6.  | DEAD                | Shot                  | Projectile weapon | N/A                              | N/A          | N/A            | N/A         | 1                       | 0                       |
| AKRO             | 6/28/2016  | BS   | Harbor Seal     | Bristol Bay         | DEAD               | Six harbor seals were reported dead by Alaska State Troopers on the northern shore of Egegik Bay. All animals were reported to be shot in the head. This record represents animal 4 of 6.  | DEAD                | Shot                  | Projectile weapon | N/A                              | N/A          | N/A            | N/A         | 1                       | 0                       |
| AKRO             | 6/28/2016  | BS   | Harbor Seal     | Bristol Bay         | DEAD               | Six harbor seals were reported dead by Alaska State Troopers on the northern shore of Egegik Bay. All animals were reported to be shot in the head. This record represents animal 5 of 6.  | DEAD                | Shot                  | Projectile weapon | N/A                              | N/A          | N/A            | N/A         | 1                       | 0                       |
| AKRO             | 6/28/2016  | BS   | Harbor Seal     | Bristol Bay         | DEAD               | Six harbor seals were reported dead by Alaska State Troopers on the northern shore of Egegik Bay. All animals were reported to be shot in the head. This record represents animal 6 of 6.  | DEAD                | Shot                  | Projectile weapon | N/A                              | N/A          | N/A            | N/A         | 1                       | 0                       |
| NPGOP            | 2/25/2017  | BS   | Harbor Seal     | Bristol Bay         | DEAD               | A harbor seal was caught and killed by AK BSAI flatfish trawl gear.  | DEAD                | Entangled / entrapped | Fishery gear      | AK BSAI flatfish trawl           | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| NPGOP            | 9/26/2017  | BS   | Harbor Seal     | Bristol Bay         | DEAD               | A female harbor seal was caught and killed by AK BSAI flatfish trawl gear.   | DEAD                | Entangled / entrapped | Fishery gear      | AK BSAI flatfish trawl           | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| NPGOP            | 10/13/2017 | BS   | Harbor Seal     | Bristol Bay         | DEAD               | A female harbor seal was caught and killed by AK BSAI flatfish trawl gear.   | DEAD                | Entangled / entrapped | Fishery gear      | AK BSAI flatfish trawl           | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| AKRO             | 7/14/2014  | SCAK | Harbor Seal     | Cook Inlet/Shelikof | DEAD               | A harbor seal was killed in set gillnet gear.  | DEAD                | Entangled / entrapped | Fishery gear      | AK Cook Inlet salmon set gillnet | Unknown      | Gillnet        | N/A         | 1                       | 0                       |

**Appendix Table 1.1 -- Human / marine mammal interaction records reviewed for serious injury and mortality.**

| Source of Record | Date       | Area   | Common Name    | Stock                 | Initial Assessment | MML Determination Details   | Final Determination | Mechanism of Injury       | Source of Injury              | Fishery Name                    | Fishery Type | Fishery Method | SI Criteria | Suggested Value for PBR | Suggested Value for LOF |
|------------------|------------|--------|----------------|-----------------------|--------------------|---|---------------------|---------------------------|-------------------------------|---------------------------------|--------------|----------------|-------------|-------------------------|-------------------------|
| NPGOP            | 8/15/2015  | GOA    | Harbor Seal    | Cook Inlet/Shelikof   | DEAD               | A harbor seal was caught and killed by AK GOA Pacific halibut longline gear.  | DEAD                | Hooked                    | Fishery gear                  | AK GOA Pacific halibut longline | Commercial   | Hook and line  | N/A         | 1                       | 1                       |
| AKRO             | 7/5/2017   | SCAK   | Harbor Seal    | Cook Inlet/Shelikof   | SI                 | An adult seal was observed hauled out with fishing net wrapped around its rear flippers. The seal was also observed to have something around its head and neck.   | SI                  | Constricting entanglement | Fishery gear                  | Unknown net                     | Unknown      | Net            | P6          | 1                       | 0                       |
| NPGOP            | 10/12/2017 | Kodiak | Harbor Seal    | Cook Inlet/Shelikof   | DEAD               | An adult female harbor seal was caught and killed by AK GOA flatfish trawl gear.  | DEAD                | Entangled / entrapped     | Fishery gear                  | AK GOA flatfish trawl           | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| NPGOP            | 11/6/2017  | Kodiak | Harbor Seal    | Cook Inlet/Shelikof   | DEAD               | A female harbor seal was caught and killed by AK GOA flatfish trawl gear.   | DEAD                | Entangled / entrapped     | Fishery gear                  | AK GOA flatfish trawl           | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| AKRO             | 7/4/2017   | SEAK   | Harbor Seal    | Lynn Canal/Stephens   | NSI                | An adult harbor seal entangled in gillnet for approximately one hour was brought aboard, disentangled, and released to the water without any apparent injuries.   | NSI                 | Entangled / entrapped     | Fishery gear                  | AK SEAK salmon drift gillnet    | Commercial   | Gillnet        | P4          | 0                       | 0                       |
| AKRO             | 9/5/2014   | GOA    | Harbor Seal    | North Kodiak          | DEAD               | A harbor seal was caught and killed in a research trawl.  | DEAD                | Entangled / entrapped     | Fishery gear                  | ADF&G research trawl            | Research     | Trawl          | N/A         | 1                       | 0                       |
| NPGOP            | 10/30/2017 | Kodiak | Harbor Seal    | North Kodiak          | DEAD               | A male harbor seal was caught and killed by AK GOA flatfish trawl gear.   | DEAD                | Entangled / entrapped     | Fishery gear                  | GOA flatfish trawl              | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| AKRO             | 7/27/2015  | SCAK   | Harbor Seal    | Prince William Sound  | DEAD               | This is one of many marine mammal carcasses examined on the Copper River Delta. A dead harbor seal that appeared to be shot was discovered. The carcass had a fractured skull associated with what appeared to be a bullet entry / exit wound.  | DEAD                | Shot                      | Projectile weapon             | N/A                             | N/A          | N/A            | N/A         | 1                       | 0                       |
| AKRO             | 7/19/2016  | SCAK   | Harbor Seal    | Prince William Sound  | DEAD               | A harbor seal carcass was discovered during Copper River Delta carcass surveys. Multiple round full-thickness lesions ranging from 1 cm to 2 cm in size were located throughout the head and body.  | DEAD                | Shot                      | Projectile weapon             | N/A                             | N/A          | N/A            | N/A         | 1                       | 0                       |
| AKRO             | 7/19/2016  | SCAK   | Harbor Seal    | Prince William Sound  | DEAD               | A harbor seal carcass was discovered during Copper River Delta carcass surveys. The bones of the head and neck were disorganized and there were several dorsal openings into the body cavity suggesting a gunshot COD.  | DEAD                | Shot                      | Projectile weapon             | N/A                             | N/A          | N/A            | N/A         | 1                       | 0                       |
| AKRO             | 7/19/2016  | SCAK   | Harbor Seal    | Prince William Sound  | DEAD               | A harbor seal carcass was discovered during Copper River Delta carcass surveys. A fractured skull indicated the animal had been shot.   | DEAD                | Shot                      | Projectile weapon             | N/A                             | N/A          | N/A            | N/A         | 1                       | 0                       |
| AKRO             | 7/12/2017  | SCAK   | Harbor Seal    | Prince William Sound  | DEAD               | An adult male harbor seal was found dead with lesions consistent with a firearm injury. A necropsy was conducted and concluded a likely gunshot to the head. Besides the trauma to the head, the rest of the hide and body appeared uninjured. Expert opinion was used to determine gunshot source.                   | DEAD                | Shot                      | Projectile weapon             | N/A                             | N/A          | N/A            | N/A         | 1                       | 0                       |
| AKRO             | 7/26/2017  | SCAK   | Harbor Seal    | Prince William Sound  | DEAD               | A subadult male harbor seal was found dead with lesions consistent with a firearm injury. There was a full thickness lesion on the right dorsal neck with subcutaneous bruising/hemorrhage. The head was removed for radiographs which showed a bullet and fragments in/near the atlas.                               | DEAD                | Shot                      | Projectile weapon             | N/A                             | N/A          | N/A            | N/A         | 1                       | 0                       |
| AKRO             | 7/26/2017  | SCAK   | Harbor Seal    | Prince William Sound  | DEAD               | A subadult male harbor seal was found dead with lesions consistent with a firearm injury. The left dorsal skull had a full thickness wound. Metal detector - negative. The head was taken for radiographs plus esophageal contents. Radiographs - top of skull with displaced fracture and possibly bullet fragments. | DEAD                | Shot                      | Projectile weapon             | N/A                             | N/A          | N/A            | N/A         | 1                       | 0                       |
| NPGOP            | 3/23/2013  | GOA    | Harbor Seal    | South Kodiak          | DEAD               | An observer reported that a female harbor seal was caught and killed by AK GOA flatfish trawl gear. A subsequent review of photos and the snout were inconclusive, but species identification was confirmed by genetics.  | DEAD                | Entangled / entrapped     | Fishery gear                  | AK GOA flatfish trawl           | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| NPGOP            | 4/8/2013   | GOA    | Harbor Seal    | South Kodiak          | DEAD               | An observer reported a harbor seal was caught and killed by AK GOA flatfish trawl gear. A review of photos and the snout were inconclusive, but species identification was confirmed by genetics.   | DEAD                | Entangled / entrapped     | Fishery gear                  | AK GOA flatfish trawl           | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| NPGOP            | 9/30/2014  | WAK    | Harbor Seal    | South Kodiak          | DEAD               | A harbor seal was found dead inside pot gear. During the entanglement the seal ripped the tunnel of the pot gear and the tunnel had to be replaced.   | DEAD                | Entangled / entrapped     | Fishery gear                  | AK GOA Pacific cod pot          | Commercial   | Pot            | N/A         | 1                       | 1                       |
| NPLWERN          | 5/22/2013  | SEAK   | Humpback Whale | Central North Pacific | PRORATE            | A humpback whale was observed trailing line and a buoy in Chilkat Inlet near Haines. No response was mounted and no other information is available. Given evidence of entanglement and the lack of additional information this interaction will be prorated using criterion L10.                                      | PRORATE             | Entangled / entrapped     | Marine debris (rope and buoy) | N/A                             | N/A          | N/A            | L10         | 0.75                    | 0                       |

**Appendix Table 1.1 -- Human / marine mammal interaction records reviewed for serious injury and mortality.**

| Source of Record | Date      | Area | Common Name    | Stock                 | Initial Assessment | MML Determination Details   | Final Determination | Mechanism of Injury   | Source of Injury    | Fishery Name                 | Fishery Type | Fishery Method | SI Criteria | Suggested Value for PBR | Suggested Value for LOF |
|------------------|-----------|------|----------------|-----------------------|--------------------|---|---------------------|-----------------------|---------------------|------------------------------|--------------|----------------|-------------|-------------------------|-------------------------|
| AKRO             | 6/8/2013  | SEAK | Humpback Whale | Central North Pacific | PRORATE            | A 30 ft vessel was underway at 20 25 mph. Suddenly the operator saw a whale's fluke right off the bow. Despite swerving and decreasing speed, the operator felt and heard the vessel make contact with the whale. The operator saw the whale a couple minutes later and it appeared to be breathing normally and did not have any evident injuries. This interaction will be prorated using criterion L7b, since speed decreased before impact, but it is unknown whether speed was greater than ten knots.   | PRORATE             | Ship strike           | Vessel (unknown)    | N/A                          | N/A          | N/A            | L7b         | 0.14                    | 0                       |
| AKRO             | 6/13/2013 | SEAK | Humpback Whale | Central North Pacific | NSI                | A charter vessel was whale watching in the midst of 15 feeding whales when it was struck hard by a whale from below. The boat was adrift and the motor was off. The passengers and crew fell to the deck following the strike. The whale may have been observed after the collision, but it cannot be certain the whale observed was the same whale that collided with the boat. The boat was lifted several feet out of the water, but there was no damage to the boat. Because the vessel was not underway this is a non-serious injury using criterion L6c.  | NSI                 | Ship strike           | Vessel (commercial) | N/A                          | N/A          | N/A            | L6c         | 0                       | 0                       |
| AKRO             | 6/20/2013 | SEAK | Humpback Whale | Central North Pacific | PRORATE            | A vessel pulled into Washington Bay at approximately 5:00 pm and the occupants noted a juvenile humpback thrashing around. It appeared to be entangled in netting wrapped around its fluke and tailstock. The whale appeared to be rubbing against rocks at the time of the sighting and was gone the next morning. Given the evidence of entanglement and lack of additional information, this interaction is prorated using criterion L10.  | PRORATE             | Entangled / entrapped | Fishery gear        | AK SEAK unknown net          | Unknown      | Net            | L10         | 0.75                    | 0                       |
| AKRO             | 6/25/2013 | SEAK | Humpback Whale | Central North Pacific | NSI                | A captain and owner of a fishing vessel reported an incident where three humpback whales swam through and broke off a set of his trolling gear. A Glacier Bay National Park biologist was surveying that area the same day and believed the whales to be #535, #235, and #465. The reporting party was unable to confirm whether whales were actually entangled. A subsequent observation of suspected whales provided no evidence of entanglements. This interaction is a NSI under criterion L4.  | NSI                 | Entangled / entrapped | Fishery gear        | AK SEAK salmon troll         | Unknown      | Troll          | L4          | 0                       | 0                       |
| MMAF             | 7/1/2013  | SEAK | Humpback Whale | Central North Pacific | PRORATE            | A humpback whale became entangled in a salmon seine and was released trailing gear in an unknown configuration.   | PRORATE             | Entangled / entrapped | Fishery gear        | AK SEAK salmon purse seine   | Commercial   | Seine          | L10         | 0.75                    | 0.75                    |
| AKRO             | 7/16/2013 | SEAK | Humpback Whale | Central North Pacific | NSI                | A vessel operator called the USCG to report a collision with a humpback whale. The reporting party stated that he was traveling at four knots on autopilot when he felt the boat lift out of the water. He then observed a humpback surface ahead of the bow. The reporting party saw no sign of injury and the whale appeared to exhibit normal behavior for two dive cycles. The boat was 56 ft long. Due to the slow speed of the vessel and lack of any apparent injury to the whale, this interaction is classified as a non-serious injury under criterion L6c.   | NSI                 | Ship strike           | Vessel (unknown)    | N/A                          | N/A          | N/A            | L6c         | 0                       | 0                       |
| AKRO             | 7/17/2013 | SEAK | Humpback Whale | Central North Pacific | SI                 | A humpback whale swam into an actively fishing gillnet. The whale could not be disentangled and was hogtied, so the fisherman towed the whale back to port and began cutting gear off. A disentanglement team attempted to depart from Juneau, but experienced engine trouble and never arrived. The whale was released by the fisherman trailing 50 75 ft of gear. As time went on, the fisherman was able to remove more and more gear from the whale as it rested and ultimately only a little mesh and six to seven corks remained on the whale. This interaction initially qualified as a serious injury, but due to human intervention the severity of the entanglement was reduced and this interaction can be classified under criterion L10 due to a lack of better information. | PRORATE             | Entangled / entrapped | Fishery gear        | AK SEAK salmon drift gillnet | Commercial   | Gillnet        | L10         | 0.75                    | 0.75                    |

**Appendix Table 1.1 -- Human / marine mammal interaction records reviewed for serious injury and mortality.**

| Source of Record | Date      | Area | Common Name    | Stock                 | Initial Assessment | MML Determination Details  | Final Determination | Mechanism of Injury   | Source of Injury              | Fishery Name                 | Fishery Type | Fishery Method | SI Criteria | Suggested Value for PBR | Suggested Value for LOF |
|------------------|-----------|------|----------------|-----------------------|--------------------|--|---------------------|-----------------------|-------------------------------|------------------------------|--------------|----------------|-------------|-------------------------|-------------------------|
| AKRO             | 9/1/2013  | SEAK | Humpback Whale | Central North Pacific | PRORATE            | A number of photos were taken of a concentration of humpback whales observed feeding on the surface. Upon review of the photos it was noted that one of the humpback whales was to some extent entangled in a line. The reporting party noted that there was no indication of any animal in distress at the time of the observation. This injury was prorated using criterion L10 due to a lack of information.  | PRORATE             | Entangled / entrapped | Marine debris (rope)          | N/A                          | N/A          | N/A            | L10         | 0.75                    | 0                       |
| AKRO             | 9/1/2013  | SEAK | Humpback Whale | Central North Pacific | DEAD               | A humpback whale was found stranded in a state of moderate decomposition. A necropsy was conducted. There was bruising and hemorrhage on the right side of the body and right pectoral fin. The examiner noted the injuries were the result of blunt trauma / ship strike.   | DEAD                | Ship strike           | Vessel (unknown)              | N/A                          | N/A          | N/A            | N/A         | 1                       | 0                       |
| NPLWERN          | 9/5/2013  | SEAK | Humpback Whale | Central North Pacific | SI                 | A humpback whale was originally entangled in gillnet on 8/23/2013 near Haines. The whale was cut away with gear remaining. Numerous disentanglement attempts were made in subsequent weeks with varying success. The last time the whale was observed on 9/5/2013 a likely life threatening gear configuration remained. The last observed configuration showed a bridle style entanglement with 24 fathoms of trailing gear. This is considered a serious injury under category L2 due to amount of gear and observed tail distortion on the animal. **Note: this interaction was originally recorded by an AMMOP observer, however, the whale disentanglement network database provided weeks' worth of follow up information on the entanglement. | SI                  | Entangled / entrapped | Fishery gear                  | AK SEAK salmon drift gillnet | Commercial   | Gillnet        | L2          | 1                       | 1                       |
| AKRO             | 4/17/2014 | SEAK | Humpback Whale | Central North Pacific | PRORATE            | A humpback whale was observed to be entangled in unidentified marine debris or gear. The animal was observed by multiple parties dragging a red polyball buoy with several hundred feet of line. Due to the unknown nature and outcome of the remaining entanglement this interaction is prorated under criterion L10.   | PRORATE             | Entangled / entrapped | Marine debris (rope and buoy) | N/A                          | N/A          | N/A            | L10         | 0.75                    | 0                       |
| AKRO             | 6/15/2014 | SEAK | Humpback Whale | Central North Pacific | NSI                | A humpback whale struck a 38 ft charter vessel lightly with its fluke as it dove. The boat was making way at forward idle speed and there was no damage to the boat or injury to the crew. The interaction was thought to occur near Icy Strait.   | NSI                 | Ship strike           | Vessel (commercial)           | N/A                          | N/A          | N/A            | L6c         | 0                       | 0                       |
| AKRO             | 6/24/2014 | SEAK | Humpback Whale | Central North Pacific | PRORATE            | An adult humpback whale was reported entangled in a tended gillnet set. Due to safety concerns the gear was cut free. Approximately 150 - 250 ft of gillnet likely remained around the head region and forward of the pectoral flippers. Other than being entangled, the whale appeared in good condition. According to NPLWERN, the entanglement was likely life threatening.   | PRORATE             | Entangled / entrapped | Fishery gear                  | AK SEAK salmon drift gillnet | Commercial   | Gillnet        | L10         | 0.75                    | 0.75                    |
| MMAP             | 6/24/2014 | SEAK | Humpback Whale | Central North Pacific | PRORATE            | A humpback whale became entangled in salmon gillnet gear and was released trailing gear in an unknown configuration.   | PRORATE             | Entangled / entrapped | Fishery gear                  | AK SEAK salmon drift gillnet | Commercial   | Gillnet        | L10         | 0.75                    | 0.75                    |
| AKRO             | 6/30/2014 | SEAK | Humpback Whale | Central North Pacific | PRORATE            | A humpback whale was observed trailing several corkline floats from gillnet gear in Chatham Strait. This is possibly the same animal as that reported entangled on 6/24/2014. The full nature of the entanglement is unknown and this event is prorated at L10 due to a lack of information regarding gear configuration.  | PRORATE             | Entangled / entrapped | Fishery gear                  | AK SEAK salmon drift gillnet | Commercial   | Gillnet        | L10         | 0.75                    | 0.75                    |
| AKRO             | 7/1/2014  | SEAK | Humpback Whale | Central North Pacific | DEAD               | A fresh dead humpback whale was observed floating in Funter Bay on 7/1/2014. A necropsy was conducted on 7/3/2014. The necropsy showed that the whale had been killed in a ship strike between approximately 6/29/2014 and 7/1/2014. There was massive trauma to the head (characterized by a fractured left mandible and a dislocated right mandible) and a laceration to the animal's fluke.   | DEAD                | Ship strike           | Vessel (unknown)              | N/A                          | N/A          | N/A            | N/A         | 1                       | 0                       |
| AKRO             | 7/2/2014  | SEAK | Humpback Whale | Central North Pacific | PRORATE            | A 26 ft cabin cruiser was underway in Clarence Strait at 15-20 knots. When a humpback whale surfaced underneath the vessel, the vessel was lifted up and the outboard was disabled. Some comments indicate blood was observed in the water and a whale was seen in the area the next day with prop marks near its dorsal fin. This interaction is prorated under L11 due to the ship strike and evidence pointing to a laceration injury on the animal.  | PRORATE             | Ship strike           | Vessel (unknown)              | N/A                          | N/A          | N/A            | L11         | 0.52                    | 0                       |

**Appendix Table 1.1 -- Human / marine mammal interaction records reviewed for serious injury and mortality.**

| Source of Record | Date      | Area | Common Name    | Stock                 | Initial Assessment | MML Determination Details   | Final Determination | Mechanism of Injury   | Source of Injury              | Fishery Name                           | Fishery Type | Fishery Method | SI Criteria | Suggested Value for PBR | Suggested Value for LOF |
|------------------|-----------|------|----------------|-----------------------|--------------------|---|---------------------|-----------------------|-------------------------------|--|--------------|----------------|-------------|-------------------------|-------------------------|
| AKRO             | 7/12/2014 | SEAK | Humpback Whale | Central North Pacific | PRORATE            | A fishing vessel's crew reported seeing an entangled humpback whale trailing an A3 polyball 20 - 30 ft behind it. The entangled animal was also associated with a smaller whale. Both animals were in a frantic state, possibly due to the entanglement or possibly due to the presence of killer whales which were observed in the area. This may have been the same animal reported on 7/13/2014. This interaction is classified under criterion L10 due to the unknown nature of the entanglement. | PRORATE             | Entangled / entrapped | Marine debris (rope and buoy) | N/A                                    | N/A          | N/A            | L10         | 0.75                    | 0                       |
| AKRO             | 7/12/2014 | SEAK | Humpback Whale | Central North Pacific | SI                 | A report was received that a 120+ ft vessel struck a humpback whale while traveling at 12 knots. The whale was observed immediately after the ship strike and there appeared to be no sign of injury. There was no blood observed in the water. Due to vessel size and speed this event qualifies as L6a and is considered a serious injury.  | SI                  | Ship strike           | Vessel (commercial)           | N/A                                    | N/A          | N/A            | L6a         | 1                       | 0                       |
| AKRO             | 7/13/2014 | SEAK | Humpback Whale | Central North Pacific | PRORATE            | A subadult humpback whale was observed trailing a red polyball and yellow polypro line. The reporting party cut some of the trailing poly line free from the whale. This was possibly the same animal that was reported entangled on 7/12/2014, but this cannot be confirmed, and there are differences between the two reported events. Due to the unknown nature and outcome of the remaining entanglement this interaction is prorated under criterion L10.  | PRORATE             | Entangled / entrapped | Marine debris (rope and buoy) | N/A                                    | N/A          | N/A            | L10         | 0.75                    | 0                       |
| AKRO             | 7/22/2014 | SEAK | Humpback Whale | Central North Pacific | PRORATE            | A troller reported seeing an adult humpback whale near Craig, AK, that was trailing 100 to 250 ft of line and an orange and blue buoy. The whale was reportedly still able to dive. No other reports of the animal were received. According to NPLWERN this is possibly the same whale that was reported on 7/12/14 and 7/13/14.  | PRORATE             | Entangled / entrapped | Marine debris (rope and buoy) | N/A                                    | N/A          | N/A            | L10         | 0.75                    | 0                       |
| AKRO             | 7/26/2014 | SEAK | Humpback Whale | Central North Pacific | PRORATE            | A humpback whale was spotted entangled in unidentified gear multiple times over the same day. The whale was towing an orange polyball and bullet buoys about 45 ft behind it. The whale was not seen again. This interaction will be prorated under criterion L10 due to the unknown nature of the entanglement and unknown outcome.  | PRORATE             | Entangled / entrapped | Marine debris (rope and buoy) | N/A                                    | N/A          | N/A            | L10         | 0.75                    | 0                       |
| AKRO             | 7/28/2014 | SEAK | Humpback Whale | Central North Pacific | NSI                | A humpback whale calf was observed with a fishing lure hooked onto its fluke. There was no other sign of injury or entanglements, but the whole body was not observed. The hooked calf was observed with its mother. The cow was then observed repeatedly beginning two weeks later without the calf. There is no indication the external hook contributed to the calf's subsequent disappearance. This interaction qualifies as criterion L4, and as such is to be considered a NSI.                 | NSI                 | Hooked                | Fishery gear                  | AK SEAK halibut hook and line          | Recreational | Hook and line  | L4          | 0                       | 0                       |
| AKRO             | 8/14/2014 | SEAK | Humpback Whale | Central North Pacific | NSI                | A subadult humpback whale became entangled in a sport fishing vessel's anchor line. The whale initially was entangled in an unknown configuration and after a period of time disentangled itself when the anchor grabbed onto the bottom. The whale then shed gear and all gear was recovered. This interaction's final outcome is a NSI, but will be categorized under L10 due to the initial unknown entanglement configuration.  | NSI                 | Entangled / entrapped | Ship's ground tackle          | AK commercial passenger fishing vessel | Commercial   | Hook and line  | L10         | 0                       | 0                       |
| AKRO             | 9/7/2014  | SEAK | Humpback Whale | Central North Pacific | SI                 | An adult humpback whale was observed entangled in gillnet. A whale disentanglement network responder documented the entanglement and noted multiple wraps of gillnet and a head rope from rostrum to dorsal fin. Gear was noted to be tight in spots and cutting into the whale's body. Accordingly this interaction qualifies under criterion L2 and is considered a serious injury.   | SI                  | Entangled / entrapped | Fishery gear                  | AK SEAK salmon drift gillnet           | Commercial   | Gillnet        | L2          | 1                       | 1                       |
| AKRO             | 9/29/2014 | SEAK | Humpback Whale | Central North Pacific | SI                 | The captain of a 400+ ft vessel travelling at 15 knots reported grazing a humpback whale. The crew reportedly saw the whale, maneuvered to avoid the animal, and felt a bump associated with hitting the animal. The whale was not seen afterwards. This interaction was considered a SI under criterion L6a due to vessel size and speed.  | SI                  | Ship strike           | Vessel (government)           | N/A                                    | N/A          | N/A            | L6a         | 1                       | 0                       |

**Appendix Table 1.1 -- Human / marine mammal interaction records reviewed for serious injury and mortality.**

| Source of Record | Date      | Area | Common Name    | Stock                 | Initial Assessment | MML Determination Details   | Final Determination | Mechanism of Injury   | Source of Injury | Fishery Name                           | Fishery Type | Fishery Method | SI Criteria | Suggested Value for PBR | Suggested Value for LOF |
|------------------|-----------|------|----------------|-----------------------|--------------------|---|---------------------|-----------------------|------------------|--|--------------|----------------|-------------|-------------------------|-------------------------|
| AKRO             | 2/16/2015 | GOA  | Humpback Whale | Central North Pacific | PRORATE            | A humpback whale was observed entangled in what was identified as halibut subsistence longline gear. The whale was trailing a small anchor and large orange buoy approximately 150 ft behind it. Members of the public cut the buoy free, and reported that they thought the rest of the gear came off as well because the whale started behaving "normally." This interaction will be prorated under criterion L10 due to the unknown initial configuration of the gear, and although members of the public that cut the buoy from the whale thought the whale was free from its entanglement, this could not be confirmed.  | PRORATE             | Entangled / entrapped | Fishery gear     | AK SEAK halibut longline - subsistence | Subsistence  | Hook and line  | L10         | 0.75                    | 0                       |
| AKRO             | 5/18/2015 | SCAK | Humpback Whale | Central North Pacific | SI                 | A subadult humpback whale was reported to be severely entangled in salmon drift gillnet with most likely two wraps of gear around it. In addition, the fluke and head were also wrapped in net. The whale was reported to appear tired, but was breathing. Three boats were reported to be engaged in attempting to free the whale. A disentanglement response team was unable to respond, and the final outcome is unknown. Given the unknown final configuration of the entanglement or outcome the assignment of injury criterion L10 is appropriate.  | PRORATE             | Entangled / entrapped | Fishery gear     | AK PWS salmon drift gillnet            | Commercial   | Gillnet        | L10         | 0.75                    | 0.75                    |
| AKRO             | 5/30/2015 | PWS  | Humpback Whale | Central North Pacific | PRORATE            | A fisherman reported that a humpback whale hit his gillnet, broke through, and swam away with 40 ft of gillnet on its back. Due to a lack of specific details regarding the entanglement, this interaction qualifies as a prorated serious injury under criterion L10.  | PRORATE             | Entangled / entrapped | Fishery gear     | AK PWS salmon drift gillnet            | Commercial   | Gillnet        | L10         | 0.75                    | 0.75                    |
| AKRO             | 6/2/2015  | SEAK | Humpback Whale | Central North Pacific | PRORATE            | An adult humpback whale was observed thrashing and entangled in gear with two orange buoys visible as part of the entanglement. A disentanglement response was initiated, but before the team could arrive the whale was observed to no longer be thrashing, and the pair of buoys was floating free. The disentanglement response team picked up the buoys and associated line, and was able to identify the fisherman the gear belonged to. The fisherman picked up the recovered gear and the remainder of the set that the lost gear originated from, and reported that no line was missing and there was only one missing sub-buoy. This interaction would have originally qualified as an entanglement under criterion L10, but due to the whale's self-disentanglement and recovery of all longline the final outcome will be considered a non-serious injury. | NSI                 | Entangled / entrapped | Fishery gear     | AK SEAK halibut longline / set line    | Commercial   | Hook and line  | L10         | 0                       | 0.75                    |
| AKRO             | 6/28/2015 | SEAK | Humpback Whale | Central North Pacific | PRORATE            | A 27 ft vessel was underway at 25 knots when a group of 3-6 humpback whales surfaced immediately in front of the boat. The operator was unable to avoid hitting the whales and thinks that the boat hit 2-3 whales. There was no damage to the boat, and no observed injuries or blood in the water. The whales were reported to behave normally following the strike. This interaction qualifies as a prorated serious injury under criterion L6b. This is whale one of three.   | PRORATE             | Ship strike           | Vessel (unknown) | N/A                                    | N/A          | N/A            | L6b         | 0.2                     | 0                       |
| AKRO             | 6/28/2015 | SEAK | Humpback Whale | Central North Pacific | PRORATE            | A 27 ft vessel was underway at 25 knots when a group of 3-6 humpback whales surfaced immediately in front of the boat. The operator was unable to avoid the whales, and thinks that the boat hit 2-3 whales. There was no damage to the boat, and no observed injuries or blood in the water. The whales were reported to behave normally following the strike. This interaction qualifies as a prorated serious injury under criterion L6b. This is whale two of three.  | PRORATE             | Ship strike           | Vessel (unknown) | N/A                                    | N/A          | N/A            | L6b         | 0.2                     | 0                       |
| AKRO             | 6/28/2015 | SEAK | Humpback Whale | Central North Pacific | PRORATE            | A 27 ft vessel was underway at 25 knots when a group of 3-6 humpback whales surfaced immediately in front of the boat. The operator was unable to avoid the whales, and thinks that the boat hit 2-3 whales. There was no damage to the boat, and no observed injuries or blood in the water. The whales were reported to behave normally following the strike. This interaction qualifies as a prorated serious injury under criterion L6b. This is whale three of three.  | PRORATE             | Ship strike           | Vessel (unknown) | N/A                                    | N/A          | N/A            | L6b         | 0.2                     | 0                       |

**Appendix Table 1.1 -- Human / marine mammal interaction records reviewed for serious injury and mortality.**

| Source of Record | Date      | Area | Common Name    | Stock                 | Initial Assessment | MML Determination Details  | Final Determination | Mechanism of Injury                            | Source of Injury     | Fishery Name                           | Fishery Type | Fishery Method | SI Criteria | Suggested Value for PBR | Suggested Value for LOF |
|------------------|-----------|------|----------------|-----------------------|--------------------|--|---------------------|--|----------------------|--|--------------|----------------|-------------|-------------------------|-------------------------|
| AKRO             | 7/1/2015  | SEAK | Humpback Whale | Central North Pacific | NSI                | A subadult humpback whale was observed with a small amount of gillnet caught on the tubercles and barnacles on the animal's pectoral flippers. The netting trailed only 3-4 ft. The mouth and peduncle were free from gear, and there were no wraps or connections of gear between the animal's pectoral flippers. This entanglement qualifies as a non-serious injury under criterion L3.   | NSI                 | Entangled / entrapped                          | Fishery gear         | AK SEAK salmon drift gillnet           | Commercial   | Gillnet        | L3          | 0                       | 0                       |
| AKRO             | 7/7/2015  | SEAK | Humpback Whale | Central North Pacific | PRORATE            | A member of the public reported that he observed a humpback whale entangled in what was described as "line across the rostrum." The whale was aggressively breaching, lob-tailing, and spiraling its body in what appeared to be an effort to free itself. The observer reported that the whale freed itself and swam off. This interaction will initially be considered a prorated serious injury based on the reported entanglement of unknown configuration and the final determination will remain a prorated serious injury under L10 as it is possible that some gear remained on the whale which the observer was unaware of.           | PRORATE             | Entangled / entrapped                          | Marine debris (rope) | N/A                                    | N/A          | N/A            | L10         | 0.75                    | 0                       |
| AKRO             | 7/17/2015 | SEAK | Humpback Whale | Central North Pacific | PRORATE            | A humpback whale was reported by an observer to be entangled in what appeared to be gear from a gillnet or purse seine. No mesh was observed, just line and white floats across the animal's rostrum and fluke. The whale was lunging and lob-tailing and after 20 minutes of observation reportedly freed itself from the gear and swam off. This interaction is initially prorated as a serious injury under criterion L10 due to the unknown configuration of the entanglement and the final determination will remain a prorated serious injury under L10 as the absence of any remaining gear could not be confirmed.                     | PRORATE             | Entangled / entrapped                          | Fishery gear         | AK SEAK unknown                        | Unknown      | Net            | L10         | 0.75                    | 0                       |
| AKRO             | 7/26/2015 | SEAK | Humpback Whale | Central North Pacific | NSI                | A humpback whale was observed by cruise ship staff to be entangled in a purse seine. The observer reported that the whale appeared to be struggling to keep its head above water, and the net appeared to be weighing the whale down. During the observation a couple of fishing boats appeared to be responding to the situation. Follow up investigation with the fisherman revealed that the whale had been rolled out of the seine and "it was ok." The fisherman had previously attended whale disentanglement training. This will be considered a non-serious injury because the whale was released both alive and reportedly uninjured. | NSI                 | Entangled / entrapped                          | Fishery gear         | AK Metlakatla salmon purse seine       | Commercial   | Seine          | L2          | 0                       | 0                       |
| AKRO             | 7/26/2015 | SEAK | Humpback Whale | Central North Pacific | NSI                | A US Coast Guard Cutter's crew observed a naval vessel (>65 ft) strike a humpback whale with its bow. The vessel was travelling at 10 knots. No blood was observed in the water and the whale was not observed again. According to injury criterion L6c this interaction qualifies as a non-serious injury.  | NSI                 | Ship strike                                    | Vessel (government)  | N/A                                    | N/A          | N/A            | L6c         | 0                       | 0                       |
| AKRO             | 7/31/2015 | SEAK | Humpback Whale | Central North Pacific | PRORATE            | A humpback whale with calf was observed from 7/31/2015 to 8/3/2015 with a green A3 polyball along the animal's left flank. The configuration of gear was not evident, however, the animal would not fluke. The whale was not resighted after 8/3/2015. This interaction will be considered a prorated serious injury under criterion L10 for the mother and L8 for the calf. This record represents the mother.  | PRORATE             | Entangled / entrapped                          | Fishery gear         | AK SEAK crab pot or AK SEAK shrimp pot | Commercial   | Pot            | L10         | 0.75                    | 0                       |
| AKRO             | 7/31/2015 | SEAK | Humpback Whale | Central North Pacific | PRORATE            | A humpback whale with a calf was observed entangled from 7/31/2015 to 8/3/2015, with a green A3 polyball buoy located along the animal's left flank. The configuration of gear was not evident, but the mother would not fluke indicating the possibility of additional gear that was not visible. The whales were not resighted after 8/3/2015. This interaction will be considered a prorated serious injury under criterion L10 for the mother and L8 for the calf. This record represents the calf.  | PRORATE             | Dependent animal with mother seriously injured | Fishery gear         | AK SEAK crab pot or AK SEAK shrimp pot | Commercial   | Pot            | L8          | 0.75                    | 0                       |



**Appendix Table 1.1 -- Human / marine mammal interaction records reviewed for serious injury and mortality.**

| Source of Record | Date      | Area | Common Name    | Stock                 | Initial Assessment | MML Determination Details   | Final Determination | Mechanism of Injury                            | Source of Injury     | Fishery Name                 | Fishery Type | Fishery Method | SI Criteria | Suggested Value for PBR | Suggested Value for LOF |
|------------------|-----------|------|----------------|-----------------------|--------------------|---|---------------------|--|----------------------|------------------------------|--------------|----------------|-------------|-------------------------|-------------------------|
| AKRO             | 8/3/2015  | SEAK | Humpback Whale | Central North Pacific | PRORATE            | A subadult humpback whale became entangled in a purse seine and began thrashing wildly at the surface. Cuts and abrasions were apparent on the fluke and tailstock. The whale then broke free and took much of the purse seine with it. The fisherman indicated that there was as much as 600 ft of net and line trailing from the whale. This entanglement will be prorated under criterion L10 due to the unknown configuration of the entanglement.  | PRORATE             | Entangled / entrapped                          | Fishery gear         | AK SEAK salmon purse seine   | Commercial   | Seine          | L10         | 0.75                    | 0.75                    |
| AKRO             | 8/4/2015  | SEAK | Humpback Whale | Central North Pacific | PRORATE            | A humpback whale was reported to have netting associated with a turquoise buoy wrapped around its body. No additional details are available, therefore this will be considered a prorated serious injury under criterion L10.   | PRORATE             | Entangled / entrapped                          | Fishery gear         | AK SEAK unknown              | Unknown      | Net            | L10         | 0.75                    | 0                       |
| AKRO             | 8/5/2015  | SEAK | Humpback Whale | Central North Pacific | SI                 | A large vessel (>65 ft) struck a humpback whale while underway at 16 knots. A whale was seen swimming a half mile astern of the ship following the strike, but the mate was uncertain that it was the same whale. No blood was observed in the water. This event is considered a serious injury under criterion L6a due to the vessel's size and speed.   | SI                  | Ship strike                                    | Vessel (government)  | N/A                          | N/A          | N/A            | L6a         | 1                       | 0                       |
| AKRO             | 8/14/2015 | SEAK | Humpback Whale | Central North Pacific | PRORATE            | A humpback whale mother was reported to be entangled in lead line, yellow polyline, and a green polyball buoy. Due to the limited details on the entanglement, this interaction will be considered a prorated serious injury under criterion L10 for the mother and L8 for the calf. This record represents the mother.   | PRORATE             | Entangled / entrapped                          | Fishery gear         | AK SEAK unknown              | Unknown      | Unknown        | L10         | 0.75                    | 0                       |
| AKRO             | 8/14/2015 | SEAK | Humpback Whale | Central North Pacific | PRORATE            | A humpback whale mother with a calf was reported to be entangled in lead line, yellow polyline, and a green polyball buoy. Due to the limited details on the entanglement, this interaction will be considered a prorated serious injury under criterion L10 for the mother and L8 for the calf. This record represents the dependent calf.   | PRORATE             | Dependent animal with mother seriously injured | Fishery gear         | AK SEAK unknown              | Unknown      | Unknown        | L8          | 0.75                    | 0                       |
| AKRO             | 8/26/2015 | SEAK | Humpback Whale | Central North Pacific | PRORATE            | A subadult humpback whale was observed with 1/2 inch - 5/8 inch line wrapped around its tailstock. The line was reported to be neither loose nor constricting. The whale was not trailing anything, appeared robust and was behaving similarly to the other whales. This entanglement qualifies as a serious injury under criterion L2, as the wrapped line could become constricting over time as the subadult whale continued to grow.  | PRORATE             | Entangled / entrapped                          | Marine debris (rope) | N/A                          | N/A          | N/A            | L2          | 1                       | 0                       |
| AKRO             | 8/26/2015 | SEAK | Humpback Whale | Central North Pacific | DEAD               | A humpback whale carcass was spotted on 8/26/2015 at East Brothers Island and a necropsy was conducted on 9/1/2015. The necropsy revealed areas of hemorrhage, bruising, and edema on the left side of the whale's head and neck. Findings included evidence of blunt trauma, consistent with a vessel hull strike. This may be the same whale as the 8/5/2015 event.   | DEAD                | Ship strike                                    | Vessel (unknown)     | N/A                          | N/A          | N/A            | N/A         | 1                       | 0                       |
| AKRO             | 9/7/2015  | SEAK | Humpback Whale | Central North Pacific | PRORATE            | A small (22 ft) fiberglass boat travelling at 24 knots hit a humpback whale that surfaced ahead of the boat. After the collision, the whale continued with what appeared to be normal behavior of diving, surfacing, and feeding. There were no visible injuries to the whale, and no blood in the water. The boat suffered a cracked propeller, but there was no indication of laceration injuries to the whale. This interaction is considered a prorated serious injury under criterion L6b due to the vessel's speed. | PRORATE             | Ship strike                                    | Vessel (unknown)     | N/A                          | N/A          | N/A            | L6b         | 0.2                     | 0                       |
| AKRO             | 9/7/2015  | SEAK | Humpback Whale | Central North Pacific | PRORATE            | An adult humpback whale was observed traveling with blue/green netting draped across its back, anterior to the dorsal fin. The reporting party thought the netting looked like gillnet gear. No buoys, line, or trailing gear was visible. The whale did not appear to be in distress. This entanglement will be considered a prorated serious injury under criterion L10 due to the unknown configuration and nature of the entanglement.  | PRORATE             | Entangled / entrapped                          | Fishery gear         | AK SEAK salmon drift gillnet | Commercial   | Gillnet        | L10         | 0.75                    | 0.75                    |

**Appendix Table 1.1 -- Human / marine mammal interaction records reviewed for serious injury and mortality.**

| Source of Record | Date      | Area | Common Name    | Stock                 | Initial Assessment | MML Determination Details  | Final Determination | Mechanism of Injury   | Source of Injury              | Fishery Name                 | Fishery Type | Fishery Method | SI Criteria | Suggested Value for PBR | Suggested Value for LOF |
|------------------|-----------|------|----------------|-----------------------|--------------------|--|---------------------|-----------------------|-------------------------------|------------------------------|--------------|----------------|-------------|-------------------------|-------------------------|
| AKRO             | 9/12/2015 | SEAK | Humpback Whale | Central North Pacific | NSI                | A whale watch vessel's bow struck a humpback whale that surfaced immediately in front of the vessel. The vessel hit the whale at 4 knots and the captain and crew watched the whale swim away and dive with no sign of injury. This interaction is considered a non-serious injury under criterion L6c due to the vessel's low rate of speed.  | NSI                 | Ship strike           | Vessel (commercial)           | N/A                          | N/A          | N/A            | L6c         | 0                       | 0                       |
| AKRO             | 9/22/2015 | GOA  | Humpback Whale | Central North Pacific | PRORATE            | A humpback whale was observed with an entanglement consisting of a light blue, round 1.5 ft buoy that appeared to be tight to the whale between the dorsal fin and tail. The observer noted that the float would stay on the surface between shallow dives. On deeper dives the float would submerge with the whale. This is possibly the same animal as the 8/4/2015 event based on the buoy type and entanglement configuration, but this cannot be confirmed. This entanglement will be considered a prorated serious injury under criterion L10 due to the unknown configuration and nature of the entanglement. | PRORATE             | Entangled / entrapped | Fishery gear                  | AK SEAK unknown              | Unknown      | Unknown        | L10         | 0.75                    | 0                       |
| AKRO             | 4/4/2016  | GOA  | Humpback Whale | Central North Pacific | PRORATE            | A humpback whale reportedly became entangled in subsistence gillnet and broke free trailing a 5 fathom section of webbing and a basketball-sized buoy. The whale was not re-sighted. This entanglement will be considered a prorated serious injury under criterion L10 due to the unknown configuration of the entanglement.  | PRORATE             | Entangled / entrapped | Fishery gear                  | Unknown subsistence gillnet  | Subsistence  | Gillnet        | L10         | 0.75                    | 0                       |
| AKRO             | 5/15/2016 | SEAK | Humpback Whale | Central North Pacific | PRORATE            | A humpback whale was observed entangled in line and trailing a green bullet buoy about 10-15 ft behind it. The nature of the configuration could not be determined, since the observation was from a distance of more than 100 yards. This entanglement will be considered a prorated serious injury under criterion L10 due to the unknown configuration of the entanglement.   | PRORATE             | Entangled / entrapped | Marine debris (unidentified)  | N/A                          | N/A          | N/A            | L10         | 0.75                    | 0                       |
| AKRO             | 6/1/2016  | SEAK | Humpback Whale | Central North Pacific | SI                 | A humpback whale became entangled in an othaul mooring. Some gear was cut free initially, but the animal remained entangled in 150 ft of line that trailed a polyball and 60 ft of line that possibly terminated in a 100 lb anchor. Initially the entanglement appeared to originate in the mouth, and the tail and peduncle were free of gear. The whale was tracked over the next 20 days, and eventually lost the trailing polyball buoy, however, the final configuration is unclear, therefore this entanglement is prorated under criterion L10.  | PRORATE             | Entangled / entrapped | Other                         | N/A                          | N/A          | N/A            | L10         | 0.75                    | 0                       |
| AKRO             | 6/26/2016 | SEAK | Humpback Whale | Central North Pacific | PRORATE            | A humpback whale reportedly became entangled in loose webbing that hung from a remote ADF&G king salmon release site. The whale managed to free itself by the time responders arrived at the site. The whale was not resighted, and it is unknown whether any gear remained attached to the whale, therefore this entanglement is prorated under criterion L10.  | PRORATE             | Entangled / entrapped | Other                         | N/A                          | N/A          | N/A            | L10         | 0.75                    | 0                       |
| AKRO             | 6/30/2016 | SEAK | Humpback Whale | Central North Pacific | PRORATE            | A humpback whale calf was reported entangled in red-colored line. The line was trailing, and reported to possibly terminate with a buoy. The origin and configuration of the entanglement could not be determined, therefore this interaction is considered a prorated serious injury under criterion L10.   | PRORATE             | Entangled / entrapped | Marine debris (rope and buoy) | N/A                          | N/A          | N/A            | L10         | 0.75                    | 0                       |
| AKRO             | 7/4/2016  | SEAK | Humpback Whale | Central North Pacific | PRORATE            | A humpback whale was reported to be trailing a small amount of green line from its tail. The reporting party stated that the entanglement did not appear to be life-threatening, but no pictures were obtained and the nature and configuration of the entanglement was not determined. Therefore this interaction is considered a prorated serious injury under criterion L10.  | PRORATE             | Entangled / entrapped | Marine debris (rope)          | N/A                          | N/A          | N/A            | L10         | 0.75                    | 0                       |
| AKRO             | 7/7/2016  | SEAK | Humpback Whale | Central North Pacific | PRORATE            | A humpback whale became entangled in actively fished salmon drift gillnet. After the whale began towing the vessel, the fisherman began to cut the vessel free from the entangling gear. While the gear was being cut free, the whale dove and when it resurfaced it appeared to be free from gear; however, there is not confirmation from the fisherman that all gear was recovered, and some may have remained on the animal.   | PRORATE             | Entangled / entrapped | Fishery gear                  | AK SEAK salmon drift gillnet | Commercial   | Gillnet        | L10         | 0.75                    | 0.75                    |

**Appendix Table 1.1 -- Human / marine mammal interaction records reviewed for serious injury and mortality.**

| Source of Record | Date      | Area | Common Name    | Stock                 | Initial Assessment | MML Determination Details   | Final Determination | Mechanism of Injury       | Source of Injury              | Fishery Name                 | Fishery Type | Fishery Method | SI Criteria | Suggested Value for PBR | Suggested Value for LOF |
|------------------|-----------|------|----------------|-----------------------|--------------------|---|---------------------|---------------------------|-------------------------------|------------------------------|--------------|----------------|-------------|-------------------------|-------------------------|
| AKRO             | 7/8/2016  | SEAK | Humpback Whale | Central North Pacific | PRORATE            | A subadult humpback whale was observed entangled in gillnet gear by a whale watch vessel. The whale was observed shedding some of the gear, which was then recovered by the whale watch vessel, but when the whale was last observed it still had webbing around the tailstock and 25 ft of trailing gear. This entanglement will be considered a prorated serious injury under criterion L10 due to the unknown configuration of the entanglement.   | PRORATE             | Entangled / entrapped     | Fishery gear                  | AK SEAK salmon drift gillnet | Commercial   | Gillnet        | L10         | 0.75                    | 0.75                    |
| AKRO             | 7/11/2016 | SEAK | Humpback Whale | Central North Pacific | NSI                | A humpback whale calf was observed entangled in 3/8 inch line. The line passed through the whale's mouth, forming a bridle, and then trailed further back on either side. The whale was observed entangled for over a week before a disentanglement team responded and cut gear free. A short time later, the whale dropped the gear and multiple parties reported the calf was gear free.  | NSI                 | Entangled / entrapped     | Marine debris (unidentified)  | N/A                          | N/A          | N/A            | L3          | 0                       | 0                       |
| AKRO             | 7/15/2016 | SEAK | Humpback Whale | Central North Pacific | PRORATE            | A humpback whale was observed entangled in gillnet. The netting was wrapped around the animal's head and the animal was swimming continuously at the surface without diving. The whale was not seen again. Although the gear wrapped around the whale's body, it was not confirmed to be constricting, therefore this entanglement is prorated under criterion L10.   | PRORATE             | Entangled / entrapped     | Fishery gear                  | AK SEAK salmon drift gillnet | Commercial   | Gillnet        | L10         | 0.75                    | 0.75                    |
| AKRO             | 7/31/2016 | SEAK | Humpback Whale | Central North Pacific | NSI                | A humpback whale became entangled in an anchorline of a small skiff. The whale began pulling the boat, so the operator cut the line, leaving the whale entangled with ~100 ft of line and an 8 lb anchor. There was originally one confirmed wrap around the whale's peduncle, and possibly another further forward. The reporting party thought it likely that the whale would shed the gear, and multiple on-the-water observers reported that the whale then shed the gear. Additional on-the-water surveys over the next week of the same group of whales did not identify any entangled whales, further confirming the belief that the whale shed the gear shortly after entanglement. | NSI                 | Entangled / entrapped     | Ship's ground tackle          | Unknown hook and line        | Recreational | Hook and line  | L10         | 0                       | 0                       |
| AKRO             | 7/31/2016 | SEAK | Humpback Whale | Central North Pacific | NSI                | A humpback whale became entangled in a purse seine, and was reported to swim away uninjured after being completely disentangled by the crew.  | NSI                 | Entangled / entrapped     | Fishery gear                  | AK SEAK salmon purse seine   | Commercial   | Seine          | L10         | 0                       | 0                       |
| AKRO             | 9/11/2016 | GOA  | Humpback Whale | Central North Pacific | DEAD               | A humpback whale carcass was discovered stranded and in a state of moderate decomposition. A necropsy was conducted and blunt trauma and hemorrhage along the right jaw, cervical region, and thorax was noted. The examiner noted that the injuries were probably caused by a ship strike.   | DEAD                | Ship strike               | Vessel (unknown)              | N/A                          | N/A          | N/A            | N/A         | 1                       | 0                       |
| AKRO             | 1/3/2017  | SEAK | Humpback Whale | Central North Pacific | SI                 | A subadult humpback whale was observed to be entangled in a 1 inch cable running from a barge to a 6 ton anchor in ~ 30 ft of water. The cable was through the whale's mouth and around its body posterior to the blow hole. The whale was successfully disentangled and all gear was recovered. Following the disentanglement, the whale remained on the surface briefly and then slowly swam away. The entanglement caused some lacerations and a cut about 1-1.5 inches deep into the whale's soft tissue.   | NSI                 | Constricting entanglement | Ship's ground tackle          | N/A                          | N/A          | N/A            | L2          | 0                       | 0                       |
| AKRO             | 1/21/2017 | SEAK | Humpback Whale | Central North Pacific | PRORATE            | A humpback whale was observed with a 1.5 ft diameter bright orange-red buoy trailing 40-60 ft behind it. The whale's movements did not appear compromised, and when it dove the buoy submerged along with it. The extent of the entanglement could not be confirmed; thus, this event is prorated at L10.   | PRORATE             | Entangled / entrapped     | Marine debris (rope and buoy) | N/A                          | N/A          | N/A            | L10         | 0.75                    | 0                       |
| AKRO             | 6/9/2017  | SEAK | Humpback Whale | Central North Pacific | PRORATE            | A 40 ft recreational vessel traveling at an unknown speed was observed to strike a humpback whale. The whale appeared to be bubble feeding when the vessel drove over the bubbles and struck the animal. The boat was nudged and rocked as a result of the interaction, but the observer did not notice any blood in the water and saw the whale swimming away after the incident. There is no additional information available on the health of the whale following the strike.  | PRORATE             | Ship strike               | Vessel (recreational)         | N/A                          | N/A          | N/A            | L7b         | 0.14                    | 0                       |

