

# THE HUMANE SOCIETY OF THE UNITED STATES.

June 25, 1997

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William Stelle, Jr.  
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RE: Comments on the Draft Report to Congress on the Impacts of California Sea Lions and Pacific Harbor Seals on Salmonids and West Coast Ecosystems (62 Federal Register 14889).

Dear Mr. Stelle,

On behalf of the more than 4.5 million members and constituents of The Humane Society of the United States (HSUS), I offer comments on the *Draft Report to Congress - Results of Discussions Between National Marine Fisheries Service and Pacific States Marine Fisheries Commission on Behalf of the States of Washington, Oregon, and California Regarding Recommendations for Addressing the Impacts of California Sea Lions and Pacific Harbor Seals on Salmonids and West Coast Ecosystems* (Draft Report). The HSUS has over 134,000 members along the western coast of the U.S., including over 17,000 in Washington State. Consequently many of our members will likely be directly affected by the recommendations presented in this Draft. We appreciate having the opportunity to provide comments on this very important issue.

In summary, The HSUS strongly opposes the recommendations made in the Draft Report for site-specific lethal management of California sea lions and Pacific harbor seals and for reinstating authority for the intentional lethal taking of these species by commercial fishermen to protect gear and catch. Based on our review of available data, we do not believe that removal of pinnipeds will achieve the stated goals of fisheries protection and enhancement. We strongly believe that sea lion predation is not responsible for the decline of fisheries along Washington, Oregon, and California and that it is crucial that managing agencies mitigate the true sources of the declines.

Recommendations for lethal removal will likely undermine the Draft's other recommendations for developing safe and effective non-lethal deterrents and responding to other information needs. In addition, we believe that the recommendations for lethal removal are unnecessarily inhumane, potentially harmful to the public (e.g., because of danger to humans from gunfire, indirect risks from an increase of carcasses on public and private beaches, distress to

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concerned citizens) and the natural ecosystem (e.g., because of the potential benefits which pinnipeds may have on fish stocks due to their role in the food web and the ecosystem in general). We also believe that these recommendations are scientifically indefensible, resulting from unsubstantiated premises and a biased interpretation of available data. We are concerned that this Draft Report focuses only on the symptoms of the problem of declining fisheries while completely ignoring the causes and the most promising solutions to mitigate them.

Part of our concern arises from the Draft Report's recommendation of lethal removal when the National Marine Fisheries Service (NMFS) Investigation (1997) concluded that it could not even be determined that pinnipeds have had a significant negative impact on any wild salmonid population with the exception of the Ballard Locks steelhead stock (which in itself is highly debatable). Given this and the lack of scientific substantiation for this recommendation, it is inconceivable how something as environmentally, politically, and socially significant as lethal removal of pinnipeds can be justified or warranted.

Similarly, simply because the authors of the Draft Report have failed to produce the scientific evidence to substantiate their assumptions that pinnipeds are having a significant impact does not mean that the information currently required for lethal removal of pinnipeds is "unobtainable" or needs to be "perfect" as is stated in the Draft Report. The authors should consider that the data may not reflect what they suspect about pinniped predation simply because what they suspect about pinniped predation is not correct. If scientific objectivity is increased in this regard, the pursuit of data pertaining to this topic may not seem as "cumbersome" as it is described in the Draft Report. Furthermore, we believe that these statements are premature given NMFS's refusals to fund several important studies on non-lethal deterrents (such as those proposed by NMFS regional offices, the Pacific States Marine Fisheries Commission (PSMFC), and the Ballard Locks Pinniped-Fisheries Task Force).

Furthermore, it appears that the inclusion of major sections and recommendations in the Draft Report exceed the purview of Section 120(f) of the Marine Mammal Protection Act (MMPA) under which this document (as well as the NMFS Investigation) was authorized. This Section directs investigation and recommendations on the potential negative impact which California sea lions and Pacific harbor seals are having on the "recovery of salmonid stocks" and "the coastal ecosystems of Washington, Oregon, and California". Although humans may be considered to be part of a coastal ecosystem, it is uncertain how economic impacts can be considered to be part of the ecosystem. Thus we question the appropriateness of making recommendations on the basis of perceived economic impact under this directive.

The HSUS urges NMFS not to adopt these recommendations for lethal removal. We strongly believe that they represent the management of fish runs and pinnipeds in a scientifically unsound manner with an unfair and disproportionate bias toward fishing interests. Although the authors of this Draft Report may consider individual animals from non-threatened populations to be biologically expendable, it is clearly not evident

that a representative number of U.S. citizens (or scientists for that matter) have this same philosophy. While Pacific harbor seals and California sea lions are not threatened or endangered, individual animals, as well as site-specific sub-populations, are very important to the public and possibly, to the ecosystem, and should be managed accordingly. It is certainly not generally accepted that pinnipeds are responsible for the decline or inhibited recovery of fisheries. We believe that unnecessary killing, as politically expedient as it may appear to be, would be ineffective and scientifically, ecologically, and socially indefensible and should be avoided at all costs.