**Appendix Table 1.1 -- Human / marine mammal interaction records reviewed for serious injury and mortality.**

| Source of Record | Date      | Area | Common Name    | Stock  | Initial Assessment | MML Determination Details  | Final Determination | Mechanism of Injury       | Source of Injury      | Fishery Name                                    | Fishery Type | Fishery Method | SI Criteria | Suggested Value for PBR | Suggested Value for LOF |
|------------------|-----------|------|----------------|--|--------------------|--|---------------------|---------------------------|-----------------------|---|--------------|----------------|-------------|-------------------------|-------------------------|
| AKRO             | 7/8/2017  | SEAK | Humpback Whale | Central North Pacific                        | NSI                | An anchored 47 ft sailboat was struck by a humpback whale causing the vessel to rise and fall hard. The whale was in a group of 3 or 4 animals and kept swimming following the impact. There was no sign of injury to the whale, but the boat was damaged.   | NSI                 | Ship strike               | Vessel (recreational) | N/A   | N/A          | N/A            | L6c         | 0                       | 0                       |
| AKRO             | 7/20/2017 | SEAK | Humpback Whale | Central North Pacific                        | PRORATE            | A 40 ft rigid hull inflatable whale watching vessel traveling at 13 knots struck a humpback whale. The vessel was powering up, saw the spout off the bow, and tried to power down but felt a bump. The whale surfaced behind the boat following the collision. Nothing abnormal about the whale was noticed, and no blood was seen in the water. There is no additional information on the health of the whale following the impact.   | PRORATE             | Ship strike               | Vessel (commercial)   | N/A   | N/A          | N/A            | L6b         | 0.2                     | 0                       |
| AKRO             | 7/21/2017 | SEAK | Humpback Whale | Central North Pacific                        | SI                 | A subadult humpback whale was observed entangled in multiple wraps of heavy (~5/8 inch) line around its head and body. The material appeared to be heavier than gillnet (no mesh observed). Floats and line were also reported to be trailing the animal. The whale was described as bobbing up and down to breathe, barely making forward progress.   | SI                  | Constricting entanglement | Fishery gear          | Unknown   | Unknown      | Unknown        | L2          | 1                       | 0                       |
| AKRO             | 8/9/2017  | SEAK | Humpback Whale | Central North Pacific                        | DEAD               | A subadult male humpback whale was observed dead on the bulbous bow of a 950 ft cruise ship. The speed and specific timing of the ship strike are unknown. External and internal findings of the necropsy indicate that the cause of death was from significant trauma consistent with a vessel strike. The most likely scenario is that the animal was struck around the head/neck, then quickly wrapped around the bulbous bow.  | DEAD                | Ship strike               | Vessel (commercial)   | N/A   | N/A          | N/A            | N/A         | 1                       | 0                       |
| AKRO             | 8/21/2017 | SEAK | Humpback Whale | Central North Pacific                        | PRORATE            | A commercial fiberglass charter fishing boat of unknown length traveling at 25 knots was observed striking a humpback whale. The boat struck the whale with its bow pitched upward nearly 45 degrees until the stern/engine hit, which pitched the boat back down. The strike was described as a "hard strike". The observers were unable to provide any additional information about the health of the whale following the impact.  | PRORATE             | Ship strike               | Vessel (commercial)   | AK/WA/OR/CA commercial passenger fishing vessel | Commercial   | Unknown        | L6b         | 0.2                     | 0.2                     |
| AKRO             | 8/27/2017 | SEAK | Humpback Whale | Central North Pacific                        | SI                 | A subadult humpback whale was observed entangled in the ground tackle of a tour vessel at anchor in SE AK. The whale was entangled in the vessel's 7/8 inch anchor chain which was wrapped around the lower jaw with a half twist. The animal was entangled only 50 ft from the vessel, while over 400 ft of chain remained below in just over 100 ft of water. The whale was in good condition and did not appear to be fighting the weight of the chain too much. In order to disentangle the whale, the anchor chain was cut at the vessel's winch in hopes that it would allow the animal to free itself of the simple wrap and short tail of chain. After the chain was cut, the whale remained at the surface for some time before submerging. A whale thought to be the freed animal was seen about 1/4 nm away and on the next surfacing about 1/2 nm away. The team remained in the area looking for the whale, but it was not re-located. It is highly likely that the whale was free of the gear and had moved off. | NSI                 | Constricting entanglement | Ship's ground tackle  | N/A   | N/A          | N/A            | L2          | 0                       | 0                       |
| AKRO             | 4/15/2013 | GOA  | Humpback Whale | Western North Pacific, Central North Pacific | DEAD               | A humpback whale became entangled in an anchor cable of a vessel that was anchored for the night. The crew discovered the dead humpback the next morning. The whale was cut loose and one photo was taken. This photo shows the anchor cable wrapped and knotted around the flukes and tail stock multiple times.  | DEAD                | Entangled / entrapped     | Ship's ground tackle  | N/A   | N/A          | N/A            | N/A         | 1                       | 0                       |
| AKRO             | 6/19/2013 | GOA  | Humpback Whale | Western North Pacific, Central North Pacific | NSI                | A couple was fishing for halibut in their 22 ft boat near Kodiak. The boat was at anchor and the motor was off. A whale was initially observed about 300 yards away. Shortly afterwards a whale surfaced immediately beneath the boat. The boat was lifted out of the water and the halibut lines then began to stream out as the whale submerged. The lines were cut. There was damage reported to the boat's prop and a 4 inch piece of black skin was found on the vessel's keel. The interaction was determined to result in a non-serious injury using criteria L6c and L5b. L4 could also be considered to be a secondary injury criterion.  | NSI                 | Ship strike               | Vessel (recreational) | N/A   | N/A          | N/A            | L6c         | 0                       | 0                       |

**Appendix Table 1.1 -- Human / marine mammal interaction records reviewed for serious injury and mortality.**

| Source of Record | Date      | Area | Common Name    | Stock  | Initial Assessment | MML Determination Details   | Final Determination | Mechanism of Injury   | Source of Injury              | Fishery Name                     | Fishery Type | Fishery Method | SI Criteria | Suggested Value for PBR | Suggested Value for LOF |
|------------------|-----------|------|----------------|--|--------------------|---|---------------------|-----------------------|-------------------------------|----------------------------------|--------------|----------------|-------------|-------------------------|-------------------------|
| AKRO             | 5/1/2014  | SCAK | Humpback Whale | Western North Pacific, Central North Pacific | PRORATE            | A subadult humpback whale was reported entangled and trailing a green buoy 30 to 50 ft behind it. Entanglement was thought to originate on the whale's flukes or mouth. This interaction is prorated under criterion L10 due to uncertainties regarding entanglement configuration.   | PRORATE             | Entangled / entrapped | Marine debris (rope and buoy) | N/A                              | N/A          | N/A            | L10         | 0.75                    | 0                       |
| AKRO             | 7/26/2014 | SCAK | Humpback Whale | Western North Pacific, Central North Pacific | DEAD               | A humpback whale was struck by an Alaskan Ferry (approximately 400 ft in length) during a period of poor visibility on 7/26/2014. No one aboard realized the vessel struck a humpback whale until a whale was observed sliding off the bulbous bow when the vessel was put into reverse while pulling into port. The whale appeared dead and sank. Two days later the whale was found floating off Puffin Island and the whale was necropsied on 7/30/2014. The necropsy confirmed the whale was fresh dead and killed by ship strike. There were multiple comminuted fractures of the cranium and ribs.  | DEAD                | Ship strike           | Vessel (government)           | N/A                              | N/A          | N/A            | N/A         | 1                       | 0                       |
| AKRO             | 8/4/2014  | PWS  | Humpback Whale | Western North Pacific, Central North Pacific | PRORATE            | A captain reported that his boat likely struck a whale while underway at 20 knots while travelling in a deep passage. The captain reported that after hitting something he came to a stop, and a humpback surfaced 100 ft away. No blood or injuries were observed.   | PRORATE             | Ship strike           | Vessel (commercial)           | N/A                              | N/A          | N/A            | L6b         | 0.2                     | 0                       |
| AKRO             | 8/20/2014 | PWS  | Humpback Whale | Western North Pacific, Central North Pacific | SI                 | A humpback whale was observed in Prince William Sound entangled in what was reported to be shrimp fishery gear. The whale was observed repeatedly on 8/20/2014, but could not be relocated when a rescue effort was mounted on 8/21/2014. The whale was entangled in multiple areas, including its mouth, and appeared to be heavily weighted. This interaction is considered a SI under criterion L2.  | SI                  | Entangled / entrapped | Fishery gear                  | AK PWS unknown shrimp pot        | Unknown      | Pot            | L2          | 1                       | 0                       |
| AKRO             | 6/1/2015  | GOA  | Humpback Whale | Western North Pacific, Central North Pacific | SI                 | A humpback whale became entangled in a set gillnet. The whale appeared to have netting tangled around its tailstock, dorsal fin, and left pectoral fin. Troopers responded by skiff and cut the netting and lead line free from the whale. The whale then swam away. The troopers reported that they were unsure whether any netting remained on the whale, although they did observe the whale use both pectoral fins and fluke without restriction. The initial injury determination was a serious injury under criterion L2, but due to intervention by troopers the severity of this injury was reduced to criterion L10. This interaction cannot be considered a non-serious injury because the absence of gear on the whale could not be confirmed. | PRORATE             | Entangled / entrapped | Fishery gear                  | AK Kodiak salmon set gillnet     | Commercial   | Gillnet        | L2          | 0.75                    | 1                       |
| AKRO             | 7/12/2015 | PWS  | Humpback Whale | Western North Pacific, Central North Pacific | NSI                | A humpback whale became caught in a purse seine. While in the net, the whale exhibited normal behavior and breathing. The fisherman freed the whale from the net, and stated that the whale swam free - uninjured and trailing no gear. The fisherman then watched the whale surface normally for ~30 minutes before he left the area. This interaction qualifies as a non-serious injury.  | NSI                 | Entangled / entrapped | Fishery gear                  | AK salmon purse seine            | Commercial   | Seine          | L10         | 0                       | 0                       |
| AKRO             | 7/29/2015 | GOA  | Humpback Whale | Western North Pacific, Central North Pacific | PRORATE            | A humpback whale was reported to be entangled in crab pot gear. Several wraps around the animal's tailstock were confirmed, but the head, mouth, and pectoral flippers were free from gear. The animal was reported to be trailing 30 fathoms of line with a sponge buoy at the end. The gear was determined to have been set three days prior. Despite efforts to resight the entangled whale it was not seen again. The whale may have shed the gear, but this cannot be confirmed, therefore this interaction qualifies as a prorated serious injury under criterion L10.  | PRORATE             | Entangled / entrapped | Fishery gear                  | AK GOA Dungeness crab pot        | Recreational | Pot            | L10         | 0.75                    | 0                       |
| AKRO             | 8/6/2015  | GOA  | Humpback Whale | Western North Pacific, Central North Pacific | NSI                | A humpback whale was entangled in a purse seine net. The whale was initially cut free from the boat, but remained entangled in gear, however, the fishermen were eventually able to remove all gear from the whale. There are very few details for this interaction, so this will be considered a non-serious injury due to the whale being released by the fisherman free of gear.   | NSI                 | Entangled / entrapped | Fishery gear                  | AK Cook Inlet salmon purse seine | Commercial   | Seine          | L10         | 0                       | 0                       |

**Appendix Table 1.1 -- Human / marine mammal interaction records reviewed for serious injury and mortality.**

| Source of Record | Date       | Area   | Common Name    | Stock  | Initial Assessment | MML Determination Details  | Final Determination | Mechanism of Injury   | Source of Injury              | Fishery Name  | Fishery Type            | Fishery Method | SI Criteria | Suggested Value for PBR | Suggested Value for LOF |
|------------------|------------|--------|----------------|--|--------------------|--|---------------------|-----------------------|-------------------------------|---|-------------------------|----------------|-------------|-------------------------|-------------------------|
| AKRO             | 9/6/2015   | GOA    | Humpback Whale | Western North Pacific, Central North Pacific | PRORATE            | A sail boater reported observing an entangled humpback whale. The whale was reported to be entangled with at least one, and perhaps multiple shrimp pots. The entanglement was located on the animal's tailstock. The whale was mobile and was not sighted again. This entanglement will be considered a prorated serious injury under criterion L10 due to the unknown configuration and nature of the entanglement.  | PRORATE             | Entangled / entrapped | Fishery gear                  | AK GOA shrimp pot   | Recreational            | Pot            | L10         | 0.75                    | 0                       |
| AKRO             | 10/20/2015 | WAK    | Humpback Whale | Western North Pacific, Central North Pacific | SI                 | A subadult male humpback whale was observed near Dutch Harbor. The animal appeared sick and showed signs of entanglement. Some investigation indicated that the whale was entangled, heavily weighted, and in poor health. The whale died before a disentanglement team could assist it. A necropsy showed the whale had been entangled in multiple sets of pot gear for an extended period of time, as indicated by the very chronic and inflamed lacerations at the areas of entanglement. | DEAD                | Entangled / entrapped | Fishery gear                  | BSAI unknown pot - commercial and BSAI Dungeness crab pot - subsistence | Commercial, Subsistence | Pot            | L2          | 1                       | 0                       |
| AKRO             | 6/22/2016  | SEAK   | Humpback Whale | Western North Pacific, Central North Pacific | SI                 | A humpback whale was entangled in approximately 600 ft of line that terminated in a buoy. The line wrapped around the whale and the pectoral fins, and abrasions from the line were visible. NOAA's Office of Law Enforcement responded and successfully disentangled the animal, freeing it of all gear.  | NSI                 | Entangled / entrapped | Marine debris (rope and buoy) | N/A   | N/A                     | N/A            | L2          | 0                       | 0                       |
| AKRO             | 7/4/2016   | Kodiak | Humpback Whale | Western North Pacific, Central North Pacific | PRORATE            | A 20 ft vessel struck a whale at 20 knots. The whale was observed 3-5 minutes later at a distance of 200 yards. The whale did not appear injured while it was observed during subsequent dive cycles. This interaction qualifies as a prorated serious injury under criterion L6b due to the vessel's size and speed.  | PRORATE             | Ship strike           | Vessel (recreational)         | N/A   | N/A                     | N/A            | L6b         | 0.2                     | 0                       |
| AKRO             | 7/24/2016  | WAK    | Humpback Whale | Western North Pacific, Central North Pacific | DEAD               | A humpback whale was found stranded in a state of moderate decomposition. The whale was entangled in a 7/8 inch poly line that was wrapped around its tailstock and upper jaw. There was significant scarring and abrasion at the areas of entanglement. The end of the line trailed into deep water and could not be pulled in.   | DEAD                | Entangled / entrapped | Marine debris (unidentified)  | N/A   | N/A                     | N/A            | N/A         | 1                       | 0                       |
| AKRO             | 7/28/2016  | SCAK   | Humpback Whale | Western North Pacific, Central North Pacific | NSI                | An adrift 22 ft boat was struck by a humpback whale. A passenger was ejected into the water and the boat began taking on water. The whale was reported to appear uninjured. This interaction qualifies as a non-serious injury under criterion L6c due to the vessel's size and speed.   | NSI                 | Ship strike           | Vessel (recreational)         | N/A   | N/A                     | N/A            | L6c         | 0                       | 0                       |
| AKRO             | 7/28/2016  | SCAK   | Humpback Whale | Western North Pacific, Central North Pacific | SI                 | An entangled humpback whale was observed from a tour vessel. The whale was trailing small gauge neon line from its fluke and another larger gauge line was wrapped around the base of the tailstock and was cutting into the animal. This is considered a serious injury under criterion L2 due to the constricting wrap around the whale's tailstock.   | SI                  | Entangled / entrapped | Marine debris (unidentified)  | N/A   | N/A                     | N/A            | L2          | 1                       | 0                       |
| AKRO             | 8/24/2016  | Kodiak | Humpback Whale | Western North Pacific, Central North Pacific | NSI                | A humpback whale was observed by a USCG vessel's crew to be entangled in, and trailing, 60 ft of line and a buoy. Then, while they were watching, the whale shed the gear. The USCG recovered the buoy.  | NSI                 | Entangled / entrapped | Fishery gear                  | Dungeness crab pot  | Recreational            | Pot            | L10         | 0                       | 0                       |
| AKRO             | 8/26/2016  | GOA    | Humpback Whale | Western North Pacific, Central North Pacific | NSI                | A humpback whale was observed to be entangled in Dutch Harbor. The animal was observed with a thick nylon line exiting the right side of the mouth which led straight down and was heavily weighted by something on the bottom. A response team attempted to grapple the weighted line in order to cut the line and free the whale, but had no success. A short time later the whale was observed to free itself and was completely free of gear.  | NSI                 | Entangled / entrapped | Marine debris (unidentified)  | N/A   | N/A                     | N/A            | L2          | 0                       | 0                       |
| AKRO             | 6/18/2017  | SCAK   | Humpback Whale | Western North Pacific, Central North Pacific | PRORATE            | A 24 - 28 ft commercial charter vessel traveling at 22 knots struck a humpback whale. Following the strike a small amount of blood was observed in the water, but the whale appeared to swim away unharmed. No external injuries to the whale were observed. There is no additional information on the health of the whale following the strike. L6b and L11 are both applicable criteria in this case. L11 has been assigned due to a higher level of severity.                             | PRORATE             | Ship strike           | Vessel (commercial)           | AK/WA/OR/CA commercial passenger fishing vessel                         | Commercial              | Unknown        | L11         | 0.52                    | 0.52                    |

**Appendix Table 1.1 -- Human / marine mammal interaction records reviewed for serious injury and mortality.**

| Source of Record | Date      | Area | Common Name    | Stock   | Initial Assessment | MML Determination Details  | Final Determination | Mechanism of Injury       | Source of Injury    | Fishery Name                      | Fishery Type | Fishery Method | SI Criteria | Suggested Value for PBR | Suggested Value for LOF |
|------------------|-----------|------|----------------|---|--------------------|--|---------------------|---------------------------|---------------------|-----------------------------------|--------------|----------------|-------------|-------------------------|-------------------------|
| AKRO             | 9/27/2017 | BS   | Humpback Whale | Western North Pacific, Central North Pacific  | SI                 | A humpback whale was observed entangled in cod pot gear (parallel fishery). The gear included a 500 lb pot, 66 fathoms of line, and the associated fishing floats. At one time, the animal was described as appearing to be immobile. The whale was not relocated following the initial entanglement sighting on the previous day.   | SI                  | Constricting entanglement | Fishery gear        | AK BSAI Pacific cod pot           | Commercial   | Pot            | L2          | 1                       | 1                       |
| NPGOP            | 7/5/2016  | BS   | Killer Whale   | Eastern North Pacific Alaska Resident   | DEAD               | A killer whale became entangled in, and was killed by, longline gear.  | DEAD                | Entangled / entrapped     | Fishery gear        | AK BSAI Pacific cod longline      | Commercial   | Hook and line  | N/A         | 1                       | 1                       |
| NPGOP            | 7/5/2013  | WAK  | Killer Whale   | Eastern North Pacific Alaska Resident, Eastern North Pacific Gulf of Alaska, Aleutian Islands, and Bering Sea Transient | SI                 | A killer whale was caught in the opening of a net during an AK BSAI flatfish trawl. The net's webbing was cut away, but some still remained around the animal's dorsal fin and tail. After being freed the whale remained on the surface for a while, appearing "shook up" as reported by the observer, and then swam off in the direction of the other killer whales. It is unknown whether the killer whale was brought on deck, but it was brought up in the haul and out of the water. The closest criterion is S4, a serious injury. The whale was also noted to be acting unusually at the surface following the interaction.  | SI                  | Entangled / entrapped     | Fishery gear        | AK BSAI flatfish trawl            | Commercial   | Trawl          | S4          | 1                       | 1                       |
| NPGOP            | 7/16/2013 | WAK  | Killer Whale   | Eastern North Pacific Alaska Resident, Eastern North Pacific Gulf of Alaska, Aleutian Islands, and Bering Sea Transient | SI                 | A killer whale was caught during an AK BSAI flatfish trawl. The whale was reportedly cut free from the net and pushed down the trawl ramp and into the water. The observer said the entire interaction only lasted a few minutes. The whale reportedly swam off and rejoined the pod. No gear remained on the whale and the whale "seemed to be fine," according to the observer. Classified as serious injury using criterion S4.   | SI                  | Entangled / entrapped     | Fishery gear        | AK BSAI flatfish trawl            | Commercial   | Trawl          | S4          | 1                       | 1                       |
| NPGOP            | 7/19/2015 | WAK  | Killer Whale   | Eastern North Pacific Alaska Resident, Eastern North Pacific Gulf of Alaska, Aleutian Islands, and Bering Sea Transient | SI                 | A killer whale was hooked on AK BSAI Greenland turbot longline gear and released. The interaction was not observed by the fishery observer aboard the vessel, but it was reported following a conversation with the captain. The captain reported that the whale was released immediately without notifying the observer because the hooked / entangled whale posed a threat to the ship. The captain reported that the whale was "not moving very much" after it was released. Although the details are limited, this interaction is best classified under SI criterion S7b - and should be considered a serious injury due to the animal's reported behavior following release. It is also unclear whether all gear was recovered or if the animal was released trailing gear. | SI                  | Entangled / entrapped     | Fishery gear        | AK BSAI Greenland turbot longline | Commercial   | Hook and line  | S6          | 1                       | 1                       |
| NPGOP            | 7/28/2016 | BS   | Killer Whale   | Eastern North Pacific Alaska Resident, Eastern North Pacific Gulf of Alaska, Aleutian Islands, and Bering Sea Transient | SI                 | An observer reported seeing about eight killer whales alongside the fishing vessel while it was trawling, when suddenly there was a loud noise and the boat shook violently. After the shudder, blood was visible in the water at the vessel's stern. The killer whales that had surrounded the vessel immediately left the side of the vessel and remained at the location where the boat had shuddered. The observer reported that he and the captain both believed a calf was hit by the propeller.   | SI                  | Ship strike               | Vessel (commercial) | AK BSAI flatfish trawl            | Commercial   | Trawl          | S3          | 1                       | 1                       |
| AKRO             | 9/4/2016  | SEAK | Killer Whale   | Eastern North Pacific Alaska Resident, Eastern North Pacific Northern Resident, West Coast Transient                    | SI                 | A killer whale was reported to be entangled in pot gear in Icy Strait. The entanglement was thought to possibly originate at the tailstock / fluke. The reporting party attempted a disentanglement without success.   | SI                  | Entangled / entrapped     | Fishery gear        | Unknown pot                       | Unknown      | Pot            | S6          | 1                       | 0                       |
| SWFSC            | 4/18/2015 | WC   | Killer Whale   | Eastern North Pacific Gulf of Alaska, Aleutian Islands, and Bering Sea Transient, West Coast Transient                  | DEAD               | A large adult male killer whale was found dead and entangled in a considerable amount of crab pot gear. A necropsy showed that the animal was alive when it was initially entangled and a genetic analysis indicated that it was a transient whale from either the Eastern North Pacific Gulf of Alaska, Aleutian Islands, and Bering Sea Transient stock or the West Coast Transient stock. The AT1 Transient Stock was ruled out because all of these whales were accounted for following this mortality.  | DEAD                | Entangled / entrapped     | Fishery gear        | California Dungeness crab pot     | Commercial   | Pot            | N/A         | 1                       | 1                       |

**Appendix Table 1.1 -- Human / marine mammal interaction records reviewed for serious injury and mortality.**

| Source of Record | Date      | Area | Common Name       | Stock                | Initial Assessment | MML Determination Details  | Final Determination | Mechanism of Injury       | Source of Injury              | Fishery Name                  | Fishery Type | Fishery Method | SI Criteria | Suggested Value for PBR | Suggested Value for LOF |
|------------------|-----------|------|-------------------|----------------------|--------------------|--|---------------------|---------------------------|-------------------------------|-------------------------------|--------------|----------------|-------------|-------------------------|-------------------------|
| WCRO             | 4/5/2016  | WC   | Killer Whale      | West Coast Transient | NSI                | A West Coast transient killer whale was observed to be briefly entangled in California Dungeness crab pot fishery gear. At least two buoys were visible. The gear self-released from the animal and no injuries were reported.   | NSI                 | Entangled / entrapped     | Fishery gear                  | California Dungeness crab pot | Commercial   | Pot            | S7b         | 0                       | 0                       |
| AKRO             | 6/23/2013 | WAK  | Northern Fur Seal | Eastern Pacific      | SI                 | A six to seven year old northern fur seal was observed with a circumferential neck entanglement at the St. George harbor. The animal could not be disentangled.  | SI                  | Constricting entanglement | Marine debris (unidentified)  | N/A                           | N/A          | N/A            | P8a         | 1                       | 0                       |
| NPGOP            | 5/18/2014 | WAK  | Northern Fur Seal | Eastern Pacific      | DEAD               | A northern fur seal was caught in AK BSAI flatfish trawl gear. The animal was reported by the observer to be freshly killed.   | DEAD                | Entangled / entrapped     | Fishery gear                  | AK BSAI flatfish trawl        | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| NPGOP            | 7/4/2014  | WAK  | Northern Fur Seal | Eastern Pacific      | NSI                | A live northern fur seal was caught in an AK BSAI flatfish trawl and dumped into the live tanks with the catch. The crew was able to wrap the seal in netting and hoist it out of the live tank. The animal was released from the net while on the stern ramp, made its way to the water, and swam away on its own power. Reviewed video and consulted with MML expert for this determination. | NSI                 | Entangled / entrapped     | Fishery gear                  | AK BSAI flatfish trawl        | Commercial   | Trawl          | P4          | 0                       | 0                       |
| AKRO             | 7/31/2014 | WAK  | Northern Fur Seal | Eastern Pacific      | SI                 | A subadult male northern fur seal was observed with a circumferential neck entanglement caused by line. The entanglement caused a 180 degree wound.  | SI                  | Constricting entanglement | Marine debris (rope)          | N/A                           | N/A          | N/A            | P8a         | 1                       | 0                       |
| AKRO             | 8/6/2014  | WAK  | Northern Fur Seal | Eastern Pacific      | SI                 | An adult male northern fur seal was observed with a circumferential neck entanglement on St. George Island.  | SI                  | Constricting entanglement | Marine debris (packing band)  | N/A                           | N/A          | N/A            | P8a         | 1                       | 0                       |
| AKRO             | 8/7/2014  | WAK  | Northern Fur Seal | Eastern Pacific      | SI                 | A northern fur seal was observed and photographed at St. George Island with a circumferential neck entanglement caused by a trawl net.   | SI                  | Constricting entanglement | Fishery gear                  | AK BSAI unknown trawl         | Commercial   | Trawl          | P8a         | 1                       | 0                       |
| AKRO             | 8/7/2014  | WAK  | Northern Fur Seal | Eastern Pacific      | SI                 | A subadult male northern fur seal was observed entangled in gray trawl netting around its neck. The fur seal was tagged with a white all flex tag marked 1067E.  | SI                  | Constricting entanglement | Fishery gear                  | AK BSAI unknown trawl         | Commercial   | Trawl          | P8a         | 1                       | 0                       |
| AKRO             | 8/8/2014  | WAK  | Northern Fur Seal | Eastern Pacific      | SI                 | A northern fur seal was sighted with a circumferential packing band entanglement at St. Paul Island, was disentangled, and released.   | NSI                 | Constricting entanglement | Marine debris (packing band)  | N/A                           | N/A          | N/A            | P7b         | 0                       | 0                       |
| AKRO             | 8/15/2014 | WAK  | Northern Fur Seal | Eastern Pacific      | SI                 | An adult female northern fur seal was observed entangled in blue line. Researchers were able to capture and disentangle the animal.  | NSI                 | Entangled / entrapped     | Marine debris (rope)          | N/A                           | N/A          | N/A            | P7b         | 0                       | 0                       |
| AKRO             | 8/20/2014 | WAK  | Northern Fur Seal | Eastern Pacific      | SI                 | A subadult male northern fur seal was observed entangled in a packing band. Researchers were able to disentangle the animal.   | NSI                 | Entangled / entrapped     | Marine debris (packing band)  | N/A                           | N/A          | N/A            | P7b         | 0                       | 0                       |
| AKRO             | 8/21/2014 | WAK  | Northern Fur Seal | Eastern Pacific      | SI                 | A subadult northern fur seal was observed entangled in a blue trawl net. The net was wrapped around the animal's neck and caused a 360 degree wound. Researchers were able to disentangle the animal.  | NSI                 | Constricting entanglement | Fishery gear                  | AK BSAI unknown trawl         | Commercial   | Trawl          | P7b         | 0                       | 0                       |
| AKRO             | 8/22/2014 | WAK  | Northern Fur Seal | Eastern Pacific      | SI                 | A subadult male northern fur seal was observed with a line wrapped around its neck.  | SI                  | Constricting entanglement | Marine debris (rope)          | N/A                           | N/A          | N/A            | P8a         | 1                       | 0                       |
| AKRO             | 8/26/2014 | WAK  | Northern Fur Seal | Eastern Pacific      | SI                 | A subadult male northern fur seal was observed on two occasions with a green line wrapped around its neck. The line was observed to be cutting into the animal's neck.   | SI                  | Constricting entanglement | Marine debris (rope)          | N/A                           | N/A          | N/A            | P8a         | 1                       | 0                       |
| AKRO             | 8/26/2014 | WAK  | Northern Fur Seal | Eastern Pacific      | SI                 | A subadult male northern fur seal was observed entangled in green trawl netting. The netting was wrapped around the animal's neck.   | SI                  | Constricting entanglement | Fishery gear                  | AK BSAI unknown trawl         | Commercial   | Trawl          | P8a         | 1                       | 0                       |
| AKRO             | 9/5/2014  | WAK  | Northern Fur Seal | Eastern Pacific      | SI                 | A subadult male northern fur seal was observed entangled in trawl netting. The netting was wrapped around the animal's neck. The animal was reported to be bright, alert, and responsive, and the wound was not reported to be severe.   | SI                  | Constricting entanglement | Fishery gear                  | AK BSAI unknown trawl         | Commercial   | Trawl          | P8a         | 1                       | 0                       |
| AKRO             | 9/10/2014 | WAK  | Northern Fur Seal | Eastern Pacific      | SI                 | A subadult male northern fur seal was observed with a black rubber band around its neck.   | SI                  | Constricting entanglement | Marine debris (rubber band)   | N/A                           | N/A          | N/A            | P8a         | 1                       | 0                       |
| AKRO             | 9/11/2014 | WAK  | Northern Fur Seal | Eastern Pacific      | SI                 | A subadult male northern fur seal was observed entangled in a large section of trawl netting. The netting was wrapped around the animal's neck.  | SI                  | Constricting entanglement | Fishery gear                  | AK BSAI unknown trawl         | Commercial   | Trawl          | P8a         | 1                       | 0                       |
| AKRO             | 9/13/2014 | WAK  | Northern Fur Seal | Eastern Pacific      | SI                 | A male subadult northern fur seal was observed with a solid plastic ring around its neck.  | SI                  | Constricting entanglement | Marine debris (misc. plastic) | N/A                           | N/A          | N/A            | P8a         | 1                       | 0                       |
| AKRO             | 9/18/2014 | WAK  | Northern Fur Seal | Eastern Pacific      | SI                 | A juvenile female northern fur seal was observed with a circumferential neck entanglement caused by a gray trawl / seine net.  | SI                  | Constricting entanglement | Fishery gear                  | Unknown net                   | Unknown      | Net            | P8a         | 1                       | 0                       |



**Appendix Table 1.1 -- Human / marine mammal interaction records reviewed for serious injury and mortality.**

| Source of Record | Date       | Area | Common Name       | Stock           | Initial Assessment | MML Determination Details  | Final Determination | Mechanism of Injury       | Source of Injury              | Fishery Name             | Fishery Type | Fishery Method | SI Criteria | Suggested Value for PBR | Suggested Value for LOF |
|------------------|------------|------|-------------------|-----------------|--------------------|--|---------------------|---------------------------|-------------------------------|--------------------------|--------------|----------------|-------------|-------------------------|-------------------------|
| AKRO             | 9/19/2014  | WAK  | Northern Fur Seal | Eastern Pacific | SI                 | An adult northern fur seal was observed with a circumferential neck entanglement caused by a packing band. The packing band caused a 360 degree wound. The animal was noted to be sluggish compared to its peers.  | SI                  | Constricting entanglement | Marine debris (packing band)  | N/A                      | N/A          | N/A            | P8a         | 1                       | 0                       |
| AKRO             | 10/4/2014  | WAK  | Northern Fur Seal | Eastern Pacific | SI                 | A subadult male northern fur seal was observed with a circumferential neck entanglement caused by line or a packing band. The wound caused by the packing band was severe and oozing and the injury appeared to be affecting the animal's behavior and comfort.  | SI                  | Constricting entanglement | Marine debris (unidentified)  | N/A                      | N/A          | N/A            | P8a         | 1                       | 0                       |
| AKRO             | 10/10/2014 | WAK  | Northern Fur Seal | Eastern Pacific | SI                 | A female northern fur seal pup was observed with a plastic bag around its neck on 10/10/2014. Under criterion P8a this entanglement qualifies as a serious injury. The pup was resighted without the entanglement the next day resulting in a final outcome of non-serious injury.   | NSI                 | Constricting entanglement | Marine debris (misc. plastic) | N/A                      | N/A          | N/A            | P7b         | 0                       | 0                       |
| AKRO             | 10/11/2014 | WAK  | Northern Fur Seal | Eastern Pacific | SI                 | A northern fur seal pup was observed on 10/11/2014 to be entangled in halibut longline gear. A portion of line and hook was wrapped around the animal's midsection. The seal was resighted the next day. The animal was no longer entangled, but it was hooked in the lower jaw and dangling the same section of line.                     | SI                  | Hooked                    | Fishery gear                  | AK BSAI halibut longline | Commercial   | Hook and line  | P5a         | 1                       | 1                       |
| AKRO             | 10/12/2014 | WAK  | Northern Fur Seal | Eastern Pacific | SI                 | A pup was observed at St. George that had swallowed longline gear. A hook was penetrating the animal's lower jaw.  | SI                  | Hooked                    | Fishery gear                  | AK BSAI halibut longline | Commercial   | Hook and line  | P5a         | 1                       | 1                       |
| AKRO             | 10/12/2014 | WAK  | Northern Fur Seal | Eastern Pacific | SI                 | A female yearling northern fur seal was observed with a severe circumferential neck entanglement. The object causing the entanglement could not be identified, but was causing a severe 360 degree wound that was cutting deeply into tissue.  | SI                  | Constricting entanglement | Marine debris (unidentified)  | N/A                      | N/A          | N/A            | P8a         | 1                       | 0                       |
| AKRO             | 10/12/2014 | WAK  | Northern Fur Seal | Eastern Pacific | SI                 | A subadult male northern fur seal was observed with a section of green trawl netting wrapped around its neck causing a circumferential neck entanglement.  | SI                  | Constricting entanglement | Fishery gear                  | AK BSAI unknown trawl    | Commercial   | Trawl          | P8a         | 1                       | 0                       |
| AKRO             | 10/12/2014 | WAK  | Northern Fur Seal | Eastern Pacific | SI                 | A subadult female northern fur seal was observed with a circumferential neck entanglement caused by green gillnet.   | SI                  | Constricting entanglement | Fishery gear                  | Unknown gillnet          | Unknown      | Gillnet        | P8a         | 1                       | 0                       |
| AKRO             | 10/14/2014 | WAK  | Northern Fur Seal | Eastern Pacific | SI                 | A northern fur seal pup was observed with a circumferential neck entanglement caused by unidentified marine debris which resembled a potato chip bag.  | SI                  | Constricting entanglement | Marine debris (misc. plastic) | N/A                      | N/A          | N/A            | P8a         | 1                       | 0                       |
| AKRO             | 10/14/2014 | WAK  | Northern Fur Seal | Eastern Pacific | SI                 | A male northern fur seal pup was observed on multiple occasions with a hook through the lower jaw. The hook was part of a halibut longline gangion. Despite the injury, the pup was reported to be acting normally.  | SI                  | Hooked                    | Fishery gear                  | AK BSAI halibut longline | Commercial   | Hook and line  | P5a         | 1                       | 1                       |
| AKRO             | 10/16/2014 | WAK  | Northern Fur Seal | Eastern Pacific | SI                 | A yearling northern fur seal was observed with a circumferential neck entanglement. The entanglement appeared to be caused by a yellow packing band.   | SI                  | Constricting entanglement | Marine debris (packing band)  | N/A                      | N/A          | N/A            | P8a         | 1                       | 0                       |
| AKRO             | 6/11/2015  | WAK  | Northern Fur Seal | Eastern Pacific | SI                 | A northern fur seal with a circumferential neck entanglement caused by trawl netting was disentangled and released on St. Paul Island. This interaction was initially a serious injury under criterion P8a, but the final determination is a non-serious injury because the animal was disentangled.                                       | NSI                 | Constricting entanglement | Fishery gear                  | AK BSAI unknown trawl    | Unknown      | Trawl          | P7b         | 0                       | 0                       |
| AKRO             | 8/11/2015  | WAK  | Northern Fur Seal | Eastern Pacific | SI                 | A subadult male northern fur seal with a circumferential neck entanglement caused by a combination of line and tubing was captured and disentangled.   | NSI                 | Constricting entanglement | Marine debris (misc. plastic) | N/A                      | N/A          | N/A            | P7b         | 0                       | 0                       |
| AKRO             | 8/11/2015  | WAK  | Northern Fur Seal | Eastern Pacific | DEAD               | A subadult northern fur seal carcass was discovered with a circumferential neck entanglement caused by green trawl netting. The trawl netting appeared to have also snagged on rocks while the seal was still alive, further entrapping the animal. The net was twisted numerous times and the seal carcass was contorted among the rocks. | DEAD                | Entangled / entrapped     | Fishery gear                  | AK BSAI unknown trawl    | Unknown      | Trawl          | N/A         | 1                       | 0                       |
| AKRO             | 8/13/2015  | WAK  | Northern Fur Seal | Eastern Pacific | SI                 | A subadult male northern fur seal with a circumferential neck entanglement caused by a section of blue plastic pipe was captured and the pipe was removed from the animal's neck.  | NSI                 | Constricting entanglement | Marine debris (misc. plastic) | N/A                      | N/A          | N/A            | P7b         | 0                       | 0                       |

**Appendix Table 1.1 -- Human / marine mammal interaction records reviewed for serious injury and mortality.**

| Source of Record | Date       | Area | Common Name       | Stock           | Initial Assessment | MML Determination Details   | Final Determination | Mechanism of Injury       | Source of Injury              | Fishery Name            | Fishery Type | Fishery Method | SI Criteria | Suggested Value for PBR | Suggested Value for LOF |
|------------------|------------|------|-------------------|-----------------|--------------------|---|---------------------|---------------------------|-------------------------------|-------------------------|--------------|----------------|-------------|-------------------------|-------------------------|
| AKRO             | 8/13/2015  | WAK  | Northern Fur Seal | Eastern Pacific | SI                 | A subadult female northern fur seal with a circumferential neck entanglement caused by monofilament gillnet was captured and a disentanglement was attempted. The net was embedded into the animal's tissue, so complete removal was impossible. Responders believe they cut all encircling material, but were not certain and some netting remained embedded in the animal's neck. | SI                  | Constricting entanglement | Fishery gear                  | AK BSAI unknown gillnet | Unknown      | Gillnet        | P8a         | 1                       | 0                       |
| AKRO             | 8/14/2015  | WAK  | Northern Fur Seal | Eastern Pacific | SI                 | A subadult northern fur seal with a circumferential neck entanglement caused by a single strand of line was captured and disentangled.  | NSI                 | Constricting entanglement | Marine debris (rope)          | N/A                     | N/A          | N/A            | P7b         | 0                       | 0                       |
| AKRO             | 8/14/2015  | WAK  | Northern Fur Seal | Eastern Pacific | SI                 | A subadult male northern fur seal with a circumferential neck entanglement caused by a plastic lid rim was captured and disentangled.   | NSI                 | Constricting entanglement | Marine debris (misc. plastic) | N/A                     | N/A          | N/A            | P7b         | 0                       | 0                       |
| AKRO             | 10/16/2015 | WAK  | Northern Fur Seal | Eastern Pacific | SI                 | A northern fur seal was accidentally hit by a vehicle on the Polovina Turnpike in the early morning on St. Paul Island. The seal was euthanized following the accident.   | DEAD                | Body trauma               | Vehicle                       | N/A                     | N/A          | N/A            | P9          | 1                       | 0                       |
| AKRO             | 10/26/2015 | WAK  | Northern Fur Seal | Eastern Pacific | SI                 | A subadult northern fur seal with a circumferential neck entanglement caused by a packing band was captured and disentangled.   | NSI                 | Constricting entanglement | Marine debris (packing band)  | N/A                     | N/A          | N/A            | P7b         | 0                       | 0                       |
| AKRO             | 10/27/2015 | WAK  | Northern Fur Seal | Eastern Pacific | SI                 | A subadult male northern fur seal with a circumferential neck entanglement that was caused by a yellow packing band / line was captured and disentangled.   | NSI                 | Constricting entanglement | Marine debris (unidentified)  | N/A                     | N/A          | N/A            | P7b         | 0                       | 0                       |
| AKRO             | 10/28/2015 | WAK  | Northern Fur Seal | Eastern Pacific | SI                 | A subadult northern fur seal was observed with a circumferential neck entanglement caused by either gillnet or monofilament line.   | SI                  | Constricting entanglement | Fishery gear                  | AK BSAI unknown         | Unknown      | Unknown        | P8a         | 1                       | 0                       |
| AKRO             | 7/10/2016  | BS   | Northern Fur Seal | Eastern Pacific | SI                 | A subadult male northern fur seal was observed with a circumferential neck entanglement caused by trawl netting.  | SI                  | Constricting entanglement | Fishery gear                  | Unknown trawl           | Unknown      | Trawl          | P8a         | 1                       | 0                       |
| AKRO             | 7/10/2016  | BS   | Northern Fur Seal | Eastern Pacific | SI                 | An adult male northern fur seal was observed with a circumferential neck entanglement caused by unidentified material.  | SI                  | Constricting entanglement | Marine debris (unidentified)  | N/A                     | N/A          | N/A            | P8a         | 1                       | 0                       |
| AKRO             | 7/10/2016  | BS   | Northern Fur Seal | Eastern Pacific | SI                 | A subadult male northern fur seal was observed with a circumferential neck entanglement caused by a black rubber band.  | SI                  | Constricting entanglement | Marine debris (rubber band)   | N/A                     | N/A          | N/A            | P8a         | 1                       | 0                       |
| AKRO             | 7/10/2016  | BS   | Northern Fur Seal | Eastern Pacific | SI                 | An adult male fur seal was observed with a circumferential neck entanglement caused by unidentified material.   | SI                  | Constricting entanglement | Marine debris (unidentified)  | N/A                     | N/A          | N/A            | P8a         | 1                       | 0                       |
| AKRO             | 7/12/2016  | BS   | Northern Fur Seal | Eastern Pacific | SI                 | An adult male fur seal was observed with a circumferential neck entanglement caused by a packing band.  | SI                  | Constricting entanglement | Marine debris (packing band)  | N/A                     | N/A          | N/A            | P8a         | 1                       | 0                       |
| AKRO             | 8/4/2016   | BS   | Northern Fur Seal | Eastern Pacific | SI                 | A subadult male northern fur seal with a circumferential neck entanglement caused by a packing band was captured and disentangled.  | NSI                 | Constricting entanglement | Marine debris (packing band)  | N/A                     | N/A          | N/A            | P7b         | 0                       | 0                       |
| AKRO             | 8/15/2016  | BS   | Northern Fur Seal | Eastern Pacific | SI                 | An adult female northern fur seal was entangled in yellow trawl netting. The animal was disentangled.   | NSI                 | Entangled / entrapped     | Fishery gear                  | Unknown trawl           | Unknown      | Trawl          | P7b         | 0                       | 0                       |
| AKRO             | 8/16/2016  | BS   | Northern Fur Seal | Eastern Pacific | SI                 | A subadult female northern fur seal with a circumferential neck entanglement caused by a packing band was captured and disentangled.  | NSI                 | Constricting entanglement | Marine debris (packing band)  | N/A                     | N/A          | N/A            | P7b         | 0                       | 0                       |
| AKRO             | 8/22/2016  | BS   | Northern Fur Seal | Eastern Pacific | SI                 | A subadult female fur seal with a circumferential neck entanglement caused by trawl netting was captured and disentangled.  | NSI                 | Constricting entanglement | Fishery gear                  | Unknown trawl           | Unknown      | Trawl          | P7b         | 0                       | 0                       |
| AKRO             | 8/22/2016  | BS   | Northern Fur Seal | Eastern Pacific | SI                 | A subadult male northern fur seal entangled in trawl netting was captured and disentangled.   | NSI                 | Entangled / entrapped     | Fishery gear                  | Unknown trawl           | Unknown      | Trawl          | P7b         | 0                       | 0                       |
| AKRO             | 9/22/2016  | BS   | Northern Fur Seal | Eastern Pacific | SI                 | A subadult northern fur seal with a circumferential neck entanglement caused by line was captured and disentangled.   | NSI                 | Constricting entanglement | Marine debris (unidentified)  | N/A                     | N/A          | N/A            | P7b         | 0                       | 0                       |
| AKRO             | 9/22/2016  | BS   | Northern Fur Seal | Eastern Pacific | SI                 | A subadult fur seal entangled in a considerable amount of netting was disentangled.   | NSI                 | Constricting entanglement | Fishery gear                  | Unknown net             | Unknown      | Net            | P7b         | 0                       | 0                       |
| AKRO             | 9/22/2016  | BS   | Northern Fur Seal | Eastern Pacific | SI                 | An adult female fur seal was observed with a circumferential neck entanglement caused by a packing band.  | SI                  | Constricting entanglement | Marine debris (packing band)  | N/A                     | N/A          | N/A            | P8a         | 1                       | 0                       |
| AKRO             | 9/22/2016  | BS   | Northern Fur Seal | Eastern Pacific | SI                 | A subadult northern fur seal was observed with a circumferential neck entanglement caused by a green packing band.  | SI                  | Constricting entanglement | Marine debris (packing band)  | N/A                     | N/A          | N/A            | P8a         | 1                       | 0                       |

**Appendix Table 1.1 -- Human / marine mammal interaction records reviewed for serious injury and mortality.**

| Source of Record | Date       | Area | Common Name       | Stock           | Initial Assessment | MML Determination Details   | Final Determination | Mechanism of Injury       | Source of Injury              | Fishery Name           | Fishery Type | Fishery Method | SI Criteria | Suggested Value for PBR | Suggested Value for LOF |
|------------------|------------|------|-------------------|-----------------|--------------------|---|---------------------|---------------------------|-------------------------------|------------------------|--------------|----------------|-------------|-------------------------|-------------------------|
| AKRO             | 9/28/2016  | BS   | Northern Fur Seal | Eastern Pacific | SI                 | A subadult male fur seal with a rigid plastic ring around its neck was captured and the ring was removed.   | NSI                 | Constricting entanglement | Marine debris (misc. plastic) | N/A                    | N/A          | N/A            | P7b         | 0                       | 0                       |
| AKRO             | 9/28/2016  | BS   | Northern Fur Seal | Eastern Pacific | SI                 | An adult male northern fur seal was observed with a circumferential neck entanglement caused by unidentified material.  | SI                  | Constricting entanglement | Marine debris (unidentified)  | N/A                    | N/A          | N/A            | P8a         | 1                       | 0                       |
| AKRO             | 10/3/2016  | BS   | Northern Fur Seal | Eastern Pacific | SI                 | A fur seal pup that was entangled in green netting was captured and disentangled.   | NSI                 | Entangled / entrapped     | Marine debris (unidentified)  | N/A                    | N/A          | N/A            | P7b         | 0                       | 0                       |
| AKRO             | 10/5/2016  | BS   | Northern Fur Seal | Eastern Pacific | SI                 | A subadult male northern fur seal with a circumferential neck entanglement caused by line was captured and disentangled.  | NSI                 | Constricting entanglement | Marine debris (unidentified)  | N/A                    | N/A          | N/A            | P7b         | 0                       | 0                       |
| AKRO             | 10/5/2016  | BS   | Northern Fur Seal | Eastern Pacific | SI                 | A subadult northern fur seal was observed with a circumferential neck entanglement caused by what appeared to be green netting or line.   | SI                  | Constricting entanglement | Marine debris (unidentified)  | N/A                    | N/A          | N/A            | P8a         | 1                       | 0                       |
| AKRO             | 10/20/2016 | BS   | Northern Fur Seal | Eastern Pacific | SI                 | A northern fur seal pup was observed with a circumferential neck entanglement caused by unidentified material.  | SI                  | Constricting entanglement | Marine debris (unidentified)  | N/A                    | N/A          | N/A            | P8a         | 1                       | 0                       |
| NPGOP            | 5/6/2017   | BS   | Northern Fur Seal | Eastern Pacific | DEAD               | A male northern fur seal was caught and killed by trawl gear.   | DEAD                | Entangled / entrapped     | Fishery gear                  | AK BSAI flatfish trawl | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| AKRO             | 7/19/2017  | BS   | Northern Fur Seal | Eastern Pacific | SI                 | An adult male northern fur seal was observed with a circumferential neck entanglement caused by green trawl netting.  | SI                  | Constricting entanglement | Fishery gear                  | Unknown trawl          | Unknown      | Trawl          | P8a         | 1                       | 0                       |
| AKRO             | 7/25/2017  | BS   | Northern Fur Seal | Eastern Pacific | SI                 | A northern fur seal was observed with a circumferential neck entanglement caused by unidentified marine debris.   | SI                  | Constricting entanglement | Marine debris (unidentified)  | N/A                    | N/A          | N/A            | P8a         | 1                       | 0                       |
| AKRO             | 7/29/2017  | BS   | Northern Fur Seal | Eastern Pacific | SI                 | An adult female northern fur seal was observed with a constricting circumferential neck wound consistent with entanglement.   | SI                  | Constricting entanglement | Marine debris (unidentified)  | N/A                    | N/A          | N/A            | P8a         | 1                       | 0                       |
| AKRO             | 7/31/2017  | BS   | Northern Fur Seal | Eastern Pacific | SI                 | A subadult male northern fur seal was observed with a constricting circumferential neck entanglement caused by blue twisted strand net.   | SI                  | Constricting entanglement | Marine debris                 | N/A                    | N/A          | N/A            | P8a         | 1                       | 0                       |
| AKRO             | 7/31/2017  | BS   | Northern Fur Seal | Eastern Pacific | SI                 | A subadult male northern fur seal was observed with a constricting circumferential neck entanglement caused by blue twisted strand net.   | SI                  | Constricting entanglement | Marine debris                 | N/A                    | N/A          | N/A            | P8a         | 1                       | 0                       |
| AKRO             | 8/5/2017   | BS   | Northern Fur Seal | Eastern Pacific | SI                 | A subadult male northern fur seal with a circumferential neck entanglement caused by gray twisted strand net was captured and disentangled.                                     | NSI                 | Constricting entanglement | Marine debris                 | N/A                    | N/A          | N/A            | P7b         | 0                       | 0                       |
| AKRO             | 8/5/2017   | BS   | Northern Fur Seal | Eastern Pacific | SI                 | An adult male northern fur seal was observed with a constricting circumferential neck entanglement caused by a packing band.  | SI                  | Constricting entanglement | Marine debris (packing band)  | N/A                    | N/A          | N/A            | P8a         | 1                       | 0                       |
| AKRO             | 8/18/2017  | BS   | Northern Fur Seal | Eastern Pacific | SI                 | A yearling male northern fur seal with a circumferential neck entanglement caused by green netting was captured and disentangled.   | NSI                 | Constricting entanglement | Marine debris                 | N/A                    | N/A          | N/A            | P7b         | 0                       | 0                       |
| AKRO             | 9/4/2017   | BS   | Northern Fur Seal | Eastern Pacific | SI                 | An adult male northern fur seal was observed with a constricting circumferential neck entanglement caused by a blue packing band.   | SI                  | Constricting entanglement | Marine debris (packing band)  | N/A                    | N/A          | N/A            | P8a         | 1                       | 0                       |
| AKRO             | 9/4/2017   | BS   | Northern Fur Seal | Eastern Pacific | SI                 | A juvenile northern fur seal was observed with a constricting circumferential neck entanglement caused by green netting.  | SI                  | Constricting entanglement | Marine debris                 | N/A                    | N/A          | N/A            | P8a         | 1                       | 0                       |
| AKRO             | 9/9/2017   | BS   | Northern Fur Seal | Eastern Pacific | SI                 | An adult female northern fur seal was observed with a constricting circumferential neck entanglement caused by a blue rope or part of a net.                                    | SI                  | Constricting entanglement | Marine debris (unidentified)  | N/A                    | N/A          | N/A            | P8a         | 1                       | 0                       |
| AKRO             | 9/14/2017  | BS   | Northern Fur Seal | Eastern Pacific | SI                 | A northern fur seal pup was observed with a constricting circumferential neck entanglement caused by unidentified marine debris.  | SI                  | Constricting entanglement | Marine debris (unidentified)  | N/A                    | N/A          | N/A            | P8a         | 1                       | 0                       |
| AKRO             | 9/26/2017  | BS   | Northern Fur Seal | Eastern Pacific | SI                 | A subadult female northern fur seal entangled in green fishing net was captured and disentangled.   | NSI                 | Entangled / entrapped     | Fishery gear                  | Unknown net            | Unknown      | Net            | P7b         | 0                       | 0                       |
| AKRO             | 9/28/2017  | BS   | Northern Fur Seal | Eastern Pacific | SI                 | A yearling northern fur seal pup was observed with a constricting circumferential neck entanglement caused by unidentified marine debris.                                       | SI                  | Constricting entanglement | Marine debris (unidentified)  | N/A                    | N/A          | N/A            | P8a         | 1                       | 0                       |
| AKRO             | 9/28/2017  | BS   | Northern Fur Seal | Eastern Pacific | SI                 | A 2-3 year old northern fur seal was observed with a constricting circumferential neck entanglement caused by yellow rope.  | SI                  | Constricting entanglement | Marine debris (rope)          | N/A                    | N/A          | N/A            | P8a         | 1                       | 0                       |
| AKRO             | 9/30/2017  | BS   | Northern Fur Seal | Eastern Pacific | SI                 | A subadult male northern fur seal entangled in yellow braided strand netting was captured and disentangled. The entanglement did not break the skin or cause an external wound. | NSI                 | Entangled / entrapped     | Marine debris                 | N/A                    | N/A          | N/A            | P7b         | 0                       | 0                       |
| AKRO             | 10/10/2017 | BS   | Northern Fur Seal | Eastern Pacific | SI                 | A 2 year old male northern fur seal entangled in blue net was captured and disentangled.  | NSI                 | Entangled / entrapped     | Marine debris                 | N/A                    | N/A          | N/A            | P7b         | 0                       | 0                       |

**Appendix Table 1.1 -- Human / marine mammal interaction records reviewed for serious injury and mortality.**

| Source of Record | Date       | Area   | Common Name       | Stock                       | Initial Assessment | MML Determination Details   | Final Determination | Mechanism of Injury       | Source of Injury             | Fishery Name              | Fishery Type | Fishery Method | SI Criteria | Suggested Value for PBR | Suggested Value for LOF |
|------------------|------------|--------|-------------------|-----------------------------|--------------------|---|---------------------|---------------------------|------------------------------|---------------------------|--------------|----------------|-------------|-------------------------|-------------------------|
| AKRO             | 10/10/2017 | BS     | Northern Fur Seal | Eastern Pacific             | SI                 | A subadult northern fur seal was observed with a single strand circumferential neck entanglement caused by unidentified marine debris.  | SI                  | Constricting entanglement | Marine debris (unidentified) | N/A                       | N/A          | N/A            | P8a         | 1                       | 0                       |
| AKRO             | 10/10/2017 | BS     | Northern Fur Seal | Eastern Pacific             | SI                 | A subadult male northern fur seal was observed with a constricting circumferential neck entanglement caused by a packing band. A disentanglement effort was attempted but it was not successful at completely removing the band.  | SI                  | Constricting entanglement | Marine debris (packing band) | N/A                       | N/A          | N/A            | P8a         | 1                       | 0                       |
| WCRO             | 5/12/2014  | WC     | Northern Fur Seal | Eastern Pacific, California | DEAD               | Two northern fur seals were found dead and entangled in a massive wad of blue green trawl net. This record is northern fur seal one of two.   | DEAD                | Entangled / entrapped     | Fishery gear                 | Unknown trawl             | Unknown      | Trawl          | N/A         | 1                       | 0                       |
| WCRO             | 5/12/2014  | WC     | Northern Fur Seal | Eastern Pacific, California | DEAD               | Two northern fur seals were found dead and entangled in a massive wad of blue green trawl net. This record is northern fur seal two of two.   | DEAD                | Entangled / entrapped     | Fishery gear                 | Unknown trawl             | Unknown      | Trawl          | N/A         | 1                       | 0                       |
| SWFSC            | 5/21/2014  | WC     | Northern Fur Seal | Eastern Pacific, California | DEAD               | A fur seal was found dead and a necropsy was conducted. A net was recovered, but no information on the configuration of the net was reported. The reporting party indicated the mortality was fisheries related.  | DEAD                | Entangled / entrapped     | Fishery gear                 | Unknown net               | Unknown      | Net            | N/A         | 1                       | 0                       |
| SWFSC            | 12/3/2014  | WC     | Northern Fur Seal | Eastern Pacific, California | SI                 | Emaciated, lethargic, non-responsive to human contact, and alert. Tar spot on left side. Maternal separation, pneumonia, oil.   | SI                  | Body trauma               | Other                        | N/A                       | N/A          | N/A            | P1          | 1                       | 0                       |
| SWFSC            | 12/3/2016  | WC     | Northern Fur Seal | Eastern Pacific, California | DEAD               | A pup was necropsied and the cause of death was determined to be a canine attack.   | DEAD                | Body trauma               | Other                        | N/A                       | N/A          | N/A            | P9          | 1                       | 0                       |
| WCRO             | 3/4/2017   | WC     | Northern Fur Seal | Eastern Pacific, California | DEAD               | A northern fur seal was found dead with a section of bottom trawl net around its neck. The seal had a hemorrhage on the right side of its neck, its right eye was full of blood (the left eye was normal), there was bloody fluid in the thoracic cavity and damage to its skull, and it was emaciated. | DEAD                | Constricting entanglement | Fishery gear                 | Unknown trawl             | Unknown      | Trawl          | N/A         | 1                       | 0                       |
| WCRO             | 3/8/2017   | WC     | Northern Fur Seal | Eastern Pacific, California | DEAD               | Two juvenile northern fur seals were found dead and entangled in green trawl net. This record represents 1 of 2.  | DEAD                | Constricting entanglement | Fishery gear                 | Unknown trawl             | Unknown      | Trawl          | N/A         | 1                       | 0                       |
| WCRO             | 3/8/2017   | WC     | Northern Fur Seal | Eastern Pacific, California | DEAD               | Two juvenile northern fur seals were found dead and entangled in green trawl net. This record represents 2 of 2.  | DEAD                | Constricting entanglement | Fishery gear                 | Unknown trawl             | Unknown      | Trawl          | N/A         | 1                       | 0                       |
| NPGOP            | 3/5/2014   | WAK    | Ribbon Seal       | Alaska                      | DEAD               | A ribbon seal (originally reported by observer to be a northern fur seal) was caught in an AK BSAI Pacific cod trawl.   | DEAD                | Entangled / entrapped     | Fishery gear                 | AK BSAI Pacific cod trawl | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| NPGOP            | 6/26/2014  | WAK    | Ribbon Seal       | Alaska                      | DEAD               | A ribbon seal was caught in an AK BSAI flatfish trawl. The observer reported the animal showed no signs of trauma, other than foam at the mouth.  | DEAD                | Entangled / entrapped     | Fishery gear                 | AK BSAI flatfish trawl    | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| NPGOP            | 7/25/2014  | WAK    | Ribbon Seal       | Alaska                      | DEAD               | A ribbon seal was caught in an AK BSAI rockfish trawl. The animal was reported to still be warm when it was brought on deck.  | DEAD                | Entangled / entrapped     | Fishery gear                 | AK BSAI rockfish trawl    | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| NPGOP            | 8/24/2016  | BS     | Ribbon Seal       | Alaska                      | DEAD               | A ribbon seal was caught and killed in trawl gear.  | DEAD                | Entangled / entrapped     | Fishery gear                 | AK BSAI pollock trawl     | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| NPGOP            | 5/14/2013  | WAK    | Ringed Seal       | Alaska                      | DEAD               | A male ringed seal was caught and killed by AK BSAI flatfish trawl gear.  | DEAD                | Entangled / entrapped     | Fishery gear                 | AK BSAI flatfish trawl    | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| NMFS OPR/HQ      | 7/29/2013  | Arctic | Ringed Seal       | Alaska                      | DEAD               | An adult male ringed seal died as a result of marine mammal research activities in Alaska.  | DEAD                | Research related injury   | MMPA authorized research     | N/A                       | N/A          | N/A            | N/A         | 1                       | 0                       |
| NPGOP            | 3/14/2015  | WAK    | Ringed Seal       | Alaska                      | DEAD               | A ringed seal was caught and killed in AK BSAI flatfish trawl gear.   | DEAD                | Entangled / entrapped     | Fishery gear                 | AK BSAI flatfish trawl    | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| NMFS OPR/HQ      | 7/2/2016   | Arctic | Ringed Seal       | Alaska                      | DEAD               | A female ringed seal was incidentally killed during MMPA authorized research.   | DEAD                | Research related injury   | MMPA authorized research     | N/A                       | N/A          | N/A            | N/A         | 1                       | 0                       |
| NPGOP            | 3/2/2017   | BS     | Ringed Seal       | Alaska                      | DEAD               | A female ringed seal was caught and killed by AK BSAI flatfish trawl gear.  | DEAD                | Entangled / entrapped     | Fishery gear                 | AK BSAI flatfish trawl    | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| NPGOP            | 3/9/2017   | BS     | Ringed Seal       | Alaska                      | DEAD               | A female ringed seal was caught and killed by AK BSAI flatfish trawl gear.  | DEAD                | Entangled / entrapped     | Fishery gear                 | AK BSAI flatfish trawl    | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| NPGOP            | 3/10/2017  | BS     | Ringed Seal       | Alaska                      | DEAD               | A female ringed seal was caught and killed by AK BSAI flatfish trawl gear.  | DEAD                | Entangled / entrapped     | Fishery gear                 | AK BSAI flatfish trawl    | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| NPGOP            | 3/17/2017  | BS     | Ringed Seal       | Alaska                      | DEAD               | A female ringed seal was caught and killed by AK BSAI flatfish trawl gear.  | DEAD                | Entangled / entrapped     | Fishery gear                 | AK BSAI flatfish trawl    | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| NPGOP            | 3/22/2017  | BS     | Ringed Seal       | Alaska                      | DEAD               | A male ringed seal was caught and killed by fishery gear. The specific fishery was not listed.  | DEAD                | Entangled / entrapped     | Fishery gear                 | Unknown                   | Commercial   | Unknown        | N/A         | 1                       | 0                       |
| NPGOP            | 4/15/2017  | BS     | Ringed Seal       | Alaska                      | DEAD               | A male ringed seal was caught and killed by AK BSAI flatfish trawl gear.  | DEAD                | Entangled / entrapped     | Fishery gear                 | AK BSAI flatfish trawl    | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| NPGOP            | 4/22/2017  | BS     | Ringed Seal       | Alaska                      | DEAD               | A male ringed seal was caught and killed by AK BSAI flatfish trawl gear.  | DEAD                | Entangled / entrapped     | Fishery gear                 | AK BSAI flatfish trawl    | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| NPGOP            | 5/23/2017  | BS     | Ringed Seal       | Alaska                      | DEAD               | A male ringed seal was caught and killed by AK BSAI flatfish trawl gear.  | DEAD                | Entangled / entrapped     | Fishery gear                 | AK BSAI flatfish trawl    | Commercial   | Trawl          | N/A         | 1                       | 1                       |

**Appendix Table 1.1-- Human / marine mammal interaction records reviewed for serious injury and mortality.**

| Source of Record | Date       | Area   | Common Name | Stock         | Initial Assessment | MML Determination Details  | Final Determination | Mechanism of Injury   | Source of Injury             | Fishery Name                     | Fishery Type | Fishery Method | SI Criteria | Suggested Value for PBR | Suggested Value for LOF |
|------------------|------------|--------|-------------|---------------|--------------------|--|---------------------|-----------------------|------------------------------|----------------------------------|--------------|----------------|-------------|-------------------------|-------------------------|
| AKRO             | 8/3/2017   | Arctic | Ringed Seal | Alaska        | DEAD               | An adult female ringed seal was found dead from apparent drowning (gas bubbles in blood vessel). The seal had a line impression around the snout consistent with entanglement from an unidentified material.   | DEAD                | Entangled / entrapped | Marine debris (unidentified) | N/A                              | N/A          | N/A            | N/A         | 1                       | 0                       |
| NPGOP            | 11/13/2017 | BC     | Ringed Seal | Alaska        | DEAD               | A male ringed seal was caught and killed by AK BSAI flatfish trawl gear.   | DEAD                | Entangled / entrapped | Fishery gear                 | AK BSAI flatfish trawl           | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| NPGOP            | 5/21/2013  | WAK    | Ringed Seal | Unknown       | DEAD               | Two seals were caught by AK BSAI flatfish trawl gear. Both were reported by the observer to be "previously dead." Post processing of specimens allowed one of the seals to be identified as a ringed seal that was determined to have been killed by gear. The other seal remains classified as "unidentified" and "previously dead".  | DEAD                | Entangled / entrapped | Fishery gear                 | AK BSAI flatfish trawl           | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| NPGOP            | 5/21/2013  | WAK    | Ringed Seal | Unknown       | DEAD               | A ringed seal was caught and killed by AK BSAI flatfish trawl gear.  | DEAD                | Entangled / entrapped | Fishery gear                 | AK BSAI flatfish trawl           | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| NPGOP            | 6/22/2013  | GOA    | Sperm Whale | North Pacific | PRORATE            | A sperm whale became entangled in AK GOA sablefish longline gear. The observer reported the whale surfaced within 30 m of the vessel, then dove, which broke the line. The observer reported that the entanglement could not be seen, but that the whale was definitely caught, and escaped trailing gear. A substantial amount of gear was lost during the haul in which the entanglement occurred. The outcome of this interaction is prorated at L10 due to the unknown final configuration of the entanglement.  | PRORATE             | Entangled / entrapped | Fishery gear                 | AK GOA sablefish longline        | Commercial   | Hook and line  | L10         | 0.75                    | 0.75                    |
| NPGOP            | 8/12/2013  | GOA    | Sperm Whale | North Pacific | PRORATE            | A sperm whale became entangled in AK GOA sablefish longline gear. The observer reported that the whale surfaced as the line broke. The observer did not see the entanglement, but noted that the line tugged toward the surfacing whale as it broke off. 8.2 segments of gear and an anchor were lost as a result of the interaction. The outcome of this interaction is prorated at L10 due to the unknown final configuration of the entanglement.   | PRORATE             | Entangled / entrapped | Fishery gear                 | AK GOA sablefish longline        | Commercial   | Hook and line  | L10         | 0.75                    | 0.75                    |
| NPGOP            | 6/5/2014   | GOA    | Sperm Whale | North Pacific | NSI                | A sperm whale became entangled in AK GOA sablefish longline gear. The observer noted the whale had the line wrapped around its peduncle, and then began thrashing around and slapping the surface with its tail. The whale proceeded to pull the line from the block before the captain cut the groundline. The observer then reported the whale swam away free of gear. The report of the whale being free from gear is credible because the observer described the nature of the original entanglement and was in a position to state whether the whale was free of gear when released. Furthermore, no gear was reported missing on this haul. This interaction is considered a NSI because the whale was reported to be released free of gear. | NSI                 | Entangled / entrapped | Fishery gear                 | AK GOA sablefish longline        | Commercial   | Hook and line  | L10         | 0                       | 0                       |
| NPGOP            | 4/3/2015   | GOA    | Sperm Whale | North Pacific | NSI                | A sperm whale was observed near the fishing vessel and entangled in AK GOA sablefish longline gear. The line parted when the whale dove. The fisherman then hauled the gear in from the other end. All gear was reported to be retrieved and the animal was reported to be free of any gear. This qualifies as a non-serious injury under criterion L3 because the animal is believed to have become fully disentangled shortly after the initial entanglement and there is no additional evidence of injury.  | NSI                 | Entangled / entrapped | Fishery gear                 | AK GOA sablefish longline        | Commercial   | Hook and line  | L3          | 0                       | 0                       |
| NPGOP            | 6/11/2015  | WAK    | Sperm Whale | North Pacific | PRORATE            | One of four sperm whales observed in the vicinity of a fishing vessel was reported to be entangled in AK BSAI Pacific halibut longline gear. The observer reported that the whale was on the surface approximately 30 m from the vessel. The gear that led straight to the whale began to get tighter as the distance between the vessel and the whale closed. In response, the captain cut the ground line. It was not reported how much gear was potentially attached to the whale. This interaction is prorated under SI criterion L10 due to the unknown nature of the entanglement and unknown outcome.   | PRORATE             | Entangled / entrapped | Fishery gear                 | AK BSAI Pacific halibut longline | Commercial   | Hook and line  | L10         | 0.75                    | 0.75                    |

**Appendix Table 1.1 -- Human / marine mammal interaction records reviewed for serious injury and mortality.**

| Source of Record | Date      | Area   | Common Name      | Stock         | Initial Assessment | MML Determination Details  | Final Determination | Mechanism of Injury     | Source of Injury         | Fishery Name              | Fishery Type | Fishery Method | SI Criteria | Suggested Value for PBR | Suggested Value for LOF |
|------------------|-----------|--------|------------------|---------------|--------------------|--|---------------------|-------------------------|--------------------------|---------------------------|--------------|----------------|-------------|-------------------------|-------------------------|
| NPGOP            | 5/18/2016 | GOA    | Sperm Whale      | North Pacific | PRORATE            | An AK GOA sablefish longliner was retrieving gear when a sperm whale was observed entangled in the longline. In response, the vessel began retrieving from the other end of the line to retrieve the remaining gear. After all gear was brought aboard, three skates of gear were determined to be missing, and the observer noted the gear had been moved 2.5 miles from where it was originally set. The outcome of this interaction is prorated under criterion L10 due to the unknown final configuration of the entanglement. | PRORATE             | Entangled / entrapped   | Fishery gear             | AK GOA sablefish longline | Commercial   | Hook and line  | L10         | 0.75                    | 0.75                    |
| AKRO             | 6/7/2017  | BS     | Sperm Whale      | North Pacific | SI                 | A subadult sperm whale was struck by a 378 ft USCG vessel traveling at 24 knots. The impact led to significant bleeding, behavioral changes, and wounds on the head, back, and pectoral fin. The whale was observed and documented following the strike until it died. L6a and L5a were both applicable criteria in this case.   | DEAD                | Ship strike             | Vessel (government)      | N/A                       | N/A          | N/A            | L6a         | 1                       | 0                       |
| NMFS OPR/HQ      | 8/18/2014 | Arctic | Spotted Seal     | Alaska        | DEAD               | A subadult female spotted seal died as a result of marine mammal research activities near Barrow, AK.  | DEAD                | Research related injury | MMPA authorized research | N/A                       | N/A          | N/A            | N/A         | 1                       | 0                       |
| NPGOP            | 5/23/2015 | BS     | Spotted Seal     | Alaska        | DEAD               | A spotted seal was caught and killed by AK BSAI flatfish trawl gear.   | DEAD                | Entangled / entrapped   | Fishery gear             | AK BSAI flatfish trawl    | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| NPGOP            | 6/2/2015  | WAK    | Spotted Seal     | Alaska        | DEAD               | A spotted seal was caught and killed in AK BSAI flatfish trawl gear.   | DEAD                | Entangled / entrapped   | Fishery gear             | AK BSAI flatfish trawl    | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| NPGOP            | 5/4/2016  | BS     | Spotted Seal     | Alaska        | DEAD               | A spotted seal was caught and killed by trawl gear.  | DEAD                | Entangled / entrapped   | Fishery gear             | AK BSAI flatfish trawl    | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| NMFS OPR/HQ      | 8/14/2016 | Arctic | Spotted Seal     | Alaska        | DEAD               | A male spotted seal was incidentally killed during MMPA authorized research.   | DEAD                | Research related injury | MMPA authorized research | N/A                       | N/A          | N/A            | N/A         | 1                       | 0                       |
| NPGOP            | 5/19/2017 | BS     | Spotted Seal     | Alaska        | DEAD               | A male spotted seal was caught and killed by AK BSAI flatfish trawl gear.  | DEAD                | Entangled / entrapped   | Fishery gear             | AK BSAI flatfish trawl    | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| NPGOP            | 6/4/2017  | BS     | Spotted Seal     | Alaska        | DEAD               | A male spotted seal was caught and killed by AK BSAI flatfish trawl gear.  | DEAD                | Entangled / entrapped   | Fishery gear             | AK BSAI flatfish trawl    | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| WCGOP            | 2017      | WC     | Steller Sea Lion | Eastern US    | NSI                | A Steller sea lion was caught in trawl gear, brought aboard the vessel, and released from the net. The animal jumped overboard on its own following release from the net. No visible signs of injury.  | NSI                 | Entangled / entrapped   | Fishery gear             | Catch shares bottom trawl | Commercial   | Trawl          | P4          | 0                       | 0                       |
| WCGOP            | 2017      | WC     | Steller Sea Lion | Eastern US    | NSI                | A Steller sea lion was caught in trawl gear, brought aboard the vessel, and released from the net. The animal jumped overboard a few minutes after the codend was emptied. No visible signs of injury.   | NSI                 | Entangled / entrapped   | Fishery gear             | Catch shares bottom trawl | Commercial   | Trawl          | P4          | 0                       | 0                       |
| WCGOP            | 2017      | WC     | Steller Sea Lion | Eastern US    | DEAD               | A dead Steller sea lion was caught in catch shares bottom trawl gear.  | DEAD                | Entangled / entrapped   | Fishery gear             | Catch shares bottom trawl | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| WCRO             | 1/26/2013 | WC     | Steller Sea Lion | Eastern US    | DEAD               | A dead adult female Steller sea lion was found in Ocean Shores, WA. A necropsy confirmed that the animal was shot.   | DEAD                | Shot                    | Projectile weapon        | N/A                       | N/A          | N/A            | N/A         | 1                       | 0                       |
| WCRO             | 2/6/2013  | WC     | Steller Sea Lion | Eastern US    | DEAD               | A dead adult female Steller sea lion was found in Moclipis, WA. A necropsy confirmed that the animal was shot.   | DEAD                | Shot                    | Projectile weapon        | N/A                       | N/A          | N/A            | N/A         | 1                       | 0                       |
| WCRO             | 2/20/2013 | WC     | Steller Sea Lion | Eastern US    | DEAD               | A dead adult male Steller sea lion was found in Longview, WA. A necropsy confirmed that the animal was shot.   | DEAD                | Shot                    | Projectile weapon        | N/A                       | N/A          | N/A            | N/A         | 1                       | 0                       |
| WCGOP            | 2/27/2013 | WC     | Steller Sea Lion | Eastern US    | DEAD               | A Steller sea lion was caught and killed in trawl gear.  | DEAD                | Entangled / entrapped   | Fishery gear             | Catch shares bottom trawl | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| WCGOP            | 2/27/2013 | WC     | Steller Sea Lion | Eastern US    | NSI                | A Steller sea lion was caught in trawl gear and brought aboard the fishing vessel. The animal left the boat after being freed from the net.  | NSI                 | Entangled / entrapped   | Fishery gear             | Catch shares bottom trawl | Commercial   | Trawl          | P4          | 0                       | 0                       |
| WCRO             | 3/7/2013  | WC     | Steller Sea Lion | Eastern US    | DEAD               | A dead adult male Steller sea lion was found in Portland, OR. A necropsy confirmed that the animal was shot.   | DEAD                | Shot                    | Projectile weapon        | N/A                       | N/A          | N/A            | N/A         | 1                       | 0                       |
| WCGOP            | 3/15/2013 | WC     | Steller Sea Lion | Eastern US    | NSI                | Gunshots were used to deter Steller sea lions.   | NSI                 | Shot                    | Projectile weapon        | Catch shares bottom trawl | Commercial   | Trawl          | P9          | 0                       | 0                       |
| WCGOP            | 3/15/2013 | WC     | Steller Sea Lion | Eastern US    | NSI                | A Steller sea lion was caught in trawl gear and brought aboard the fishing vessel. The animal left the boat after being freed from the net.  | NSI                 | Entangled / entrapped   | Fishery gear             | Catch shares bottom trawl | Commercial   | Trawl          | P4          | 0                       | 0                       |
| WCGOP            | 3/16/2013 | WC     | Steller Sea Lion | Eastern US    | NSI                | A Steller sea lion was caught in trawl gear and reportedly released alive.   | NSI                 | Entangled / entrapped   | Fishery gear             | Catch shares bottom trawl | Commercial   | Trawl          | P7b         | 0                       | 0                       |
| WCGOP            | 3/23/2013 | WC     | Steller Sea Lion | Eastern US    | NSI                | A Steller sea lion was caught in trawl gear and brought aboard the fishing vessel. The animal left the boat after being freed from the net.  | NSI                 | Entangled / entrapped   | Fishery gear             | Catch shares bottom trawl | Commercial   | Trawl          | P4          | 0                       | 0                       |
| WCRO             | 3/24/2013 | WC     | Steller Sea Lion | Eastern US    | DEAD               | A dead subadult male Steller sea lion was found in Gearhart, OR. A necropsy confirmed that the animal was shot.  | DEAD                | Shot                    | Projectile weapon        | N/A                       | N/A          | N/A            | N/A         | 1                       | 0                       |

**Appendix Table 1.1 -- Human / marine mammal interaction records reviewed for serious injury and mortality.**

| Source of Record | Date      | Area | Common Name      | Stock      | Initial Assessment | MML Determination Details   | Final Determination | Mechanism of Injury   | Source of Injury  | Fishery Name               | Fishery Type | Fishery Method | SI Criteria | Suggested Value for PBR | Suggested Value for LOF |
|------------------|-----------|------|------------------|------------|--------------------|---|---------------------|-----------------------|-------------------|----------------------------|--------------|----------------|-------------|-------------------------|-------------------------|
| WCGOP            | 3/27/2013 | WC   | Steller Sea Lion | Eastern US | NSI                | Seal bombs were used to deter Steller sea lions from feeding on the catch.  | NSI                 | Percussion            | Seal bomb         | Catch shares hook and line | Commercial   | Hook and line  | P9          | 0                       | 0                       |
| WCRO             | 3/28/2013 | WC   | Steller Sea Lion | Eastern US | DEAD               | A dead subadult Steller sea lion was found in Warrenton, OR. A necropsy confirmed that the animal was shot.   | DEAD                | Shot                  | Projectile weapon | N/A                        | N/A          | N/A            | N/A         | 1                       | 0                       |
| WCRO             | 4/5/2013  | WC   | Steller Sea Lion | Eastern US | DEAD               | A dead subadult male Steller sea lion was found in Westport, WA. A necropsy confirmed that the animal was shot.   | DEAD                | Shot                  | Projectile weapon | N/A                        | N/A          | N/A            | N/A         | 1                       | 0                       |
| WCRO             | 4/11/2013 | WC   | Steller Sea Lion | Eastern US | SI                 | An adult female Steller sea lion ingested troll fishery gear and was observed with a flasher hanging from its mouth.  | SI                  | Hooked                | Fishery gear      | Unknown troll              | Unknown      | Troll          | P2          | 1                       | 0                       |
| WCGOP            | 4/13/2013 | WC   | Steller Sea Lion | Eastern US | NSI                | A Steller sea lion was caught in trawl gear and reportedly released alive unharmed.   | NSI                 | Entangled / entrapped | Fishery gear      | Catch shares bottom trawl  | Commercial   | Trawl          | P7b         | 0                       | 0                       |
| WCRO             | 4/29/2013 | WC   | Steller Sea Lion | Eastern US | DEAD               | A dead male Steller sea lion pup was found in Seaview, WA. A necropsy confirmed that the animal was shot.   | DEAD                | Shot                  | Projectile weapon | N/A                        | N/A          | N/A            | N/A         | 1                       | 0                       |
| WCRO             | 5/7/2013  | WC   | Steller Sea Lion | Eastern US | DEAD               | A dead subadult female Steller sea lion was found in Seaside, OR. A necropsy confirmed that the animal was shot.  | DEAD                | Shot                  | Projectile weapon | N/A                        | N/A          | N/A            | N/A         | 1                       | 0                       |
| WCRO             | 5/17/2013 | WC   | Steller Sea Lion | Eastern US | DEAD               | A dead adult female Steller sea lion was found in Gearhart, OR. A necropsy confirmed that the animal was shot.  | DEAD                | Shot                  | Projectile weapon | N/A                        | N/A          | N/A            | N/A         | 1                       | 0                       |
| WCRO             | 6/9/2013  | WC   | Steller Sea Lion | Eastern US | DEAD               | A dead adult male Steller sea lion was found in Warrenton, OR. A necropsy confirmed that the animal was shot.   | DEAD                | Shot                  | Projectile weapon | N/A                        | N/A          | N/A            | N/A         | 1                       | 0                       |
| AKRO             | 6/11/2013 | SEAK | Steller Sea Lion | Eastern US | SI                 | A Steller sea lion ingested troll fishery gear and a solid silver and red striped flasher was observed hanging from the animal's mouth. The animal was observed on 6/11/2013 and at the same location on 6/13/2013. The animal was reported to look lethargic.  | SI                  | Hooked                | Fishery gear      | AK SEAK salmon troll       | Unknown      | Troll          | P2          | 1                       | 0                       |
| WCRO             | 6/17/2013 | WC   | Steller Sea Lion | Eastern US | DEAD               | A dead adult male Steller sea lion was found in Milwaukie, OR. A necropsy confirmed that the animal was shot.   | DEAD                | Shot                  | Projectile weapon | N/A                        | N/A          | N/A            | N/A         | 1                       | 0                       |
| AKRO             | 7/10/2013 | SEAK | Steller Sea Lion | Eastern US | SI                 | A park ranger saw a Steller sea lion with a flasher hanging from its mouth hauled out on South Marble Island. The flasher was close to the animal's mouth and monofilament was hanging down over the animal's chest.  | SI                  | Hooked                | Fishery gear      | AK SEAK salmon troll       | Unknown      | Troll          | P2          | 1                       | 0                       |
| AKRO             | 7/11/2013 | SEAK | Steller Sea Lion | Eastern US | SI                 | An adult Steller sea lion ingested troll fishery gear and a flasher was observed hanging from its mouth. The reporting party mentioned the animal appeared to be in "bad shape".  | SI                  | Hooked                | Fishery gear      | AK SEAK salmon troll       | Unknown      | Troll          | P2          | 1                       | 0                       |
| WCRO             | 8/7/2013  | WC   | Steller Sea Lion | Eastern US | DEAD               | A dead adult male Steller sea lion was found in Seaview, WA. A necropsy confirmed that the animal was shot.   | DEAD                | Shot                  | Projectile weapon | N/A                        | N/A          | N/A            | N/A         | 1                       | 0                       |
| WCRO             | 8/18/2013 | WC   | Steller Sea Lion | Eastern US | DEAD               | A dead adult male Steller sea lion was found in Manzanita, OR. A necropsy confirmed that the animal was shot.   | DEAD                | Shot                  | Projectile weapon | N/A                        | N/A          | N/A            | N/A         | 1                       | 0                       |
| WCGOP            | 8/24/2013 | WC   | Steller Sea Lion | Eastern US | NSI                | A Steller sea lion was caught in trawl gear and reportedly released alive.  | NSI                 | Entangled / entrapped | Fishery gear      | Catch shares bottom trawl  | Commercial   | Trawl          | P4          | 0                       | 0                       |
| WCRO             | 8/26/2013 | WC   | Steller Sea Lion | Eastern US | DEAD               | A dead adult male Steller sea lion was found in Seaside, OR. A necropsy confirmed that the animal was shot.   | DEAD                | Shot                  | Projectile weapon | N/A                        | N/A          | N/A            | N/A         | 1                       | 0                       |
| WCRO             | 9/7/2013  | WC   | Steller Sea Lion | Eastern US | DEAD               | A dead male Steller sea lion pup was found in Long Beach, WA. A necropsy confirmed that the animal was shot.  | DEAD                | Shot                  | Projectile weapon | N/A                        | N/A          | N/A            | N/A         | 1                       | 0                       |
| WCRO             | 9/8/2013  | WC   | Steller Sea Lion | Eastern US | DEAD               | A dead adult male Steller sea lion was found in Neah Bay, WA. The animal was badly decomposed and no necropsy was conducted, however, the reporting party noted a fishing line coming out of the animal's mouth and found a fish hook that appeared to be from a troll fishery embedded in the animal's tongue.           | DEAD                | Hooked                | Fishery gear      | Unknown troll              | Unknown      | Troll          | N/A         | 1                       | 0                       |
| WCRO             | 9/9/2013  | WC   | Steller Sea Lion | Eastern US | SI                 | An adult female Steller sea lion was observed hauled out on a rock for five consecutive days. The animal had ingested troll fishery gear and a salmon flasher was observed hanging from the animal's mouth.   | SI                  | Hooked                | Fishery gear      | Unknown troll              | Unknown      | Troll          | P2          | 1                       | 0                       |
| A-SHOP           | 9/13/2013 | WC   | Steller Sea Lion | Eastern US | DEAD               | An adult female Steller sea lion was caught and killed in trawl gear.   | DEAD                | Entangled / entrapped | Fishery gear      | At-sea hake pelagic trawl  | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| WCGOP            | 9/17/2013 | WC   | Steller Sea Lion | Eastern US | SI                 | A Steller sea lion was caught in trawl gear and brought aboard the fishing vessel. The animal appeared distressed, confused, and laid down, appearing exhausted. It was then coaxed off the vessel with a deck hose. Due to the animal's behavior following entanglement this interaction is considered a serious injury. | SI                  | Entangled / entrapped | Fishery gear      | Catch shares bottom trawl  | Commercial   | Trawl          | P4          | 1                       | 1                       |

**Appendix Table 1.1 -- Human / marine mammal interaction records reviewed for serious injury and mortality.**

| Source of Record | Date       | Area | Common Name      | Stock      | Initial Assessment | MML Determination Details   | Final Determination | Mechanism of Injury   | Source of Injury  | Fishery Name              | Fishery Type | Fishery Method | SI Criteria | Suggested Value for PBR | Suggested Value for LOF |
|------------------|------------|------|------------------|------------|--------------------|---|---------------------|-----------------------|-------------------|---------------------------|--------------|----------------|-------------|-------------------------|-------------------------|
| WCGOP            | 9/18/2013  | WC   | Steller Sea Lion | Eastern US | DEAD               | A female Steller sea lion was caught and killed in trawl gear.  | DEAD                | Entangled / entrapped | Fishery gear      | Catch shares bottom trawl | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| WCRO             | 9/30/2013  | WC   | Steller Sea Lion | Eastern US | DEAD               | A dead adult female Steller sea lion was found in Yachats, OR. No necropsy was conducted, but the reporting party noted an apparent bullet wound in the right shoulder penetrating into the dorsal thorax.                                | DEAD                | Shot                  | Projectile weapon | N/A                       | N/A          | N/A            | N/A         | 1                       | 0                       |
| WCGOP            | 10/14/2013 | WC   | Steller Sea Lion | Eastern US | NSI                | A Steller sea lion was caught in trawl gear and brought aboard the fishing vessel. The animal left the boat after being freed from the net.   | NSI                 | Entangled / entrapped | Fishery gear      | Catch shares bottom trawl | Commercial   | Trawl          | P4          | 0                       | 0                       |
| WCGOP            | 10/21/2013 | WC   | Steller Sea Lion | Eastern US | NSI                | A Steller sea lion was caught in trawl gear and brought aboard the fishing vessel. The animal left the boat after being freed from the net.   | NSI                 | Entangled / entrapped | Fishery gear      | Catch shares bottom trawl | Commercial   | Trawl          | P4          | 0                       | 0                       |
| WCGOP            | 10/25/2013 | WC   | Steller Sea Lion | Eastern US | NSI                | A Steller sea lion was caught in trawl gear and reportedly released alive.  | NSI                 | Entangled / entrapped | Fishery gear      | Catch shares bottom trawl | Commercial   | Trawl          | P4          | 0                       | 0                       |
| WCGOP            | 10/30/2013 | WC   | Steller Sea Lion | Eastern US | NSI                | A Steller sea lion was caught in trawl gear and reportedly released alive.  | NSI                 | Entangled / entrapped | Fishery gear      | Catch shares bottom trawl | Commercial   | Trawl          | P4          | 0                       | 0                       |
| WCGOP            | 10/31/2013 | WC   | Steller Sea Lion | Eastern US | DEAD               | A Steller sea lion was caught and killed in trawl gear.   | DEAD                | Entangled / entrapped | Fishery gear      | Catch shares bottom trawl | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| A-SHOP           | 11/7/2013  | WC   | Steller Sea Lion | Eastern US | DEAD               | A Steller sea lion was caught and killed in trawl gear.   | DEAD                | Entangled / entrapped | Fishery gear      | At-sea hake pelagic trawl | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| WCGOP            | 12/11/2013 | WC   | Steller Sea Lion | Eastern US | DEAD               | A female Steller sea lion was caught and killed in trawl gear.  | DEAD                | Entangled / entrapped | Fishery gear      | Catch shares bottom trawl | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| WCRO             | 1/2/2014   | WC   | Steller Sea Lion | Eastern US | DEAD               | An adult female Steller sea lion reported to be in good body condition was found dead in a state of moderate decomposition, in Ilwaco, WA. A necropsy confirmed the animal was shot.  | DEAD                | Shot                  | Projectile weapon | N/A                       | N/A          | N/A            | N/A         | 1                       | 0                       |
| WCRO             | 1/3/2014   | WC   | Steller Sea Lion | Eastern US | DEAD               | An adult female Steller sea lion reported to be in excellent body condition was found fresh dead in Seaside, OR. A necropsy confirmed the animal was shot.  | DEAD                | Shot                  | Projectile weapon | N/A                       | N/A          | N/A            | N/A         | 1                       | 0                       |
| WCGOP            | 1/14/2014  | WC   | Steller Sea Lion | Eastern US | NSI                | A Steller sea lion was caught in trawl gear and brought aboard the fishing vessel. The animal was reported to safely leave the boat after being freed from the net.   | NSI                 | Entangled / entrapped | Fishery gear      | Catch shares bottom trawl | Commercial   | Trawl          | P4          | 0                       | 0                       |
| WCGOP            | 1/14/2014  | WC   | Steller Sea Lion | Eastern US | NSI                | A Steller sea lion was caught in trawl gear and brought aboard the fishing vessel. The animal was reported to be very active, vigorous, and left the boat in excellent condition after being freed from the net.                          | NSI                 | Entangled / entrapped | Fishery gear      | Catch shares bottom trawl | Commercial   | Trawl          | P4          | 0                       | 0                       |
| WCGOP            | 1/17/2014  | WC   | Steller Sea Lion | Eastern US | NSI                | A Steller sea lion was caught in trawl gear and brought aboard the fishing vessel. The animal was reported to be very active, vigorous, and left the boat in excellent condition after being freed from the net.                          | NSI                 | Entangled / entrapped | Fishery gear      | Catch shares bottom trawl | Commercial   | Trawl          | P4          | 0                       | 0                       |
| WCGOP            | 1/29/2014  | WC   | Steller Sea Lion | Eastern US | NSI                | A Steller sea lion was caught in trawl gear. The animal was freed from the net and released alive. The observer did not mention any sign of injury to the animal.   | NSI                 | Entangled / entrapped | Fishery gear      | Catch shares bottom trawl | Commercial   | Trawl          | P7b         | 0                       | 0                       |
| WCRO             | 1/30/2014  | WC   | Steller Sea Lion | Eastern US | DEAD               | An adult male Steller sea lion found in a state of advanced decomposition in Gearhart, OR. A necropsy confirmed the animal was shot. The carcass was then scavenged by sharks.  | DEAD                | Shot                  | Projectile weapon | N/A                       | N/A          | N/A            | N/A         | 1                       | 0                       |
| WCGOP            | 2/22/2014  | WC   | Steller Sea Lion | Eastern US | NSI                | A Steller sea lion was caught in trawl gear and brought aboard the fishing vessel. The animal was reported by the observer to be unharmed, climbed overboard, and swam away uninjured.  | NSI                 | Entangled / entrapped | Fishery gear      | Catch shares bottom trawl | Commercial   | Trawl          | P4          | 0                       | 0                       |
| WCGOP            | 3/11/2014  | WC   | Steller Sea Lion | Eastern US | NSI                | A Steller sea lion was caught in trawl gear and brought aboard the fishing vessel. The animal was reported to be "very much alive" and left the vessel via the stern ramp. The observer did not mention any sign of injury to the animal. | NSI                 | Entangled / entrapped | Fishery gear      | Catch shares bottom trawl | Commercial   | Trawl          | P4          | 0                       | 0                       |
| WCRO             | 3/13/2014  | WC   | Steller Sea Lion | Eastern US | DEAD               | An adult female Steller sea lion was found in a state of moderate decomposition in Arcadi, OR. A necropsy was conducted which confirmed the animal had been shot.   | DEAD                | Shot                  | Projectile weapon | N/A                       | N/A          | N/A            | N/A         | 1                       | 0                       |
| WCRO             | 3/18/2014  | WC   | Steller Sea Lion | Eastern US | DEAD               | A juvenile female Steller sea lion was found in a state of advanced decomposition in Newport, OR. No necropsy was conducted but an experienced stranding examiner reports the animal was shot.  | DEAD                | Shot                  | Projectile weapon | N/A                       | N/A          | N/A            | N/A         | 1                       | 0                       |
| WCGOP            | 3/26/2014  | WC   | Steller Sea Lion | Eastern US | NSI                | A Steller sea lion was caught in trawl gear. The animal was freed from the net and released alive. The observer did not note any sign of injury to the animal and the sea lion was observed porpoising following release.                 | NSI                 | Entangled / entrapped | Fishery gear      | Catch shares bottom trawl | Commercial   | Trawl          | P7b         | 0                       | 0                       |
| SWFSC            | 4/1/2014   | WC   | Steller Sea Lion | Eastern US | DEAD               | A Steller sea lion was found dead in Fort Bragg, CA. Five bullet fragments were discovered during a post-mortem exam, indicating the animal had been shot.  | DEAD                | Shot                  | Projectile weapon | N/A                       | N/A          | N/A            | N/A         | 1                       | 0                       |



**Appendix Table 1.1 -- Human / marine mammal interaction records reviewed for serious injury and mortality.**

| Source of Record | Date      | Area | Common Name      | Stock      | Initial Assessment | MML Determination Details  | Final Determination | Mechanism of Injury                            | Source of Injury             | Fishery Name                     | Fishery Type | Fishery Method | SI Criteria | Suggested Value for PBR | Suggested Value for LOF |
|------------------|-----------|------|------------------|------------|--------------------|--|---------------------|--|------------------------------|----------------------------------|--------------|----------------|-------------|-------------------------|-------------------------|
| WCRO             | 4/6/2014  | WC   | Steller Sea Lion | Eastern US | DEAD               | An adult male Steller sea lion reported to be in excellent body condition was found dead on the beach in Pacific County, WA. A necropsy confirmed the animal had been shot.  | DEAD                | Shot   | Projectile weapon            | N/A                              | N/A          | N/A            | N/A         | 1                       | 0                       |
| WCRO             | 4/22/2014 | WC   | Steller Sea Lion | Eastern US | DEAD               | An adult female Steller sea lion reported to be in good body condition was found dead on the beach in Seaside, OR. A necropsy was conducted which confirmed the animal had been shot.  | DEAD                | Shot   | Projectile weapon            | N/A                              | N/A          | N/A            | N/A         | 1                       | 0                       |
| ADFG             | 5/9/2014  | SEAK | Steller Sea Lion | Eastern US | SI                 | A subadult male Steller sea lion ingested troll fishery gear and was observed with a flasher in its mouth.   | SI                  | Hooked   | Fishery gear                 | Unknown troll                    | Unknown      | Troll          | P2          | 1                       | 0                       |
| WCGOP            | 5/16/2014 | WC   | Steller Sea Lion | Eastern US | NSI                | A Steller sea lion was caught in trawl gear and brought aboard the fishing vessel. The animal was reported by the observer to be uninjured, healthy, and alert.  | NSI                 | Entangled / entrapped                          | Fishery gear                 | Catch shares bottom trawl        | Commercial   | Trawl          | P4          | 0                       | 0                       |
| AKRO             | 5/18/2014 | SEAK | Steller Sea Lion | Eastern US | SI                 | An adult Steller sea lion was observed with a circumferential neck entanglement.   | SI                  | Constricting entanglement                      | Marine debris (rope)         | N/A                              | N/A          | N/A            | P8a         | 1                       | 0                       |
| WCGOP            | 5/22/2014 | WC   | Steller Sea Lion | Eastern US | DEAD               | A Steller sea lion was caught and killed in trawl gear.  | DEAD                | Entangled / entrapped                          | Fishery gear                 | Catcher processor midwater trawl | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| WCRO             | 5/26/2014 | WC   | Steller Sea Lion | Eastern US | DEAD               | An adult female Steller sea lion was found in a state of moderate decomposition in Del Rey, OR. A necropsy was conducted which confirmed the animal had been shot.   | DEAD                | Shot   | Projectile weapon            | N/A                              | N/A          | N/A            | N/A         | 1                       | 0                       |
| WCRO             | 5/26/2014 | WC   | Steller Sea Lion | Eastern US | SI                 | An adult female Steller sea lion was observed alive with a bullet wound on the left shoulder at Sea Lion Caves - Florence, OR. A trained observer considered to be credible observed that the animal was moving with difficulty and was associated with a dependent pup. This record represents the seriously injured mother. This is a serious injury under criterion P9. | SI                  | Shot   | Projectile weapon            | N/A                              | N/A          | N/A            | P9          | 1                       | 0                       |
| WCRO             | 5/26/2014 | WC   | Steller Sea Lion | Eastern US | SI                 | An adult female Steller sea lion was observed alive with a bullet wound on the left shoulder at Sea Lion Caves - Florence, OR. A trained observer considered to be credible observed that the animal was moving with difficulty and was associated with a dependent pup. This record represents the dependent animal. This is a serious injury under criterion P14.        | SI                  | Shot   | Projectile weapon            | N/A                              | N/A          | N/A            | P14         | 1                       | 0                       |
| WCGOP            | 5/30/2014 | WC   | Steller Sea Lion | Eastern US | DEAD               | A Steller sea lion was caught and killed in trawl gear.  | DEAD                | Entangled / entrapped                          | Fishery gear                 | Catcher processor midwater trawl | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| AKRO             | 6/1/2014  | SEAK | Steller Sea Lion | Eastern US | SI                 | A Steller sea lion ingested troll fishery gear and was observed with a silver flasher hanging from its mouth.  | SI                  | Hooked   | Fishery gear                 | AK SEAK salmon troll             | Unknown      | Troll          | P2          | 1                       | 0                       |
| AKRO             | 6/3/2014  | SEAK | Steller Sea Lion | Eastern US | SI                 | A Steller sea lion ingested troll fishery gear and a flasher was observed hanging from the animal's mouth.   | SI                  | Hooked   | Fishery gear                 | AK SEAK salmon troll             | Unknown      | Troll          | P2          | 1                       | 0                       |
| ADFG             | 6/3/2014  | SEAK | Steller Sea Lion | Eastern US | SI                 | An adult female Steller sea lion was observed with a circumferential neck entanglement.  | SI                  | Constricting entanglement                      | Marine debris (unidentified) | N/A                              | N/A          | N/A            | P8a         | 1                       | 0                       |
| ADFG             | 6/3/2014  | SEAK | Steller Sea Lion | Eastern US | SI                 | A Steller sea lion was observed with a circumferential neck entanglement.  | SI                  | Constricting entanglement                      | Marine debris (unidentified) | N/A                              | N/A          | N/A            | P8a         | 1                       | 0                       |
| ADFG             | 6/4/2014  | SEAK | Steller Sea Lion | Eastern US | SI                 | An adult female Steller sea lion was observed with a circumferential neck entanglement caused by a green net.  | SI                  | Constricting entanglement                      | Fishery gear                 | Unknown trawl                    | Unknown      | Trawl          | P8a         | 1                       | 0                       |
| ADFG             | 6/5/2014  | SEAK | Steller Sea Lion | Eastern US | SI                 | An adult male Steller sea lion was observed with a circumferential neck entanglement.  | SI                  | Constricting entanglement                      | Marine debris (unidentified) | N/A                              | N/A          | N/A            | P8a         | 1                       | 0                       |
| ADFG             | 6/8/2014  | SEAK | Steller Sea Lion | Eastern US | SI                 | An adult female Steller sea lion was observed with a circumferential neck entanglement.  | SI                  | Constricting entanglement                      | Marine debris (unidentified) | N/A                              | N/A          | N/A            | P8a         | 1                       | 0                       |
| AKRO             | 6/11/2014 | SEAK | Steller Sea Lion | Eastern US | SI                 | A Steller sea lion ingested troll fishery gear and was observed at South Marble Island with a flasher hanging from its mouth.  | SI                  | Hooked   | Fishery gear                 | AK SEAK salmon troll             | Unknown      | Troll          | P2          | 1                       | 0                       |
| WCRO             | 6/17/2014 | WC   | Steller Sea Lion | Eastern US | DEAD               | An adult female Steller sea lion was found in a state of moderate decomposition in Tillamook, OR. No necropsy was conducted but an experienced stranding examiner reported the animal was shot.  | DEAD                | Shot   | Projectile weapon            | N/A                              | N/A          | N/A            | N/A         | 1                       | 0                       |
| ADFG             | 6/19/2014 | SEAK | Steller Sea Lion | Eastern US | SI                 | An adult female Steller sea lion was observed with a circumferential neck entanglement caused by a white packing band. This animal was also reported to have a pup. This record represents the mother.   | SI                  | Constricting entanglement                      | Marine debris (packing band) | N/A                              | N/A          | N/A            | P8a         | 1                       | 0                       |
| ADFG             | 6/19/2014 | SEAK | Steller Sea Lion | Eastern US | SI                 | An adult female Steller sea lion was observed with a circumferential neck entanglement caused by a white packing band. This animal was also reported to have a pup. This record represents the pup.  | SI                  | Dependent animal with mother seriously injured | Marine debris (packing band) | N/A                              | N/A          | N/A            | P14         | 1                       | 0                       |

**Appendix Table 1.1 -- Human / marine mammal interaction records reviewed for serious injury and mortality.**

| Source of Record | Date      | Area | Common Name      | Stock      | Initial Assessment | MML Determination Details  | Final Determination | Mechanism of Injury                            | Source of Injury             | Fishery Name                 | Fishery Type | Fishery Method | SI Criteria | Suggested Value for PBR | Suggested Value for LOF |
|------------------|-----------|------|------------------|------------|--------------------|--|---------------------|--|------------------------------|------------------------------|--------------|----------------|-------------|-------------------------|-------------------------|
| ADFG             | 6/19/2014 | SEAK | Steller Sea Lion | Eastern US | SI                 | A subadult female Steller sea lion ingested troll fishery gear and was observed with an orange flasher hanging from its mouth.   | SI                  | Hooked   | Fishery gear                 | Unknown troll                | Unknown      | Troll          | P2          | 1                       | 0                       |
| ADFG             | 6/20/2014 | SEAK | Steller Sea Lion | Eastern US | SI                 | An adult female Steller sea lion was observed with a circumferential neck entanglement.  | SI                  | Constricting entanglement                      | Marine debris (unidentified) | N/A                          | N/A          | N/A            | P8a         | 1                       | 0                       |
| ADFG             | 6/20/2014 | SEAK | Steller Sea Lion | Eastern US | SI                 | An adult female Steller sea lion was observed with a circumferential neck entanglement possibly caused by a packing band.  | SI                  | Constricting entanglement                      | Marine debris (unidentified) | N/A                          | N/A          | N/A            | P8a         | 1                       | 0                       |
| ADFG             | 6/24/2014 | SEAK | Steller Sea Lion | Eastern US | SI                 | A subadult Steller sea lion was observed with a circumferential neck entanglement possibly caused by a packing band.   | SI                  | Constricting entanglement                      | Marine debris (unidentified) | N/A                          | N/A          | N/A            | P8a         | 1                       | 0                       |
| ADFG             | 6/24/2014 | SEAK | Steller Sea Lion | Eastern US | SI                 | An adult female Steller sea lion was observed with a circumferential neck entanglement.  | SI                  | Constricting entanglement                      | Marine debris (unidentified) | N/A                          | N/A          | N/A            | P8a         | 1                       | 0                       |
| MMAF             | 6/24/2014 | SEAK | Steller Sea Lion | Eastern US | SI                 | A Steller sea lion was reported to have become entangled in a gillnet. The animal was released with a wounded flipper and loose webbing around its neck.               | SI                  | Entangled / entrapped                          | Fishery gear                 | AK SEAK salmon drift gillnet | Commercial   | Gillnet        | P8a         | 1                       | 1                       |
| ADFG             | 6/25/2014 | SEAK | Steller Sea Lion | Eastern US | SI                 | An adult male Steller sea lion ingested troll fishery gear and a flasher was observed hanging from the animal's mouth.   | SI                  | Hooked   | Fishery gear                 | Unknown troll                | Unknown      | Troll          | P2          | 1                       | 0                       |
| ADFG             | 6/25/2014 | SEAK | Steller Sea Lion | Eastern US | SI                 | A subadult male Steller sea lion was observed with a circumferential neck entanglement.  | SI                  | Constricting entanglement                      | Marine debris (unidentified) | N/A                          | N/A          | N/A            | P8a         | 1                       | 0                       |
| ADFG             | 6/25/2014 | SEAK | Steller Sea Lion | Eastern US | SI                 | An adult female Steller sea lion was observed with a circumferential neck entanglement.  | SI                  | Constricting entanglement                      | Marine debris (unidentified) | N/A                          | N/A          | N/A            | P8a         | 1                       | 0                       |
| ADFG             | 6/25/2014 | SEAK | Steller Sea Lion | Eastern US | SI                 | An adult female Steller sea lion ingested troll fishery gear and was observed with a green flasher hanging from its mouth.   | SI                  | Hooked   | Fishery gear                 | Unknown troll                | Unknown      | Troll          | P2          | 1                       | 0                       |
| ADFG             | 6/25/2014 | SEAK | Steller Sea Lion | Eastern US | SI                 | A subadult male Steller sea lion ingested troll fishery gear and was observed with a silver and green flasher hanging from its mouth.                                  | SI                  | Hooked   | Fishery gear                 | Unknown troll                | Unknown      | Troll          | P2          | 1                       | 0                       |
| ADFG             | 6/26/2014 | SEAK | Steller Sea Lion | Eastern US | SI                 | An adult female Steller sea lion was observed with a circumferential neck entanglement. The animal was also reported to have a pup. This record represents the mother. | SI                  | Constricting entanglement                      | Marine debris (unidentified) | N/A                          | N/A          | N/A            | P8a         | 1                       | 0                       |
| ADFG             | 6/26/2014 | SEAK | Steller Sea Lion | Eastern US | SI                 | An adult female Steller sea lion was observed with a circumferential neck entanglement. The animal was also reported to have a pup. This record represents the pup.    | SI                  | Dependent animal with mother seriously injured | Marine debris (unidentified) | N/A                          | N/A          | N/A            | P14         | 1                       | 0                       |
| ADFG             | 6/26/2014 | SEAK | Steller Sea Lion | Eastern US | SI                 | An adult female Steller sea lion was observed with a circumferential neck entanglement.  | SI                  | Constricting entanglement                      | Marine debris (unidentified) | N/A                          | N/A          | N/A            | P8a         | 1                       | 0                       |
| ADFG             | 6/26/2014 | SEAK | Steller Sea Lion | Eastern US | SI                 | An adult female Steller sea lion ingested troll fishery gear and was observed with a flasher tight to its mouth.   | SI                  | Hooked   | Fishery gear                 | Unknown troll                | Unknown      | Troll          | P2          | 1                       | 0                       |
| ADFG             | 6/27/2014 | SEAK | Steller Sea Lion | Eastern US | SI                 | A subadult male Steller sea lion was observed with a circumferential neck entanglement caused by a white band.   | SI                  | Constricting entanglement                      | Marine debris (packing band) | N/A                          | N/A          | N/A            | P8a         | 1                       | 0                       |
| ADFG             | 6/27/2014 | SEAK | Steller Sea Lion | Eastern US | SI                 | An adult female Steller sea lion was observed with a circumferential neck entanglement.  | SI                  | Constricting entanglement                      | Marine debris (unidentified) | N/A                          | N/A          | N/A            | P8a         | 1                       | 0                       |
| ADFG             | 6/28/2014 | SEAK | Steller Sea Lion | Eastern US | SI                 | An adult male Steller sea lion ingested troll fishery gear and was observed with a flasher fully in its mouth.   | SI                  | Hooked   | Fishery gear                 | Unknown troll                | Unknown      | Troll          | P2          | 1                       | 0                       |
| ADFG             | 6/29/2014 | SEAK | Steller Sea Lion | Eastern US | SI                 | A subadult female Steller sea lion was observed with a circumferential neck entanglement caused by a black band.   | SI                  | Constricting entanglement                      | Marine debris (unidentified) | N/A                          | N/A          | N/A            | P8a         | 1                       | 0                       |
| ADFG             | 6/30/2014 | SEAK | Steller Sea Lion | Eastern US | SI                 | A subadult male Steller sea lion was observed with a circumferential neck entanglement caused by a packing band. The animal was successfully disentangled.             | NSI                 | Constricting entanglement                      | Marine debris (packing band) | N/A                          | N/A          | N/A            | P7b         | 0                       | 0                       |
| ADFG             | 7/1/2014  | SEAK | Steller Sea Lion | Eastern US | SI                 | A subadult male Steller sea lion ingested troll fishery gear and was observed with a flasher hanging from its mouth.   | SI                  | Hooked   | Fishery gear                 | Unknown troll                | Unknown      | Troll          | P2          | 1                       | 0                       |
| ADFG             | 7/1/2014  | SEAK | Steller Sea Lion | Eastern US | SI                 | An adult male Steller sea lion ingested troll fishery gear and was observed with a green flasher tight to its mouth.   | SI                  | Hooked   | Fishery gear                 | Unknown troll                | Unknown      | Troll          | P2          | 1                       | 0                       |
| ADFG             | 7/1/2014  | SEAK | Steller Sea Lion | Eastern US | SI                 | An adult male Steller sea lion ingested troll fishery gear and was observed with an orange flasher hanging from its mouth.   | SI                  | Hooked   | Fishery gear                 | Unknown troll                | Unknown      | Troll          | P2          | 1                       | 0                       |

**Appendix Table 1.1 -- Human / marine mammal interaction records reviewed for serious injury and mortality.**

| Source of Record | Date     | Area | Common Name      | Stock      | Initial Assessment | MML Determination Details  | Final Determination | Mechanism of Injury       | Source of Injury             | Fishery Name  | Fishery Type | Fishery Method | SI Criteria | Suggested Value for PBR | Suggested Value for LOF |
|------------------|----------|------|------------------|------------|--------------------|--|---------------------|---------------------------|------------------------------|---------------|--------------|----------------|-------------|-------------------------|-------------------------|
| ADFG             | 7/2/2014 | SEAK | Steller Sea Lion | Eastern US | SI                 | A subadult male Steller sea lion was observed with a circumferential neck entanglement caused by a white packing band.   | SI                  | Constricting entanglement | Marine debris (packing band) | N/A           | N/A          | N/A            | P8a         | 1                       | 0                       |
| ADFG             | 7/2/2014 | SEAK | Steller Sea Lion | Eastern US | SI                 | A subadult male Steller sea lion ingested troll fishery gear and was observed with a silver and blue flasher hanging from its mouth.   | SI                  | Hooked                    | Fishery gear                 | Unknown troll | Unknown      | Troll          | P2          | 1                       | 0                       |
| ADFG             | 7/3/2014 | SEAK | Steller Sea Lion | Eastern US | SI                 | A subadult male Steller sea lion was observed with a circumferential neck entanglement caused by a blue packing band.  | SI                  | Constricting entanglement | Marine debris (packing band) | N/A           | N/A          | N/A            | P8a         | 1                       | 0                       |
| ADFG             | 7/3/2014 | SEAK | Steller Sea Lion | Eastern US | SI                 | A subadult female Steller sea lion ingested troll fishery gear and was observed with a green flasher hanging from its mouth.   | SI                  | Hooked                    | Fishery gear                 | Unknown troll | Unknown      | Troll          | P2          | 1                       | 0                       |
| ADFG             | 7/3/2014 | SEAK | Steller Sea Lion | Eastern US | SI                 | A subadult male Steller sea lion ingested troll fishery gear and was observed with a silver and blue flasher hanging from its mouth.   | SI                  | Hooked                    | Fishery gear                 | Unknown troll | Unknown      | Troll          | P2          | 1                       | 0                       |
| ADFG             | 7/3/2014 | SEAK | Steller Sea Lion | Eastern US | SI                 | A subadult male Steller sea lion ingested troll fishery gear and was observed with an orange flasher hanging from its mouth.   | SI                  | Hooked                    | Fishery gear                 | Unknown troll | Unknown      | Troll          | P2          | 1                       | 0                       |
| ADFG             | 7/4/2014 | SEAK | Steller Sea Lion | Eastern US | SI                 | A subadult male Steller sea lion was observed with a circumferential neck entanglement caused by a white packing band.   | SI                  | Constricting entanglement | Marine debris (packing band) | N/A           | N/A          | N/A            | P8a         | 1                       | 0                       |
| ADFG             | 7/4/2014 | SEAK | Steller Sea Lion | Eastern US | SI                 | A subadult male Steller sea lion ingested troll fishery gear and was observed with a red, blue, and silver flasher hanging from its mouth.   | SI                  | Hooked                    | Fishery gear                 | Unknown troll | Unknown      | Troll          | P2          | 1                       | 0                       |
| ADFG             | 7/4/2014 | SEAK | Steller Sea Lion | Eastern US | SI                 | A subadult male Steller sea lion ingested troll fishery gear and was observed with an orange flasher hanging from its mouth.   | SI                  | Hooked                    | Fishery gear                 | Unknown troll | Unknown      | Troll          | P2          | 1                       | 0                       |
| ADFG             | 7/4/2014 | SEAK | Steller Sea Lion | Eastern US | SI                 | A subadult male Steller sea lion ingested troll fishery gear and was observed with an orange flasher hanging from its mouth.   | SI                  | Hooked                    | Fishery gear                 | Unknown troll | Unknown      | Troll          | P2          | 1                       | 0                       |
| ADFG             | 7/4/2014 | SEAK | Steller Sea Lion | Eastern US | SI                 | A subadult male Steller sea lion ingested troll fishery gear and was observed with an orange flasher hanging from its mouth.   | SI                  | Hooked                    | Fishery gear                 | Unknown troll | Unknown      | Troll          | P2          | 1                       | 0                       |
| ADFG             | 7/4/2014 | SEAK | Steller Sea Lion | Eastern US | SI                 | A subadult male Steller sea lion ingested troll fishery gear and was observed with a green flasher hanging from its mouth.   | SI                  | Hooked                    | Fishery gear                 | Unknown troll | Unknown      | Troll          | P2          | 1                       | 0                       |
| ADFG             | 7/4/2014 | SEAK | Steller Sea Lion | Eastern US | SI                 | A subadult male Steller sea lion ingested troll fishery gear and was observed with a silver and green flasher hanging from its mouth.  | SI                  | Hooked                    | Fishery gear                 | Unknown troll | Unknown      | Troll          | P2          | 1                       | 0                       |
| ADFG             | 7/5/2014 | SEAK | Steller Sea Lion | Eastern US | SI                 | An adult female Steller sea lion ingested troll fishery gear and was observed with a silver and green flasher hanging from its mouth.  | SI                  | Hooked                    | Fishery gear                 | Unknown troll | Unknown      | Troll          | P2          | 1                       | 0                       |
| ADFG             | 7/5/2014 | SEAK | Steller Sea Lion | Eastern US | SI                 | An adult male Steller sea lion ingested troll fishery gear and was observed with a silver and orange flasher hanging from its mouth.   | SI                  | Hooked                    | Fishery gear                 | Unknown troll | Unknown      | Troll          | P2          | 1                       | 0                       |
| ADFG             | 7/5/2014 | SEAK | Steller Sea Lion | Eastern US | SI                 | A subadult male Steller sea lion ingested troll fishery gear and was observed with a silver and green flasher hanging from its mouth.  | SI                  | Hooked                    | Fishery gear                 | Unknown troll | Unknown      | Troll          | P2          | 1                       | 0                       |
| ADFG             | 7/5/2014 | SEAK | Steller Sea Lion | Eastern US | SI                 | A subadult Steller sea lion ingested troll fishery gear and was observed with a silver and orange flasher tight to its mouth. A response team was able to cut the flasher free, but the ingested hook was left in place. | SI                  | Hooked                    | Fishery gear                 | Unknown troll | Unknown      | Troll          | P2          | 1                       | 0                       |
| ADFG             | 7/5/2014 | SEAK | Steller Sea Lion | Eastern US | SI                 | A subadult male Steller sea lion ingested troll fishery gear and was observed with a silver and white flasher hanging from its mouth.  | SI                  | Hooked                    | Fishery gear                 | Unknown troll | Unknown      | Troll          | P2          | 1                       | 0                       |
| ADFG             | 7/6/2014 | SEAK | Steller Sea Lion | Eastern US | SI                 | A subadult Steller sea lion was observed with a circumferential neck entanglement caused by a white packing band.  | SI                  | Constricting entanglement | Marine debris (packing band) | N/A           | N/A          | N/A            | P8a         | 1                       | 0                       |
| ADFG             | 7/6/2014 | SEAK | Steller Sea Lion | Eastern US | SI                 | A subadult male Steller sea lion was observed with a circumferential neck entanglement.  | SI                  | Constricting entanglement | Marine debris (unidentified) | N/A           | N/A          | N/A            | P8a         | 1                       | 0                       |
| ADFG             | 7/6/2014 | SEAK | Steller Sea Lion | Eastern US | SI                 | A subadult male Steller sea lion ingested troll fishery gear and was observed with a silver and green flasher tight to its mouth. There was blood observed on the flasher.   | SI                  | Hooked                    | Fishery gear                 | Unknown troll | Unknown      | Troll          | P2          | 1                       | 0                       |
| ADFG             | 7/6/2014 | SEAK | Steller Sea Lion | Eastern US | SI                 | A subadult male Steller sea lion ingested troll fishery gear and was observed with a silver and blue flasher tight to its mouth.   | SI                  | Hooked                    | Fishery gear                 | Unknown troll | Unknown      | Troll          | P2          | 1                       | 0                       |
| ADFG             | 7/6/2014 | SEAK | Steller Sea Lion | Eastern US | SI                 | A subadult Steller sea lion ingested troll fishery gear and was observed with an orange and silver flasher hanging from its mouth.   | SI                  | Hooked                    | Fishery gear                 | Unknown troll | Unknown      | Troll          | P2          | 1                       | 0                       |

**Appendix Table 1.1 -- Human / marine mammal interaction records reviewed for serious injury and mortality.**

| Source of Record | Date      | Area | Common Name      | Stock      | Initial Assessment | MML Determination Details   | Final Determination | Mechanism of Injury                            | Source of Injury             | Fishery Name         | Fishery Type | Fishery Method | SI Criteria | Suggested Value for PBR | Suggested Value for LOF |
|------------------|-----------|------|------------------|------------|--------------------|---|---------------------|--|------------------------------|----------------------|--------------|----------------|-------------|-------------------------|-------------------------|
| ADFG             | 7/6/2014  | SEAK | Steller Sea Lion | Eastern US | SI                 | A subadult male Steller sea lion ingested troll fishery gear and was observed with a green flasher hanging from its mouth.  | SI                  | Hooked   | Fishery gear                 | Unknown troll        | Unknown      | Troll          | P2          | 1                       | 0                       |
| ADFG             | 7/6/2014  | SEAK | Steller Sea Lion | Eastern US | SI                 | A subadult male Steller sea lion ingested troll fishery gear and was observed with a silver and orange flasher hanging from its mouth.  | SI                  | Hooked   | Fishery gear                 | Unknown troll        | Unknown      | Troll          | P2          | 1                       | 0                       |
| ADFG             | 7/6/2014  | SEAK | Steller Sea Lion | Eastern US | SI                 | A subadult male Steller sea lion ingested troll fishery gear and was observed with a silver and orange flasher hanging from its mouth.  | SI                  | Hooked   | Fishery gear                 | Unknown troll        | Unknown      | Troll          | P2          | 1                       | 0                       |
| ADFG             | 7/6/2014  | SEAK | Steller Sea Lion | Eastern US | SI                 | An adult female Steller sea lion ingested troll fishery gear and was observed with a silver flasher tight to its mouth.   | SI                  | Hooked   | Fishery gear                 | Unknown troll        | Unknown      | Troll          | P2          | 1                       | 0                       |
| ADFG             | 7/7/2014  | SEAK | Steller Sea Lion | Eastern US | SI                 | An adult female Steller sea lion ingested troll fishery gear and was observed with a silver and green flasher tight to its mouth.   | SI                  | Hooked   | Fishery gear                 | Unknown troll        | Unknown      | Troll          | P2          | 1                       | 0                       |
| ADFG             | 7/7/2014  | SEAK | Steller Sea Lion | Eastern US | SI                 | A subadult male Steller sea lion ingested troll fishery gear and was observed with a silver and blue flasher tight to its mouth.  | SI                  | Hooked   | Fishery gear                 | Unknown troll        | Unknown      | Troll          | P2          | 1                       | 0                       |
| ADFG             | 7/7/2014  | SEAK | Steller Sea Lion | Eastern US | SI                 | A subadult male Steller sea lion ingested troll fishery gear and was observed with a gold and orange flasher hanging from its mouth.  | SI                  | Hooked   | Fishery gear                 | Unknown troll        | Unknown      | Troll          | P2          | 1                       | 0                       |
| ADFG             | 7/7/2014  | SEAK | Steller Sea Lion | Eastern US | SI                 | A subadult male Steller sea lion ingested troll fishery gear and was observed with a green holographic flasher tight to its mouth.  | SI                  | Hooked   | Fishery gear                 | Unknown troll        | Unknown      | Troll          | P2          | 1                       | 0                       |
| ADFG             | 7/7/2014  | SEAK | Steller Sea Lion | Eastern US | SI                 | A subadult male Steller sea lion ingested troll fishery gear and was observed with a silver and blue flasher hanging from its mouth.  | SI                  | Hooked   | Fishery gear                 | Unknown troll        | Unknown      | Troll          | P2          | 1                       | 0                       |
| AKRO             | 7/8/2014  | SEAK | Steller Sea Lion | Eastern US | SI                 | A Steller sea lion was observed hauled out near Gustavus. The animal had ingested troll fishery gear and a flasher was observed hanging from its mouth.   | SI                  | Hooked   | Fishery gear                 | AK SEAK salmon troll | Recreational | Troll          | P2          | 1                       | 0                       |
| AKRO             | 7/8/2014  | SEAK | Steller Sea Lion | Eastern US | SI                 | A Steller sea lion was observed hauled out near Gustavus. The animal had ingested troll fishery gear and a flasher was observed hanging from its mouth.   | SI                  | Hooked   | Fishery gear                 | AK SEAK salmon troll | Unknown      | Troll          | P2          | 1                       | 0                       |
| ADFG             | 7/8/2014  | SEAK | Steller Sea Lion | Eastern US | SI                 | A subadult Steller sea lion ingested troll fishery gear and was observed with an orange flasher hanging from its mouth.   | SI                  | Hooked   | Fishery gear                 | Unknown troll        | Unknown      | Troll          | P2          | 1                       | 0                       |
| ADFG             | 7/8/2014  | SEAK | Steller Sea Lion | Eastern US | SI                 | A subadult male Steller sea lion ingested troll fishery gear and was observed with a green flasher hanging from its mouth.  | SI                  | Hooked   | Fishery gear                 | Unknown troll        | Unknown      | Troll          | P2          | 1                       | 0                       |
| ADFG             | 7/8/2014  | SEAK | Steller Sea Lion | Eastern US | SI                 | A subadult Steller sea lion ingested troll fishery gear and was observed with a pale green flasher hanging from its mouth.  | SI                  | Hooked   | Fishery gear                 | Unknown troll        | Unknown      | Troll          | P2          | 1                       | 0                       |
| ADFG             | 7/8/2014  | SEAK | Steller Sea Lion | Eastern US | SI                 | A subadult Steller sea lion ingested troll fishery gear and was observed with a silver and orange flasher hanging from its mouth.   | SI                  | Hooked   | Fishery gear                 | Unknown troll        | Unknown      | Troll          | P2          | 1                       | 0                       |
| ADFG             | 7/9/2014  | SEAK | Steller Sea Lion | Eastern US | SI                 | An adult female Steller sea lion was observed with a circumferential neck entanglement caused by a "thin white strap". This animal was also reported to have a pup. This record represents the mother.  | SI                  | Constricting entanglement                      | Marine debris (unidentified) | N/A                  | N/A          | N/A            | P8a         | 1                       | 0                       |
| ADFG             | 7/9/2014  | SEAK | Steller Sea Lion | Eastern US | SI                 | An adult female Steller sea lion was observed with a circumferential neck entanglement caused by a "thin white strap". This animal was also reported to have a pup. This record represents the pup.   | SI                  | Dependent animal with mother seriously injured | Marine debris (unidentified) | N/A                  | N/A          | N/A            | P14         | 1                       | 0                       |
| WCRO             | 7/10/2014 | WC   | Steller Sea Lion | Eastern US | DEAD               | An adult female Steller sea lion reported to be in good body condition was found in a state of advanced decomposition in Del Rey, OR. A necropsy confirmed the animal was shot.   | DEAD                | Shot   | Projectile weapon            | N/A                  | N/A          | N/A            | N/A         | 1                       | 0                       |
| AKRO             | 7/24/2014 | SEAK | Steller Sea Lion | Eastern US | SI                 | A Steller sea lion was reported to be hauled out on Faust Rock near Juneau. The animal was observed with a flasher hanging from its mouth.  | SI                  | Hooked   | Fishery gear                 | AK SEAK salmon troll | Unknown      | Troll          | P2          | 1                       | 0                       |
| WCRO             | 8/15/2014 | WC   | Steller Sea Lion | Eastern US | DEAD               | An adult female Steller sea lion was found dead, in a state of advanced decomposition, in Lincoln City, OR. An external review showed a profound wound across the neck from a previous entanglement. No necropsy was conducted. MML requested photos to assess the severity of the wound. The injury appeared to be a circumferential neck entanglement caused by unknown material / marine debris. | DEAD                | Constricting entanglement                      | Marine debris (unidentified) | N/A                  | N/A          | N/A            | N/A         | 1                       | 0                       |
| WCRO             | 8/21/2014 | WC   | Steller Sea Lion | Eastern US | DEAD               | An adult male Steller sea lion was found dead, in a state of advanced decomposition, in Fort Stevens, OR. A necropsy confirmed the animal was shot multiple times. This animal also had what appeared to be propeller injuries.   | DEAD                | Shot   | Projectile weapon            | N/A                  | N/A          | N/A            | N/A         | 1                       | 0                       |

**Appendix Table 1.1 -- Human / marine mammal interaction records reviewed for serious injury and mortality.**

| Source of Record | Date       | Area | Common Name      | Stock      | Initial Assessment | MML Determination Details  | Final Determination | Mechanism of Injury       | Source of Injury              | Fishery Name                     | Fishery Type | Fishery Method | SI Criteria | Suggested Value for PBR | Suggested Value for LOF |
|------------------|------------|------|------------------|------------|--------------------|--|---------------------|---------------------------|-------------------------------|----------------------------------|--------------|----------------|-------------|-------------------------|-------------------------|
| AKRO             | 8/31/2014  | SEAK | Steller Sea Lion | Eastern US | SI                 | A large and emaciated Steller sea lion was observed above the tideline from the water and reported to be potentially dead. The animal had ingested troll fishery gear and a flasher led from its mouth.  | SI                  | Hooked                    | Fishery gear                  | AK SEAK salmon troll             | Unknown      | Troll          | P2          | 1                       | 0                       |
| AKRO             | 8/31/2014  | SEAK | Steller Sea Lion | Eastern US | SI                 | A robust looking adult male Steller sea lion was hauled out and observed with a flasher hanging from its mouth.  | SI                  | Hooked                    | Fishery gear                  | AK SEAK salmon troll             | Unknown      | Troll          | P2          | 1                       | 0                       |
| WCGOP            | 9/17/2014  | WC   | Steller Sea Lion | Eastern US | DEAD               | A female Steller sea lion was caught and killed in trawl gear.   | DEAD                | Entangled / entrapped     | Fishery gear                  | Catch shares bottom trawl        | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| WCRO             | 9/24/2014  | WC   | Steller Sea Lion | Eastern US | SI                 | An adult female Steller sea lion was found alive in Warrenton, OR. The animal's eyes and lower jaw were dislocated. The animal was euthanized and a necropsy was conducted. The examiner suspected the cause of injury was a seal bomb.  | DEAD                | Body trauma               | Explosive                     | N/A                              | N/A          | N/A            | N/A         | 1                       | 0                       |
| WCRO             | 10/3/2014  | WC   | Steller Sea Lion | Eastern US | SI                 | A thin Steller sea lion pup was found alive on the beach at Ocean Shores, WA. Tourists had dragged the pup into the surf before a law enforcement officer arrived and was able to pull it from the surf. After the pup was removed from the surf it was limp and unable to move, but was still alive. It was transferred to a facility for long-term rehab. The sea lion was rehabilitated and released. | NSI                 | Harassment                | Members of the public         | N/A                              | N/A          | N/A            | P9          | 0                       | 0                       |
| AKRO             | 10/3/2014  | SEAK | Steller Sea Lion | Eastern US | SI                 | A 5 year old male Steller sea lion branded "=729" was observed hauled out at Cannery Point. The animal had ingested troll fishery gear and a flasher hung from its mouth. The animal was originally reported on 10/3/2014 and legally harvested for subsistence purposes on 10/4/2014.   | DEAD                | Hooked                    | Fishery gear                  | AK SEAK salmon troll             | Unknown      | Troll          | N/A         | 1                       | 0                       |
| ADFG             | 10/4/2014  | SEAK | Steller Sea Lion | Eastern US | SI                 | A Steller sea lion ingested troll fishery gear and was observed with a flasher hanging from its mouth.   | SI                  | Hooked                    | Fishery gear                  | Unknown troll                    | Unknown      | Troll          | P2          | 1                       | 0                       |
| WCGOP            | 10/5/2014  | WC   | Steller Sea Lion | Eastern US | DEAD               | A Steller sea lion was found dead during processing. The animal had been caught and killed by trawl gear.  | DEAD                | Entangled / entrapped     | Fishery gear                  | Catcher processor midwater trawl | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| WCGOP            | 10/6/2014  | WC   | Steller Sea Lion | Eastern US | DEAD               | A juvenile male Steller sea lion was caught and killed in trawl gear.  | DEAD                | Entangled / entrapped     | Fishery gear                  | Catch shares bottom trawl        | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| A-SHOP           | 10/11/2014 | WC   | Steller Sea Lion | Eastern US | DEAD               | A female Steller sea lion was caught and killed in trawl gear.   | DEAD                | Entangled / entrapped     | Fishery gear                  | At-sea hake pelagic trawl        | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| AKRO             | 10/14/2014 | SEAK | Steller Sea Lion | Eastern US | SI                 | An adult male Steller sea lion was observed hauled out on a buoy near Petersburg. The animal had a circumferential neck entanglement caused by rope and possibly fishing line.   | SI                  | Constricting entanglement | Marine debris (rope)          | N/A                              | N/A          | N/A            | P8a         | 1                       | 0                       |
| AKRO             | 10/14/2014 | SEAK | Steller Sea Lion | Eastern US | SI                 | A Steller sea lion was observed hauled out on the south side of South Marble Island. The animal had a circumferential neck entanglement.   | SI                  | Constricting entanglement | Marine debris (packing band)  | N/A                              | N/A          | N/A            | P8a         | 1                       | 0                       |
| WCGOP            | 10/14/2014 | WC   | Steller Sea Lion | Eastern US | DEAD               | A Steller sea lion was caught and killed in trawl gear.  | DEAD                | Entangled / entrapped     | Fishery gear                  | Shoreside hake midwater trawl    | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| MMAF             | 10/29/2014 | WC   | Steller Sea Lion | Eastern US | DEAD               | A Steller sea lion was caught and killed in Pacific whiting fishery gear. Mortality and serious injury estimates for this stock in this fishery are obtained from observer data and not stranding data or fishermen self-reported (MMAF) data; therefore, this record will not be assigned a PBR or LOF value.   | DEAD                | Entangled / entrapped     | Fishery gear                  | WA/OR/CA groundfish trawl        | Commercial   | Trawl          | N/A         | N/A                     | N/A                     |
| MMAF             | 11/3/2014  | WC   | Steller Sea Lion | Eastern US | DEAD               | A Steller sea lion was caught and killed in Pacific whiting fishery gear. Mortality and serious injury estimates for this stock in this fishery are obtained from observer data and not stranding data or fishermen self-reported (MMAF) data; therefore, this record will not be assigned a PBR or LOF value.   | DEAD                | Entangled / entrapped     | Fishery gear                  | WA/OR/CA groundfish trawl        | Commercial   | Trawl          | N/A         | N/A                     | N/A                     |
| WCRO             | 1/12/2015  | WC   | Steller Sea Lion | Eastern US | SI                 | A subadult male Steller sea lion that had ingested troll fishery gear was observed at Sea Lion Caves. A red salmon flasher was hanging from its mouth.   | SI                  | Hooked                    | Fishery gear                  | Unknown troll                    | Unknown      | Troll          | P2          | 1                       | 0                       |
| WCGOP            | 1/29/2015  | WC   | Steller Sea Lion | Eastern US | DEAD               | Two Steller sea lions were caught and killed by OA CA halibut bottom trawl gear. This record represents sea lion 1 of 2.   | DEAD                | Entangled / entrapped     | Fishery gear                  | OA CA halibut bottom trawl       | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| WCGOP            | 1/29/2015  | WC   | Steller Sea Lion | Eastern US | DEAD               | Two Steller sea lions were caught and killed by OA CA halibut bottom trawl gear. This record represents sea lion 2 of 2.   | DEAD                | Entangled / entrapped     | Fishery gear                  | OA CA halibut bottom trawl       | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| SWFSC            | 1/31/2015  | WC   | Steller Sea Lion | Eastern US | DEAD               | A Steller sea lion was found dead with multiple gunshot wounds.  | DEAD                | Shot                      | Projectile weapon             | N/A                              | N/A          | N/A            | N/A         | 1                       | 0                       |
| WCRO             | 2/12/2015  | WC   | Steller Sea Lion | Eastern US | SI                 | An adult male Steller sea lion was observed with some type of bright orange material with a small buoy attached to it. This gear was wrapped around the animal's neck. The animal was not sighted again.   | SI                  | Constricting entanglement | Marine debris (rope and buoy) | N/A                              | N/A          | N/A            | P8a         | 1                       | 0                       |

**Appendix Table 1.1 -- Human / marine mammal interaction records reviewed for serious injury and mortality.**

| Source of Record | Date      | Area | Common Name      | Stock      | Initial Assessment | MML Determination Details  | Final Determination | Mechanism of Injury                            | Source of Injury             | Fishery Name               | Fishery Type | Fishery Method | SI Criteria | Suggested Value for PBR | Suggested Value for LOF |
|------------------|-----------|------|------------------|------------|--------------------|--|---------------------|--|------------------------------|----------------------------|--------------|----------------|-------------|-------------------------|-------------------------|
| WCGOP            | 2/12/2015 | WC   | Steller Sea Lion | Eastern US | DEAD               | A Steller sea lion was caught and killed in trawl gear.  | DEAD                | Entangled / entrapped                          | Fishery gear                 | OA CA halibut bottom trawl | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| WCRO             | 2/25/2015 | WC   | Steller Sea Lion | Eastern US | DEAD               | A robust subadult male Steller sea lion was found dead. Upon examination, pellets were found in the animal's body cavity and internal organs.  | DEAD                | Shot   | Projectile weapon            | N/A                        | N/A          | N/A            | N/A         | 1                       | 0                       |
| WCGOP            | 3/8/2015  | WC   | Steller Sea Lion | Eastern US | NSI                | A Steller sea lion was caught in trawl gear and brought aboard the fishing vessel. The animal left the boat after being freed from the net.  | NSI                 | Entangled / entrapped                          | Fishery gear                 | Catch shares bottom trawl  | Commercial   | Trawl          | P4          | 0                       | 0                       |
| WCRO             | 4/4/2015  | WC   | Steller Sea Lion | Eastern US | DEAD               | An adult female Steller sea lion was found dead with track-associated hemorrhages in various areas of its body. A projectile was recovered from the body.  | DEAD                | Shot   | Projectile weapon            | N/A                        | N/A          | N/A            | N/A         | 1                       | 0                       |
| WCRO             | 4/8/2015  | WC   | Steller Sea Lion | Eastern US | DEAD               | An adult female Steller sea lion was found dead with numerous areas of hemorrhage throughout its body. A projectile was recovered from the body.   | DEAD                | Shot   | Projectile weapon            | N/A                        | N/A          | N/A            | N/A         | 1                       | 0                       |
| WCRO             | 4/11/2015 | WC   | Steller Sea Lion | Eastern US | DEAD               | A dead subadult female Steller sea lion was found with tracking wounds, hemorrhaging associated with the wound tracks, and bloody fluid in the abdomen. No projectiles were recovered.                     | DEAD                | Shot   | Projectile weapon            | N/A                        | N/A          | N/A            | N/A         | 1                       | 0                       |
| AKRO             | 4/14/2015 | SEAK | Steller Sea Lion | Eastern US | SI                 | An adult female Steller sea lion was observed with a circumferential neck entanglement that was thought to be caused by a white packing band.  | SI                  | Constricting entanglement                      | Marine debris (packing band) | N/A                        | N/A          | N/A            | P8a         | 1                       | 0                       |
| WCRO             | 4/23/2015 | WC   | Steller Sea Lion | Eastern US | DEAD               | An adult male Steller sea lion was found dead. There were several areas of hemorrhaging throughout the body and a projectile was recovered from the animal's head.   | DEAD                | Shot   | Projectile weapon            | N/A                        | N/A          | N/A            | N/A         | 1                       | 0                       |
| ODFW             | 5/5/2015  | WC   | Steller Sea Lion | Eastern US | DEAD               | A Steller sea lion was accidentally killed during pinniped research and management activities at the Bonneville Dam.   | DEAD                | Entangled / entrapped                          | Other                        | N/A                        | N/A          | N/A            | N/A         | 1                       | 0                       |
| WCRO             | 5/9/2015  | WC   | Steller Sea Lion | Eastern US | SI                 | An adult female Steller sea lion was observed hauled out on an offshore rock with a large flasher hanging from its mouth.  | SI                  | Hooked   | Fishery gear                 | Unknown troll              | Unknown      | Troll          | P2          | 1                       | 0                       |
| WCRO             | 5/11/2015 | WC   | Steller Sea Lion | Eastern US | SI                 | An adult female Steller sea lion ingested troll fishery gear; a flasher was hanging from its mouth. The animal appeared to be thin and had a newborn pup with it. This record represents the mother.       | SI                  | Hooked   | Fishery gear                 | Unknown troll              | Unknown      | Troll          | P2          | 1                       | 0                       |
| WCRO             | 5/11/2015 | WC   | Steller Sea Lion | Eastern US | SI                 | An adult female Steller sea lion ingested troll fishery gear; a flasher was observed hanging from its mouth. The animal appeared to be thin and had a newborn pup with it. This record represents the pup. | SI                  | Hooked   | Fishery gear                 | Unknown troll              | Unknown      | Troll          | P14         | 1                       | 0                       |
| WCRO             | 5/13/2015 | WC   | Steller Sea Lion | Eastern US | DEAD               | A subadult male Steller sea lion was found dead with numerous hemorrhagic areas in the body that were associated with obvious tracks and holes. A projectile was recovered.                                | DEAD                | Shot   | Projectile weapon            | N/A                        | N/A          | N/A            | N/A         | 1                       | 0                       |
| AKRO             | 5/17/2015 | SEAK | Steller Sea Lion | Eastern US | SI                 | A Steller sea lion was observed with a circumferential neck entanglement caused by some type of unidentified plastic.  | SI                  | Constricting entanglement                      | Marine debris (unidentified) | N/A                        | N/A          | N/A            | P8a         | 1                       | 0                       |
| WCGOP            | 5/18/2015 | WC   | Steller Sea Lion | Eastern US | SI                 | A fisherman was reported to fire one shot of a rifle at a group of six sea lions. The observer was unsure if any were hit. Out of caution it is assumed a sea lion was injured by the gunshot.             | SI                  | Shot   | Projectile weapon            | Catch shares bottom trawl  | Commercial   | Trawl          | P9          | 1                       | 0                       |
| WCRO             | 5/19/2015 | WC   | Steller Sea Lion | Eastern US | SI                 | A member of the public reported seeing someone shoot a Steller sea lion that was hauled out on a buoy. The reporting party indicated that the animal was "badly wounded."                                  | SI                  | Shot   | Projectile weapon            | N/A                        | N/A          | N/A            | P9          | 1                       | 0                       |
| ADFG             | 5/20/2015 | SEAK | Steller Sea Lion | Eastern US | SI                 | An adult male Steller sea lion was observed with a constricting neck entanglement caused by a packing band.  | SI                  | Constricting entanglement                      | Marine debris (packing band) | N/A                        | N/A          | N/A            | P8a         | 1                       | 0                       |
| AKRO             | 5/24/2015 | SEAK | Steller Sea Lion | Eastern US | SI                 | A Steller sea lion was observed to have "trash around his neck" by a whale watch vessel naturalist at Admiralty Island, AK.  | SI                  | Constricting entanglement                      | Marine debris (unidentified) | N/A                        | N/A          | N/A            | P8a         | 1                       | 0                       |
| ADFG             | 5/26/2015 | SEAK | Steller Sea Lion | Eastern US | SI                 | An adult female Steller sea lion was observed with a constricting neck entanglement caused by unknown material / marine debris. The animal was reported with a pup. This record represents the mother.     | SI                  | Constricting entanglement                      | Marine debris (unidentified) | N/A                        | N/A          | N/A            | P8a         | 1                       | 0                       |
| ADFG             | 5/26/2015 | SEAK | Steller Sea Lion | Eastern US | SI                 | An adult female Steller sea lion was observed with a constricting neck entanglement caused by unknown material / marine debris. The animal was reported with a pup. This record represents the pup.        | SI                  | Dependent animal with mother seriously injured | Marine debris (unidentified) | N/A                        | N/A          | N/A            | P14         | 1                       | 0                       |
| ADFG             | 6/8/2015  | SEAK | Steller Sea Lion | Eastern US | SI                 | An adult female Steller sea lion was observed with a constricting neck entanglement caused by unknown material / marine debris.  | SI                  | Constricting entanglement                      | Marine debris (unidentified) | N/A                        | N/A          | N/A            | P8a         | 1                       | 0                       |

**Appendix Table 1.1 -- Human / marine mammal interaction records reviewed for serious injury and mortality.**

| Source of Record | Date      | Area | Common Name      | Stock      | Initial Assessment | MML Determination Details  | Final Determination | Mechanism of Injury                            | Source of Injury             | Fishery Name                  | Fishery Type | Fishery Method | SI Criteria | Suggested Value for PBR | Suggested Value for LOF |
|------------------|-----------|------|------------------|------------|--------------------|--|---------------------|--|------------------------------|-------------------------------|--------------|----------------|-------------|-------------------------|-------------------------|
| WCRO             | 6/9/2015  | WC   | Steller Sea Lion | Eastern US | DEAD               | A robust adult female Steller sea lion was found dead. There were numerous areas of hemorrhage in the head and body. A projectile was recovered from the animal's head.  | DEAD                | Shot   | Projectile weapon            | N/A                           | N/A          | N/A            | N/A         | 1                       | 0                       |
| AKRO             | 6/12/2015 | SEAK | Steller Sea Lion | Eastern US | SI                 | A Steller sea lion was observed with a wound on its jaw and fishing line protruding from its mouth. It appeared that the sea lion ingested hook and line fishing gear of some type. The animal was very lethargic.   | SI                  | Hooked   | Fishery gear                 | AK SEAK unknown hook and line | Recreational | Hook and line  | P2          | 1                       | 0                       |
| WCGOP            | 6/15/2015 | WC   | Steller Sea Lion | Eastern US | NSI                | A seal bomb was used to deter a Steller sea lion from feeding on the catch.  | NSI                 | Percussion                                     | Seal bomb                    | Nearshore hook and line       | Commercial   | Hook and line  | P9          | 0                       | 0                       |
| ADFG             | 6/18/2015 | SEAK | Steller Sea Lion | Eastern US | SI                 | An adult female Steller sea lion was observed with a constricting neck entanglement caused by unknown material / marine debris.  | SI                  | Constricting entanglement                      | Marine debris (unidentified) | N/A                           | N/A          | N/A            | P8a         | 1                       | 0                       |
| ADFG             | 6/25/2015 | SEAK | Steller Sea Lion | Eastern US | SI                 | An adult female Steller sea lion was observed with a constricting neck entanglement caused by unknown material / marine debris. The animal was reported with a pup. This record represents the mother.   | SI                  | Constricting entanglement                      | Marine debris (unidentified) | N/A                           | N/A          | N/A            | P8a         | 1                       | 0                       |
| ADFG             | 6/25/2015 | SEAK | Steller Sea Lion | Eastern US | SI                 | An adult female Steller sea lion was observed with a constricting neck entanglement caused by unknown material / marine debris. The animal was reported with a pup. This record represents the pup.  | SI                  | Dependent animal with mother seriously injured | Marine debris (unidentified) | N/A                           | N/A          | N/A            | P14         | 1                       | 0                       |
| ADFG             | 6/27/2015 | SEAK | Steller Sea Lion | Eastern US | SI                 | A Steller sea lion was observed with a flasher at the edge of its mouth.   | SI                  | Hooked   | Fishery gear                 | Unknown troll                 | Unknown      | Troll          | P2          | 1                       | 0                       |
| ADFG             | 6/27/2015 | SEAK | Steller Sea Lion | Eastern US | SI                 | An adult female Steller sea lion was observed with a constricting neck entanglement and severe wound caused by a packing band.   | SI                  | Constricting entanglement                      | Marine debris (packing band) | N/A                           | N/A          | N/A            | P8a         | 1                       | 0                       |
| ADFG             | 6/28/2015 | SEAK | Steller Sea Lion | Eastern US | SI                 | A Steller sea lion was observed with a constricting neck entanglement caused by unknown material / marine debris. The animal was reported with a pup. This record represents the mother.   | SI                  | Constricting entanglement                      | Marine debris (unidentified) | N/A                           | N/A          | N/A            | P8a         | 1                       | 0                       |
| ADFG             | 6/28/2015 | SEAK | Steller Sea Lion | Eastern US | SI                 | An adult female Steller sea lion was observed with a constricting neck entanglement caused by unidentified material. The animal was reported with a pup. This record represents the pup.   | SI                  | Dependent animal with mother seriously injured | Marine debris (unidentified) | N/A                           | N/A          | N/A            | P14         | 1                       | 0                       |
| ADFG             | 6/28/2015 | SEAK | Steller Sea Lion | Eastern US | SI                 | A Steller sea lion was observed with a constricting neck entanglement caused by a packing band.  | SI                  | Constricting entanglement                      | Marine debris (packing band) | N/A                           | N/A          | N/A            | P8a         | 1                       | 0                       |
| ADFG             | 6/28/2015 | SEAK | Steller Sea Lion | Eastern US | SI                 | An adult male Steller sea lion was observed with a constricting neck entanglement caused by unknown material / marine debris.  | SI                  | Constricting entanglement                      | Marine debris (unidentified) | N/A                           | N/A          | N/A            | P8a         | 1                       | 0                       |
| ADFG             | 6/28/2015 | SEAK | Steller Sea Lion | Eastern US | SI                 | An adult female Steller sea lion was observed with a constricting neck entanglement caused by unknown material / marine debris.  | SI                  | Constricting entanglement                      | Marine debris (unidentified) | N/A                           | N/A          | N/A            | P8a         | 1                       | 0                       |
| WCRO             | 6/28/2015 | WC   | Steller Sea Lion | Eastern US | DEAD               | An adult female Steller sea lion carcass was found in Newport, OR, with multiple penetrating wounds; one on the right cheek, three on the dorsum at the level of the shoulders, and two on the left lateral flank. The penetrating wounds were associated with a fractured zygomatic arch, an abscess in muscle, and 10 cm - 15 cm long tracts filled with fibrous material. | DEAD                | Shot   | Projectile weapon            | N/A                           | N/A          | N/A            | N/A         | 1                       | 0                       |
| ADFG             | 6/29/2015 | SEAK | Steller Sea Lion | Eastern US | SI                 | A subadult male Steller sea lion was observed with a flasher at the edge of its mouth.   | SI                  | Hooked   | Fishery gear                 | Unknown troll                 | Unknown      | Troll          | P2          | 1                       | 0                       |
| ADFG             | 6/29/2015 | SEAK | Steller Sea Lion | Eastern US | SI                 | A Steller sea lion was observed with a constricting entanglement caused by unknown material / marine debris.   | SI                  | Constricting entanglement                      | Marine debris (unidentified) | N/A                           | N/A          | N/A            | P8a         | 1                       | 0                       |
| ADFG             | 6/29/2015 | SEAK | Steller Sea Lion | Eastern US | SI                 | An adult female Steller sea lion was observed with a constricting entanglement caused by unknown material / marine debris.   | SI                  | Constricting entanglement                      | Marine debris (unidentified) | N/A                           | N/A          | N/A            | P8a         | 1                       | 0                       |
| ADFG             | 6/30/2015 | SEAK | Steller Sea Lion | Eastern US | SI                 | A subadult male Steller sea lion was observed with a flasher at the edge of its mouth.   | SI                  | Hooked   | Fishery gear                 | Unknown troll                 | Unknown      | Troll          | P2          | 1                       | 0                       |
| ADFG             | 6/30/2015 | SEAK | Steller Sea Lion | Eastern US | SI                 | A Steller sea lion was observed with a constricting neck entanglement caused by unknown material / marine debris.  | SI                  | Constricting entanglement                      | Marine debris (unidentified) | N/A                           | N/A          | N/A            | P8a         | 1                       | 0                       |
| ADFG             | 6/30/2015 | SEAK | Steller Sea Lion | Eastern US | SI                 | An adult male Steller sea lion was observed with a constricting entanglement caused by unknown material / marine debris.   | SI                  | Constricting entanglement                      | Marine debris (unidentified) | N/A                           | N/A          | N/A            | P8a         | 1                       | 0                       |
| ADFG             | 7/3/2015  | SEAK | Steller Sea Lion | Eastern US | SI                 | An adult male Steller sea lion was observed with a flasher at the edge of its mouth.   | SI                  | Hooked   | Fishery gear                 | Unknown troll                 | Unknown      | Troll          | P2          | 1                       | 0                       |
| ADFG             | 7/3/2015  | SEAK | Steller Sea Lion | Eastern US | SI                 | A subadult male Steller sea lion was observed with a flasher at the edge of its mouth.   | SI                  | Hooked   | Fishery gear                 | Unknown troll                 | Unknown      | Troll          | P2          | 1                       | 0                       |

**Appendix Table 1.1 -- Human / marine mammal interaction records reviewed for serious injury and mortality.**

| Source of Record | Date      | Area | Common Name      | Stock      | Initial Assessment | MML Determination Details   | Final Determination | Mechanism of Injury       | Source of Injury             | Fishery Name              | Fishery Type | Fishery Method | SI Criteria | Suggested Value for PBR | Suggested Value for LOF |
|------------------|-----------|------|------------------|------------|--------------------|---|---------------------|---------------------------|------------------------------|---------------------------|--------------|----------------|-------------|-------------------------|-------------------------|
| ADFG             | 7/3/2015  | SEAK | Steller Sea Lion | Eastern US | SI                 | A subadult Steller sea lion was observed with a flasher at the edge of its mouth.   | SI                  | Hooked                    | Fishery gear                 | Unknown troll             | Unknown      | Troll          | P2          | 1                       | 0                       |
| ADFG             | 7/3/2015  | SEAK | Steller Sea Lion | Eastern US | SI                 | A subadult male Steller sea lion was observed with a flasher at the edge of its mouth.  | SI                  | Hooked                    | Fishery gear                 | Unknown troll             | Unknown      | Troll          | P2          | 1                       | 0                       |
| ADFG             | 7/3/2015  | SEAK | Steller Sea Lion | Eastern US | SI                 | A subadult Steller sea lion was observed with a flasher at the edge of its mouth.   | SI                  | Hooked                    | Fishery gear                 | Unknown troll             | Unknown      | Troll          | P2          | 1                       | 0                       |
| ADFG             | 7/3/2015  | SEAK | Steller Sea Lion | Eastern US | SI                 | An adult male Steller sea lion was observed with a flasher at the edge of its mouth.  | SI                  | Hooked                    | Fishery gear                 | Unknown troll             | Unknown      | Troll          | P2          | 1                       | 0                       |
| ADFG             | 7/3/2015  | SEAK | Steller Sea Lion | Eastern US | SI                 | A subadult male Steller sea lion was observed with a flasher at the edge of its mouth.  | SI                  | Hooked                    | Fishery gear                 | Unknown troll             | Unknown      | Troll          | P2          | 1                       | 0                       |
| ADFG             | 7/3/2015  | SEAK | Steller Sea Lion | Eastern US | SI                 | An adult female Steller sea lion was observed with a circumferential neck entanglement caused by a packing band.  | SI                  | Constricting entanglement | Marine debris (packing band) | N/A                       | N/A          | N/A            | P8a         | 1                       | 0                       |
| ADFG             | 7/3/2015  | SEAK | Steller Sea Lion | Eastern US | SI                 | An adult female Steller sea lion was observed with a constricting neck entanglement caused by a packing band.   | SI                  | Constricting entanglement | Marine debris (packing band) | N/A                       | N/A          | N/A            | P8a         | 1                       | 0                       |
| ADFG             | 7/4/2015  | SEAK | Steller Sea Lion | Eastern US | SI                 | An adult male Steller sea lion was observed with a flasher at the edge of its mouth.  | SI                  | Hooked                    | Fishery gear                 | Unknown troll             | Unknown      | Troll          | P2          | 1                       | 0                       |
| ADFG             | 7/5/2015  | SEAK | Steller Sea Lion | Eastern US | SI                 | A subadult male Steller sea lion that was previously disentangled in 2014 was observed with a circumferential neck entanglement caused by unknown material / marine debris.   | SI                  | Constricting entanglement | Marine debris (unidentified) | N/A                       | N/A          | N/A            | P8a         | 1                       | 0                       |
| ADFG             | 7/5/2015  | SEAK | Steller Sea Lion | Eastern US | SI                 | An adult male Steller sea lion was observed with a constricting neck entanglement caused by unknown material / marine debris.   | SI                  | Constricting entanglement | Marine debris (unidentified) | N/A                       | N/A          | N/A            | P8a         | 1                       | 0                       |
| ADFG             | 7/5/2015  | SEAK | Steller Sea Lion | Eastern US | SI                 | A Steller sea lion was observed with a flasher at the edge of its mouth.  | SI                  | Hooked                    | Fishery gear                 | Unknown troll             | Unknown      | Troll          | P2          | 1                       | 0                       |
| ADFG             | 7/5/2015  | SEAK | Steller Sea Lion | Eastern US | SI                 | A Steller sea lion was observed with a flasher at the edge of its mouth.  | SI                  | Hooked                    | Fishery gear                 | Unknown troll             | Unknown      | Troll          | P2          | 1                       | 0                       |
| ADFG             | 7/5/2015  | SEAK | Steller Sea Lion | Eastern US | SI                 | An adult male Steller sea lion was observed with a flasher at the edge of its mouth.  | SI                  | Hooked                    | Fishery gear                 | Unknown troll             | Unknown      | Troll          | P2          | 1                       | 0                       |
| ADFG             | 7/5/2015  | SEAK | Steller Sea Lion | Eastern US | SI                 | A subadult male Steller sea lion was observed with a constricting neck entanglement caused by unknown material / marine debris.   | SI                  | Constricting entanglement | Marine debris (unidentified) | N/A                       | N/A          | N/A            | P8a         | 1                       | 0                       |
| AKRO             | 7/6/2015  | SEAK | Steller Sea Lion | Eastern US | SI                 | A Steller sea lion was reported to have ingested troll gear; a silver flasher was hanging from its mouth.   | SI                  | Hooked                    | Fishery gear                 | AK SEAK salmon troll      | Unknown      | Troll          | P2          | 1                       | 0                       |
| ADFG             | 7/6/2015  | SEAK | Steller Sea Lion | Eastern US | SI                 | A subadult male Steller sea lion that had ingested troll gear was captured, the flasher was removed, and the animal was released. An ingested hook was still presumed to be present.  | SI                  | Hooked                    | Fishery gear                 | Unknown troll             | Unknown      | Troll          | P2          | 1                       | 0                       |
| ADFG             | 7/6/2015  | SEAK | Steller Sea Lion | Eastern US | SI                 | An adult male Steller sea lion was observed with a flasher at the edge of its mouth.  | SI                  | Hooked                    | Fishery gear                 | Unknown troll             | Unknown      | Troll          | P2          | 1                       | 0                       |
| ADFG             | 7/7/2015  | SEAK | Steller Sea Lion | Eastern US | SI                 | A subadult male Steller sea lion with a constricting entanglement caused by a packing band was captured, disentangled, and released.  | NSI                 | Constricting entanglement | Marine debris (packing band) | N/A                       | N/A          | N/A            | P7b         | 0                       | 0                       |
| WCGOP            | 7/8/2015  | WC   | Steller Sea Lion | Eastern US | DEAD               | A Steller sea lion was caught and killed in catch shares bottom trawl gear.   | DEAD                | Entangled / entrapped     | Fishery gear                 | Catch shares bottom trawl | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| ADFG             | 7/9/2015  | SEAK | Steller Sea Lion | Eastern US | SI                 | An adult male Steller sea lion was observed with a flasher at the edge of its mouth.  | SI                  | Hooked                    | Fishery gear                 | Unknown troll             | Unknown      | Troll          | P2          | 1                       | 0                       |
| MMAF             | 7/9/2015  | WC   | Steller Sea Lion | Eastern US | DEAD               | A Steller sea lion was caught and killed in Scottish seine fishery gear. Mortality and serious injury estimates for this stock in this fishery are obtained from observer data and not stranding data or fishermen self-reported (MMAF) data; therefore, this record will not be assigned a PBR or LOF value. | DEAD                | Entangled / entrapped     | Fishery gear                 | WA/OR/CA groundfish trawl | Commercial   | Trawl          | N/A         | N/A                     | N/A                     |
| ADFG             | 7/10/2015 | SEAK | Steller Sea Lion | Eastern US | NSI                | A Steller sea lion was observed with a circle hook in its lip.  | NSI                 | Hooked                    | Fishery gear                 | Unknown hook and line     | Unknown      | Hook and line  | P5b         | 0                       | 0                       |
| AKRO             | 7/10/2015 | SEAK | Steller Sea Lion | Eastern US | SI                 | A Steller sea lion that had ingested troll gear was observed near Juneau. An orange and silver flasher was observed hanging from its mouth.   | SI                  | Hooked                    | Fishery gear                 | AK SEAK salmon troll      | Unknown      | Troll          | P2          | 1                       | 0                       |
| ADFG             | 7/10/2015 | SEAK | Steller Sea Lion | Eastern US | SI                 | A subadult male Steller sea lion that had ingested troll gear was captured, the flasher was removed, and the animal was released. An ingested hook was still presumed to be present.  | SI                  | Hooked                    | Fishery gear                 | Unknown troll             | Unknown      | Troll          | P2          | 1                       | 0                       |
| ADFG             | 7/10/2015 | SEAK | Steller Sea Lion | Eastern US | SI                 | An adult male Steller sea lion was observed with a flasher at the edge of its mouth.  | SI                  | Hooked                    | Fishery gear                 | Unknown troll             | Unknown      | Troll          | P2          | 1                       | 0                       |
| ADFG             | 7/10/2015 | SEAK | Steller Sea Lion | Eastern US | SI                 | A subadult male Steller sea lion was observed with a flasher at the edge of its mouth.  | SI                  | Hooked                    | Fishery gear                 | Unknown troll             | Unknown      | Troll          | P2          | 1                       | 0                       |
| ADFG             | 7/10/2015 | SEAK | Steller Sea Lion | Eastern US | SI                 | An adult male Steller sea lion was observed with a flasher at the edge of its mouth.  | SI                  | Hooked                    | Fishery gear                 | Unknown troll             | Unknown      | Troll          | P2          | 1                       | 0                       |



**Appendix Table 1.1 -- Human / marine mammal interaction records reviewed for serious injury and mortality.**

| Source of Record | Date      | Area | Common Name      | Stock      | Initial Assessment | MML Determination Details   | Final Determination | Mechanism of Injury       | Source of Injury             | Fishery Name                    | Fishery Type | Fishery Method | SI Criteria | Suggested Value for PBR | Suggested Value for LOF |
|------------------|-----------|------|------------------|------------|--------------------|---|---------------------|---------------------------|------------------------------|---------------------------------|--------------|----------------|-------------|-------------------------|-------------------------|
| WCGOP            | 7/10/2015 | WC   | Steller Sea Lion | Eastern US | DEAD               | A Steller sea lion was caught and killed in catch shares bottom trawl gear.   | DEAD                | Entangled / entrapped     | Fishery gear                 | Catch shares bottom trawl       | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| ADFG             | 7/11/2015 | SEAK | Steller Sea Lion | Eastern US | SI                 | A subadult male Steller sea lion was observed with a circumferential neck entanglement caused by unknown material / marine debris   | SI                  | Constricting entanglement | Marine debris (unidentified) | N/A                             | N/A          | N/A            | P8a         | 1                       | 0                       |
| NPGOP            | 7/16/2015 | GOA  | Steller Sea Lion | Eastern US | DEAD               | A Steller sea lion was caught and killed in AK GOA Pacific halibut longline gear.   | DEAD                | Hooked                    | Fishery gear                 | AK GOA Pacific halibut longline | Commercial   | Hook and line  | N/A         | 1                       | 1                       |
| AKRO             | 7/22/2015 | SEAK | Steller Sea Lion | Eastern US | SI                 | A large male Steller sea lion that had ingested troll gear was observed hauled out with a large flasher hanging from its mouth. The sea lion was observed and reported by a tour boat naturalist.   | SI                  | Hooked                    | Fishery gear                 | AK SEAK salmon troll            | Unknown      | Troll          | P2          | 1                       | 0                       |
| AKRO             | 7/22/2015 | SEAK | Steller Sea Lion | Eastern US | SI                 | A subadult male Steller sea lion that had ingested troll gear was observed hauled out with a large flasher hanging from its mouth. Dried blood was observed on the flasher and the sea lion was reported to look "sickly." The sea lion was observed and reported by a tour boat naturalist.                  | SI                  | Hooked                    | Fishery gear                 | AK SEAK salmon troll            | Unknown      | Troll          | P2          | 1                       | 0                       |
| AKRO             | 7/26/2015 | SEAK | Steller Sea Lion | Eastern US | SI                 | A Steller sea lion was observed with a circumferential neck entanglement caused by what appeared to be monofilament.  | SI                  | Constricting entanglement | Marine debris (unidentified) | N/A                             | N/A          | N/A            | P8a         | 1                       | 0                       |
| AKRO             | 7/27/2015 | SEAK | Steller Sea Lion | Eastern US | SI                 | A Steller sea lion was observed at the surface of the water with a silver flasher tight to its mouth. The animal was alive, but was reported to barely move for the ~30 minutes that it was observed.   | SI                  | Hooked                    | Fishery gear                 | AK SEAK salmon troll            | Unknown      | Troll          | P2          | 1                       | 0                       |
| MMAF             | 7/30/2015 | WC   | Steller Sea Lion | Eastern US | DEAD               | A Steller sea lion was caught and killed in groundfish trawl gear. Mortality and serious injury estimates for this stock in this fishery are obtained from observer data and not stranding data or fishermen self-reported (MMAF) data; therefore, this record will not be assigned a PBR or LOF value.       | DEAD                | Entangled / entrapped     | Fishery gear                 | WA/OR/CA groundfish trawl       | Commercial   | Trawl          | N/A         | N/A                     | N/A                     |
| MMAF             | 7/30/2015 | WC   | Steller Sea Lion | Eastern US | DEAD               | A Steller sea lion was caught and killed in Scottish seine fishery gear. Mortality and serious injury estimates for this stock in this fishery are obtained from observer data and not stranding data or fishermen self-reported (MMAF) data; therefore, this record will not be assigned a PBR or LOF value. | DEAD                | Entangled / entrapped     | Fishery gear                 | WA/OR/CA groundfish trawl       | Commercial   | Trawl          | N/A         | N/A                     | N/A                     |
| WCGOP            | 8/3/2015  | WC   | Steller Sea Lion | Eastern US | DEAD               | A Steller sea lion was caught and killed in catch shares bottom trawl gear.   | DEAD                | Entangled / entrapped     | Fishery gear                 | Catch shares bottom trawl       | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| MMAF             | 8/3/2015  | WC   | Steller Sea Lion | Eastern US | DEAD               | A Steller sea lion was caught and killed in Scottish seine fishery gear. Mortality and serious injury estimates for this stock in this fishery are obtained from observer data and not stranding data or fishermen self-reported (MMAF) data; therefore, this record will not be assigned a PBR or LOF value. | DEAD                | Entangled / entrapped     | Fishery gear                 | WA/OR/CA groundfish trawl       | Commercial   | Trawl          | N/A         | N/A                     | N/A                     |
| WCGOP            | 8/6/2015  | WC   | Steller Sea Lion | Eastern US | DEAD               | A Steller sea lion was caught and killed in catch shares bottom trawl gear.   | DEAD                | Entangled / entrapped     | Fishery gear                 | Catch shares bottom trawl       | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| MMAF             | 8/6/2015  | WC   | Steller Sea Lion | Eastern US | DEAD               | A Steller sea lion was caught and killed in Scottish seine fishery gear. Mortality and serious injury estimates for this stock in this fishery are obtained from observer data and not stranding data or fishermen self-reported (MMAF) data; therefore, this record will not be assigned a PBR or LOF value. | DEAD                | Entangled / entrapped     | Fishery gear                 | WA/OR/CA groundfish trawl       | Commercial   | Trawl          | N/A         | N/A                     | N/A                     |
| WCGOP            | 8/10/2015 | WC   | Steller Sea Lion | Eastern US | SI                 | A Steller sea lion was caught in trawl gear and brought aboard the fishing vessel. The observer stated the animal may have suffered injury from gear around its head and neck, and that the animal had difficulty exiting the vessel.   | SI                  | Entangled / entrapped     | Fishery gear                 | Catch shares bottom trawl       | Commercial   | Trawl          | P4          | 1                       | 1                       |
| WCGOP            | 8/20/2015 | WC   | Steller Sea Lion | Eastern US | DEAD               | A Steller sea lion was caught and killed in catch shares bottom trawl gear.   | DEAD                | Entangled / entrapped     | Fishery gear                 | Catch shares bottom trawl       | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| SWFSC            | 8/26/2015 | WC   | Steller Sea Lion | Eastern US | DEAD               | A Steller sea lion was found dead with multiple gunshot wounds.   | DEAD                | Shot                      | Projectile weapon            | N/A                             | N/A          | N/A            | N/A         | 1                       | 0                       |
| SWFSC            | 8/30/2015 | WC   | Steller Sea Lion | Eastern US | DEAD               | A Steller sea lion that had ingested troll fishery gear was found dead. The animal also had a shark bite on its right flank.  | DEAD                | Hooked                    | Fishery gear                 | Unknown troll                   | Unknown      | Troll          | N/A         | 1                       | 0                       |
| AKRO             | 9/3/2015  | SEAK | Steller Sea Lion | Eastern US | SI                 | A Steller sea lion was observed that had ingested troll fishery gear; a pink flasher was visible hanging from the animal's mouth. The sea lion was reported to be thin and lethargic.   | SI                  | Hooked                    | Fishery gear                 | AK SEAK salmon troll            | Unknown      | Troll          | P2          | 1                       | 0                       |
| NPGOP            | 9/23/2015 | GOA  | Steller Sea Lion | Eastern US | DEAD               | A Steller sea lion was caught and killed in AK GOA longline gear.   | DEAD                | Hooked                    | Fishery gear                 | AK GOA sablefish longline       | Commercial   | Hook and line  | N/A         | 1                       | 1                       |

**Appendix Table 1.1 -- Human / marine mammal interaction records reviewed for serious injury and mortality.**

| Source of Record | Date       | Area | Common Name      | Stock      | Initial Assessment | MML Determination Details  | Final Determination | Mechanism of Injury       | Source of Injury             | Fishery Name                          | Fishery Type | Fishery Method | SI Criteria | Suggested Value for PBR | Suggested Value for LOF |
|------------------|------------|------|------------------|------------|--------------------|--|---------------------|---------------------------|------------------------------|---------------------------------------|--------------|----------------|-------------|-------------------------|-------------------------|
| WCGOP            | 9/25/2015  | WC   | Steller Sea Lion | Eastern US | NSI                | Seal bombs were used to deter a Steller sea lion from feeding on the catch.  | NSI                 | Percussion                | Seal bomb                    | Limited entry sablefish hook and line | Commercial   | Hook and line  | P9          | 0                       | 0                       |
| SWFSC            | 9/27/2015  | WC   | Steller Sea Lion | Eastern US | DEAD               | A Steller sea lion was found dead with a circumferential neck entanglement caused by monofilament.   | DEAD                | Constricting entanglement | Fishery gear                 | Unknown hook and line                 | Unknown      | Hook and line  | N/A         | 1                       | 0                       |
| WCRO             | 10/4/2015  | WC   | Steller Sea Lion | Eastern US | DEAD               | A Steller sea lion was found dead and was suspected of being shot. A portion of the animal's skull was reported to be "blown away," and there was a hole in the animal's abdomen associated with hemorrhage. The animal was in excellent body condition.     | DEAD                | Shot                      | Projectile weapon            | N/A                                   | N/A          | N/A            | N/A         | 1                       | 0                       |
| WCGOP            | 10/4/2015  | WC   | Steller Sea Lion | Eastern US | DEAD               | A Steller sea lion was caught and killed in catch shares bottom trawl gear.  | DEAD                | Entangled / entrapped     | Fishery gear                 | Catch shares bottom trawl             | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| WCRO             | 10/17/2015 | WC   | Steller Sea Lion | Eastern US | SI                 | A subadult male Steller sea lion was observed with a circumferential neck entanglement that appeared to be caused by a packing band. The animal was thin, but appeared to be exhibiting normal behavior.   | SI                  | Constricting entanglement | Marine debris (packing band) | N/A                                   | N/A          | N/A            | P8a         | 1                       | 0                       |
| WCRO             | 11/2/2015  | WC   | Steller Sea Lion | Eastern US | DEAD               | A Steller sea lion was found dead. Multiple perforations and 4 shotgun pellet projectiles were found inside the animal.  | DEAD                | Shot                      | Projectile weapon            | N/A                                   | N/A          | N/A            | N/A         | 1                       | 0                       |
| WCRO             | 11/15/2015 | WC   | Steller Sea Lion | Eastern US | DEAD               | A Steller sea lion was found with a bullet wound in the abdomen and through the stomach. Stomach contents filled the abdominal cavity, and there was hemorrhage throughout the body.   | DEAD                | Shot                      | Projectile weapon            | N/A                                   | N/A          | N/A            | N/A         | 1                       | 0                       |
| WCRO             | 12/29/2015 | WC   | Steller Sea Lion | Eastern US | DEAD               | An adult male Steller sea lion was found dead and a necropsy was conducted. A bullet was found in its skull.   | DEAD                | Shot                      | Projectile weapon            | N/A                                   | N/A          | N/A            | N/A         | 1                       | 0                       |
| WCGOP            | 2/7/2016   | WC   | Steller Sea Lion | Eastern US | NSI                | A Steller sea lion was caught in trawl gear, brought on deck, and then released alive.   | NSI                 | Entangled / entrapped     | Fishery gear                 | Catch shares bottom trawl             | Commercial   | Trawl          | P4          | 0                       | 0                       |
| WCGOP            | 2/12/2016  | WC   | Steller Sea Lion | Eastern US | NSI                | A Steller sea lion was caught in trawl gear and then released alive.   | NSI                 | Entangled / entrapped     | Fishery gear                 | Catch shares bottom trawl             | Commercial   | Trawl          | P7b         | 0                       | 0                       |
| WCGOP            | 2/13/2016  | WC   | Steller Sea Lion | Eastern US | NSI                | A Steller sea lion was caught in trawl gear and then released alive.   | NSI                 | Entangled / entrapped     | Fishery gear                 | Catch shares bottom trawl             | Commercial   | Trawl          | P7b         | 0                       | 0                       |
| WCGOP            | 2/16/2016  | WC   | Steller Sea Lion | Eastern US | DEAD               | A Steller sea lion was caught and killed in trawl gear.  | DEAD                | Entangled / entrapped     | Fishery gear                 | OA CA halibut bottom trawl            | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| WCRO             | 2/21/2016  | WC   | Steller Sea Lion | Eastern US | SI                 | A Steller sea lion was originally observed in a lethargic state on shore on 2/21/2016 and was found dead on 2/28/2016. A necropsy was conducted and a projectile was recovered from the carcass.   | DEAD                | Shot                      | Projectile weapon            | N/A                                   | N/A          | N/A            | N/A         | 1                       | 0                       |
| WCGOP            | 2/26/2016  | WC   | Steller Sea Lion | Eastern US | DEAD               | A Steller sea lion was caught and killed in trawl gear.  | DEAD                | Entangled / entrapped     | Fishery gear                 | OA CA halibut bottom trawl            | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| WCRO             | 3/7/2016   | WC   | Steller Sea Lion | Eastern US | DEAD               | A Steller sea lion was found in a state of moderate decomposition and a necropsy was conducted. Suspicious holes and associated hemorrhage, twisted intestines, and hemorrhage in the organs indicated the animal had been shot.                             | DEAD                | Shot                      | Projectile weapon            | N/A                                   | N/A          | N/A            | N/A         | 1                       | 0                       |
| WCRO             | 3/12/2016  | WC   | Steller Sea Lion | Eastern US | DEAD               | A Steller sea lion was found in a state of advanced decomposition and a necropsy was conducted. Suspicious holes, associated hemorrhage, organ damage, and twisted intestines indicated that the animal had been shot.                                       | DEAD                | Shot                      | Projectile weapon            | N/A                                   | N/A          | N/A            | N/A         | 1                       | 0                       |
| WCRO             | 3/16/2016  | WC   | Steller Sea Lion | Eastern US | DEAD               | A Steller sea lion was found in a state of advanced decomposition and a necropsy was conducted. Penetrating wounds with associated hemorrhage, and recovery of projectiles from the carcass indicated that the animal had been shot.                         | DEAD                | Shot                      | Projectile weapon            | N/A                                   | N/A          | N/A            | N/A         | 1                       | 0                       |
| WCGOP            | 4/5/2016   | WC   | Steller Sea Lion | Eastern US | DEAD               | A Steller sea lion was caught and killed in longline gear.   | DEAD                | Entangled / entrapped     | Fishery gear                 | Limited entry sablefish longline      | Commercial   | Hook and line  | N/A         | 1                       | 1                       |
| WCRO             | 4/8/2016   | WC   | Steller Sea Lion | Eastern US | DEAD               | A Steller sea lion was discovered in an advanced state of decomposition and a necropsy was conducted. Tracking wounds with associated hemorrhaging and recovery of projectiles indicate the animal had been shot.  | DEAD                | Shot                      | Projectile weapon            | N/A                                   | N/A          | N/A            | N/A         | 1                       | 0                       |
| WCRO             | 4/12/2016  | WC   | Steller Sea Lion | Eastern US | DEAD               | A Steller sea lion was found in a state of moderate decomposition and a necropsy was conducted. There was substantial hemorrhage in the head, body, and organs as well as bloody fluid and sand in the thoracic cavity, indicating the animal had been shot. | DEAD                | Shot                      | Projectile weapon            | N/A                                   | N/A          | N/A            | N/A         | 1                       | 0                       |
| WCRO             | 4/18/2016  | WC   | Steller Sea Lion | Eastern US | DEAD               | A Steller sea lion was found in a state of moderate decomposition and a necropsy was conducted. Suspicious holes, marks that looked like bullet-grazes, and hemorrhage throughout the body indicated the animal had been shot.                               | DEAD                | Shot                      | Projectile weapon            | N/A                                   | N/A          | N/A            | N/A         | 1                       | 0                       |

**Appendix Table 1.1 -- Human / marine mammal interaction records reviewed for serious injury and mortality.**

| Source of Record | Date      | Area | Common Name      | Stock      | Initial Assessment | MML Determination Details  | Final Determination | Mechanism of Injury       | Source of Injury             | Fishery Name                     | Fishery Type | Fishery Method | SI Criteria | Suggested Value for PBR | Suggested Value for LOF |
|------------------|-----------|------|------------------|------------|--------------------|--|---------------------|---------------------------|------------------------------|----------------------------------|--------------|----------------|-------------|-------------------------|-------------------------|
| WCRO             | 4/19/2016 | WC   | Steller Sea Lion | Eastern US | DEAD               | A Steller sea lion was found in a state of moderate decomposition and a necropsy was conducted. The animal had bullet holes in its body with associated hemorrhage, organ damage, and twisted intestines. Projectiles were recovered from the carcass.   | DEAD                | Shot                      | Projectile weapon            | N/A                              | N/A          | N/A            | N/A         | 1                       | 0                       |
| WCGOP            | 4/19/2016 | WC   | Steller Sea Lion | Eastern US | DEAD               | A Steller sea lion was caught and killed in longline gear.   | DEAD                | Entangled / entrapped     | Fishery gear                 | Limited entry sablefish longline | Commercial   | Hook and line  | N/A         | 1                       | 1                       |
| ADFG             | 4/22/2016 | SEAK | Steller Sea Lion | Eastern US | SI                 | A Steller sea lion was observed with a circumferential neck entanglement caused by unknown material.   | SI                  | Constricting entanglement | Marine debris (unidentified) | N/A                              | N/A          | N/A            | P8a         | 1                       | 0                       |
| WCRO             | 4/26/2016 | WC   | Steller Sea Lion | Eastern US | SI                 | A Steller sea lion was observed with multiple straight, parallel incisions seen on its posterior. The deepest wound was approximately 30-40 cm long. The animal appeared to have a healthy bed of granulation tissue at the site of injury.  | SI                  | Ship strike               | Vessel (unknown)             | N/A                              | N/A          | N/A            | P15         | 1                       | 0                       |
| ADFG             | 4/26/2016 | SEAK | Steller Sea Lion | Eastern US | SI                 | A Steller sea lion was observed with a circumferential neck entanglement caused by unknown material.   | SI                  | Constricting entanglement | Marine debris (unidentified) | N/A                              | N/A          | N/A            | P8a         | 1                       | 0                       |
| NPGOP            | 4/28/2016 | SEAK | Steller Sea Lion | Eastern US | NSI                | An observer reported that a live Steller sea lion was briefly entangled in longline gear.  | NSI                 | Entangled / entrapped     | Fishery gear                 | AK GOA Pacific halibut longline  | Commercial   | Hook and line  | P7b         | 0                       | 0                       |
| WCRO             | 5/5/2016  | WC   | Steller Sea Lion | Eastern US | DEAD               | A Steller sea lion was found in a state of moderate decomposition and a necropsy was conducted. The animal had been shot, indicated by penetrating wounds with associated hemorrhage, twisted intestines, and an abdominal cavity filled with bloody fluid. Projectile(s) were recovered from the carcass. | DEAD                | Shot                      | Projectile weapon            | N/A                              | N/A          | N/A            | N/A         | 1                       | 0                       |
| AKRO             | 5/15/2016 | SEAK | Steller Sea Lion | Eastern US | SI                 | A Steller sea lion was observed entangled in salmon troll gear that consisted of a white hoochie and green flasher.  | SI                  | Entangled / entrapped     | Fishery gear                 | Unknown troll                    | Unknown      | Troll          | P8a         | 1                       | 0                       |
| ADFG             | 5/28/2016 | SEAK | Steller Sea Lion | Eastern US | SI                 | A subadult male Steller sea lion was observed with a flasher at the edge of its mouth.   | SI                  | Hooked                    | Fishery gear                 | Unknown troll                    | Unknown      | Troll          | P2          | 1                       | 0                       |
| ADFG             | 6/4/2016  | SEAK | Steller Sea Lion | Eastern US | SI                 | An adult female Steller sea lion was observed with a circumferential neck entanglement caused by unknown material.   | SI                  | Constricting entanglement | Marine debris (unidentified) | N/A                              | N/A          | N/A            | P8a         | 1                       | 0                       |
| ADFG             | 6/9/2016  | SEAK | Steller Sea Lion | Eastern US | NSI                | A subadult male Steller sea lion was observed with a treble hook in its lip  | NSI                 | Hooked                    | Fishery gear                 | Unknown hook and line            | Unknown      | Hook and line  | P5b         | 0                       | 0                       |
| ADFG             | 6/12/2016 | SEAK | Steller Sea Lion | Eastern US | SI                 | An adult female Steller sea lion was observed with a circumferential neck entanglement caused by unidentified material.  | SI                  | Constricting entanglement | Marine debris (unidentified) | N/A                              | N/A          | N/A            | P8a         | 1                       | 0                       |
| WCRO             | 6/12/2016 | WC   | Steller Sea Lion | Eastern US | DEAD               | A Steller sea lion was discovered in a state of moderate decomposition. The animal had a flasher in its mouth, and a hook was found perforating the animal's esophagus.  | DEAD                | Hooked                    | Fishery gear                 | Unknown troll                    | Unknown      | Troll          | N/A         | 1                       | 0                       |
| MMAP             | 6/19/2016 | WC   | Steller Sea Lion | Eastern US | DEAD               | A Steller sea lion was caught and killed in trawl gear. Mortality and serious injury estimates for this stock in this fishery are obtained from observer data and not stranding data or fishermen self-reported (MMAP) data; therefore, this record will not be assigned a PBR or LOF value.               | DEAD                | Entangled / entrapped     | Fishery gear                 | WA/OR/CA groundfish trawl        | Commercial   | Trawl          | N/A         | N/A                     | N/A                     |
| ADFG             | 6/19/2016 | SEAK | Steller Sea Lion | Eastern US | SI                 | An adult female Steller sea lion was observed with a circumferential neck entanglement caused by unidentified material.  | SI                  | Constricting entanglement | Marine debris (unidentified) | N/A                              | N/A          | N/A            | P8a         | 1                       | 0                       |
| AKRO             | 6/21/2016 | SEAK | Steller Sea Lion | Eastern US | SI                 | A Steller sea lion was observed to be trailing an orange buoy through the water.   | SI                  | Entangled / entrapped     | Marine debris (unidentified) | N/A                              | N/A          | N/A            | P6          | 1                       | 0                       |
| ADFG             | 6/22/2016 | SEAK | Steller Sea Lion | Eastern US | SI                 | An adult male Steller sea lion was observed with a circumferential neck entanglement caused by unidentified material.  | SI                  | Constricting entanglement | Marine debris (unidentified) | N/A                              | N/A          | N/A            | P8a         | 1                       | 0                       |
| ADFG             | 6/24/2016 | SEAK | Steller Sea Lion | Eastern US | SI                 | An adult female Steller sea lion was observed with a line and orange weight hanging from its mouth. The report states that it's presumed that the animal ingested the hook, or the hook is in the animal's mouth.  | SI                  | Hooked                    | Fishery gear                 | Unknown hook and line            | Unknown      | Hook and line  | P5a         | 1                       | 0                       |
| ADFG             | 6/25/2016 | SEAK | Steller Sea Lion | Eastern US | SI                 | A subadult male Steller sea lion was observed with a circumferential neck entanglement caused by unidentified material.  | SI                  | Constricting entanglement | Marine debris (unidentified) | N/A                              | N/A          | N/A            | P8a         | 1                       | 0                       |
| ADFG             | 6/28/2016 | SEAK | Steller Sea Lion | Eastern US | SI                 | A Steller sea lion was observed with a circumferential neck entanglement caused by unidentified material.  | SI                  | Constricting entanglement | Marine debris (unidentified) | N/A                              | N/A          | N/A            | P8a         | 1                       | 0                       |
| ADFG             | 6/29/2016 | SEAK | Steller Sea Lion | Eastern US | SI                 | An adult male Steller sea lion was observed with a neck entanglement caused by unknown material.   | SI                  | Constricting entanglement | Marine debris (unidentified) | N/A                              | N/A          | N/A            | P8a         | 1                       | 0                       |

**Appendix Table 1.1 -- Human / marine mammal interaction records reviewed for serious injury and mortality.**

| Source of Record | Date      | Area | Common Name      | Stock      | Initial Assessment | MML Determination Details   | Final Determination | Mechanism of Injury       | Source of Injury             | Fishery Name                                      | Fishery Type | Fishery Method | SI Criteria | Suggested Value for PBR | Suggested Value for LOF |
|------------------|-----------|------|------------------|------------|--------------------|---|---------------------|---------------------------|------------------------------|---|--------------|----------------|-------------|-------------------------|-------------------------|
| ADFG             | 6/29/2016 | SEAK | Steller Sea Lion | Eastern US | SI                 | An adult female Steller sea lion was observed with a flasher at the edge of its mouth.  | SI                  | Hooked                    | Fishery gear                 | Unknown troll                                     | Unknown      | Troll          | P2          | 1                       | 0                       |
| ADFG             | 6/29/2016 | SEAK | Steller Sea Lion | Eastern US | SI                 | An adult female Steller sea lion was observed with a circumferential neck entanglement caused by unidentified material.   | SI                  | Constricting entanglement | Marine debris (unidentified) | N/A   | N/A          | N/A            | P8a         | 1                       | 0                       |
| ADFG             | 6/29/2016 | SEAK | Steller Sea Lion | Eastern US | SI                 | A subadult male Steller sea lion was observed with a circumferential neck entanglement caused by a packing band.  | SI                  | Constricting entanglement | Marine debris (packing band) | N/A   | N/A          | N/A            | P8a         | 1                       | 0                       |
| ADFG             | 6/30/2016 | SEAK | Steller Sea Lion | Eastern US | SI                 | A subadult male Steller sea lion was observed with a flasher at the edge of its mouth.  | SI                  | Hooked                    | Fishery gear                 | Unknown troll                                     | Unknown      | Troll          | P2          | 1                       | 0                       |
| ADFG             | 6/30/2016 | SEAK | Steller Sea Lion | Eastern US | SI                 | A subadult male Steller sea lion was observed with a flasher at the edge of its mouth.  | SI                  | Hooked                    | Fishery gear                 | Unknown troll                                     | Unknown      | Troll          | P2          | 1                       | 0                       |
| ADFG             | 6/30/2016 | SEAK | Steller Sea Lion | Eastern US | SI                 | An adult female Steller sea lion was observed with a circumferential neck entanglement caused by a packing band.  | SI                  | Constricting entanglement | Marine debris (packing band) | N/A   | N/A          | N/A            | P8a         | 1                       | 0                       |
| ADFG             | 7/2/2016  | SEAK | Steller Sea Lion | Eastern US | SI                 | A subadult male Steller sea lion that had ingested troll gear was captured, the flasher was removed, and the animal was released. An ingested hook was still presumed to be present.  | SI                  | Hooked                    | Fishery gear                 | Unknown troll                                     | Unknown      | Troll          | P2          | 1                       | 0                       |
| ADFG             | 7/2/2016  | SEAK | Steller Sea Lion | Eastern US | SI                 | A Steller sea lion was observed with a circumferential neck entanglement caused by unidentified material.   | SI                  | Constricting entanglement | Marine debris (packing band) | N/A   | N/A          | N/A            | P8a         | 1                       | 0                       |
| AKRO             | 7/3/2016  | GOA  | Steller Sea Lion | Eastern US | DEAD               | A Steller sea lion was found dead and necropsied. The animal had a 3 cm round wound on its torso and a wound that matched in size and location on its right flipper where the flipper overlapped the torso. There was significant hemorrhage in the abdominal cavity associated with the wound. | DEAD                | Shot                      | Projectile weapon            | N/A   | N/A          | N/A            | N/A         | 1                       | 0                       |
| ADFG             | 7/3/2016  | SEAK | Steller Sea Lion | Eastern US | SI                 | An adult female Steller sea lion was observed with a flasher at the edge of its mouth.  | SI                  | Hooked                    | Fishery gear                 | Unknown troll                                     | Unknown      | Troll          | P2          | 1                       | 0                       |
| ADFG             | 7/3/2016  | SEAK | Steller Sea Lion | Eastern US | SI                 | An adult female Steller sea lion was observed with a flasher at the edge of its mouth.  | SI                  | Hooked                    | Fishery gear                 | Unknown troll                                     | Unknown      | Troll          | P2          | 1                       | 0                       |
| ADFG             | 7/4/2016  | SEAK | Steller Sea Lion | Eastern US | SI                 | An adult male Steller sea lion was observed with a flasher at the edge of its mouth.  | SI                  | Hooked                    | Fishery gear                 | Unknown troll                                     | Unknown      | Troll          | P2          | 1                       | 0                       |
| ADFG             | 7/4/2016  | SEAK | Steller Sea Lion | Eastern US | SI                 | A subadult male Steller sea lion was observed with a circumferential neck entanglement caused by a packing band.  | SI                  | Constricting entanglement | Marine debris (packing band) | N/A   | N/A          | N/A            | P8a         | 1                       | 0                       |
| ADFG             | 7/5/2016  | SEAK | Steller Sea Lion | Eastern US | SI                 | An adult male Steller sea lion was observed with a flasher at the edge of its mouth.  | SI                  | Hooked                    | Fishery gear                 | Unknown troll                                     | Unknown      | Troll          | P2          | 1                       | 0                       |
| ADFG             | 7/5/2016  | SEAK | Steller Sea Lion | Eastern US | SI                 | A subadult male Steller sea lion was observed with a flasher at the edge of its mouth.  | SI                  | Hooked                    | Fishery gear                 | Unknown troll                                     | Unknown      | Troll          | P2          | 1                       | 0                       |
| ADFG             | 7/5/2016  | SEAK | Steller Sea Lion | Eastern US | SI                 | A Steller sea lion was observed with a flasher tight to the edge of its mouth.  | SI                  | Hooked                    | Fishery gear                 | Unknown troll                                     | Unknown      | Troll          | P2          | 1                       | 0                       |
| MMAF             | 7/5/2016  | WC   | Steller Sea Lion | Eastern US | DEAD               | A Steller sea lion was caught and killed by longline gear. Mortality and serious injury estimates for this stock in this fishery are obtained from observer data and not stranding data or fishermen self-reported (MMAF) data; therefore, this record will not be assigned a PBR or LOF value. | DEAD                | Entangled / entrapped     | Fishery gear                 | WA/OR/CA groundfish, bottomfish longline/set line | Commercial   | Hook and line  | N/A         | N/A                     | N/A                     |
| ADFG             | 7/6/2016  | SEAK | Steller Sea Lion | Eastern US | SI                 | An adult male Steller sea lion was observed with a flasher at the edge of its mouth.  | SI                  | Hooked                    | Fishery gear                 | Unknown troll                                     | Unknown      | Troll          | P2          | 1                       | 0                       |
| ADFG             | 7/6/2016  | SEAK | Steller Sea Lion | Eastern US | SI                 | A subadult male Steller sea lion was observed with a flasher at the edge of its mouth.  | SI                  | Hooked                    | Fishery gear                 | Unknown troll                                     | Unknown      | Troll          | P2          | 1                       | 0                       |
| ADFG             | 7/6/2016  | SEAK | Steller Sea Lion | Eastern US | SI                 | An adult male Steller sea lion was observed with a flasher in its mouth.  | SI                  | Hooked                    | Fishery gear                 | Unknown troll                                     | Unknown      | Troll          | P2          | 1                       | 0                       |
| ADFG             | 7/6/2016  | SEAK | Steller Sea Lion | Eastern US | SI                 | A Steller sea lion was observed with a circumferential neck entanglement caused by unidentified material.   | SI                  | Constricting entanglement | Marine debris (unidentified) | N/A   | N/A          | N/A            | P8a         | 1                       | 0                       |
| ADFG             | 7/7/2016  | SEAK | Steller Sea Lion | Eastern US | SI                 | A subadult male Steller sea lion was observed with a flasher at the edge of its mouth.  | SI                  | Hooked                    | Fishery gear                 | Unknown troll                                     | Unknown      | Troll          | P2          | 1                       | 0                       |
| WCRO             | 7/7/2016  | WC   | Steller Sea Lion | Eastern US | SI                 | A Steller sea lion was observed alive with an apparent gunshot wound. Two days later, the animal was found dead. A .22 caliber bullet was recovered from the animal's head by NOAA Law Enforcement.   | DEAD                | Shot                      | Projectile weapon            | N/A   | N/A          | N/A            | N/A         | 1                       | 0                       |
| ADFG             | 7/8/2016  | SEAK | Steller Sea Lion | Eastern US | SI                 | A subadult male Steller sea lion was observed with a flasher at the edge of its mouth.  | SI                  | Hooked                    | Fishery gear                 | Unknown troll                                     | Unknown      | Troll          | P2          | 1                       | 0                       |

**Appendix Table 1.1 -- Human / marine mammal interaction records reviewed for serious injury and mortality.**

| Source of Record | Date      | Area | Common Name      | Stock      | Initial Assessment | MML Determination Details   | Final Determination | Mechanism of Injury                            | Source of Injury             | Fishery Name          | Fishery Type | Fishery Method | SI Criteria | Suggested Value for PBR | Suggested Value for LOF |
|------------------|-----------|------|------------------|------------|--------------------|---|---------------------|--|------------------------------|-----------------------|--------------|----------------|-------------|-------------------------|-------------------------|
| ADFG             | 7/8/2016  | SEAK | Steller Sea Lion | Eastern US | SI                 | A subadult male Steller sea lion was observed with a flasher at the edge of its mouth. The sea lion was captured, the flasher was removed, and the animal was released.                             | SI                  | Hooked   | Fishery gear                 | Unknown troll         | Unknown      | Troll          | P2          | 1                       | 0                       |
| ADFG             | 7/8/2016  | SEAK | Steller Sea Lion | Eastern US | SI                 | A subadult male Steller sea lion was observed with a flasher at the edge of its mouth.  | SI                  | Hooked   | Fishery gear                 | Unknown troll         | Unknown      | Troll          | P2          | 1                       | 0                       |
| ADFG             | 7/8/2016  | SEAK | Steller Sea Lion | Eastern US | SI                 | An adult female Steller sea lion was observed with a circumferential neck entanglement caused by unidentified material.   | SI                  | Constricting entanglement                      | Marine debris (unidentified) | N/A                   | N/A          | N/A            | P8a         | 1                       | 0                       |
| ADFG             | 7/8/2016  | SEAK | Steller Sea Lion | Eastern US | SI                 | An adult female Steller sea lion was observed with a circumferential neck entanglement caused by unidentified material. The animal was reported with a pup. This record represents the mother.      | SI                  | Constricting entanglement                      | Marine debris (unidentified) | N/A                   | N/A          | N/A            | P8a         | 1                       | 0                       |
| ADFG             | 7/8/2016  | SEAK | Steller Sea Lion | Eastern US | SI                 | An adult female Steller sea lion was observed with a constricting neck entanglement caused by unknown material / marine debris. The animal was reported with a pup. This record represents the pup. | SI                  | Dependent animal with mother seriously injured | Marine debris (unidentified) | N/A                   | N/A          | N/A            | P14         | 1                       | 0                       |
| ADFG             | 7/8/2016  | SEAK | Steller Sea Lion | Eastern US | SI                 | An adult female Steller sea lion was observed with a circumferential neck entanglement caused by unknown material.  | SI                  | Constricting entanglement                      | Marine debris (unidentified) | N/A                   | N/A          | N/A            | P8a         | 1                       | 0                       |
| ADFG             | 7/9/2016  | SEAK | Steller Sea Lion | Eastern US | SI                 | A subadult male Steller sea lion was observed with a flasher tight to its mouth. The sea lion was captured, the flasher was removed, and the animal was released.                                   | SI                  | Hooked   | Fishery gear                 | Unknown troll         | Unknown      | Troll          | P2          | 1                       | 0                       |
| ADFG             | 7/9/2016  | SEAK | Steller Sea Lion | Eastern US | SI                 | A subadult male Steller sea lion was observed with a flasher at the edge of its mouth.  | SI                  | Hooked   | Fishery gear                 | Unknown troll         | Unknown      | Troll          | P2          | 1                       | 0                       |
| ADFG             | 7/9/2016  | SEAK | Steller Sea Lion | Eastern US | SI                 | An adult male Steller sea lion was observed with a flasher at the edge of its mouth.  | SI                  | Hooked   | Fishery gear                 | Unknown troll         | Unknown      | Troll          | P2          | 1                       | 0                       |
| ADFG             | 7/9/2016  | SEAK | Steller Sea Lion | Eastern US | SI                 | An adult male Steller sea lion was observed with a flasher at the edge of its mouth.  | SI                  | Hooked   | Fishery gear                 | Unknown troll         | Unknown      | Troll          | P2          | 1                       | 0                       |
| ADFG             | 7/9/2016  | SEAK | Steller Sea Lion | Eastern US | SI                 | A subadult male Steller sea lion was observed with a circumferential neck entanglement caused by a packing band.  | SI                  | Constricting entanglement                      | Marine debris (packing band) | N/A                   | N/A          | N/A            | P8a         | 1                       | 0                       |
| ADFG             | 7/9/2016  | SEAK | Steller Sea Lion | Eastern US | SI                 | A subadult male Steller sea lion was observed with a circumferential neck entanglement caused by a packing band.  | SI                  | Constricting entanglement                      | Marine debris (packing band) | N/A                   | N/A          | N/A            | P8a         | 1                       | 0                       |
| ADFG             | 7/10/2016 | SEAK | Steller Sea Lion | Eastern US | SI                 | An adult male Steller sea lion was observed with a flasher at the edge of its mouth.  | SI                  | Hooked   | Fishery gear                 | Unknown troll         | Unknown      | Troll          | P2          | 1                       | 0                       |
| ADFG             | 7/10/2016 | SEAK | Steller Sea Lion | Eastern US | SI                 | A subadult Steller sea lion was observed with a flasher at the edge of its mouth.   | SI                  | Hooked   | Fishery gear                 | Unknown troll         | Unknown      | Troll          | P2          | 1                       | 0                       |
| ADFG             | 7/10/2016 | SEAK | Steller Sea Lion | Eastern US | SI                 | An adult male Steller sea lion was observed with a flasher at the edge of its mouth.  | SI                  | Hooked   | Fishery gear                 | Unknown troll         | Unknown      | Troll          | P2          | 1                       | 0                       |
| ADFG             | 7/10/2016 | SEAK | Steller Sea Lion | Eastern US | SI                 | A Steller sea lion was observed with a flasher at the edge of its mouth.  | SI                  | Hooked   | Fishery gear                 | Unknown troll         | Unknown      | Troll          | P2          | 1                       | 0                       |
| ADFG             | 7/10/2016 | SEAK | Steller Sea Lion | Eastern US | SI                 | A Steller sea lion was observed with monofilament line that appeared to be wrapped around its neck and a weight hanging at its chest.   | SI                  | Entangled / entrapped                          | Fishery gear                 | Unknown hook and line | Unknown      | Hook and line  | P6          | 1                       | 0                       |
| ADFG             | 7/10/2016 | SEAK | Steller Sea Lion | Eastern US | SI                 | A subadult male Steller sea lion was observed with a circumferential neck entanglement caused by unidentified material.   | SI                  | Constricting entanglement                      | Marine debris (unidentified) | N/A                   | N/A          | N/A            | P8a         | 1                       | 0                       |
| ADFG             | 7/10/2016 | SEAK | Steller Sea Lion | Eastern US | SI                 | A subadult Steller sea lion was observed with a circumferential neck entanglement caused by unidentified material.  | SI                  | Constricting entanglement                      | Marine debris (unidentified) | N/A                   | N/A          | N/A            | P8a         | 1                       | 0                       |
| ADFG             | 7/12/2016 | SEAK | Steller Sea Lion | Eastern US | SI                 | A subadult male Steller sea lion was observed with a flasher at the edge of its mouth.  | SI                  | Hooked   | Fishery gear                 | Unknown troll         | Unknown      | Unknown        | P2          | 1                       | 0                       |
| ADFG             | 7/12/2016 | SEAK | Steller Sea Lion | Eastern US | SI                 | A subadult male Steller sea lion was observed with a flasher at the edge of its mouth.  | SI                  | Hooked   | Fishery gear                 | Unknown troll         | Unknown      | Troll          | P2          | 1                       | 0                       |
| ADFG             | 7/12/2016 | SEAK | Steller Sea Lion | Eastern US | SI                 | An adult male Steller sea lion was observed with a circumferential neck entanglement caused by unidentified material.   | SI                  | Constricting entanglement                      | Marine debris (unidentified) | N/A                   | N/A          | N/A            | P8a         | 1                       | 0                       |
| ADFG             | 7/12/2016 | SEAK | Steller Sea Lion | Eastern US | SI                 | An adult female Steller sea lion was observed with a circumferential neck entanglement caused by unidentified material.   | SI                  | Constricting entanglement                      | Marine debris (unidentified) | N/A                   | N/A          | N/A            | P8a         | 1                       | 0                       |
| ADFG             | 7/13/2016 | SEAK | Steller Sea Lion | Eastern US | SI                 | A Steller sea lion was observed with a flasher at the edge of its mouth.  | SI                  | Hooked   | Fishery gear                 | Unknown troll         | Unknown      | Troll          | P2          | 1                       | 0                       |
| ADFG             | 7/13/2016 | SEAK | Steller Sea Lion | Eastern US | SI                 | A subadult Steller sea lion was observed with a flasher at the edge of its mouth.   | SI                  | Hooked   | Fishery gear                 | Unknown troll         | Unknown      | Troll          | P2          | 1                       | 0                       |
| ADFG             | 7/13/2016 | SEAK | Steller Sea Lion | Eastern US | SI                 | A subadult Steller sea lion was observed with a flasher at the edge of its mouth.   | SI                  | Hooked   | Fishery gear                 | Unknown troll         | Unknown      | Troll          | P2          | 1                       | 0                       |
| ADFG             | 7/13/2016 | SEAK | Steller Sea Lion | Eastern US | SI                 | A subadult male Steller sea lion was observed with a circumferential neck entangled caused by rope.   | SI                  | Constricting entanglement                      | Marine debris (rope)         | N/A                   | N/A          | N/A            | P8a         | 1                       | 0                       |

**Appendix Table 1.1 -- Human / marine mammal interaction records reviewed for serious injury and mortality.**

| Source of Record | Date      | Area | Common Name      | Stock      | Initial Assessment | MML Determination Details   | Final Determination | Mechanism of Injury                            | Source of Injury             | Fishery Name          | Fishery Type | Fishery Method | SI Criteria | Suggested Value for PBR | Suggested Value for LOF |
|------------------|-----------|------|------------------|------------|--------------------|---|---------------------|--|------------------------------|-----------------------|--------------|----------------|-------------|-------------------------|-------------------------|
| ADFG             | 7/13/2016 | SEAK | Steller Sea Lion | Eastern US | SI                 | A subadult male Steller sea lion was observed with a circumferential neck entanglement caused by unidentified material.   | SI                  | Constricting entanglement                      | Marine debris (unidentified) | N/A                   | N/A          | N/A            | P8a         | 1                       | 0                       |
| ADFG             | 7/13/2016 | SEAK | Steller Sea Lion | Eastern US | SI                 | A subadult male Steller sea lion was observed with a circumferential neck entanglement caused by unidentified material.   | SI                  | Constricting entanglement                      | Marine debris (unidentified) | N/A                   | N/A          | N/A            | P8a         | 1                       | 0                       |
| ADFG             | 7/14/2016 | SEAK | Steller Sea Lion | Eastern US | SI                 | An adult female Steller sea lion was observed with a flasher at the edge of its mouth.  | SI                  | Hooked   | Fishery gear                 | Unknown troll         | Unknown      | Troll          | P2          | 1                       | 0                       |
| ADFG             | 7/14/2016 | SEAK | Steller Sea Lion | Eastern US | SI                 | A Steller sea lion was observed with a circumferential neck entanglement caused by unknown material.  | SI                  | Constricting entanglement                      | Marine debris (unidentified) | N/A                   | N/A          | N/A            | P8a         | 1                       | 0                       |
| ADFG             | 7/14/2016 | SEAK | Steller Sea Lion | Eastern US | SI                 | An adult female Steller sea lion was observed with a circumferential neck entanglement caused by rope.  | SI                  | Constricting entanglement                      | Marine debris (rope)         | N/A                   | N/A          | N/A            | P8a         | 1                       | 0                       |
| ADFG             | 7/14/2016 | SEAK | Steller Sea Lion | Eastern US | SI                 | A subadult male Steller sea lion was observed with a circumferential neck entanglement caused by unidentified material.   | SI                  | Constricting entanglement                      | Marine debris (unidentified) | N/A                   | N/A          | N/A            | P8a         | 1                       | 0                       |
| AKRO             | 7/14/2016 | SEAK | Steller Sea Lion | Eastern US | SI                 | A Steller sea lion ingested troll fishery gear and a flasher was observed tight to its right lip.   | SI                  | Hooked   | Fishery gear                 | Unknown troll         | Unknown      | Troll          | P2          | 1                       | 0                       |
| WCRO             | 7/18/2016 | WC   | Steller Sea Lion | Eastern US | DEAD               | A Steller sea lion was found in a state of moderate decomposition and a necropsy was conducted. What appeared to be bullet holes, associated hemorrhage, clotting, and organ damage indicated the animal had been shot.   | DEAD                | Shot   | Projectile weapon            | N/A                   | N/A          | N/A            | N/A         | 1                       | 0                       |
| AKRO             | 7/19/2016 | SEAK | Steller Sea Lion | Eastern US | SI                 | A Steller sea lion ingested troll fishery gear and a flasher was observed hanging from its mouth.   | SI                  | Hooked   | Fishery gear                 | Unknown troll         | Unknown      | Troll          | P2          | 1                       | 0                       |
| WCRO             | 7/22/2016 | WC   | Steller Sea Lion | Eastern US | DEAD               | A Steller sea lion was found in a state of advanced decomposition and a necropsy was conducted. Puncture marks of various sizes and depths on the ventral neck, tremendous hemorrhage in the ventral body, track-like wounds with entrance holes, and recovery of projectiles indicated the animal had been shot. | DEAD                | Shot   | Projectile weapon            | N/A                   | N/A          | N/A            | N/A         | 1                       | 0                       |
| WCRO             | 7/24/2016 | WC   | Steller Sea Lion | Eastern US | SI                 | An adult female Steller sea lion was observed with a flasher hanging from its mouth. The animal appeared to have a dependent pup. This entry represents the mother.   | SI                  | Hooked   | Fishery gear                 | Unknown troll         | Unknown      | Troll          | P2          | 1                       | 0                       |
| WCRO             | 7/24/2016 | WC   | Steller Sea Lion | Eastern US | SI                 | An adult female Steller sea lion was observed with a flasher hanging from its mouth. The animal appeared to have a dependent pup. This entry represents the pup.  | SI                  | Dependent animal with mother seriously injured | Fishery gear                 | Unknown troll         | Unknown      | Troll          | P14         | 1                       | 0                       |
| WCRO             | 7/24/2016 | WC   | Steller Sea Lion | Eastern US | SI                 | A Steller sea lion was observed with a circumferential neck entanglement caused by what appeared to be a rubber band or packing band. The entanglement deeply cut into the animal.  | SI                  | Constricting entanglement                      | Marine debris (unidentified) | N/A                   | N/A          | N/A            | P8a         | 1                       | 0                       |
| AKRO             | 7/26/2016 | SEAK | Steller Sea Lion | Eastern US | SI                 | A Steller sea lion ingested troll fishery gear, and a flasher and pink hoochie were observed hanging from its mouth.  | SI                  | Hooked   | Fishery gear                 | Unknown troll         | Recreational | Troll          | P2          | 1                       | 0                       |
| AKRO             | 7/29/2016 | SEAK | Steller Sea Lion | Eastern US | SI                 | A Steller sea lion ingested fishery gear and a flasher was observed hanging from the animal's mouth.  | SI                  | Hooked   | Fishery gear                 | Unknown troll         | Unknown      | Troll          | P2          | 1                       | 0                       |
| AKRO             | 8/1/2016  | SEAK | Steller Sea Lion | Eastern US | SI                 | A Steller sea lion was observed with a circumferential neck entanglement caused by unknown material.  | SI                  | Constricting entanglement                      | Marine debris (unidentified) | N/A                   | N/A          | N/A            | P8a         | 1                       | 0                       |
| AKRO             | 8/2/2016  | SEAK | Steller Sea Lion | Eastern US | NSI                | A Steller sea lion with a circle hook attached to a gangion line in its lip was observed hauled out on a buoy.  | NSI                 | Hooked   | Fishery gear                 | Unknown longline      | Unknown      | Hook and line  | P5b         | 0                       | 0                       |
| SWFSC            | 8/7/2016  | WC   | Steller Sea Lion | Eastern US | SI                 | A Steller sea lion with monofilament line wrapped around its head and neck was captured, disentangled, and released.  | NSI                 | Constricting entanglement                      | Fishery gear                 | Unknown hook and line | Unknown      | Hook and line  | P7b         | 0                       | 0                       |
| AKRO             | 8/9/2016  | SEAK | Steller Sea Lion | Eastern US | SI                 | A Steller sea lion ingested troll fishery gear and was observed with a flasher with a white/silver body and red/orange rim hanging from its mouth.  | SI                  | Hooked   | Fishery gear                 | Unknown troll         | Unknown      | Troll          | P2          | 1                       | 0                       |
| AKRO             | 8/15/2016 | SEAK | Steller Sea Lion | Eastern US | SI                 | A Steller sea lion ingested troll fishery gear and a flasher was observed hanging from its mouth.   | SI                  | Hooked   | Fishery gear                 | Unknown troll         | Unknown      | Troll          | P2          | 1                       | 0                       |
| ADFG             | 8/16/2016 | SEAK | Steller Sea Lion | Eastern US | SI                 | An adult male Steller sea lion was observed with a circumferential neck entanglement caused by unknown material.  | SI                  | Constricting entanglement                      | Marine debris (unidentified) | N/A                   | N/A          | N/A            | P8a         | 1                       | 0                       |
| ADFG             | 8/16/2016 | SEAK | Steller Sea Lion | Eastern US | SI                 | A male Steller sea lion was observed with a flasher at the edge of its mouth.   | SI                  | Hooked   | Fishery gear                 | Unknown troll         | Unknown      | Troll          | P2          | 1                       | 0                       |
| ADFG             | 8/16/2016 | SEAK | Steller Sea Lion | Eastern US | SI                 | An adult male Steller sea lion was observed with a flasher at the edge of its mouth.  | SI                  | Hooked   | Fishery gear                 | Unknown troll         | Unknown      | Unknown        | P2          | 1                       | 0                       |

**Appendix Table 1.1 -- Human / marine mammal interaction records reviewed for serious injury and mortality.**

| Source of Record | Date       | Area | Common Name      | Stock      | Initial Assessment | MML Determination Details   | Final Determination | Mechanism of Injury   | Source of Injury | Fishery Name   | Fishery Type | Fishery Method | SI Criteria | Suggested Value for PBR | Suggested Value for LOF |
|------------------|------------|------|------------------|------------|--------------------|---|---------------------|-----------------------|------------------|--|--------------|----------------|-------------|-------------------------|-------------------------|
| AKRO             | 8/30/2016  | SEAK | Steller Sea Lion | Eastern US | SI                 | A Steller sea lion with a plastic packing band around its neck was observed hauled out on a buoy. It had also ingested troll fishing gear, and a black and white flasher was observed hanging from its mouth. | SI                  | Hooked                | Fishery gear     | Unknown troll  | Unknown      | Troll          | P2          | 1                       | 0                       |
| AKRO             | 9/8/2016   | SEAK | Steller Sea Lion | Eastern US | SI                 | A Steller sea lion was observed hauled out on a buoy. The sea lion had a hook in its mouth and heavy duty monofilament was reported to be around the animal's neck.   | SI                  | Hooked                | Fishery gear     | Unknown hook and line                                | Unknown      | Hook and line  | P5a         | 1                       | 0                       |
| A-SHOP           | 10/4/2016  | WC   | Steller Sea Lion | Eastern US | DEAD               | A Steller sea lion was caught and killed in trawl gear.   | DEAD                | Entangled / entrapped | Fishery gear     | At-sea hake mothership catcher vessel midwater trawl | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| A-SHOP           | 10/5/2016  | WC   | Steller Sea Lion | Eastern US | DEAD               | A Steller sea lion was caught and killed in trawl gear.   | DEAD                | Entangled / entrapped | Fishery gear     | At-sea hake catcher processor midwater trawl         | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| A-SHOP           | 10/14/2016 | WC   | Steller Sea Lion | Eastern US | NSI                | A Steller sea lion was caught in trawl gear. According to the observer the animal was disentangled and released by crew without injuries.   | NSI                 | Entangled / entrapped | Fishery gear     | At-sea hake catcher processor midwater trawl         | Commercial   | Trawl          | P7b         | 0                       | 0                       |
| A-SHOP           | 10/14/2016 | WC   | Steller Sea Lion | Eastern US | DEAD               | Two Steller sea lions were caught and killed by trawl gear. This record represents animal 1 of 2.   | DEAD                | Entangled / entrapped | Fishery gear     | At-sea hake catcher processor midwater trawl         | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| A-SHOP           | 10/14/2016 | WC   | Steller Sea Lion | Eastern US | DEAD               | Two Steller sea lions were caught and killed by trawl gear. This record represents animal 2 of 2.   | DEAD                | Entangled / entrapped | Fishery gear     | At-sea hake catcher processor midwater trawl         | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| A-SHOP           | 10/19/2016 | WC   | Steller Sea Lion | Eastern US | DEAD               | A Steller sea lion was caught and killed by trawl gear.   | DEAD                | Entangled / entrapped | Fishery gear     | At-sea hake catcher processor midwater trawl         | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| A-SHOP           | 10/27/2016 | WC   | Steller Sea Lion | Eastern US | DEAD               | A Steller sea lion was caught and killed by trawl gear.   | DEAD                | Entangled / entrapped | Fishery gear     | At-sea hake mothership catcher vessel midwater trawl | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| A-SHOP           | 11/2/2016  | WC   | Steller Sea Lion | Eastern US | DEAD               | A Steller sea lion was caught and killed in trawl gear.   | DEAD                | Entangled / entrapped | Fishery gear     | At-sea hake catcher processor midwater trawl         | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| A-SHOP           | 11/5/2016  | WC   | Steller Sea Lion | Eastern US | DEAD               | A Steller sea lion was caught and killed in trawl gear.   | DEAD                | Entangled / entrapped | Fishery gear     | At-sea hake catcher processor midwater trawl         | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| A-SHOP           | 11/6/2016  | WC   | Steller Sea Lion | Eastern US | DEAD               | A Steller sea lion was caught and killed in trawl gear.   | DEAD                | Entangled / entrapped | Fishery gear     | At-sea hake catcher processor midwater trawl         | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| A-SHOP           | 11/6/2016  | WC   | Steller Sea Lion | Eastern US | DEAD               | A Steller sea lion was caught and killed in trawl gear.   | DEAD                | Entangled / entrapped | Fishery gear     | At-sea hake catcher processor midwater trawl         | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| A-SHOP           | 11/11/2016 | WC   | Steller Sea Lion | Eastern US | DEAD               | A Steller sea lion was caught and killed in trawl gear.   | DEAD                | Entangled / entrapped | Fishery gear     | At-sea hake catcher processor midwater trawl         | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| A-SHOP           | 11/11/2016 | WC   | Steller Sea Lion | Eastern US | DEAD               | A Steller sea lion was caught and killed in trawl gear.   | DEAD                | Entangled / entrapped | Fishery gear     | At-sea hake catcher processor midwater trawl         | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| A-SHOP           | 11/12/2016 | WC   | Steller Sea Lion | Eastern US | NSI                | A Steller sea lion was caught in trawl gear, brought aboard, and released from the net. It acted aggressively toward the crew, and was forced back into the water.  | NSI                 | Entangled / entrapped | Fishery gear     | At-sea hake catcher processor midwater trawl         | Commercial   | Trawl          | P4          | 0                       | 0                       |
| A-SHOP           | 11/12/2016 | WC   | Steller Sea Lion | Eastern US | NSI                | A Steller sea lion was caught in trawl gear, brought aboard, released from the net, and motivated by the crew to return to the water.   | NSI                 | Entangled / entrapped | Fishery gear     | At-sea hake catcher processor midwater trawl         | Commercial   | Trawl          | P4          | 0                       | 0                       |
| A-SHOP           | 11/12/2016 | WC   | Steller Sea Lion | Eastern US | DEAD               | A Steller sea lion was caught and killed in trawl gear.   | DEAD                | Entangled / entrapped | Fishery gear     | At-sea hake catcher processor midwater trawl         | Commercial   | Trawl          | N/A         | 1                       | 1                       |

**Appendix Table 1.1 -- Human / marine mammal interaction records reviewed for serious injury and mortality.**

| Source of Record | Date       | Area | Common Name      | Stock      | Initial Assessment | MML Determination Details   | Final Determination | Mechanism of Injury       | Source of Injury             | Fishery Name                                 | Fishery Type | Fishery Method | SI Criteria | Suggested Value for PBR | Suggested Value for LOF |
|------------------|------------|------|------------------|------------|--------------------|---|---------------------|---------------------------|------------------------------|--|--------------|----------------|-------------|-------------------------|-------------------------|
| A-SHOP           | 11/13/2016 | WC   | Steller Sea Lion | Eastern US | DEAD               | Three Steller sea lions were caught and killed in trawl gear. This record represents animal 1 of 3.   | DEAD                | Entangled / entrapped     | Fishery gear                 | At-sea hake catcher processor midwater trawl | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| A-SHOP           | 11/13/2016 | WC   | Steller Sea Lion | Eastern US | DEAD               | Three Steller sea lions were caught and killed in trawl gear. This record represents animal 2 of 3  | DEAD                | Entangled / entrapped     | Fishery gear                 | At-sea hake catcher processor midwater trawl | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| A-SHOP           | 11/13/2016 | WC   | Steller Sea Lion | Eastern US | DEAD               | Three Steller sea lions were caught and killed in trawl gear. This record represents animal 3 of 3.   | DEAD                | Entangled / entrapped     | Fishery gear                 | At-sea hake catcher processor midwater trawl | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| A-SHOP           | 11/14/2016 | WC   | Steller Sea Lion | Eastern US | NSI                | A Steller sea lion was caught in trawl gear, brought aboard, released from the net, and was motivated by the crew to return to the water.   | NSI                 | Entangled / entrapped     | Fishery gear                 | At-sea hake catcher processor midwater trawl | Commercial   | Trawl          | P4          | 0                       | 0                       |
| A-SHOP           | 11/15/2016 | WC   | Steller Sea Lion | Eastern US | DEAD               | A Steller sea lion was caught and killed in trawl gear.   | DEAD                | Entangled / entrapped     | Fishery gear                 | At-sea hake catcher processor midwater trawl | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| A-SHOP           | 11/16/2016 | WC   | Steller Sea Lion | Eastern US | DEAD               | A Steller sea lion was caught and killed in trawl gear.   | DEAD                | Entangled / entrapped     | Fishery gear                 | At-sea hake catcher processor midwater trawl | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| A-SHOP           | 11/16/2016 | WC   | Steller Sea Lion | Eastern US | NSI                | A Steller sea lion was caught in trawl gear, brought aboard, released from the net, and was motivated by the crew to return to the water.   | NSI                 | Entangled / entrapped     | Fishery gear                 | At-sea hake catcher processor midwater trawl | Commercial   | Trawl          | P4          | 0                       | 0                       |
| A-SHOP           | 11/16/2016 | WC   | Steller Sea Lion | Eastern US | DEAD               | Three Steller sea lions were caught and killed in trawl gear. This record represents animal 1 of 3.   | DEAD                | Entangled / entrapped     | Fishery gear                 | At-sea hake catcher processor midwater trawl | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| A-SHOP           | 11/16/2016 | WC   | Steller Sea Lion | Eastern US | DEAD               | Three Steller sea lions were caught and killed in trawl gear. This record represents animal 2 of 3.   | DEAD                | Entangled / entrapped     | Fishery gear                 | At-sea hake catcher processor midwater trawl | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| A-SHOP           | 11/16/2016 | WC   | Steller Sea Lion | Eastern US | DEAD               | Three Steller sea lions were caught and killed in trawl gear. This record represents animal 3 of 3.   | DEAD                | Entangled / entrapped     | Fishery gear                 | At-sea hake catcher processor midwater trawl | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| A-SHOP           | 11/16/2016 | WC   | Steller Sea Lion | Eastern US | DEAD               | A Steller sea lion was caught and killed in trawl gear.   | DEAD                | Entangled / entrapped     | Fishery gear                 | At-sea hake catcher processor midwater trawl | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| A-SHOP           | 11/18/2016 | WC   | Steller Sea Lion | Eastern US | DEAD               | A Steller sea lion was caught and killed in trawl gear.   | DEAD                | Entangled / entrapped     | Fishery gear                 | At-sea hake catcher processor midwater trawl | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| WCGOP            | 2/3/2017   | WC   | Steller Sea Lion | Eastern US | NSI                | A Steller sea lion was caught in trawl gear, brought aboard, and released from the net. Once free from the net the sea lion quickly jumped off the side of the boat and into the water. No visible signs of injury.         | NSI                 | Entangled / entrapped     | Fishery gear                 | Catch shares bottom trawl                    | Commercial   | Trawl          | P4          | 0                       | 0                       |
| WCGOP            | 3/16/2017  | WC   | Steller Sea Lion | Eastern US | DEAD               | A Steller sea lion was caught and killed in Open Access (OA) CA halibut bottom trawl gear.  | DEAD                | Entangled / entrapped     | Fishery gear                 | OA CA halibut bottom trawl                   | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| AKRO             | 4/11/2017  | SEAK | Steller Sea Lion | Eastern US | SI                 | A Steller sea lion with a circumferential neck entanglement caused by unknown material / marine debris was observed hauled out on a green buoy.   | SI                  | Constricting entanglement | Marine debris (unidentified) | N/A  | N/A          | N/A            | P8a         | 1                       | 0                       |
| WCRO             | 4/24/2017  | WC   | Steller Sea Lion | Eastern US | DEAD               | An adult male Steller sea lion was found freshly dead of a gunshot wound. A necropsy found a 1 cm diameter buckshot lodged in tissue just above the lower left mandible with fractures of the left lower and upper canines. | DEAD                | Shot                      | Projectile weapon            | N/A  | N/A          | N/A            | N/A         | 1                       | 0                       |
| AKRO             | 4/25/2017  | SEAK | Steller Sea Lion | Eastern US | SI                 | A subadult male Steller sea lion was observed hauled out on the west side of Benjamin Island, AK, with a constricting circumferential neck entanglement caused by unknown material / marine debris.                         | SI                  | Constricting entanglement | Marine debris (unidentified) | N/A  | N/A          | N/A            | P8a         | 1                       | 0                       |
| NPGOP            | 4/25/2017  | GOA  | Steller Sea Lion | Eastern US | DEAD               | A Steller sea lion was caught and killed in AK GOA sablefish longline gear.   | DEAD                | Hooked                    | Fishery gear                 | AK GOA sablefish longline                    | Commercial   | Hook and line  | N/A         | 1                       | 1                       |
| AKRO             | 5/4/2017   | SEAK | Steller Sea Lion | Eastern US | SI                 | A Steller sea lion was observed hauled out with a circumferential neck entanglement caused by unidentified material.  | SI                  | Constricting entanglement | Marine debris (unidentified) | N/A  | N/A          | N/A            | P8a         | 1                       | 0                       |
| ADFG             | 5/6/2017   | SEAK | Steller Sea Lion | Eastern US | SI                 | An adult male Steller sea lion was observed with a flasher at the edge of its mouth.  | SI                  | Hooked                    | Fishery gear                 | Unknown troll                                | Unknown      | Troll          | P2          | 1                       | 0                       |



**Appendix Table 1.1 -- Human / marine mammal interaction records reviewed for serious injury and mortality.**

| Source of Record | Date      | Area | Common Name      | Stock      | Initial Assessment | MML Determination Details  | Final Determination | Mechanism of Injury       | Source of Injury             | Fishery Name              | Fishery Type | Fishery Method | SI Criteria | Suggested Value for PBR | Suggested Value for LOF |
|------------------|-----------|------|------------------|------------|--------------------|--|---------------------|---------------------------|------------------------------|---------------------------|--------------|----------------|-------------|-------------------------|-------------------------|
| AKRO             | 5/8/2017  | SEAK | Steller Sea Lion | Eastern US | SI                 | A Steller sea lion was observed hauled out on Benjamin Island, AK, with a circumferential neck entanglement caused by unknown material / marine debris.  | SI                  | Constricting entanglement | Marine debris (unidentified) | N/A                       | N/A          | N/A            | P8a         | 1                       | 0                       |
| AKRO             | 5/13/2017 | SEAK | Steller Sea Lion | Eastern US | SI                 | A Steller sea lion was observed hauled out on South Marble Island with a constricting circumferential neck entanglement caused by unknown material / marine debris.  | SI                  | Constricting entanglement | Marine debris (unidentified) | N/A                       | N/A          | N/A            | P8a         | 1                       | 0                       |
| ADFG             | 5/29/2017 | SEAK | Steller Sea Lion | Eastern US | SI                 | An adult female Steller sea lion was observed with a circumferential neck entanglement caused by an unknown material.  | SI                  | Constricting entanglement | Marine debris (unidentified) | N/A                       | N/A          | N/A            | P8a         | 1                       | 0                       |
| ADFG             | 5/30/2017 | SEAK | Steller Sea Lion | Eastern US | SI                 | A Steller sea lion was observed with a circumferential neck entanglement caused by an unknown material.  | SI                  | Constricting entanglement | Marine debris (unidentified) | N/A                       | N/A          | N/A            | P8a         | 1                       | 0                       |
| ADFG             | 6/3/2017  | SEAK | Steller Sea Lion | Eastern US | SI                 | A male Steller sea lion was observed with a circumferential neck entanglement caused by an unknown material.   | SI                  | Constricting entanglement | Marine debris (unidentified) | N/A                       | N/A          | N/A            | P8a         | 1                       | 0                       |
| ADFG             | 6/6/2017  | SEAK | Steller Sea Lion | Eastern US | SI                 | An adult female Steller sea lion was observed with a circumferential neck entanglement caused by a packing band.   | SI                  | Constricting entanglement | Marine debris (packing band) | N/A                       | N/A          | N/A            | P8a         | 1                       | 0                       |
| ADFG             | 6/9/2017  | SEAK | Steller Sea Lion | Eastern US | SI                 | A male Steller sea lion was observed with a circumferential neck entanglement caused by a packing band.  | SI                  | Constricting entanglement | Marine debris (packing band) | N/A                       | N/A          | N/A            | P8a         | 1                       | 0                       |
| ADFG             | 6/10/2017 | SEAK | Steller Sea Lion | Eastern US | SI                 | A male Steller sea lion was observed with a circumferential neck entanglement caused by an unknown material.   | SI                  | Constricting entanglement | Marine debris (unidentified) | N/A                       | N/A          | N/A            | P8a         | 1                       | 0                       |
| WCGOP            | 6/13/2017 | WC   | Steller Sea Lion | Eastern US | NSI                | A Steller sea lion was caught in trawl gear, brought aboard, and released from the net. Once free from the net the sea lion quickly jumped off the side of the boat and into the water. No visible signs of injury.    | NSI                 | Entangled / entrapped     | Fishery gear                 | Catch shares bottom trawl | Commercial   | Trawl          | P4          | 0                       | 0                       |
| ADFG             | 6/16/2017 | SEAK | Steller Sea Lion | Eastern US | SI                 | A female Steller sea lion was observed with a flasher at the edge of its mouth.  | SI                  | Hooked                    | Fishery gear                 | Unknown troll             | Unknown      | Troll          | P2          | 1                       | 0                       |
| ADFG             | 6/19/2017 | SEAK | Steller Sea Lion | Eastern US | NSI                | An adult male Steller sea lion was observed with a hook in its cheek, outside of the teeth.  | NSI                 | Hooked                    | Fishery gear                 | Unknown hook and line     | Unknown      | Hook and line  | P5b         | 0                       | 0                       |
| AKRO             | 6/23/2017 | GOA  | Steller Sea Lion | Eastern US | SI                 | A male Steller sea lion was hooked in the mouth with a circle hook on an Alaska halibut subsistence longline. The line was cut leaving the circle hook, gangion, and 10 feet of groundline trailing behind the animal. | SI                  | Hooked                    | Fishery gear                 | AK halibut longline       | Subsistence  | Hook and line  | P5a         | 1                       | 0                       |
| ADFG             | 6/23/2017 | SEAK | Steller Sea Lion | Eastern US | SI                 | An adult female Steller sea lion was observed with a circumferential neck entanglement caused by an unknown material.  | SI                  | Constricting entanglement | Marine debris (unidentified) | N/A                       | N/A          | N/A            | P8a         | 1                       | 0                       |
| ADFG             | 6/27/2017 | SEAK | Steller Sea Lion | Eastern US | SI                 | An adult female Steller sea lion was observed with a circumferential neck entanglement caused by an unknown material.  | SI                  | Constricting entanglement | Marine debris (unidentified) | N/A                       | N/A          | N/A            | P8a         | 1                       | 0                       |
| WCRO             | 7/1/2017  | WC   | Steller Sea Lion | Eastern US | SI                 | A subadult Steller sea lion was observed with a mass of gray trawl net wrapped around its neck.  | SI                  | Constricting entanglement | Fishery gear                 | Unknown trawl             | Unknown      | Trawl          | P8a         | 1                       | 0                       |
| ADFG             | 7/2/2017  | SEAK | Steller Sea Lion | Eastern US | SI                 | An adult female Steller sea lion was observed with a circumferential neck entanglement caused by a packing band.   | SI                  | Constricting entanglement | Marine debris (packing band) | N/A                       | N/A          | N/A            | P8a         | 1                       | 0                       |
| ADFG             | 7/2/2017  | SEAK | Steller Sea Lion | Eastern US | SI                 | A subadult female Steller sea lion was observed with a circumferential neck entanglement caused by a packing band. This animal was darted and disentangled on 6/30/2018.   | NSI                 | Constricting entanglement | Marine debris (packing band) | N/A                       | N/A          | N/A            | P7b         | 0                       | 0                       |
| ADFG             | 7/2/2017  | SEAK | Steller Sea Lion | Eastern US | SI                 | A male Steller sea lion was observed with a circumferential neck entanglement caused by an unknown material.   | SI                  | Constricting entanglement | Marine debris (unidentified) | N/A                       | N/A          | N/A            | P8a         | 1                       | 0                       |
| ADFG             | 7/3/2017  | SEAK | Steller Sea Lion | Eastern US | SI                 | A male Steller sea lion was observed with a hook in its mouth with trailing baited line.   | SI                  | Hooked                    | Fishery gear                 | Unknown hook and line     | Unknown      | Hook and line  | P5a         | 1                       | 0                       |
| ADFG             | 7/3/2017  | SEAK | Steller Sea Lion | Eastern US | SI                 | A subadult Steller sea lion was observed with a flasher at the edge of its mouth.  | SI                  | Hooked                    | Fishery gear                 | Unknown troll             | Unknown      | Troll          | P2          | 1                       | 0                       |
| ADFG             | 7/3/2017  | SEAK | Steller Sea Lion | Eastern US | SI                 | A juvenile Steller sea lion was observed with a hook in its lip with trailing cord.  | SI                  | Hooked                    | Fishery gear                 | Unknown hook and line     | Unknown      | Hook and line  | P6          | 1                       | 0                       |
| ADFG             | 7/3/2017  | SEAK | Steller Sea Lion | Eastern US | NSI                | An adult male Steller sea lion was observed with a hook in its lip, outside of the teeth.  | NSI                 | Hooked                    | Fishery gear                 | Unknown hook and line     | Unknown      | Hook and line  | P5b         | 0                       | 0                       |
| ADFG             | 7/3/2017  | SEAK | Steller Sea Lion | Eastern US | SI                 | An adult female Steller sea lion was observed with a circumferential neck entanglement caused by a packing band.   | SI                  | Constricting entanglement | Marine debris (packing band) | N/A                       | N/A          | N/A            | P8a         | 1                       | 0                       |
| ADFG             | 7/3/2017  | SEAK | Steller Sea Lion | Eastern US | SI                 | An adult female Steller sea lion was observed with a circumferential neck entanglement caused by an unknown material.  | SI                  | Constricting entanglement | Marine debris (unidentified) | N/A                       | N/A          | N/A            | P8a         | 1                       | 0                       |

**Appendix Table 1.1 -- Human / marine mammal interaction records reviewed for serious injury and mortality.**

| Source of Record | Date      | Area | Common Name      | Stock      | Initial Assessment | MML Determination Details  | Final Determination | Mechanism of Injury       | Source of Injury             | Fishery Name          | Fishery Type | Fishery Method | SI Criteria | Suggested Value for PBR | Suggested Value for LOF |
|------------------|-----------|------|------------------|------------|--------------------|--|---------------------|---------------------------|------------------------------|-----------------------|--------------|----------------|-------------|-------------------------|-------------------------|
| ADFG             | 7/4/2017  | SEAK | Steller Sea Lion | Eastern US | SI                 | An adult female Steller sea lion was observed with a circumferential neck entanglement caused by an unknown material.  | SI                  | Constricting entanglement | Marine debris (unidentified) | N/A                   | N/A          | N/A            | P8a         | 1                       | 0                       |
| ADFG             | 7/4/2017  | SEAK | Steller Sea Lion | Eastern US | SI                 | An adult female Steller sea lion was observed with a circumferential neck entanglement caused by an unknown material.  | SI                  | Constricting entanglement | Marine debris (unidentified) | N/A                   | N/A          | N/A            | P8a         | 1                       | 0                       |
| AKRO             | 7/5/2017  | SEAK | Steller Sea Lion | Eastern US | SI                 | A large male Steller sea lion was observed hauled out with a fishing lure hooked in its mouth. The flasher was hanging from its mouth.   | SI                  | Hooked                    | Fishery gear                 | Unknown troll         | Unknown      | Troll          | P5a         | 1                       | 0                       |
| AKRO             | 7/5/2017  | GOA  | Steller Sea Lion | Eastern US | SI                 | A subadult male Steller sea lion was observed hauled out with a flasher at the edge of its mouth. A disentanglement effort using a dart was unsuccessful.  | SI                  | Hooked                    | Fishery gear                 | Unknown troll         | Unknown      | Troll          | P2          | 1                       | 0                       |
| ADFG             | 7/5/2017  | SEAK | Steller Sea Lion | Eastern US | SI                 | A subadult Steller sea lion was observed with a flasher at the edge of its mouth with trailing monofilament line. A disentanglement attempt was unsuccessful.  | SI                  | Hooked                    | Fishery gear                 | Unknown troll         | Unknown      | Troll          | P2          | 1                       | 0                       |
| ADFG             | 7/5/2017  | SEAK | Steller Sea Lion | Eastern US | SI                 | An adult male Steller sea lion was observed with a circumferential neck entanglement caused by monofilament line.  | SI                  | Constricting entanglement | Fishery gear                 | Unknown troll         | Unknown      | Troll          | P8a         | 1                       | 0                       |
| ADFG             | 7/5/2017  | SEAK | Steller Sea Lion | Eastern US | SI                 | An adult male Steller sea lion was observed with a flasher at the edge of its mouth.   | SI                  | Hooked                    | Fishery gear                 | Unknown troll         | Unknown      | Troll          | P2          | 1                       | 0                       |
| ADFG             | 7/5/2017  | SEAK | Steller Sea Lion | Eastern US | SI                 | An adult female Steller sea lion was observed with a circumferential neck entanglement caused by an unknown material.  | SI                  | Constricting entanglement | Marine debris (unidentified) | N/A                   | N/A          | N/A            | P8a         | 1                       | 0                       |
| AKRO             | 7/6/2017  | SEAK | Steller Sea Lion | Eastern US | SI                 | A subadult male Steller sea lion with a circumferential neck entanglement caused by a thick rubber belt was darted and disentangled.   | NSI                 | Constricting entanglement | Marine debris (unidentified) | N/A                   | N/A          | N/A            | P7b         | 0                       | 0                       |
| ADFG             | 7/6/2017  | SEAK | Steller Sea Lion | Eastern US | SI                 | A male Steller sea lion was observed with a circumferential neck entanglement caused by a fan belt. This animal was darted and disentangled on 7/06/2017.  | NSI                 | Constricting entanglement | Marine debris                | N/A                   | N/A          | N/A            | P7b         | 0                       | 0                       |
| ADFG             | 7/6/2017  | SEAK | Steller Sea Lion | Eastern US | SI                 | An adult Steller sea lion was observed with a flasher at the edge of its mouth.  | SI                  | Hooked                    | Fishery gear                 | Unknown troll         | Unknown      | Troll          | P2          | 1                       | 0                       |
| ADFG             | 7/6/2017  | SEAK | Steller Sea Lion | Eastern US | SI                 | A female Steller sea lion was observed with a flasher at the edge of its mouth.  | SI                  | Hooked                    | Fishery gear                 | Unknown troll         | Unknown      | Troll          | P2          | 1                       | 0                       |
| ADFG             | 7/6/2017  | SEAK | Steller Sea Lion | Eastern US | SI                 | A subadult male Steller sea lion was observed with a flasher at the edge of its mouth.   | SI                  | Hooked                    | Fishery gear                 | Unknown troll         | Unknown      | Troll          | P2          | 1                       | 0                       |
| ADFG             | 7/7/2017  | SEAK | Steller Sea Lion | Eastern US | SI                 | A male Steller sea lion was initially observed with a suspected circumferential neck entanglement caused by unidentified material on 07/07/2017. The animal was resighted on 07/08/2017 and darted on 7/04/2018 which revealed that the entanglement was gone leaving only a scar. | NSI                 | Constricting entanglement | Marine debris (unidentified) | N/A                   | N/A          | N/A            | P7b         | 0                       | 0                       |
| AKRO             | 7/8/2017  | SEAK | Steller Sea Lion | Eastern US | SI                 | A subadult male Steller sea lion was observed hauled out with a flasher at the edge of its mouth.  | SI                  | Hooked                    | Fishery gear                 | AK SEAK salmon troll  | Recreational | Troll          | P2          | 1                       | 0                       |
| ADFG             | 7/9/2017  | SEAK | Steller Sea Lion | Eastern US | SI                 | An adult female Steller sea lion was observed with a circumferential neck entanglement caused by an unidentified material.   | SI                  | Constricting entanglement | Marine debris (unidentified) | N/A                   | N/A          | N/A            | P8a         | 1                       | 0                       |
| AKRO             | 7/10/2017 | SEAK | Steller Sea Lion | Eastern US | SI                 | An adult male Steller sea lion was observed hauled out with a flasher at the edge of its mouth with trailing monofilament line.  | SI                  | Hooked                    | Fishery gear                 | AK SEAK salmon troll  | Commercial   | Troll          | P2          | 1                       | 1                       |
| ADFG             | 7/10/2017 | SEAK | Steller Sea Lion | Eastern US | NSI                | A juvenile Steller sea lion was observed with a hook in the lip only, outside of the teeth.  | NSI                 | Hooked                    | Fishery gear                 | Unknown hook and line | Unknown      | Hook and line  | P5b         | 0                       | 0                       |
| ADFG             | 7/10/2017 | SEAK | Steller Sea Lion | Eastern US | SI                 | A juvenile Steller sea lion was observed with a flasher at the edge of its mouth.  | SI                  | Hooked                    | Fishery gear                 | Unknown troll         | Unknown      | Troll          | P2          | 1                       | 0                       |
| ADFG             | 7/10/2017 | SEAK | Steller Sea Lion | Eastern US | SI                 | A juvenile Steller sea lion was observed with a flasher at the edge of its mouth.  | SI                  | Hooked                    | Fishery gear                 | Unknown troll         | Unknown      | Troll          | P2          | 1                       | 0                       |
| ADFG             | 7/12/2017 | SEAK | Steller Sea Lion | Eastern US | SI                 | An adult female Steller sea lion was observed with a circumferential neck entanglement caused by an unidentified material.   | SI                  | Constricting entanglement | Marine debris (unidentified) | N/A                   | N/A          | N/A            | P8a         | 1                       | 0                       |
| ADFG             | 7/12/2017 | SEAK | Steller Sea Lion | Eastern US | SI                 | An adult female Steller sea lion was observed with a circumferential neck entanglement caused by an unidentified material.   | SI                  | Constricting entanglement | Marine debris (unidentified) | N/A                   | N/A          | N/A            | P8a         | 1                       | 0                       |
| AKRO             | 7/13/2017 | SEAK | Steller Sea Lion | Eastern US | SI                 | A subadult male Steller sea lion with a flasher at the edge of its mouth was darted, captured, and the ingested fishing gear was removed. The animal was then released.  | NSI                 | Hooked                    | Fishery gear                 | AK SEAK salmon troll  | Commercial   | Troll          | P5c         | 0                       | 1                       |
| ADFG             | 7/13/2017 | SEAK | Steller Sea Lion | Eastern US | SI                 | An adult male Steller sea lion was observed with a flasher at the edge of its mouth.   | SI                  | Hooked                    | Fishery gear                 | Unknown troll         | Unknown      | Troll          | P2          | 1                       | 0                       |
| ADFG             | 7/13/2017 | SEAK | Steller Sea Lion | Eastern US | SI                 | A Steller sea lion was observed entangled with line above the eyes and around the face and mouth.  | SI                  | Constricting entanglement | Marine debris                | N/A                   | N/A          | N/A            | P8a         | 1                       | 0                       |
| AKRO             | 7/14/2017 | SEAK | Steller Sea Lion | Eastern US | SI                 | A Steller sea lion was observed hauled out with a flasher at the edge of its mouth.  | SI                  | Hooked                    | Fishery gear                 | AK SEAK salmon troll  | Recreational | Troll          | P2          | 1                       | 0                       |

**Appendix Table 1.1 -- Human / marine mammal interaction records reviewed for serious injury and mortality.**

| Source of Record | Date       | Area | Common Name      | Stock      | Initial Assessment | MML Determination Details   | Final Determination | Mechanism of Injury       | Source of Injury             | Fishery Name   | Fishery Type | Fishery Method | SI Criteria | Suggested Value for PBR | Suggested Value for LOF |
|------------------|------------|------|------------------|------------|--------------------|---|---------------------|---------------------------|------------------------------|--|--------------|----------------|-------------|-------------------------|-------------------------|
| ADFG             | 7/14/2017  | SEAK | Steller Sea Lion | Eastern US | SI                 | A male Steller sea lion was observed with a flasher at the edge of its mouth.   | SI                  | Hooked                    | Fishery gear                 | Unknown troll  | Unknown      | Troll          | P2          | 1                       | 0                       |
| ADFG             | 7/14/2017  | SEAK | Steller Sea Lion | Eastern US | SI                 | A Steller sea lion was observed with a circumferential neck entanglement caused by a packing band.  | SI                  | Constricting entanglement | Marine debris (packing band) | N/A  | N/A          | N/A            | P8a         | 1                       | 0                       |
| ADFG             | 7/17/2017  | SEAK | Steller Sea Lion | Eastern US | SI                 | A male Steller sea lion was observed with a flasher at the edge of its mouth with 4 ft of trailing line.  | SI                  | Hooked                    | Fishery gear                 | Unknown troll  | Unknown      | Troll          | P2          | 1                       | 0                       |
| ADFG             | 7/19/2017  | SEAK | Steller Sea Lion | Eastern US | SI                 | A juvenile Steller sea lion was observed with a flasher at the edge of its mouth.   | SI                  | Hooked                    | Fishery gear                 | Unknown troll  | Unknown      | Troll          | P2          | 1                       | 0                       |
| AKRO             | 7/27/2017  | SEAK | Steller Sea Lion | Eastern US | SI                 | A Steller sea lion was observed hauled out with a flasher at the edge of its mouth.   | SI                  | Hooked                    | Fishery gear                 | AK SEAK salmon troll                                 | Commercial   | Troll          | P2          | 1                       | 1                       |
| AKRO             | 7/29/2017  | SEAK | Steller Sea Lion | Eastern US | SI                 | A small Steller sea lion was observed with a fishing flasher trailing behind it, and it may have swallowed fishing gear.  | SI                  | Hooked                    | Fishery gear                 | AK SEAK salmon troll                                 | Recreational | Troll          | P2          | 1                       | 0                       |
| WCGOP            | 8/27/2017  | WC   | Steller Sea Lion | Eastern US | NSI                | A Steller sea lion was caught in trawl gear, brought aboard the vessel, and released from the net. The crew yelled and sprayed the animal with the deck hose until it jumped off the trawl ramp. The animal seemed confused but had no visible signs of injury. | NSI                 | Entangled / entrapped     | Fishery gear                 | Catch shares bottom trawl                            | Commercial   | Trawl          | P4          | 0                       | 0                       |
| AKRO             | 8/30/2017  | SEAK | Steller Sea Lion | Eastern US | SI                 | A Steller sea lion was observed hauled out with a flasher at the edge of its mouth.   | SI                  | Hooked                    | Fishery gear                 | AK SEAK salmon troll                                 | Commercial   | Troll          | P2          | 1                       | 1                       |
| ADFG             | 9/12/2017  | SEAK | Steller Sea Lion | Eastern US | SI                 | An adult male Steller sea lion was observed with a circumferential neck entanglement caused by unidentified material.   | SI                  | Constricting entanglement | Marine debris (unidentified) | N/A  | N/A          | N/A            | P8a         | 1                       | 0                       |
| AKRO             | 9/15/2017  | SEAK | Steller Sea Lion | Eastern US | SI                 | An adult male Steller sea lion was observed hauled out with a flasher at the edge of its mouth.   | SI                  | Hooked                    | Fishery gear                 | AK SEAK salmon troll                                 | Recreational | Troll          | P2          | 1                       | 0                       |
| AKRO             | 9/15/2017  | SEAK | Steller Sea Lion | Eastern US | SI                 | A Steller sea lion was observed with a circumferential neck entanglement caused by unidentified marine debris.  | SI                  | Constricting entanglement | Marine debris (unidentified) | N/A  | N/A          | N/A            | P8a         | 1                       | 0                       |
| A-SHOP           | 9/16/2017  | WC   | Steller Sea Lion | Eastern US | SI                 | A Steller sea lion was observed with a thin white line around its neck. The line was not believed to be constricting.   | SI                  | Entangled / entrapped     | Marine debris                | N/A  | N/A          | N/A            | P6          | 1                       | 0                       |
| WCRO             | 9/23/2017  | WC   | Steller Sea Lion | Eastern US | SI                 | An adult female Steller sea lion with a flasher at the edge of its mouth was observed hauled out on a buoy.   | SI                  | Hooked                    | Fishery gear                 | Unknown troll  | Unknown      | Troll          | P2          | 1                       | 0                       |
| A-SHOP           | 10/1/2017  | WC   | Steller Sea Lion | Eastern US | DEAD               | A Steller sea lion was caught and killed by at-sea hake catcher processor midwater trawl gear.  | DEAD                | Entangled / entrapped     | Fishery gear                 | At-sea hake mothership catcher vessel midwater trawl | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| A-SHOP           | 10/6/2017  | WC   | Steller Sea Lion | Eastern US | DEAD               | A female Steller sea lion was caught and killed by at-sea hake catcher processor midwater trawl gear.   | DEAD                | Entangled / entrapped     | Fishery gear                 | At-sea hake mothership catcher vessel midwater trawl | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| A-SHOP           | 10/8/2017  | WC   | Steller Sea Lion | Eastern US | DEAD               | A female Steller sea lion was caught and killed by at-sea hake catcher processor midwater trawl gear.   | DEAD                | Entangled / entrapped     | Fishery gear                 | At-sea hake catcher processor midwater trawl         | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| A-SHOP           | 10/23/2017 | WC   | Steller Sea Lion | Eastern US | DEAD               | A Steller sea lion was caught and killed by at-sea hake catcher processor midwater trawl gear.  | DEAD                | Entangled / entrapped     | Fishery gear                 | At-sea hake mothership catcher vessel midwater trawl | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| A-SHOP           | 10/24/2017 | WC   | Steller Sea Lion | Eastern US | DEAD               | A Steller sea lion was caught and killed by at-sea hake midwater trawl gear.  | DEAD                | Entangled / entrapped     | Fishery gear                 | At-sea hake mothership catcher vessel midwater trawl | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| A-SHOP           | 10/25/2017 | WC   | Steller Sea Lion | Eastern US | DEAD               | A male Steller sea lion was caught and killed by at-sea hake catcher processor midwater trawl gear.   | DEAD                | Entangled / entrapped     | Fishery gear                 | At-sea hake mothership catcher vessel midwater trawl | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| A-SHOP           | 10/25/2017 | WC   | Steller Sea Lion | Eastern US | DEAD               | A Steller sea lion was caught and killed by at-sea hake catcher processor midwater trawl gear.  | DEAD                | Entangled / entrapped     | Fishery gear                 | At-sea hake mothership catcher vessel midwater trawl | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| A-SHOP           | 10/27/2017 | WC   | Steller Sea Lion | Eastern US | DEAD               | A Steller sea lion was caught and killed by at-sea hake catcher processor midwater trawl gear.  | DEAD                | Entangled / entrapped     | Fishery gear                 | At-sea hake mothership catcher vessel midwater trawl | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| WCGOP            | 11/1/2017  | WC   | Steller Sea Lion | Eastern US | NSI                | A Steller sea lion was caught in trawl gear, brought aboard the vessel, and released from the net. The animal left the vessel once the haul dumped in the trawl alley. No visible signs of injury.  | NSI                 | Entangled / entrapped     | Fishery gear                 | Catch shares bottom trawl                            | Commercial   | Trawl          | P4          | 0                       | 0                       |

**Appendix Table 1.1 -- Human / marine mammal interaction records reviewed for serious injury and mortality.**

| Source of Record | Date       | Area | Common Name      | Stock      | Initial Assessment | MML Determination Details   | Final Determination | Mechanism of Injury   | Source of Injury  | Fishery Name                                 | Fishery Type | Fishery Method | SI Criteria | Suggested Value for PBR | Suggested Value for LOF |
|------------------|------------|------|------------------|------------|--------------------|---|---------------------|-----------------------|-------------------|--|--------------|----------------|-------------|-------------------------|-------------------------|
| WCGOP            | 11/3/2017  | WC   | Steller Sea Lion | Eastern US | NSI                | A Steller sea lion was caught in trawl gear, brought aboard the vessel, and released from the net. The animal left the vessel once the haul dumped in the trawl alley. No visible signs of injury.  | NSI                 | Entangled / entrapped | Fishery gear      | Catch shares bottom trawl                    | Commercial   | Trawl          | P4          | 0                       | 0                       |
| A-SHOP           | 11/6/2017  | WC   | Steller Sea Lion | Eastern US | DEAD               | Two male Steller sea lions and one California sea lion were caught and killed by at-sea hake catcher processor midwater trawl gear. This record represent 1 of 2 Steller sea lions.   | DEAD                | Entangled / entrapped | Fishery gear      | At-sea hake catcher processor midwater trawl | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| A-SHOP           | 11/6/2017  | WC   | Steller Sea Lion | Eastern US | DEAD               | Two male Steller sea lions and one California sea lion were caught and killed by at-sea hake catcher processor midwater trawl gear. This record represent 2 of 2 Steller sea lions.   | DEAD                | Entangled / entrapped | Fishery gear      | At-sea hake catcher processor midwater trawl | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| WCGOP            | 11/25/2017 | WC   | Steller Sea Lion | Eastern US | DEAD               | A Steller sea lion was caught and killed in catch shares bottom trawl gear.   | DEAD                | Entangled / entrapped | Fishery gear      | Catch shares bottom trawl                    | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| WCGOP            | 11/25/2017 | WC   | Steller Sea Lion | Eastern US | NSI                | A Steller sea lion was caught in trawl gear, brought aboard the vessel, and released from the net. The animal jumped overboard as soon as the trawl net was dumped. No visible signs of injury.   | NSI                 | Entangled / entrapped | Fishery gear      | Catch shares bottom trawl                    | Commercial   | Trawl          | P4          | 0                       | 0                       |
| WCGOP            | 12/7/2017  | WC   | Steller Sea Lion | Eastern US | NSI                | Two Steller sea lions were caught in trawl gear, brought aboard the vessel, and released from the net. The animals jumped overboard as soon as the trawl net was dumped. No visible signs of injury. This record represents 1 of 2.           | NSI                 | Entangled / entrapped | Fishery gear      | Catch shares bottom trawl                    | Commercial   | Trawl          | P4          | 0                       | 0                       |
| WCGOP            | 12/7/2017  | WC   | Steller Sea Lion | Eastern US | NSI                | Two Steller sea lions were caught in trawl gear, brought aboard the vessel, and released from the net. The animals jumped overboard as soon as the trawl net was dumped. No visible signs of injury. This record represents 2 of 2.           | NSI                 | Entangled / entrapped | Fishery gear      | Catch shares bottom trawl                    | Commercial   | Trawl          | P4          | 0                       | 0                       |
| NPGOP            | 1/22/2013  | WAK  | Steller Sea Lion | Western US | DEAD               | A male Steller sea lion was caught and killed by AK BSAI flatfish trawl gear.   | DEAD                | Entangled / entrapped | Fishery gear      | AK BSAI flatfish trawl                       | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| NPGOP            | 2/2/2013   | WAK  | Steller Sea Lion | Western US | DEAD               | A Steller sea lion was caught and killed by AK BSAI pollock trawl gear.   | DEAD                | Entangled / entrapped | Fishery gear      | AK BSAI pollock trawl                        | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| NPGOP            | 2/6/2013   | WAK  | Steller Sea Lion | Western US | DEAD               | A Steller sea lion was caught and killed by AK BSAI pollock trawl gear.   | DEAD                | Entangled / entrapped | Fishery gear      | AK BSAI pollock trawl                        | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| NPGOP            | 2/20/2013  | WAK  | Steller Sea Lion | Western US | DEAD               | A male Steller sea lion was caught and killed by AK BSAI Pacific cod trawl gear.  | DEAD                | Entangled / entrapped | Fishery gear      | AK BSAI Pacific cod trawl                    | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| NPGOP            | 5/28/2013  | WAK  | Steller Sea Lion | Western US | DEAD               | A Steller sea lion was caught and killed by AK BSAI flatfish trawl gear.  | DEAD                | Entangled / entrapped | Fishery gear      | AK BSAI flatfish trawl                       | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| NPGOP            | 5/28/2013  | WAK  | Steller Sea Lion | Western US | DEAD               | A Steller sea lion was caught and killed by AK BSAI flatfish trawl gear.  | DEAD                | Entangled / entrapped | Fishery gear      | AK BSAI flatfish trawl                       | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| NPGOP            | 5/31/2013  | WAK  | Steller Sea Lion | Western US | DEAD               | A Steller sea lion was caught and killed by AK BSAI flatfish trawl gear.  | DEAD                | Entangled / entrapped | Fishery gear      | AK BSAI flatfish trawl                       | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| NPGOP            | 6/12/2013  | WAK  | Steller Sea Lion | Western US | DEAD               | A Steller sea lion was caught and killed by AK BSAI flatfish trawl gear.  | DEAD                | Entangled / entrapped | Fishery gear      | AK BSAI flatfish trawl                       | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| NPGOP            | 6/13/2013  | WAK  | Steller Sea Lion | Western US | DEAD               | A Steller sea lion was caught and killed by AK BSAI flatfish trawl gear.  | DEAD                | Entangled / entrapped | Fishery gear      | AK BSAI flatfish trawl                       | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| AKRO             | 6/18/2013  | SCAK | Steller Sea Lion | Western US | SI                 | An adult Steller sea lion was reported to be hauled out on a buoy in Prince William Sound with an arrow in its muzzle. The wound was reported to be possibly infected. No response was mounted. Injury considered serious using criterion P9. | SI                  | Shot                  | Projectile weapon | N/A  | N/A          | N/A            | P9          | 1                       | 0                       |
| NPGOP            | 6/28/2013  | WAK  | Steller Sea Lion | Western US | DEAD               | A female Steller sea lion was caught and killed by AK BSAI pollock trawl gear.  | DEAD                | Entangled / entrapped | Fishery gear      | AK BSAI pollock trawl                        | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| NPGOP            | 8/15/2013  | WAK  | Steller Sea Lion | Western US | DEAD               | A male Steller sea lion was caught and killed by AK BSAI pollock trawl gear.  | DEAD                | Entangled / entrapped | Fishery gear      | AK BSAI pollock trawl                        | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| AKRO             | 8/29/2013  | GOA  | Steller Sea Lion | Western US | DEAD               | An adult female Steller sea lion was found dead in an aquaculture facility's egg take barrier net.  | DEAD                | Entangled / entrapped | Fishery gear      | N/A  | N/A          | Aquaculture    | N/A         | 1                       | 0                       |
| NPGOP            | 9/5/2013   | WAK  | Steller Sea Lion | Western US | DEAD               | A female Steller sea lion was caught and killed by AK BSAI pollock trawl gear.  | DEAD                | Entangled / entrapped | Fishery gear      | AK BSAI pollock trawl                        | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| NPGOP            | 11/3/2013  | WAK  | Steller Sea Lion | Western US | DEAD               | A female Steller sea lion was caught and killed by AK BSAI flatfish trawl gear.   | DEAD                | Entangled / entrapped | Fishery gear      | AK BSAI flatfish trawl                       | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| NPGOP            | 2/13/2014  | WAK  | Steller Sea Lion | Western US | DEAD               | A Steller sea lion was caught in an AK BSAI pollock trawl. The observer reported there were no external injuries or bleeding. The observer collected the snout and took numerous pictures.  | DEAD                | Entangled / entrapped | Fishery gear      | AK BSAI pollock trawl                        | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| NPGOP            | 2/26/2014  | WAK  | Steller Sea Lion | Western US | DEAD               | A freshly dead Steller sea lion was found dead and entangled in AK BSAI Pacific cod longline gear.  | DEAD                | Entangled / entrapped | Fishery gear      | AK BSAI Pacific cod longline                 | Commercial   | Hook and line  | N/A         | 1                       | 1                       |
| NPGOP            | 2/27/2014  | WAK  | Steller Sea Lion | Western US | DEAD               | A Steller sea lion was caught in AK BSAI pollock trawl gear. The observer reported the animal was freshly dead, with no visible signs of injury except for frothy foam emanating from its mouth.  | DEAD                | Entangled / entrapped | Fishery gear      | AK BSAI pollock trawl                        | Commercial   | Trawl          | N/A         | 1                       | 1                       |

**Appendix Table 1.1 -- Human / marine mammal interaction records reviewed for serious injury and mortality.**

| Source of Record | Date      | Area | Common Name      | Stock      | Initial Assessment | MML Determination Details  | Final Determination | Mechanism of Injury       | Source of Injury             | Fishery Name                 | Fishery Type | Fishery Method | SI Criteria | Suggested Value for PBR | Suggested Value for LOF |
|------------------|-----------|------|------------------|------------|--------------------|--|---------------------|---------------------------|------------------------------|------------------------------|--------------|----------------|-------------|-------------------------|-------------------------|
| NPGOP            | 5/2/2014  | WAK  | Steller Sea Lion | Western US | DEAD               | A Steller sea lion was caught in an AK BSAI flatfish trawl. The observer noted the animal had foam emanating from its mouth and collected the snout and took several photos.   | DEAD                | Entangled / entrapped     | Fishery gear                 | AK BSAI flatfish trawl       | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| NPGOP            | 5/18/2014 | WAK  | Steller Sea Lion | Western US | DEAD               | A Steller sea lion was found in the vessel's fish hold following an AK BSAI flatfish trawl. The observer noted the animal displayed no signs of trauma and also observed blood ooze from an incision when cut. The observer took numerous samples, including the snout, lengths, sex, and photos.  | DEAD                | Entangled / entrapped     | Fishery gear                 | AK BSAI flatfish trawl       | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| ADFG             | 5/23/2014 | WAK  | Steller Sea Lion | Western US | SI                 | An adult male Steller sea lion was observed with a circumferential neck entanglement.  | SI                  | Constricting entanglement | Marine debris (unidentified) | N/A                          | N/A          | N/A            | P8a         | 1                       | 0                       |
| NPGOP            | 5/24/2014 | WAK  | Steller Sea Lion | Western US | DEAD               | A Steller sea lion was discovered in the vessel's live tank following an AK BSAI flatfish trawl. The observer reported taking photos, the length, and the snout.   | DEAD                | Entangled / entrapped     | Fishery gear                 | AK BSAI flatfish trawl       | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| NPGOP            | 5/30/2014 | WAK  | Steller Sea Lion | Western US | DEAD               | A male Steller sea lion was discovered in the vessel's fish trough following an AK BSAI flatfish trawl. The observer reported collecting the snout and taking pictures.  | DEAD                | Entangled / entrapped     | Fishery gear                 | AK BSAI flatfish trawl       | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| NPGOP            | 6/21/2014 | WAK  | Steller Sea Lion | Western US | DEAD               | A Steller sea lion was caught in an AK BSAI flatfish trawl. The observer reported taking the animal's snout, length, and photos.   | DEAD                | Entangled / entrapped     | Fishery gear                 | AK BSAI flatfish trawl       | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| AKRO             | 6/30/2014 | GOA  | Steller Sea Lion | Western US | SI                 | An adult female Steller sea lion ingested troll fishery gear and a flasher was observed hanging from the animal's mouth.   | SI                  | Hooked                    | Fishery gear                 | AK SCAK salmon troll         | Unknown      | Troll          | P2          | 1                       | 0                       |
| ADFG             | 7/16/2014 | PWS  | Steller Sea Lion | Western US | SI                 | A subadult male Steller sea lion was observed with a circumferential neck entanglement caused by a white band.   | SI                  | Constricting entanglement | Marine debris (unidentified) | N/A                          | N/A          | N/A            | P8a         | 1                       | 0                       |
| ADFG             | 7/18/2014 | GOA  | Steller Sea Lion | Western US | SI                 | A Steller sea lion pup was observed with a monofilament line draped over its body and wrapped around its chest and shoulder.   | SI                  | Entangled / entrapped     | Fishery gear                 | Unknown hook and line        | Unknown      | Hook and line  | P8a         | 1                       | 0                       |
| ADFG             | 8/23/2014 | WAK  | Steller Sea Lion | Western US | SI                 | A subadult Steller sea lion was observed with a circumferential neck entanglement possibly caused by a packing band.   | SI                  | Constricting entanglement | Marine debris (unidentified) | N/A                          | N/A          | N/A            | P8a         | 1                       | 0                       |
| NPGOP            | 1/14/2015 | WAK  | Steller Sea Lion | Western US | DEAD               | A Steller sea lion was caught and killed by AK BSAI Pacific cod longline gear.   | DEAD                | Entangled / entrapped     | Fishery gear                 | AK BSAI Pacific cod longline | Commercial   | Hook and line  | N/A         | 1                       | 1                       |
| NPGOP            | 2/23/2015 | WAK  | Steller Sea Lion | Western US | NSI                | A live Steller sea lion was caught in trawl gear and brought up in the codend of the net. The observer reported that the animal was immediately released and in good, lively condition. This interaction is considered a non-serious injury due to the lack of apparent injuries, and the animal's reported good condition.  | NSI                 | Entangled / entrapped     | Fishery gear                 | AK BSAI flatfish trawl       | Commercial   | Trawl          | P7b         | 0                       | 0                       |
| NPGOP            | 3/17/2015 | WAK  | Steller Sea Lion | Western US | DEAD               | A Steller sea lion was entangled and killed in AK BSAI Pacific cod longline gear.  | DEAD                | Entangled / entrapped     | Fishery gear                 | AK BSAI Pacific cod longline | Commercial   | Hook and line  | N/A         | 1                       | 1                       |
| NPGOP            | 4/22/2015 | WAK  | Steller Sea Lion | Western US | DEAD               | A female Steller sea lion was caught and killed by AK BSAI flatfish trawl gear.  | DEAD                | Entangled / entrapped     | Fishery gear                 | AK BSAI flatfish trawl       | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| AKRO             | 5/28/2015 | SCAK | Steller Sea Lion | Western US | DEAD               | This is one of many Steller sea lion carcasses that were examined on the Copper River Delta. A 1/4 inch round full-thickness hole surrounded by a halo of blood tinged hair was found on the right lateral neck, and a metal fragment was recovered under the skin on the opposite side of hole.   | DEAD                | Shot                      | Projectile weapon            | N/A                          | N/A          | N/A            | N/A         | 1                       | 0                       |
| AKRO             | 5/28/2015 | SCAK | Steller Sea Lion | Western US | DEAD               | This is one of many Steller sea lion carcasses that were examined on the Copper River Delta. When the carcass was turned over a previously unexposed blood tinged circle of hair was apparent associated with a full-thickness hole. A tract led to an area deeper into the neck that was surrounded by soft tissue injury and hemorrhage.   | DEAD                | Shot                      | Projectile weapon            | N/A                          | N/A          | N/A            | N/A         | 1                       | 0                       |
| AKRO             | 5/28/2015 | SCAK | Steller Sea Lion | Western US | DEAD               | This is one of many Steller sea lion carcasses that were examined on the Copper River Delta. When the carcass was turned over, a 1.5 inch round hole was found on the right dorsal neck and another hole through the left eye revealing a fractured orbit.   | DEAD                | Shot                      | Projectile weapon            | N/A                          | N/A          | N/A            | N/A         | 1                       | 0                       |
| AKRO             | 6/2/2015  | SCAK | Steller Sea Lion | Western US | DEAD               | This is one of many Steller sea lion carcasses that were examined on the Copper River Delta. The animal was fresh dead and it was suspected that it had died within the last 24 hours. There were seven 1/8 inch full thickness holes within a 4 inch - 6 inch circle on the right lateral neck with tracts leading into the soft tissue where there was tissue damage and hemorrhage. | DEAD                | Shot                      | Projectile weapon            | N/A                          | N/A          | N/A            | N/A         | 1                       | 0                       |

**Appendix Table 1.1 -- Human / marine mammal interaction records reviewed for serious injury and mortality.**

| Source of Record | Date      | Area | Common Name      | Stock      | Initial Assessment | MML Determination Details  | Final Determination | Mechanism of Injury       | Source of Injury             | Fishery Name                 | Fishery Type | Fishery Method | SI Criteria | Suggested Value for PBR | Suggested Value for LOF |
|------------------|-----------|------|------------------|------------|--------------------|--|---------------------|---------------------------|------------------------------|------------------------------|--------------|----------------|-------------|-------------------------|-------------------------|
| AKRO             | 6/2/2015  | SCAK | Steller Sea Lion | Western US | DEAD               | This is one of many Steller sea lion carcasses that were examined on the Copper River Delta. Eight small holes were noted on the right upper chest when the carcass was flipped over, consistent with shotgun injury. Tracts from these holes extended into deeper tissues with surrounding hemorrhage and soft tissue injury. There were also large blood clots and blood in the pleural cavity.  | DEAD                | Shot                      | Projectile weapon            | N/A                          | N/A          | N/A            | N/A         | 1                       | 0                       |
| AKRO             | 6/2/2015  | SCAK | Steller Sea Lion | Western US | DEAD               | This is one of many Steller sea lion carcasses that were examined on the Copper River Delta. A 2 cm round hole was discovered when the carcass was flipped over. Associated with the hole was a large cavity with disorganized tissue, necrotic tissue, hemorrhage, and sand. The pleural cavity contained large blood clots and blood.  | DEAD                | Shot                      | Projectile weapon            | N/A                          | N/A          | N/A            | N/A         | 1                       | 0                       |
| AKRO             | 6/2/2015  | GOA  | Steller Sea Lion | Western US | SI                 | A Steller sea lion was observed with a circumferential neck entanglement caused by unknown material.   | SI                  | Constricting entanglement | Marine debris (unidentified) | N/A                          | N/A          | N/A            | P8a         | 1                       | 0                       |
| NPGOP            | 6/2/2015  | WAK  | Steller Sea Lion | Western US | DEAD               | A Steller sea lion was caught and killed by AK BSAI flatfish trawl gear.   | DEAD                | Entangled / entrapped     | Fishery gear                 | AK BSAI flatfish trawl       | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| AKRO             | 6/5/2015  | SCAK | Steller Sea Lion | Western US | DEAD               | This is one of many Steller sea lion carcasses that were examined on the Copper River Delta. There were six small holes consistent with shotgun injury on the animal's right neck.   | DEAD                | Shot                      | Projectile weapon            | N/A                          | N/A          | N/A            | N/A         | 1                       | 0                       |
| NPGOP            | 6/14/2015 | WAK  | Steller Sea Lion | Western US | DEAD               | A Steller sea lion was caught and killed by AK BSAI flatfish trawl gear.   | DEAD                | Entangled / entrapped     | Fishery gear                 | AK BSAI flatfish trawl       | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| AKRO             | 6/15/2015 | SCAK | Steller Sea Lion | Western US | DEAD               | A Steller sea lion was observed floating dead, with what appeared to be heavy monofilament wrapped around its body. The carcass also displayed abrasions and marks that appeared to be caused by a net. Mortality and serious injury estimates for this stock in this fishery are obtained from observer data and not stranding data or fishermen self-reported (MMAF) data; therefore, this record will not be assigned a PBR or LOF value. | DEAD                | Entangled / entrapped     | Fishery gear                 | AK PWS salmon drift gillnet  | Commercial   | Gillnet        | N/A         | N/A                     | N/A                     |
| NMFS OPR/HQ      | 6/27/2015 | WAK  | Steller Sea Lion | Western US | DEAD               | A Steller sea lion pup died as a result of marine mammal research activities at Ulak Island, AK.   | DEAD                | Research related injury   | MMPA authorized research     | N/A                          | N/A          | N/A            | N/A         | 1                       | 0                       |
| AKRO             | 6/30/2015 | GOA  | Steller Sea Lion | Western US | SI                 | A Steller sea lion was observed with a circumferential neck entanglement caused by unknown material.   | SI                  | Constricting entanglement | Marine debris (unidentified) | N/A                          | N/A          | N/A            | P8a         | 1                       | 0                       |
| NPGOP            | 7/2/2015  | WAK  | Steller Sea Lion | Western US | DEAD               | A Steller sea lion was caught and killed by AK BSAI flatfish trawl gear.   | DEAD                | Entangled / entrapped     | Fishery gear                 | AK BSAI flatfish trawl       | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| AKRO             | 7/3/2015  | SCAK | Steller Sea Lion | Western US | DEAD               | A Steller sea lion was found dead, in an advanced state of decomposition. The animal had a hole in the back of its skull that appeared to be a bullet entry or exit wound and a broken bone around the top of the left eye socket.   | DEAD                | Shot                      | Projectile weapon            | N/A                          | N/A          | N/A            | N/A         | 1                       | 0                       |
| ADFG             | 7/10/2015 | PWS  | Steller Sea Lion | Western US | SI                 | An adult female Steller sea lion was observed with a constricting neck entanglement caused by unknown material / marine debris.  | SI                  | Constricting entanglement | Marine debris (unidentified) | N/A                          | N/A          | N/A            | P8a         | 1                       | 0                       |
| NPGOP            | 7/12/2015 | WAK  | Steller Sea Lion | Western US | DEAD               | A Steller sea lion was caught and killed in AK BSAI Pacific cod longline.  | DEAD                | Entangled / entrapped     | Fishery gear                 | AK BSAI Pacific cod longline | Commercial   | Hook and line  | N/A         | 1                       | 1                       |
| NPGOP            | 7/13/2015 | WAK  | Steller Sea Lion | Western US | DEAD               | A Steller sea lion was caught and killed in AK BSAI flatfish trawl gear.   | DEAD                | Entangled / entrapped     | Fishery gear                 | AK BSAI flatfish trawl       | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| ADFG             | 7/15/2015 | GOA  | Steller Sea Lion | Western US | NSI                | A Steller sea lion was observed with a circle hook in its lip.   | NSI                 | Hooked                    | Fishery gear                 | Unknown hook and line        | Unknown      | Hook and line  | P5b         | 0                       | 0                       |
| ADFG             | 7/19/2015 | BS   | Steller Sea Lion | Western US | SI                 | A Steller sea lion was observed with a constricting neck entanglement caused by unknown material / marine debris.  | SI                  | Constricting entanglement | Marine debris (unidentified) | N/A                          | N/A          | N/A            | P8a         | 1                       | 0                       |
| AKRO             | 7/24/2015 | GOA  | Steller Sea Lion | Western US | SI                 | A Steller sea lion was observed with a circumferential neck entanglement that appeared to be caused by a twine like material. The twine was cutting into the animal's flesh.   | SI                  | Constricting entanglement | Marine debris (unidentified) | N/A                          | N/A          | N/A            | P8a         | 1                       | 0                       |
| NPGOP            | 8/3/2015  | BS   | Steller Sea Lion | Western US | DEAD               | A Steller sea lion was caught and killed in an AK BSAI flatfish trawl.   | DEAD                | Entangled / entrapped     | Fishery gear                 | AK BSAI flatfish trawl       | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| NPGOP            | 8/14/2015 | GOA  | Steller Sea Lion | Western US | DEAD               | A Steller sea lion was caught and killed in AK GOA rockfish trawl gear.  | DEAD                | Entangled / entrapped     | Fishery gear                 | AK GOA rockfish trawl        | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| NPGOP            | 9/6/2015  | GOA  | Steller Sea Lion | Western US | DEAD               | A Steller sea lion was caught and killed in AK GOA flatfish trawl gear.  | DEAD                | Entangled / entrapped     | Fishery gear                 | AK GOA flatfish trawl        | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| AKRO             | 9/8/2015  | WAK  | Steller Sea Lion | Western US | SI                 | A subadult male Steller sea lion was observed with a circumferential neck entanglement caused by what appeared to be a blue packing band.  | SI                  | Constricting entanglement | Marine debris (packing band) | N/A                          | N/A          | N/A            | P8a         | 1                       | 0                       |

**Appendix Table 1.1 -- Human / marine mammal interaction records reviewed for serious injury and mortality.**

| Source of Record | Date       | Area | Common Name      | Stock      | Initial Assessment | MML Determination Details   | Final Determination | Mechanism of Injury       | Source of Injury     | Fishery Name                                       | Fishery Type | Fishery Method | SI Criteria | Suggested Value for PBR | Suggested Value for LOF |
|------------------|------------|------|------------------|------------|--------------------|---|---------------------|---------------------------|----------------------|--|--------------|----------------|-------------|-------------------------|-------------------------|
| NPGOP            | 9/15/2015  | WAK  | Steller Sea Lion | Western US | DEAD               | A Steller sea lion was caught and killed in AK BSAI pollock trawl gear.   | DEAD                | Entangled / entrapped     | Fishery gear         | AK BSAI pollock trawl                              | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| NPGOP            | 10/4/2015  | GOA  | Steller Sea Lion | Western US | DEAD               | A Steller sea lion was caught and killed by AK GOA pollock trawl gear.  | DEAD                | Entangled / entrapped     | Fishery gear         | AK GOA pollock trawl                               | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| NPGOP            | 10/4/2015  | GOA  | Steller Sea Lion | Western US | DEAD               | A Steller sea lion was caught and killed in AK GOA Pacific cod longline gear.   | DEAD                | Hooked                    | Fishery gear         | AK GOA Pacific cod longline                        | Commercial   | Hook and line  | N/A         | 1                       | 1                       |
| NPGOP            | 10/15/2015 | GOA  | Steller Sea Lion | Western US | DEAD               | Two Steller sea lions were caught and killed in AK GOA pollock trawl gear. This record represents sea lion 1 of 2.  | DEAD                | Entangled / entrapped     | Fishery gear         | AK GOA pollock trawl                               | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| NPGOP            | 10/15/2015 | GOA  | Steller Sea Lion | Western US | DEAD               | Two Steller sea lions were caught and killed in AK GOA pollock trawl gear. This record represents sea lion 2 of 2.  | DEAD                | Entangled / entrapped     | Fishery gear         | AK GOA pollock trawl                               | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| NPGOP            | 10/16/2015 | GOA  | Steller Sea Lion | Western US | DEAD               | A Steller sea lion was caught and killed by AK GOA pollock trawl fishery gear. This is sea lion 1 of 2.   | DEAD                | Entangled / entrapped     | Fishery gear         | AK GOA pollock trawl                               | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| NPGOP            | 10/16/2015 | GOA  | Steller Sea Lion | Western US | DEAD               | A Steller sea lion was caught and killed by AK GOA pollock trawl fishery gear. This is sea lion 2 of 2.   | DEAD                | Entangled / entrapped     | Fishery gear         | AK GOA pollock trawl                               | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| AKRO             | 10/23/2015 | GOA  | Steller Sea Lion | Western US | SI                 | A subadult male Steller sea lion was observed with a circumferential neck entanglement caused by what appeared to be AK halibut longline or AK GOA Pacific cod longline.  | SI                  | Constricting entanglement | Fishery gear         | AK GOA Pacific cod longline or AK halibut longline | Commercial   | Hook and line  | P8a         | 1                       | 0                       |
| NPGOP            | 11/20/2015 | WAK  | Steller Sea Lion | Western US | NSI                | A Steller sea lion was observed feeding on discarded halibut. The animal had a hook in its right lip. This is considered a non-serious injury under criterion P5b due to the observer's comments that the animal was feeding and behaving normally.                 | NSI                 | Hooked                    | Fishery gear         | Unknown hook and line                              | Unknown      | Hook and line  | P5b         | 0                       | 0                       |
| NPGOP            | 1/31/2016  | BS   | Steller Sea Lion | Western US | DEAD               | A Steller sea lion was caught and killed in trawl gear.   | DEAD                | Entangled / entrapped     | Fishery gear         | AK BSAI flatfish trawl                             | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| NPGOP            | 2/4/2016   | BS   | Steller Sea Lion | Western US | DEAD               | A Steller sea lion was caught and killed in trawl gear.   | DEAD                | Entangled / entrapped     | Fishery gear         | AK BSAI flatfish trawl                             | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| NPGOP            | 2/5/2016   | BS   | Steller Sea Lion | Western US | DEAD               | A Steller sea lion was caught and killed in trawl gear.   | DEAD                | Entangled / entrapped     | Fishery gear         | AK BSAI pollock trawl                              | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| NPGOP            | 2/8/2016   | BS   | Steller Sea Lion | Western US | DEAD               | Two Steller sea lions were caught and killed in trawl gear. This is animal 1 of 2.  | DEAD                | Entangled / entrapped     | Fishery gear         | AK BSAI pollock trawl                              | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| NPGOP            | 2/8/2016   | BS   | Steller Sea Lion | Western US | DEAD               | Two Steller sea lions were caught and killed in trawl gear. This is animal 2 of 2.  | DEAD                | Entangled / entrapped     | Fishery gear         | AK BSAI pollock trawl                              | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| NPGOP            | 2/8/2016   | BS   | Steller Sea Lion | Western US | DEAD               | A Steller sea lion was caught and killed in trawl gear.   | DEAD                | Entangled / entrapped     | Fishery gear         | AK BSAI pollock trawl                              | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| NPGOP            | 2/12/2016  | BS   | Steller Sea Lion | Western US | DEAD               | A Steller sea lion was caught and killed in trawl gear.   | DEAD                | Entangled / entrapped     | Fishery gear         | AK BSAI pollock trawl                              | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| NPGOP            | 2/17/2016  | BS   | Steller Sea Lion | Western US | DEAD               | A Steller sea lion was caught and killed in trawl gear.   | DEAD                | Entangled / entrapped     | Fishery gear         | AK BSAI pollock trawl                              | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| NPGOP            | 2/25/2016  | BS   | Steller Sea Lion | Western US | DEAD               | A Steller sea lion was caught and killed in trawl gear.   | DEAD                | Entangled / entrapped     | Fishery gear         | AK BSAI pollock trawl                              | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| NPGOP            | 2/29/2016  | WAK  | Steller Sea Lion | Western US | DEAD               | A Steller sea lion was caught and killed by trawl gear.   | DEAD                | Entangled / entrapped     | Fishery gear         | AK BSAI flatfish trawl                             | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| NPGOP            | 2/29/2016  | BS   | Steller Sea Lion | Western US | DEAD               | A Steller sea lion was caught and killed in trawl gear.   | DEAD                | Entangled / entrapped     | Fishery gear         | AK BSAI pollock trawl                              | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| NPGOP            | 3/3/2016   | BS   | Steller Sea Lion | Western US | DEAD               | A Steller sea lion was caught and killed in trawl gear.   | DEAD                | Entangled / entrapped     | Fishery gear         | AK BSAI pollock trawl                              | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| NPGOP            | 3/10/2016  | BS   | Steller Sea Lion | Western US | DEAD               | A Steller sea lion was caught and killed in trawl gear.   | DEAD                | Entangled / entrapped     | Fishery gear         | AK BSAI flatfish trawl                             | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| AKRO             | 3/11/2016  | GOA  | Steller Sea Lion | Western US | SI                 | A Steller sea lion was observed with a circumferential neck entanglement caused by rope or line.  | SI                  | Constricting entanglement | Marine debris (rope) | N/A  | N/A          | N/A            | P8a         | 1                       | 0                       |
| NPGOP            | 3/22/2016  | BS   | Steller Sea Lion | Western US | DEAD               | A Steller sea lion was caught and killed in trawl gear.   | DEAD                | Entangled / entrapped     | Fishery gear         | AK BSAI pollock trawl                              | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| NPGOP            | 3/30/2016  | BS   | Steller Sea Lion | Western US | DEAD               | A Steller sea lion was caught and killed in trawl gear.   | DEAD                | Entangled / entrapped     | Fishery gear         | AK BSAI pollock trawl                              | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| NPGOP            | 4/13/2016  | BS   | Steller Sea Lion | Western US | DEAD               | A Steller sea lion was caught and killed in trawl gear.   | DEAD                | Entangled / entrapped     | Fishery gear         | AK BSAI flatfish trawl                             | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| NPGOP            | 4/27/2016  | BS   | Steller Sea Lion | Western US | DEAD               | A Steller sea lion was caught and killed in trawl gear.   | DEAD                | Entangled / entrapped     | Fishery gear         | AK BSAI flatfish trawl                             | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| NPGOP            | 5/11/2016  | BS   | Steller Sea Lion | Western US | DEAD               | A Steller sea lion was caught and killed in trawl gear.   | DEAD                | Entangled / entrapped     | Fishery gear         | AK BSAI flatfish trawl                             | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| NPGOP            | 5/11/2016  | BS   | Steller Sea Lion | Western US | DEAD               | A Steller sea lion was caught and killed in trawl gear.   | DEAD                | Entangled / entrapped     | Fishery gear         | AK BSAI flatfish trawl                             | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| NPGOP            | 5/20/2016  | BS   | Steller Sea Lion | Western US | DEAD               | A Steller sea lion was caught and killed by trawl gear.   | DEAD                | Entangled / entrapped     | Fishery gear         | AK BSAI flatfish trawl                             | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| AKRO             | 6/21/2016  | SCAK | Steller Sea Lion | Western US | DEAD               | A Steller sea lion carcass was discovered during Copper River Delta carcass surveys. A tracking wound and damage to the skull was noted by examiners, and metal fragments were identified in the animal's head with x-ray indicating that the animal had been shot. | DEAD                | Shot                      | Projectile weapon    | N/A  | N/A          | N/A            | N/A         | 1                       | 0                       |

**Appendix Table 1.1 -- Human / marine mammal interaction records reviewed for serious injury and mortality.**

| Source of Record | Date      | Area   | Common Name      | Stock      | Initial Assessment | MML Determination Details   | Final Determination | Mechanism of Injury       | Source of Injury             | Fishery Name                 | Fishery Type | Fishery Method | SI Criteria | Suggested Value for PBR | Suggested Value for LOF |
|------------------|-----------|--------|------------------|------------|--------------------|---|---------------------|---------------------------|------------------------------|------------------------------|--------------|----------------|-------------|-------------------------|-------------------------|
| NMFS OPR/HQ      | 7/3/2016  | SEAK   | Steller Sea Lion | Western US | DEAD               | Two Steller sea lions were incidentally killed during MMPA authorized research. This record represents sea lion 1 of 2.                               | DEAD                | Research related injury   | MMPA authorized research     | N/A                          | N/A          | N/A            | N/A         | 1                       | 0                       |
| NMFS OPR/HQ      | 7/3/2016  | SEAK   | Steller Sea Lion | Western US | DEAD               | Two Steller sea lions were incidentally killed during MMPA authorized research. This record represents sea lion 2 of 2.                               | DEAD                | Research related injury   | MMPA authorized research     | N/A                          | N/A          | N/A            | N/A         | 1                       | 0                       |
| NPGOP            | 7/31/2016 | BS     | Steller Sea Lion | Western US | DEAD               | A Steller sea lion was caught and killed in trawl gear.   | DEAD                | Entangled / entrapped     | Fishery gear                 | AK BSAI pollock trawl        | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| NPGOP            | 9/16/2016 | GOA    | Steller Sea Lion | Western US | DEAD               | A Steller sea lion was caught and killed in trawl gear.   | DEAD                | Entangled / entrapped     | Fishery gear                 | AK GOA pollock trawl         | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| NPGOP            | 9/21/2016 | BS     | Steller Sea Lion | Western US | DEAD               | A Steller sea lion was caught and killed in trawl gear.   | DEAD                | Entangled / entrapped     | Fishery gear                 | AK BSAI pollock trawl        | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| NPGOP            | 11/1/2016 | GOA    | Steller Sea Lion | Western US | DEAD               | A Steller sea lion was caught and killed in trawl gear.   | DEAD                | Entangled / entrapped     | Fishery gear                 | AK GOA Pacific cod trawl     | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| NPGOP            | 1/29/2017 | BS     | Steller Sea Lion | Western US | DEAD               | A Steller sea lion was caught and killed by trawl gear.   | DEAD                | Entangled / entrapped     | Fishery gear                 | AK BSAI pollock trawl        | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| NPGOP            | 2/11/2017 | BS     | Steller Sea Lion | Western US | DEAD               | A Steller sea lion was caught and killed by trawl gear.   | DEAD                | Entangled / entrapped     | Fishery gear                 | AK BSAI pollock trawl        | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| NPGOP            | 2/26/2017 | BS     | Steller Sea Lion | Western US | DEAD               | Two Steller sea lions were caught and killed by trawl gear. This record represents 1 of 2 - Male.   | DEAD                | Entangled / entrapped     | Fishery gear                 | AK BSAI pollock trawl        | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| NPGOP            | 2/26/2017 | BS     | Steller Sea Lion | Western US | DEAD               | Two Steller sea lions were caught and killed by trawl gear. This record represents 2 of 2 - Male.   | DEAD                | Entangled / entrapped     | Fishery gear                 | AK BSAI pollock trawl        | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| NPGOP            | 2/28/2017 | BS     | Steller Sea Lion | Western US | DEAD               | A female Steller sea lion was caught and killed by trawl gear.  | DEAD                | Entangled / entrapped     | Fishery gear                 | AK BSAI Pacific cod trawl    | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| NPGOP            | 3/24/2017 | BS     | Steller Sea Lion | Western US | DEAD               | A male Steller sea lion was caught and killed by trawl gear.  | DEAD                | Entangled / entrapped     | Fishery gear                 | AK BSAI pollock trawl        | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| NPGOP            | 3/30/2017 | WAK    | Steller Sea Lion | Western US | DEAD               | An adult male Steller sea lion was caught and killed by trawl gear.   | DEAD                | Entangled / entrapped     | Fishery gear                 | AK BSAI Atka mackerel trawl  | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| NPGOP            | 4/22/2017 | Alaska | Steller Sea Lion | Western US | DEAD               | A female Steller sea lion was caught and killed by fishery gear.  | DEAD                | Entangled / entrapped     | Fishery gear                 | Unknown                      | Commercial   | Unknown        | N/A         | 1                       | 0                       |
| NPGOP            | 4/23/2017 | BS     | Steller Sea Lion | Western US | DEAD               | A male Steller sea lion was caught and killed by trawl gear.  | DEAD                | Entangled / entrapped     | Fishery gear                 | AK BSAI flatfish trawl       | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| NPGOP            | 5/15/2017 | BS     | Steller Sea Lion | Western US | DEAD               | A Steller sea lion was caught and killed by trawl gear.   | DEAD                | Entangled / entrapped     | Fishery gear                 | AK BSAI flatfish trawl       | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| NPGOP            | 5/15/2017 | BS     | Steller Sea Lion | Western US | DEAD               | A male Steller sea lion was caught and killed by trawl gear.  | DEAD                | Entangled / entrapped     | Fishery gear                 | AK BSAI flatfish trawl       | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| NPGOP            | 5/18/2017 | BS     | Steller Sea Lion | Western US | DEAD               | A male Steller sea lion was caught and killed by trawl gear.  | DEAD                | Entangled / entrapped     | Fishery gear                 | AK BSAI flatfish trawl       | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| NPGOP            | 5/21/2017 | BS     | Steller Sea Lion | Western US | DEAD               | A male Steller sea lion was caught and killed by trawl gear.  | DEAD                | Entangled / entrapped     | Fishery gear                 | AK BSAI flatfish trawl       | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| NPGOP            | 5/27/2017 | BS     | Steller Sea Lion | Western US | DEAD               | A male Steller sea lion was caught and killed by trawl gear.  | DEAD                | Entangled / entrapped     | Fishery gear                 | AK BSAI flatfish trawl       | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| NPGOP            | 6/3/2017  | BS     | Steller Sea Lion | Western US | DEAD               | A male Steller sea lion was caught and killed by trawl gear.  | DEAD                | Entangled / entrapped     | Fishery gear                 | AK BSAI flatfish trawl       | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| NPGOP            | 6/14/2017 | BS     | Steller Sea Lion | Western US | DEAD               | A Steller sea lion was caught and killed in AK BSAI Pacific cod longline gear.  | DEAD                | Hooked                    | Fishery gear                 | AK BSAI Pacific cod longline | Commercial   | Hook and line  | N/A         | 1                       | 1                       |
| ADFG             | 7/10/2017 | PWS    | Steller Sea Lion | Western US | SI                 | A male Steller sea lion was observed with a circumferential neck entanglement caused by unidentified material.  | SI                  | Constricting entanglement | Marine debris (unidentified) | N/A                          | N/A          | N/A            | P8a         | 1                       | 0                       |
| ADFG             | 7/12/2017 | SCAK   | Steller Sea Lion | Western US | SI                 | An adult female Steller sea lion was observed with a circumferential neck entanglement caused by unidentified material.                               | SI                  | Constricting entanglement | Marine debris (unidentified) | N/A                          | N/A          | N/A            | P8a         | 1                       | 0                       |
| NPGOP            | 7/13/2017 | BS     | Steller Sea Lion | Western US | DEAD               | A male Steller sea lion was caught and killed by trawl gear.  | DEAD                | Entangled / entrapped     | Fishery gear                 | AK BSAI flatfish trawl       | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| ADFG             | 7/14/2017 | Kodiak | Steller Sea Lion | Western US | SI                 | An adult female Steller sea lion was observed with a circumferential neck entanglement caused by a packing band.                                      | SI                  | Constricting entanglement | Marine debris (packing band) | N/A                          | N/A          | N/A            | P8a         | 1                       | 0                       |
| ADFG             | 7/15/2017 | Kodiak | Steller Sea Lion | Western US | SI                 | A male Steller sea lion was observed with a flasher at the edge of its mouth. A disentanglement effort removed the flasher but not the ingested hook. | SI                  | Hooked                    | Fishery gear                 | Unknown troll                | Unknown      | Troll          | P2          | 1                       | 0                       |
| ADFG             | 7/17/2017 | Kodiak | Steller Sea Lion | Western US | SI                 | An adult female Steller sea lion was observed with a circumferential neck entanglement caused by unidentified material.                               | SI                  | Constricting entanglement | Marine debris (unidentified) | N/A                          | N/A          | N/A            | P8a         | 1                       | 0                       |
| NPGOP            | 9/10/2017 | BS     | Steller Sea Lion | Western US | DEAD               | A Steller sea lion was caught and killed by trawl gear.   | DEAD                | Entangled / entrapped     | Fishery gear                 | AK BSAI pollock trawl        | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| NPGOP            | 9/23/2017 | BS     | Steller Sea Lion | Western US | DEAD               | A male Steller sea lion was caught and killed by trawl gear.  | DEAD                | Entangled / entrapped     | Fishery gear                 | AK BSAI flatfish trawl       | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| NPGOP            | 9/29/2017 | BS     | Steller Sea Lion | Western US | DEAD               | A Steller sea lion was caught and killed by trawl gear.   | DEAD                | Entangled / entrapped     | Fishery gear                 | AK BSAI flatfish trawl       | Commercial   | Trawl          | N/A         | 1                       | 1                       |



**Appendix Table 1.1 -- Human / marine mammal interaction records reviewed for serious injury and mortality.**

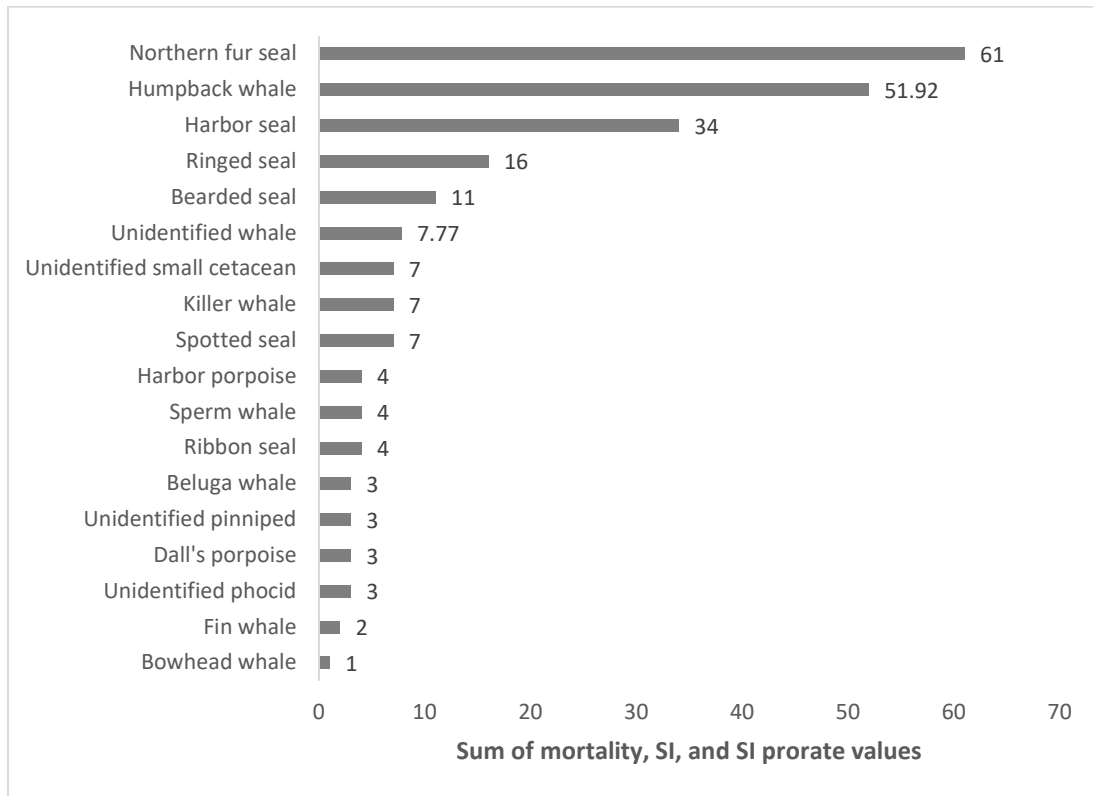
| Source of Record | Date       | Area | Common Name           | Stock      | Initial Assessment | MML Determination Details  | Final Determination | Mechanism of Injury   | Source of Injury | Fishery Name                                 | Fishery Type | Fishery Method | SI Criteria | Suggested Value for PBR | Suggested Value for LOF |
|------------------|------------|------|-----------------------|------------|--------------------|--|---------------------|-----------------------|------------------|--|--------------|----------------|-------------|-------------------------|-------------------------|
| NPGOP            | 9/30/2017  | BS   | Steller Sea Lion      | Western US | DEAD               | A male Steller sea lion was caught and killed by trawl gear.   | DEAD                | Entangled / entrapped | Fishery gear     | AK BSAI flatfish trawl                       | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| AKRO             | 10/24/2017 | SCAK | Steller Sea Lion      | Western US | DEAD               | A subadult Steller sea lion was found dead and entangled in gillnet fishing gear. Mortality and serious injury estimates for this fishery are obtained from observer data and not stranding data or fishermen self-reported (MMAP) data; therefore, this record will not be assigned a PBR or LOF value.   | DEAD                | Entangled / entrapped | Fishery gear     | AK PWS salmon drift gillnet                  | Commercial   | Gillnet        | N/A         | N/A                     | N/A                     |
| NPGOP            | 11/10/2017 | BS   | Steller Sea Lion      | Western US | DEAD               | A male Steller sea lion was caught and killed by trawl gear.   | DEAD                | Entangled / entrapped | Fishery gear     | AK BSAI flatfish trawl                       | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| NPGOP            | 11/13/2017 | BS   | Steller Sea Lion      | Western US | DEAD               | A male Steller sea lion was caught and killed by trawl gear.   | DEAD                | Entangled / entrapped | Fishery gear     | AK BSAI flatfish trawl                       | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| A-SHOP           | 10/6/2017  | WC   | Unidentified Otariid  | Unknown    | NSI                | Four unidentified otariids were caught in at-sea hake catcher processor midwater trawl gear and hauled up to the stern ramp. The animals were slowly rolled towards the front of the net, and were eventually released from the net at the end of the stern ramp. Hoses were then utilized to coax the animals into the water. No injuries were reported. This record is 1 of 4.   | NSI                 | Entangled / entrapped | Fishery gear     | At-sea hake catcher processor midwater trawl | Commercial   | Trawl          | P7b         | 0                       | 0                       |
| A-SHOP           | 10/6/2017  | WC   | Unidentified Otariid  | Unknown    | NSI                | Four unidentified otariids were caught in at-sea hake catcher processor midwater trawl gear and hauled up to the stern ramp. The animals were slowly rolled towards the front of the net, and were eventually released from the net at the end of the stern ramp. Hoses were then utilized to coax the animals into the water. No injuries were reported. This record is 2 of 4.   | NSI                 | Entangled / entrapped | Fishery gear     | At-sea hake catcher processor midwater trawl | Commercial   | Trawl          | P7b         | 0                       | 0                       |
| A-SHOP           | 10/6/2017  | WC   | Unidentified Otariid  | Unknown    | NSI                | Four unidentified otariids were caught in at-sea hake catcher processor midwater trawl gear and hauled up to the stern ramp. The animals were slowly rolled towards the front of the net, and were eventually released from the net at the end of the stern ramp. Hoses were then utilized to coax the animals into the water. No injuries were reported. This record is 3 of 4.   | NSI                 | Entangled / entrapped | Fishery gear     | At-sea hake catcher processor midwater trawl | Commercial   | Trawl          | P7b         | 0                       | 0                       |
| A-SHOP           | 10/6/2017  | WC   | Unidentified Otariid  | Unknown    | NSI                | Four unidentified otariids were caught in at-sea hake catcher processor midwater trawl gear and hauled up to the stern ramp. The animals were slowly rolled towards the front of the net, and were eventually released from the net at the end of the stern ramp. Hoses were then utilized to coax the animals into the water. No injuries were reported. This record is 4 of 4.   | NSI                 | Entangled / entrapped | Fishery gear     | At-sea hake catcher processor midwater trawl | Commercial   | Trawl          | P7b         | 0                       | 0                       |
| A-SHOP           | 10/8/2017  | WC   | Unidentified Otariid  | Unknown    | NSI                | An unidentified otariid was caught in at-sea hake catcher processor midwater trawl gear and hauled onto the deck of the vessel. The ship's deck hands sprayed water onto the animal and pulled at the net until the animal moved out of the net through a hole that was made by the deck hands. The net was then sent back into the water with the animal still on it. Once the net hit the water the animal jumped off the side and into the water. The animal initially seemed lethargic, but perked up once it passed the top of the stern ramp during release to the water. No injuries were reported. | NSI                 | Entangled / entrapped | Fishery gear     | At-sea hake catcher processor midwater trawl | Commercial   | Trawl          | P4          | 0                       | 0                       |
| NPGOP            | 1/8/2014   | WAK  | Unidentified Phocid   | Unknown    | DEAD               | An unidentified seal (originally reported as a harbor seal by the observer) was caught on an AK BSAI Pacific cod longline. The observer reported the animal appeared to be hooked in the mouth. The seal fell off the longline before it could be brought aboard.  | DEAD                | Hooked                | Fishery gear     | AK BSAI Pacific cod longline                 | Commercial   | Hook and line  | N/A         | 1                       | 1                       |
| NPGOP            | 3/11/2016  | BS   | Unidentified Phocid   | Unknown    | DEAD               | An unidentified phocid was caught and killed in trawl gear.  | DEAD                | Entangled / entrapped | Fishery gear     | AK BSAI Pacific cod trawl                    | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| NPGOP            | 6/14/2017  | BS   | Unidentified Phocid   | Unknown    | DEAD               | An unidentified phocid was caught and killed by trawl gear.  | DEAD                | Entangled / entrapped | Fishery gear     | AK BSAI pollock trawl                        | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| NPGOP            | 2/23/2013  | WAK  | Unidentified Pinniped | Unknown    | DEAD               | An unidentified pinniped was caught and killed in AK BSAI Pacific cod trawl gear.  | DEAD                | Entangled / entrapped | Fishery gear     | AK BSAI Pacific cod trawl                    | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| WCGOP            | 3/4/2013   | WC   | Unidentified Pinniped | Unknown    | NSI                | An unidentified pinniped was caught in trawl gear and reportedly released alive.   | NSI                 | Entangled / entrapped | Fishery gear     | Catch shares bottom trawl                    | Commercial   | Trawl          | P7b         | 0                       | 0                       |
| NPGOP            | 8/26/2015  | WAK  | Unidentified Pinniped | Unknown    | DEAD               | An unidentified pinniped was caught and killed in AK BSAI flatfish trawl gear.   | DEAD                | Entangled / entrapped | Fishery gear     | AK BSAI flatfish trawl                       | Commercial   | Trawl          | N/A         | 1                       | 1                       |
| NPGOP            | 8/12/2016  | BS   | Unidentified Pinniped | Unknown    | DEAD               | An unidentified pinniped was hooked on and killed by longline gear.  | DEAD                | Hooked                | Fishery gear     | AK BSAI Pacific cod longline                 | Commercial   | Hook and line  | N/A         | 1                       | 1                       |

**Appendix Table 1.1 -- Human / marine mammal interaction records reviewed for serious injury and mortality.**

| Source of Record | Date       | Area | Common Name                 | Stock   | Initial Assessment | MML Determination Details  | Final Determination | Mechanism of Injury   | Source of Injury              | Fishery Name                                 | Fishery Type | Fishery Method | SI Criteria | Suggested Value for PBR | Suggested Value for LOF |
|------------------|------------|------|-----------------------------|---------|--------------------|--|---------------------|-----------------------|-------------------------------|--|--------------|----------------|-------------|-------------------------|-------------------------|
| A-SHOP           | 11/8/2016  | WC   | Unidentified Pinniped       | Unknown | NSI                | An unidentified pinniped was reported by a member of the crew to have been entangled in trawl gear before being released. The observer did not witness the interaction.  | NSI                 | Entangled / entrapped | Fishery gear                  | At-sea hake catcher processor midwater trawl | Commercial   | Trawl          | P7b         | 0                       | 0                       |
| A-SHOP           | 11/8/2016  | WC   | Unidentified Pinniped       | Unknown | NSI                | An unidentified pinniped was found in the live tank. A plank was lowered into the live tank, and the animal was motivated up the plank with a hose. It exited the live tank and promptly entered the water.  | NSI                 | Entangled / entrapped | Fishery gear                  | At-sea hake catcher processor midwater trawl | Commercial   | Trawl          | P7b         | 0                       | 0                       |
| A-SHOP           | 11/12/2016 | WC   | Unidentified Pinniped       | Unknown | NSI                | An unidentified pinniped was caught in trawl gear and brought aboard, released from the net, and then returned to the water.   | NSI                 | Entangled / entrapped | Fishery gear                  | At-sea hake catcher processor midwater trawl | Commercial   | Trawl          | P4          | 0                       | 0                       |
| A-SHOP           | 11/12/2016 | WC   | Unidentified Pinniped       | Unknown | NSI                | A member of the crew informed the observer that an unidentified pinniped had been found in the live tank and then released alive. The observer did not witness the interaction.  | NSI                 | Entangled / entrapped | Fishery gear                  | At-sea hake catcher processor midwater trawl | Commercial   | Trawl          | P4          | 0                       | 0                       |
| A-SHOP           | 11/12/2016 | WC   | Unidentified Pinniped       | Unknown | NSI                | A member of the crew informed the observer that an unidentified pinniped had been found in the live tank and then released alive. The observer did not witness the interaction.  | NSI                 | Entangled / entrapped | Fishery gear                  | At-sea hake catcher processor midwater trawl | Commercial   | Trawl          | P4          | 0                       | 0                       |
| A-SHOP           | 11/13/2016 | WC   | Unidentified Pinniped       | Unknown | NSI                | An unidentified pinniped was caught in trawl gear, brought aboard, released from the net, and was motivated by the crew to return to the water.  | NSI                 | Entangled / entrapped | Fishery gear                  | At-sea hake catcher processor midwater trawl | Commercial   | Trawl          | P4          | 0                       | 0                       |
| MMAP             | 6/24/2014  | GOA  | Unidentified Small Cetacean | Unknown | DEAD               | Two unidentified small cetaceans were caught and killed by gillnet gear. This record represents cetacean 1 of 2.   | DEAD                | Entangled / entrapped | Fishery gear                  | AK Kodiak salmon set gillnet                 | Commercial   | Gillnet        | N/A         | 1                       | 1                       |
| MMAP             | 6/24/2014  | GOA  | Unidentified Small Cetacean | Unknown | DEAD               | Two unidentified small cetaceans were caught and killed by gillnet gear. This record represents cetacean 2 of 2.   | DEAD                | Entangled / entrapped | Fishery gear                  | AK Kodiak salmon set gillnet                 | Commercial   | Gillnet        | N/A         | 1                       | 1                       |
| MMAP             | 7/22/2014  | SEAK | Unidentified Small Cetacean | Unknown | DEAD               | Two unidentified small cetaceans (likely harbor porpoise) were caught and killed by gillnet. This record represents cetacean 1 of 2.   | DEAD                | Entangled / entrapped | Fishery gear                  | Drift gillnet - cost recovery king salmon    | N/A          | Gillnet        | N/A         | 1                       | 0                       |
| MMAP             | 7/22/2014  | SEAK | Unidentified Small Cetacean | Unknown | DEAD               | Two unidentified small cetaceans (likely harbor porpoise) were caught and killed by gillnet. This record represents cetacean 2 of 2.   | DEAD                | Entangled / entrapped | Fishery gear                  | Drift gillnet - cost recovery king salmon    | N/A          | Gillnet        | N/A         | 1                       | 0                       |
| MMAP             | 7/22/2014  | GOA  | Unidentified Small Cetacean | Unknown | DEAD               | An unidentified small cetacean was caught and killed by gillnet.   | DEAD                | Entangled / entrapped | Fishery gear                  | AK Kodiak salmon set gillnet                 | Commercial   | Gillnet        | N/A         | 1                       | 1                       |
| MMAP             | 8/9/2017   | SCAK | Unidentified Small Cetacean | Unknown | DEAD               | Two unidentified small cetaceans were self-reported to have been killed by Cook Inlet set-net fishing gear. This record represents 1 of 2.   | DEAD                | Entangled / entrapped | Fishery gear                  | Cook Inlet set-net                           | Commercial   | Net            | N/A         | 1                       | 1                       |
| MMAP             | 8/9/2017   | SCAK | Unidentified Small Cetacean | Unknown | DEAD               | Two unidentified small cetaceans were self-reported to have been killed by Cook Inlet set-net fishing gear. This record represents 2 of 2.   | DEAD                | Entangled / entrapped | Fishery gear                  | Cook Inlet set-net                           | Commercial   | Net            | N/A         | 1                       | 1                       |
| AKRO             | 5/28/2014  | SEAK | Unidentified Whale          | Unknown | PRORATE            | An unidentified whale was reported to be entangled in unidentified marine debris / gear and was observed dragging a buoy. The whale was observed once and was not seen again. Due to the unknown nature of entanglement or outcome this interaction will be prorated using criterion L10.  | PRORATE             | Entangled / entrapped | Marine debris (rope and buoy) | N/A  | N/A          | N/A            | L10         | 0.75                    | 0                       |
| AKRO             | 7/27/2014  | PWS  | Unidentified Whale          | Unknown | PRORATE            | An unidentified whale was observed entangled in "shrimp mesh netting." The entanglement was reported to be around the animal's tailstock and trailed 20 to 30 ft behind the animal. This interaction will be prorated at L10 due to the unknown nature of the entanglement and unknown outcome.  | PRORATE             | Entangled / entrapped | Fishery gear                  | PWS unknown shrimp net                       | Unknown      | Unknown net    | L10         | 0.75                    | 0                       |
| NPGOP            | 9/26/2014  | WAK  | Unidentified Whale          | Unknown | PRORATE            | An unidentified whale was observed to be entangled in pot fishery gear. Due to the unknown nature of entanglement or outcome this interaction will be prorated using criterion L10.  | PRORATE             | Entangled / entrapped | Fishery gear                  | AK BSAI Pacific cod pot                      | Commercial   | Pot            | L10         | 0.75                    | 0.75                    |
| AKRO             | 6/15/2016  | GOA  | Unidentified Whale          | Unknown | PRORATE            | A vessel struck an unidentified cetacean while underway at 20 knots. The vessel was less than 65 ft long. Blood was observed in the water and the whale was reported to appear dazed prior to disappearing from sight. This interaction qualifies as a prorated serious injury under criterion L6b due to the vessel's size and speed and L11 due to the resulting laceration. | PRORATE             | Ship strike           | Vessel (commercial)           | N/A  | N/A          | N/A            | L11         | 0.52                    | 0                       |
| AKRO             | 6/17/2016  | GOA  | Unidentified Whale          | Unknown | PRORATE            | An unidentified whale was observed during an aerial survey that was trailing netting, 120+ feet of line, and a polyball. This entanglement will be considered a prorated serious injury under criterion L10 due to the unknown configuration of the entanglement.  | PRORATE             | Entangled / entrapped | Fishery gear                  | Unknown net                                  | Unknown      | Net            | L10         | 0.75                    | 0                       |

**Appendix Table 1.1 -- Human / marine mammal interaction records reviewed for serious injury and mortality.**

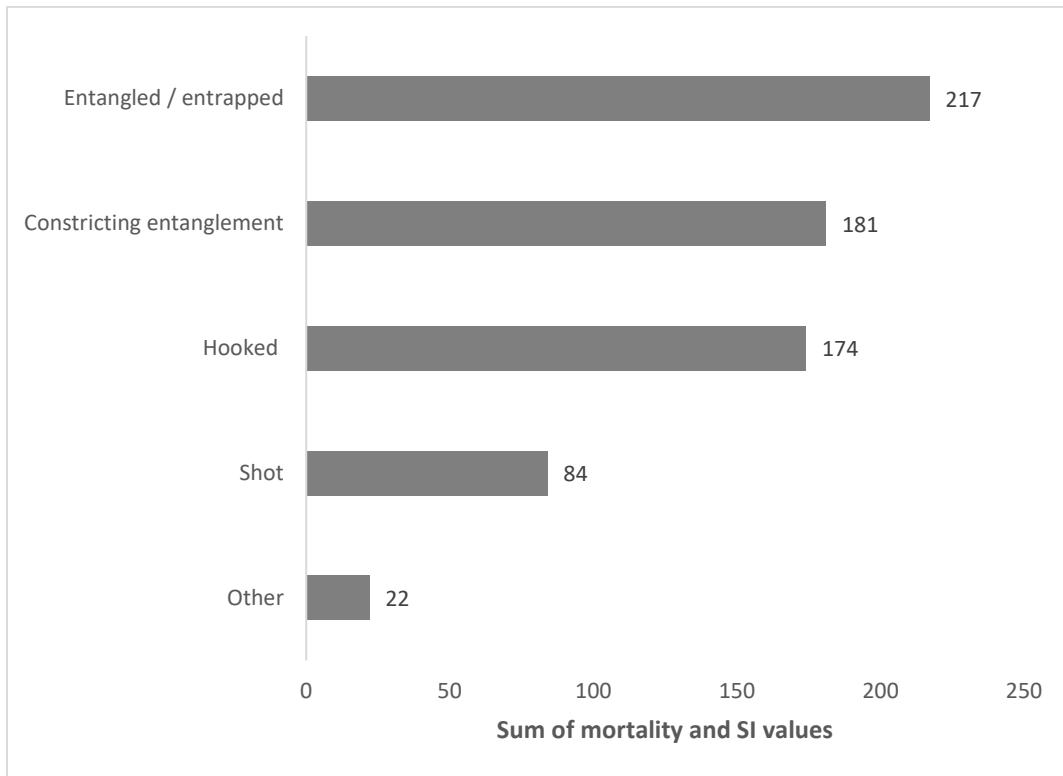
| Source of Record | Date       | Area | Common Name        | Stock   | Initial Assessment | MML Determination Details  | Final Determination | Mechanism of Injury       | Source of Injury              | Fishery Name                                | Fishery Type | Fishery Method | SI Criteria | Suggested Value for PBR | Suggested Value for LOF |
|------------------|------------|------|--------------------|---------|--------------------|--|---------------------|---------------------------|-------------------------------|---|--------------|----------------|-------------|-------------------------|-------------------------|
| AKRO             | 9/14/2016  | SEAK | Unidentified Whale | Unknown | PRORATE            | An unidentified large whale, described as over 65 ft in length, was observed for over a week to be entangled in gear consisting of a line and a buoy in an unknown configuration near Prince of Wales Island. This entanglement will be considered a prorated serious injury under criterion L10 due to the unknown configuration of the entanglement.   | PRORATE             | Entangled / entrapped     | Marine debris (unidentified)  | N/A   | N/A          | N/A            | L10         | 0.75                    | 0                       |
| AKRO             | 3/18/2017  | SEAK | Unidentified Whale | Unknown | PRORATE            | A small humpback whale or minke whale was observed with a trailing buoy. The extent of the entanglement could not be confirmed; thus, this event is prorated at L10.   | PRORATE             | Entangled / entrapped     | Marine debris (rope and buoy) | N/A   | N/A          | N/A            | L10         | 0.75                    | 0                       |
| AKRO             | 5/12/2017  | SEAK | Unidentified Whale | Unknown | SI                 | The bow of a 959.6 ft cruise ship traveling at 20.5 knots struck an unidentified whale. The crew of the ship briefly saw the whale dead ahead of the vessel but were unable to maneuver in time to avoid impact. The ship shuddered when the whale was hit. The outcome of the impact is unknown.  | SI                  | Ship strike               | Vessel (commercial)           | N/A   | N/A          | N/A            | L6a         | 1                       | 0                       |
| AKRO             | 10/11/2017 | SEAK | Unidentified Whale | Unknown | PRORATE            | An unidentified whale was observed to be towing a 16 inch red buoy, possibly associated with shrimp pots. The whale appeared to be smaller and traveling alone and slow. No additional information or photographs are available. The extent of the entanglement could not be determined; thus, this case is prorated at L10.   | PRORATE             | Entangled / entrapped     | Fishery gear                  | Unknown                                     | Unknown      | Unknown        | L10         | 0.75                    | 0                       |
| AKRO             | 12/6/2017  | BS   | Unidentified Whale | Unknown | SI                 | An unidentified whale was observed to be entangled in parallel pot cod fishery gear. The entangled gear included 1 beach-ball sized polybuoy with 50 ft of 3/4 inch line, a second beach-ball sized polybuoy with 66 fathoms of line, and one pot (weight ~ 600-700 lb, 6.5 ft x 6.5 ft x 36 inches tall). The base of the whale's tail was wrapped 3-5 times in the main line under the second buoy, but no other areas appeared to be wrapped. The whale and fishery gear were not re-sighted after the initial discovery. | SI                  | Constricting entanglement | Fishery gear                  | AK State-managed cod pot (parallel fishery) | Commercial   | Pot            | L2          | 1                       | 1                       |



**Appendix Figure 1.1.** -- Total human-caused serious injury and mortality of Alaska marine mammal species appearing in the Alaska Stock Assessment Reports for 2013-2017. Some large whale injury categories are prorated (i.e., assigned a serious injury value less than one), so the sum of mortality, SI, and SI prorate values may not be a whole number. See the text of the report for more information.

**Appendix Figures 1.2 through 1.4**

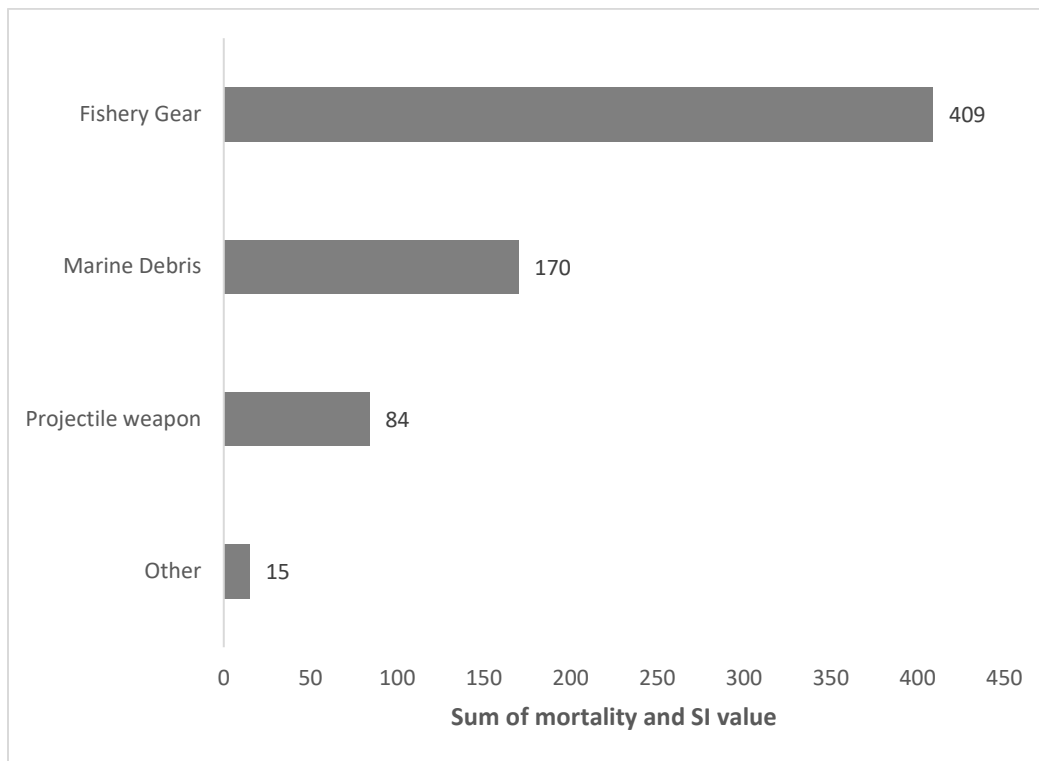
Summaries of human-caused serious injury and mortality of Alaska Pinniped species reported for 2013-2017



**Appendix Figure 1.2.** -- Human-caused serious injury and mortality of Alaska pinniped species by mechanism of injury.

**Appendix Figures 1.2 through 1.4**

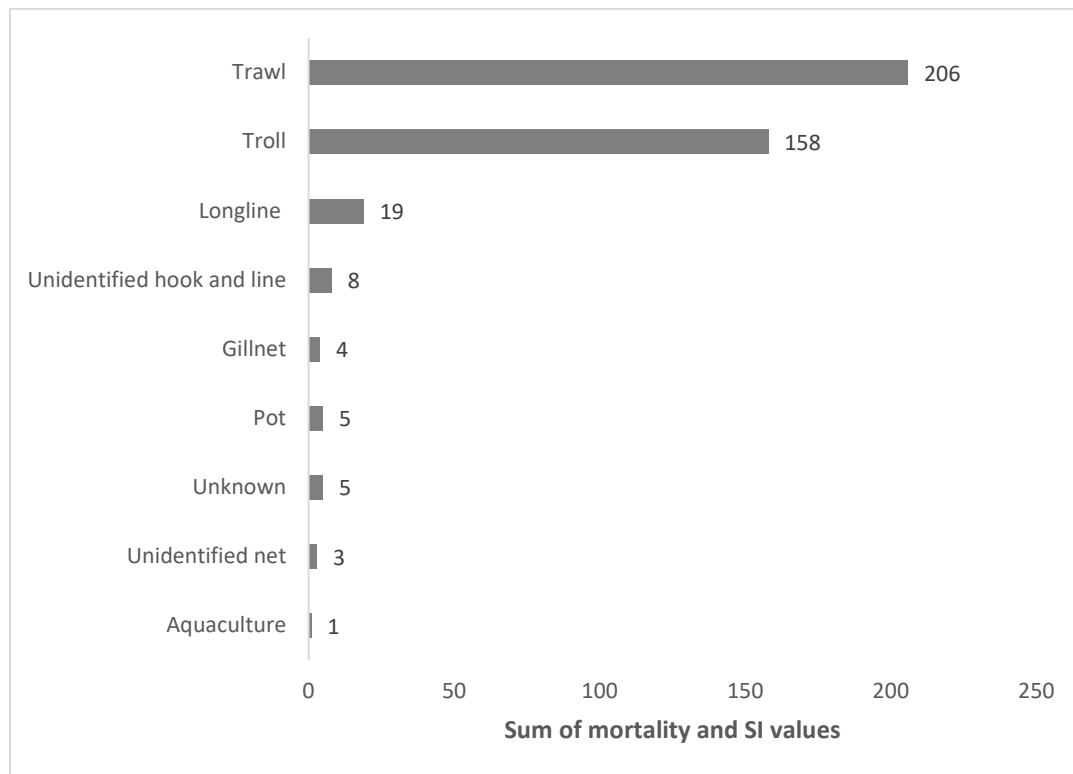
Summaries of human-caused serious injury and mortality of Alaska Pinniped species reported for 2013-2017



**Appendix Figure 1.3.** -- Human-caused serious injury and mortality of Alaska pinniped species by general source of injury.

**Appendix Figures 1.2 through 1.4**

Summaries of human-caused serious injury and mortality of Alaska Pinniped species reported for 2013-2017



**Appendix Figure 1.4.** -- Fishery-related serious injury and mortality of pinnipeds by fishery gear type.

**Appendix Figures 1.5 through 1.7**

Summaries of human-caused serious injury and mortality of Alaska large whale species reported for 2013-2017. Some large whale injury categories are prorated (i.e., assigned a serious injury value less than one), so the sum of mortality, SI, and SI prorated values may not be a whole number. See the text of the report for more information.

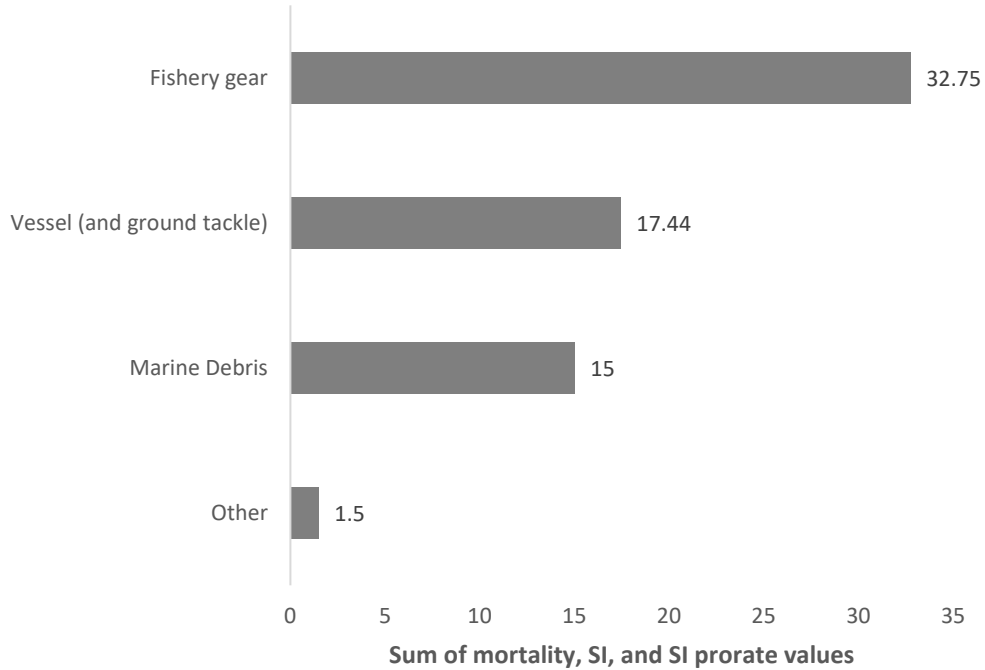


**Appendix Figure 1.5.** -- Human-caused serious injury and mortality of Alaska large whale species by mechanism of injury.



**Appendix Figures 1.5 through 1.7**

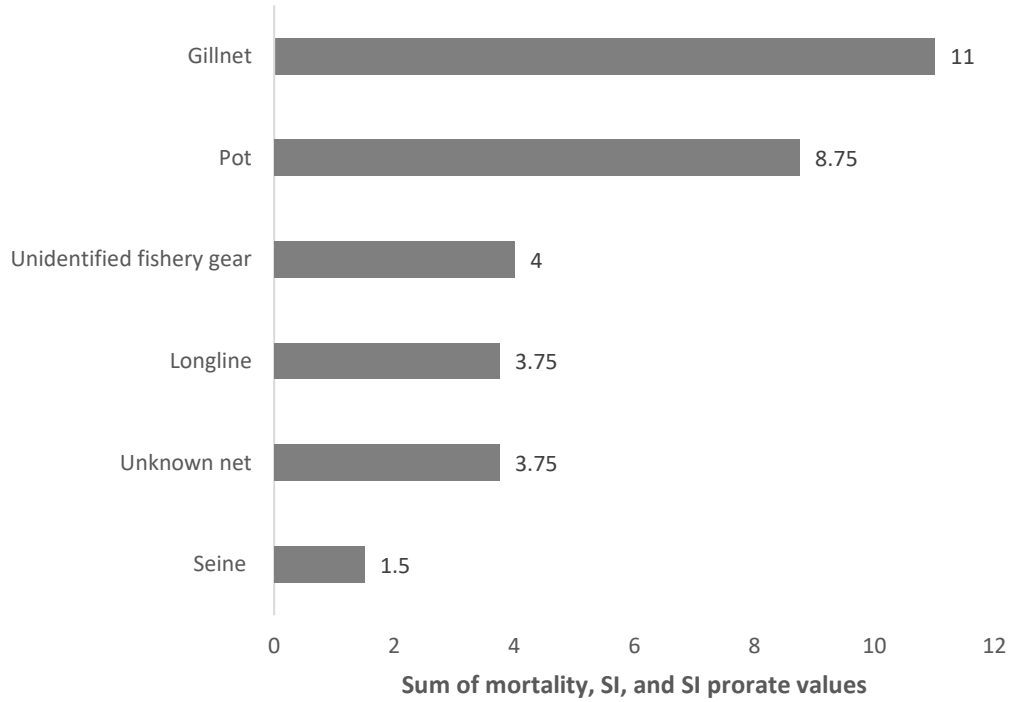
Summaries of human-caused serious injury and mortality of Alaska large whale species reported for 2013-2017. Some large whale injury categories are prorated (i.e., assigned a serious injury value less than one), so the sum of mortality, SI, and SI prorated values may not be a whole number. See the text of the report for more information.



**Appendix Figure 1.6.** -- Human-caused serious injury and mortality of Alaska large whale species by general source of injury.

**Appendix Figures 1.5 through 1.7**

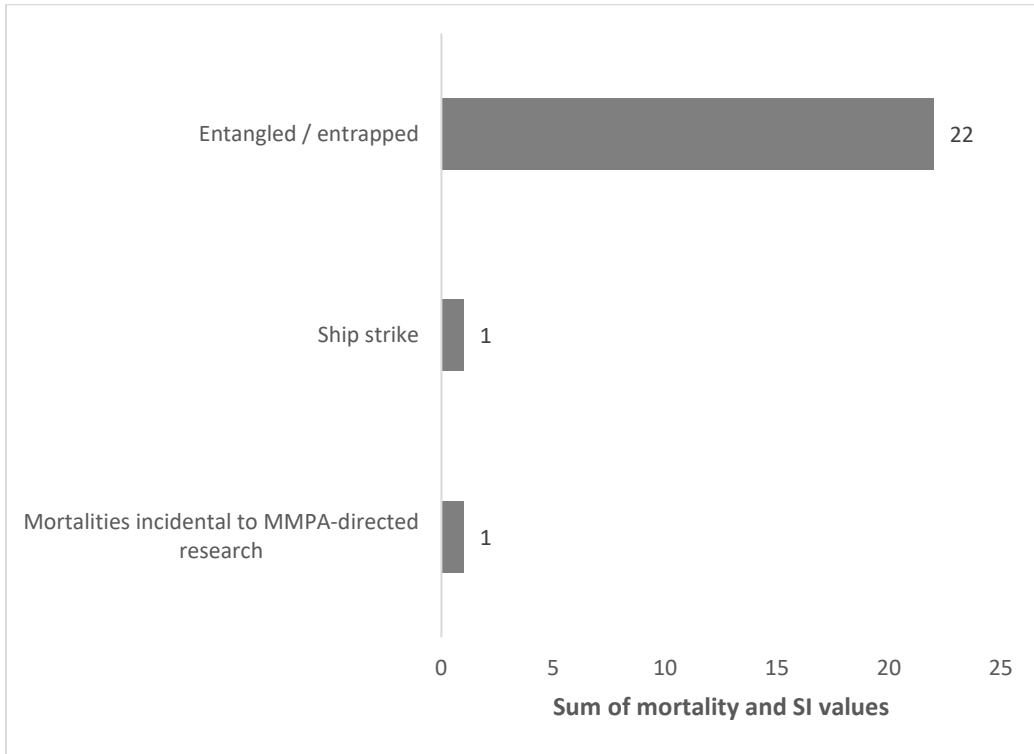
Summaries of human-caused serious injury and mortality of Alaska large whale species reported for 2013-2017. Some large whale injury categories are prorated (i.e., assigned a serious injury value less than one), so the sum of mortality, SI, and SI prorated values may not be a whole number. See the text of the report for more information.



**Appendix Figure 1.7.** -- Fishery-related serious injury and mortality of Alaska large whale species by fishery gear type.

**Appendix Figures 1.8 through 1.9**

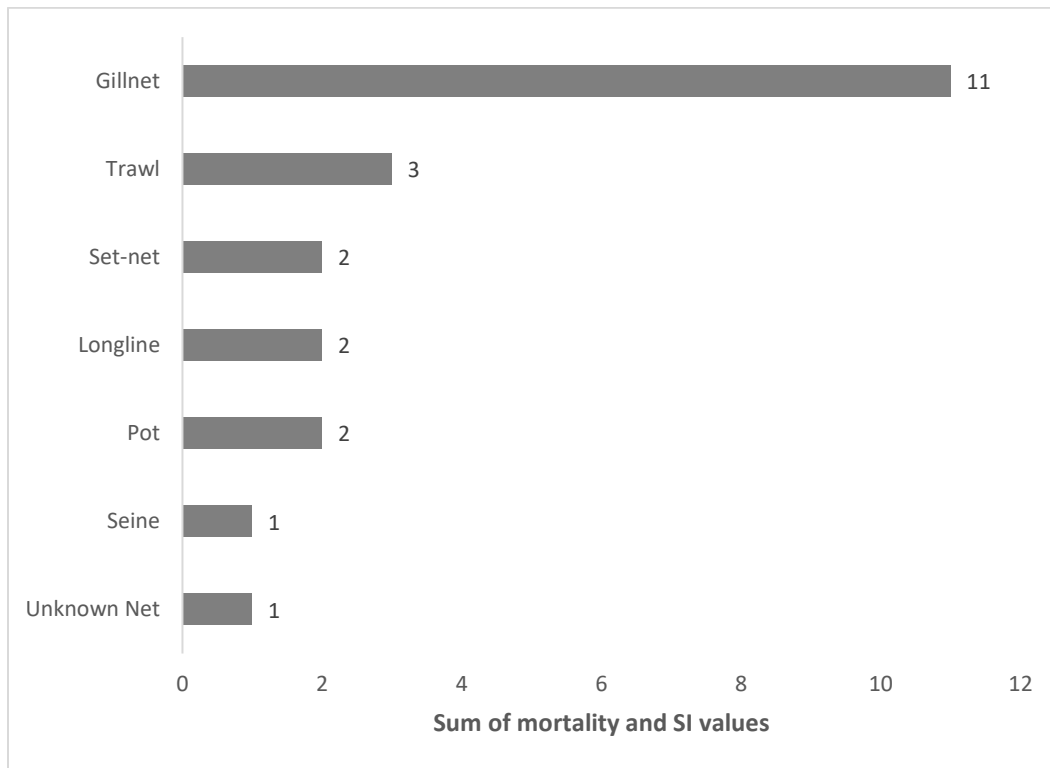
Summaries of human-caused serious injury and mortality of Alaska small cetacean species reported for 2013-2017



**Appendix Figure 1.8.** -- Human-caused serious injury and mortality of Alaska small cetacean species by mechanism of injury.

**Appendix Figures 1.8 through 1.9**

Summaries of human-caused serious injury and mortality of Alaska small cetacean species reported for 2013-2017



**Appendix Figure 1.9.** -- Fishery-related serious injury and mortality of Alaska small cetacean species by fishery gear type.

## Appendix 2

Appendix Tables 2.1 through 2.3 summarize the large cetacean, small cetacean, and pinniped injury categories and criteria, which are copied from Tables 1 through 3 in the ‘Guidelines for Distinguishing Serious from Non-Serious Injury of Marine Mammals Pursuant to the Marine Mammal Protection Act’ (NMFS 2012b). (Available at: <http://www.nmfs.noaa.gov/op/pds/documents/02/238/02-238-01.pdf>)

Appendix Table 2.1: Summary of Large Cetacean Injury Categories and Criteria

Appendix Table 2.2: Summary of Small Cetacean Injury Categories and Criteria

Appendix Table 2.3: Summary of Pinniped Injury Categories and Criteria



**Appendix Table 2.1: Summary of Large Cetacean<sup>1</sup> Injury Categories and Criteria**

Instructions: Each large cetacean injury event is recorded to the appropriate injury/information category using all available information and scientific judgment, as described in the Procedural Directive. Criteria L10 - L12 accommodate events that lack details necessary for assignment to a more specific category. For a single injury event to which several categories apply, the injury determination with the highest level of severity is assigned. More detailed information or extended observation on an individual case/animal may justify a determination differing from the guidance of this table. An animal that is fully disentangled would generally be considered not seriously injured, unless there is additional evidence of a serious injury. Any injury leading to apparent significant health decline (e.g., skin discoloration, lesions near the nares, fat loss, increased cyamid loads) is a serious injury.

| Category | Injury/ Information   | Injury Determination        | Criteria  |
|----------|---|-----------------------------|---|
| L1       | Ingested gear <sup>2</sup> or hook(s)                                       | SI <sup>3</sup>             | Swallowed, not simply draped through mouth  |
| L2       | Constricting wrap   | SI                          | Tightly wrapped line anywhere on body that indents the skin or does not shift with whale's movement, or line that is likely to become constricting as the whale grows. Indication that a whale that is heavily weighted, anchored or has a discolored appendage is sufficient evidence of constricting gear               |
| L3       | Loose wrap, bridled or draped gear  | NSI <sup>4</sup>            | Loosely wrapped gear that moves or shifts freely with whale's movement. Absence of constricting gear must be confirmed  |
| L4       | External hook   | NSI                         | Fishing hook of any size on any part of the body (i.e., not ingested)   |
| L5a      | Deep laceration <sup>5</sup>  | SI                          | Laceration with the potential to affect major artery (e.g., laceration or severing at insertion of flipper/fluke), penetrating body cavity, or cutting bone   |
| L5b      | Superficial laceration  | NSI                         | Laceration not deeper than blubber layer, does not affect major artery, or cut bone   |
| L6a      | Vessel much greater in size than whale or vessel $\geq 65'$ and $>10$ knots | SI                          | Struck by vessel much greater in size than the whale and traveling greater than 10 knots, or struck by vessel equal or greater than 65' and traveling greater than 10 knots, and no information on injury to the whale  |
| L6b      | Vessel smaller in size than whale or vessel $<65'$ and $>10$ knots          | Prorate <sup>6</sup> : 0.20 | Struck by vessel smaller in size than the whale and traveling greater than 10 knots, or struck by vessel less than 65' and traveling greater than 10 knots, and no information on injury to the whale. A strike to a calf by a vessel of any size and traveling greater than 10 knots will be considered a serious injury |

<sup>1</sup> For the purposes of this table, "large cetaceans" include all mysticetes and sperm whales.

<sup>2</sup> For the purposes of this table, "gear" is defined as any portion of fishing gear excluding the hook, which is considered separately.

<sup>3</sup> SI = Serious Injury.

<sup>4</sup> NSI = Non-Serious Injury.

<sup>5</sup> For the purposes of this table, "laceration" is defined as a ragged incision or a tearing of the skin. Lacerations are caused by trauma that results in stretching, tearing, crushing, shearing, or avulsion of the tissue. Trauma, including blunt and sharp force trauma, includes a wound or bodily harm caused by an extrinsic agent.

<sup>6</sup> "Prorate" means the number of events assigned to a given category within the assessment period is multiplied by the prorate number provided for that category.

**Appendix Table 2.1. -- Continued.**

|     |   |               |   |
|-----|---|---------------|---|
| L6c | Vessel any size $\leq 10$ knots   | NSI           | Struck by vessel of any size traveling at equal or less than 10 knots and no information on injury to the whale   |
| L7a | Vessel much greater in size than whale or vessel $\geq 65'$ and speed unknown | Prorate: 0.56 | Struck by vessel much greater in size than the whale traveling at an unknown speed, or struck by vessel equal or greater than 65' and traveling at unknown speed, and no information on injury to the whale. A strike to a calf by a vessel of any size when speed is unknown will be considered a serious injury |
| L7b | Vessel smaller in size than whale or vessel $< 65'$ and speed unknown         | Prorate: 0.14 | Struck by vessel smaller than the whale traveling at an unknown speed, or struck by vessel less than 65' and traveling at unknown speed, and no information on injury to the whale. A strike to a calf by a vessel of any size when speed is unknown will be considered a serious injury                          |
| L8  | Dependent <sup>7</sup>  | SI            | Dependent calf of a dead or seriously injured mother  |
| L9  | Brought on deck   | SI            | Whale removed from water and brought on deck  |
| L10 | Evidence of entanglement  | Prorate: 0.75 | Confirmed entanglement but insufficient information available to place in any of the L1-L4 criteria with a high degree of certainty   |
| L11 | Vessel strike laceration  | Prorate: 0.52 | Whale confirmed with non-entanglement related laceration but lacking details to place in either criteria L5a or L5b with a high degree of certainty. Includes observation of blood in water   |
| L12 | Vessel strike observed  | Prorate: 0.36 | Confirmed vessel strike report where there is insufficient detail to assign event to criteria L6a – L7b with a high degree of certainty. A strike to a calf by a vessel of unknown size traveling at an unknown speed will be considered a serious injury   |

<sup>7</sup> “Dependent” for a large cetacean means a non-weaned calf. Weaned calves and juvenile large cetaceans are no longer dependent on their mothers.



**Appendix Table 2.2. -- Summary of Small Cetacean<sup>1</sup> Injury Categories and Criteria**

Instructions: Each small cetacean injury event is recorded to the appropriate injury/information category using all available information and scientific judgment, as described in the Procedural Directive. For a single injury event to which several categories apply, the injury determination with the highest level of severity is assigned. More detailed information or extended observation on an individual case/animal may justify a determination differing from the guidance of this table. Any injury leading to apparent significant health decline (e.g., skin discoloration, fat loss) is a serious injury.

| Category | Injury/Information  | Injury Determination <sup>2</sup> | Additional factors for evaluating whether “case-specific” injuries are serious or non-serious (additional factors at end of table)   |
|----------|---|-----------------------------------|--|
| S1       | A free-swimming animal observed at a date later than its human interaction, exhibiting signs of declining health believed to be resulting from initial injury (e.g., a marked skin discoloration, fat loss)   | SI <sup>3</sup>                   | *  |
| S2       | Ingested gear <sup>4</sup> or hook(s)   | SI                                |  |
| S3       | Visible blood loss  | Case-specific <sup>5</sup>        | Amount of blood, location of the bleeding injury, duration of bleeding   |
| S4       | Animal brought on vessel deck following entanglement/entrapment (excluding scientific research targeting marine mammals and authorized as such under a NMFS scientific research permit, where the animal is brought on and placed on the vessel deck in a controlled manner)                                  | SI                                |  |
| S5a      | Hook(s) in head (excluding criterion S5b), regardless of the presence of gear   | SI                                |  |
| S5b      | Hook(s) confirmed in lip only, external tissue outside of teeth, no trailing gear   | Case-specific                     | Prolonged restraint or struggle that could lead to capture myopathy, size of hook, depth of hooking, impairing ability to feed, presence of other injuries   |
| S5c      | Hook(s) in any body part, but hook(s) is removed or pulls out   | Case-specific                     | Prolonged restraint or struggle that could lead to capture myopathy, depth of hook, hook pulls out cleanly vs. causes further injury during dehooking, method used to remove hook, length of time hooked |
| S5d      | Hook(s) in appendage or body (excluding criterion S5a), without trailing gear or with trailing gear that does not have the potential <sup>6</sup> to: 1) become a constricting wrap on animal; 2) be ingested; 3) accumulate drag; or 4) become snagged on something in the environment, anchoring the animal | Case-specific                     | Prolonged restraint or struggle that could lead to capture myopathy, depth and location of hook, type and amount of gear attached  |

<sup>1</sup>For the purposes of this table, small cetaceans include all odontocetes except sperm whales.

<sup>2</sup>This table includes only those criteria determined to be serious injuries or case-specific based on expert opinion at the 2007 Workshop (Anderson et al., 2008) and by small cetacean experts on the NMFS Determination Staff working group. For the purposes of streamlining the information for the reader, criteria determined to be non-serious injuries are not included in this table.

<sup>3</sup>SI = serious injury.

<sup>4</sup>For the purposes of this table, gear is defined as any portion of fishing gear excluding the hook, which is considered separately. Lures are considered gear. Gear also generally refers to any type of debris entangling or attached to the animal.

<sup>5</sup>Case-specific = Could be a serious or non-serious injury, but either 1) there is insufficient information about the impact of a particular injury, or 2) additional factors must be considered on a case-by-case basis to determine the severity.

<sup>6</sup>For the purposes of this table, "potential" as it relates to criterion S5d indicates that the trailing gear IS NOT capable of leading to any of the situations listed.

**Appendix Table 2.2. -- Continued.**

|      |   |               |  |
|------|---|---------------|--|
| S6   | Gear attached to free-swimming animal with potential <sup>7</sup> to: 1) become a constricting wrap on animal; 2) be ingested; 3) accumulate drag; or 4) become snagged on something in the environment, anchoring the animal | SI            |  |
| S7a  | Anchored, immobilized, or entrapped and not freed   | SI            |  |
| S7b  | Anchored, immobilized, entangled, or entrapped before being freed without gear attached   | Case-specific | Duration of entanglement/entrapment, prolonged restraint or struggle that could lead to capture myopathy, gear type, where/how gear is attached to animal, associated injury (i.e., where directly or indirectly caused by initial entanglement), response of individual animal, method used by human to remove gear from animal |
| S8a  | Gear wrapped and constricting on any body part or is likely to become constricting as the animal moves or grows   | SI            |  |
| S8b  | Gear wrapped and loose on any body part   | Case-specific | Gear type, amount of gear, potential for snag, potential to lead to criterion S8a, animal body size relative to gear (e.g., because of species or age), effect on animal movement, species sensitivity (e.g., frightens easily)  |
| S9   | Body trauma <sup>8</sup> not covered by any other criteria  | Case-specific | Location of wound, depth (e.g., superficial or to the bone, penetrating muscle or organs), length, number of lacerations, cleanliness (i.e., compression vs. tearing)  |
| S10  | Visible fracture(s), excluding pectoral fins (see criterion S13d for pectoral fin fractures)  | SI            |  |
| S11  | Vertebral transection, including fully severed flukes   | SI            |  |
| S12  | Body cavity penetration <sup>9</sup> by foreign object or body cavity exposure  | SI            |  |
| S13a | Loss or disfigurement of dorsal fin   | Case-specific | Cleanliness (i.e., compression vs. tearing), nature of injury causing the loss, extent of fin loss (i.e., full or partial), amount and duration of blood loss  |
| S13b | Partially severed flukes, transecting midline   | SI            |  |

<sup>7</sup> For the purposes of this table, potential as it relates criterion S6 indicates that the trailing gear IS capable of leading to any of the situations listed.

<sup>8</sup> For the purposes of this table, “trauma” is defined as a wound or bodily harm caused by an extrinsic agent. Blunt trauma is an injury (abrasion, laceration, contusion or skeletal fracture) produced by a blunt object striking the body or impact of the body against a blunt object or surface. Sharp force trauma is an injury caused by a sharp or pointed object creating a penetrating (stab, chop or incision) wound. Laceration is defined as a ragged incision or a tearing of the skin. Lacerations are caused by blunt trauma that results in stretching, tearing, crushing, shearing, or avulsion of the tissue.

<sup>9</sup> For the purposes of this table, “penetration” is defined as a wound occurring when a foreign object punctures the body. Penetrating wounds can be characterized as one of three types: stab (small external wound that is greater in length into the body than is apparent on the skin surface), incised (clean cuts into the skin which are longer on the skin surface than they are deep), or chop wounds (incised wounds that penetrate deep to the bone, leaving a groove or cut in the bone).

**Appendix Table 2.2. -- Continued.**

|      |  |               |  |
|------|--|---------------|--|
| S13c | Partially severed flukes, not transecting midline  | Case-specific | Cleanliness (i.e., compression vs. tearing), nature of injury causing the loss, amount and duration of blood loss  |
| S13d | Partially or completely severed or fractured pectoral fin(s)   | Case-specific | Cleanliness (i.e., compression vs. tearing), nature of injury causing the loss, extent of fin loss (i.e., full or partial), amount and duration of blood loss, opened or closed fracture                   |
| S14  | Social animal separated from group and/or released alone post-interaction (excluding criterion S15)                                      | Case-specific | Species (e.g., sensitivity, offshore vs. inshore), location of release (e.g., likelihood of animal locating its conspecifics)  |
| S15  | Dependent animal (i.e., calf, juvenile) released alone post-interaction or dependent animal left with a seriously injured or dead mother | SI            |  |
| S16  | Observed or reported collision with vessel   | Case-specific | Speed of vessel, size of vessel, hull shape, part of vessel to strike the animal, size of animal compared to size of vessel, behavior of animal after collision, extent and location of wound(s) on animal |

\* Factors listed in the far right column of Appendix Table 2-2 are unique to the associated injury type. In addition to those listed in this column, the factors that should be considered, if available, when reviewing all case-specific injury events in this table include, but are not limited to the following:

- Species
- Age or age class (e.g., calf, juvenile, adult)
- Sex
- Size of animal
- Overall health (e.g., nutritional status, body condition, pre-existing disease state, pre-existing injuries)
- Behavior during and/or after injury-causing interaction (e.g., dorsal arching, listlessness)
- Reproductive status (e.g., pregnant, lactating, has dependant calf)
- Natural history (e.g., indigenous, migratory)
- Location of injury (e.g., mouth, head, body, fin, tail, internal)
- Size of injury
- Duration of injury (e.g., single event, repeated, chronic)
- Depth of injury (e.g., superficial or to the bone, penetrating muscle or organs)
- Cleanliness of injury (e.g., compression, tearing)
- Environmental condition (e.g., individuals out of their normal habitat, climate stressors)
- Social stressors (e.g., social structure of species, separation of social individuals from the group, cow/calf separation)
- Cumulative effects of repeated exposures
- Compounding effects of multiple injuries obtained during a single event
- Availability of data on multiple sequential events involving the same individual over time
- Susceptibility of the species to capture myopathy (spinner dolphins and porpoises notoriously sensitive; bottlenose dolphins robust; many others fall in between, with some unknown)
- Ability of rehabilitated animal to be released
- Relative effect of blood loss on different species

In addition to those factors listed above, the factors that apply to all fishery-interaction related case-specific injuries include, but are not limited to the following:

- Entanglement type (e.g., hooked, anchored, entrapment)
- Amount and size of gear (e.g., size, length and number of branches of line; number of buoys, traps or anchors; volume of netting)
- Entanglement constriction (e.g., tight, loose, multiple wraps)
- Habitat where animal is located (e.g., an animal with trailing gear areas of dense gear or an area with vegetation is more likely to risk snagging the gear and becoming anchored)
- Entanglement duration
- Existence, type and amount of any trailing gear
- Method of handling the animal during disentanglement

**Appendix Table 2.3. -- Summary of Pinniped<sup>1</sup> Injury Categories and Criteria**

| <p>Instructions: Each pinniped injury event is recorded to the appropriate injury/information category using all available information and scientific judgment, as described in the Procedural Directive. For a single injury event to which several categories apply, the injury determination with the highest level of severity is assigned. More detailed information or extended observation on an individual case/animal may justify a determination differing from the guidance of this table. Any injury leading to apparent significant health decline (e.g., skin discoloration, fat loss) is a serious injury.</p> |  |                                   |   |
|---|--|-----------------------------------|---|
| Category  | Injury/Information   | Injury Determination <sup>2</sup> | Additional factors for evaluating whether “case-specific” injuries are serious or non-serious (additional factors at end of table)  |
| P1  | A free-swimming animal observed at a date later than its human interaction, exhibiting signs of declining health believed to be resulting from initial injury (e.g., a marked change in body condition, tissue necrosis, emaciation, gangrene).                              | SI <sup>3</sup>                   |   |
| P2  | Ingested gear <sup>4</sup> or hook(s)  | SI                                |   |
| P3  | Visible blood loss   | Case-specific <sup>5</sup>        | Amount of blood, location of the bleeding injury, duration of bleeding  |
| P4  | Animal brought on vessel deck following entanglement/entrapment (excluding scientific research targeting marine mammals and authorized as such under a NMFS scientific research permit, where the animal is brought on and placed on the vessel deck in a controlled manner) | Case-specific                     | Manner in which animal is brought on deck, length of time animal is on deck, environmental conditions (e.g., temperature)   |
| P5a   | Hook(s) in mouth (excluding criterion P5b), regardless of the presence of gear   | SI                                |   |
| P5b   | Hook(s) confirmed in head (excluding criterion P5a), or in lip only (external tissue outside of teeth), no trailing gear   | Case-specific                     | Location on head (e.g., eye), depth of penetration, type of hook, prolonged restraint or struggle that could lead to capture myopathy, size of hook, impairing ability to feed  |
| P5c   | Hook(s) in any body part, but hook(s) is removed or pulls out  | Case-specific                     | Prolonged restraint or struggle that could lead to capture myopathy, location of hooking on the body, depth of hook, hook pulls out cleanly vs. causes further injury during dehooking, method used to remove hook, length of time hooked |

<sup>1</sup>For the purposes of this table, pinnipeds include all pinniped species except walrus.

<sup>2</sup>This table includes only those criteria determined to be serious injuries or case-specific based on expert opinion at the 2007 Workshop (Anderson et al., 2008) and by pinniped experts on the NMFS Determination Staff working group. For the purposes of streamlining the information for the reader, criteria determined to be non-serious injuries are not included in this table.

<sup>3</sup>SI = serious injury.

<sup>4</sup>For the purposes of this table, gear is defined as any portion of fishing gear excluding the hook, which is considered separately. Lures are considered gear. Gear also generally refers to any type of debris entangling or attached to the animal.

<sup>5</sup>Case-specific = Could be a serious or non-serious injury, but either 1) there is insufficient information about the impact of a particular injury, or 2) additional factors must be considered on a case-by-case basis to determine the severity.

**Appendix Table 2.3. -- Continued.**

|     |  |                  |  |
|-----|--|------------------|--|
| P5d | Hook(s) in appendage or body (excluding criteria P5a-c and P12), without trailing gear or with trailing gear that does not have the potential <sup>6</sup> to: 1) become a constricting wrap on animal; 2) be ingested, 3) accumulate drag; or 4) become snagged on something in the environment, anchoring the animal | NSI <sup>7</sup> |  |
| P6  | Gear attached in any manner to free-swimming animal with potential <sup>8</sup> to: 1) become a constricting wrap on animal; 2) be ingested; 3) accumulate drag; or 4) become snagged on something in the environment, anchoring the animal  | SI               |  |
| P7a | Anchored/immobilized and not freed   | SI               |  |
| P7b | Anchored, immobilized, or entangled before being freed without gear attached   | Case-specific    | Duration of entanglement, prolonged restraint or struggle that could lead to capture myopathy, type of fishing gear, where/how gear immobilized animal, associated injury (where directly or indirectly caused by initial entanglement), response of individual                    |
| P8a | Gear wrapped and constricting any body part or likely to become constricting as the animal moves or grows  | SI               |  |
| P8b | Gear wrapped loosely on any body part  | Case-specific    | Type and amount of fishing gear, animal body size relative to gear (species, age), effect on movement, species sensitivity   |
| P9  | Body trauma <sup>9</sup> not covered by any other criteria   | Case-specific    | Location of trauma on body, depth (superficial or to the bone, penetrating muscle or organs) length of laceration(s), number of lacerations, cleanliness (compression vs. tearing), amount and duration of blood loss, risk of infection or disease transmission (e.g., dog bites) |
| P10 | Visible fracture(s), excluding broken appendages (see criterion P13 for broken appendages)   | SI               |  |
| P11 | Vertebral transection or fully severed flipper(s)  | SI               |  |
| P12 | Body cavity penetration <sup>10</sup> by foreign object or body cavity exposure  | SI               |  |

<sup>6</sup> For the purposes of this table, potential as it relates to criterion P5d indicates that the trailing gear IS NOT capable of leading to any of the situations listed.

<sup>7</sup> NSI = non-serious injury.

<sup>8</sup> For the purposes of this table, potential as it relates to criterion P6 indicates that the trailing gear IS capable of leading to any of the situations listed.

<sup>9</sup> For the purposes of this table, “trauma” is defined as a wound or bodily harm caused by an extrinsic agent. Blunt trauma is an injury (abrasion, laceration, contusion or skeletal fracture) produced by a blunt object striking the body or impact of the body against a blunt object or surface. Sharp force trauma is an injury caused by a sharp or pointed object or a bullet from a gunshot creating a penetrating (stab, chop or incision) wound. Laceration is defined as a ragged incision or a tearing of the skin. Lacerations are caused by blunt trauma that results in stretching, tearing, crushing, shearing, or avulsion of the tissue.

<sup>10</sup> For the purposes of this table, “penetration” is defined as a wound occurring when a foreign object punctures the body, such as a bullet from a gunshot. Penetrating wounds can be characterized as one of three types: stab (small external wound that is greater in length into the body than is apparent on the skin surface), incised (clean cuts into the skin which are longer on the skin surface than they are deep), or chop wounds (incised wounds that penetrate deep to the bone, leaving a groove or cut in the bone).

**Appendix Table 2.3. -- Continued.**

|     |   |               |   |
|-----|---|---------------|---|
| P13 | Partially severed or fractured flipper(s)   | Case-specific | Cleanliness (clean cut vs. tear), nature of injury causing the loss, extent of fin or flipper loss, opened or closed fracture, dislocation, amount/duration of blood loss   |
| P14 | Dependent animal (i.e., pup, juvenile) released alone post-interaction or dependent animal left with a seriously injured or dead mother | SI            |   |
| P15 | Observed or reported collision with vessel  | Case-specific | Speed of vessel, size of vessel, hull shape, part of vessel to strike the animal (e.g., propeller, hull), size of animal compared to size of vessel, location of strike on animal's body, extent and location of wound(s) to animal |

\* Factors listed in the far right column of Appendix Table 2-3 are unique to the associated injury type. In addition to those listed in this column, the factors that should be considered, if available, when reviewing all case-specific injury events in this table include, but are not limited to the following:

- Species
- Age or age class (e.g., calf, juvenile, adult)
- Sex
- Size of animal
- Overall health (e.g., nutritional status, body condition, pre-existing disease state, pre-existing injuries)
- Behavior during and/or after injury-causing interaction (e.g., listlessness)
- Reproductive status (e.g., pregnant, lactating, has dependant pup)
- Natural history (e.g., small home range, large home range)
- Location of injury (e.g., mouth, head, body, flipper/fin, internal)
- Size of injury
- Duration of injury (e.g., single event, repeated, chronic)
- Depth of injury (e.g., superficial or to the bone, penetrating muscle or organs)
- Cleanliness of injury (e.g., compression, tearing)
- Environmental condition (e.g., individuals out of their normal habitat, environmental stressors)
- Social stressors (e.g., social structure of species, separation of social individuals from the group, mother/pup separation)
- Cumulative effects of repeated exposures
- Compounding effects of multiple injuries obtained during a single event
- Availability of data on multiple sequential events involving the same individual over time
- Susceptibility of the species to capture myopathy (some sensitive, others robust, some unknown)
- Ability of rehabilitated animal to be released
- Relative effect of blood loss on different species

In addition to those factors listed above, the factors that apply to all fishery or marine-debris interaction related case-specific injuries include, but are not limited to the following:

- Entanglement type (e.g., hooked, anchored, entrapment)
- Amount and size of gear (e.g., size, length and number of lines; number of buoys, traps or anchors; volume of netting; material of gear)
- Method of handling the animal during disentangling
- Entanglement constriction (e.g., tight, loose, multiple wraps)
- Habitat where animal is located (e.g., an animal with trailing gear in areas of dense gear or an area with vegetation or on shore is more likely to risk snagging the gear and becoming anchored)
- Entanglement duration
- Existence, type and amount of any trailing gear



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