#### Note on Public Needs not Identified in the Draft Report

We note that, with few exceptions, there are only one or two functional stranding centers to care for injured marine mammals in the Pacific Northwest. We also note that most stranding centers along the west coast are barely functioning with their funds obtained from the public. For several years, I served as a Board Member and Volunteer Biologist for one local stranding center (which does not even function in this capacity anymore). In the small area of Bainbridge Island alone I have had to respond to numerous calls from distressed and frantic homeowners and beach-goers who have had to watch seals and sea lions suffer and die in front of them because NMFS regional officials could not or would not respond to their calls and our center did not have the resources to address the situation. Many of these injuries and deaths were obviously the result of intentional human activity (although illegal at the time).

It is evident that shooting pinnipeds (especially by unskilled members of the public) is an entirely inhumane way to kill these animals. While The HSUS is adamantly opposed to the killing of pinnipeds under the circumstances described in the Draft Report, we believe that if the recommendations for lethal removal are adopted, it will be necessary for federal or state agencies to provide a service for euthanizing the numerous numbers of pinnipeds which will be injured and suffer publicly for extended periods of time as a result of these recommendations. Furthermore, state and federal agencies will need to provide services to respond to the increasing number of dead animals which will wash ashore onto private and public beaches and become potential health hazards. Reliance on existing stranding centers is certainly not in the best interest of citizens, wildlife, or the stranding centers themselves. The Draft Report should note the negative impacts which their recommendations for lethal removal will have on the public and on existing stranding centers.

#### Page-by-Page Comments

##### Relationship Between Pinniped and Salmonid Populations

On page 2, Issue #1, the Draft Report states that “*California sea lion and Pacific harbor seal populations on the West Coast are increasing while many salmonid populations are decreasing.*” We also refer to Page 2, first sentence of the third paragraph which reads, “*While many pinniped populations have increased, many marine and anadromous fish*

*populations have declined.*” These statements are misleading and they imply an overly simplistic and undocumented cause-and-effect relationship between these two population trends. To our knowledge there is no established causal relationship between increasing pinniped populations and decreasing populations of salmonids in the scientific literature. In addition, the declines of many of these fish populations can be traced to well before pinniped populations began their major resurgence in the 1970s. These statements also appear to contradict a statement found later in the document (pg. 3), which states that “*there have been no specific studies that demonstrate a cause-effect relationship between increases in pinniped numbers and declines in salmonid populations, and no such direct relationship is implied here.*” We recommend that such misleading phrases be stricken or amended accordingly in the document.

### Status of Pinnipeds and Salmonids

Page 2 states that “*The current populations of California sea lions and Pacific harbor seals may be larger than at any other time in the past several centuries, and their ranges and areas of common occurrence have expanded. California sea lions for example, are now found in increasing numbers in northern waters, in inland waters, and upriver in freshwater in many West Coast river systems.*” While the first part of the first sentence (which refers to increasing pinniped populations) is possibly true, it is not necessarily the most likely possibility. There does not appear to be sufficient data to adequately determine the historic “highs” for these populations prior to extensive human exploitation (NMFS 1992; NMFS 1997). This, in part, is why the OSP for this population has not been determined. It should be noted that data indicate that the California sea lion population is below its Maximum Net Productivity Level (MNPL) (NMFS 1992) and “*there is no evidence that it has reached its optimal sustainable population (OSP) level which is the management goal mandated by the MMPA*” (NMFS Investigation, pg. 16). Further, the NMFS Investigation (NMFS 1997, pg. 16) states that the commercial harvest of the sea lion population began in the “*1800’s and early 1900s which likely reduced the number of California sea lions at the turn of the century [emphasis added]*”. Thus, if the decline in sea lions occurred after the time in which populations were unknown but estimated to be high (prior to the turn of the century), then reference to the past “several centuries” is possibly inaccurate and certainly not substantiated.

The latter part of this sentence (which refers to pinniped ranges) is also highly speculative and not supported by enough data to state as a fact as has been done in the Draft Report. The fossil data are insufficient to make this claim and it is not known what the “normal” range of sea lions is. For example, prior to 1970, population numbers of pinnipeds were intentionally kept low around “important fishing areas in the lower Columbia River” (NMFS 1997b, pg. 7). We cannot know what their range would have been in the absence of the extensive historic killing of sea lions.

The same problem is found in the last sentence (which refers to examples of increasing numbers of pinnipeds), the seventh sentence in this section which refers to “increased abundance and expanded distribution”, and later in this section (pg. 2, second

paragraph), where the Draft Report refers to abundance levels of pinnipeds as “high”, an adjective which requires a source of comparison. If the intent of these statements was to compare current ranges with those prior to extensive exploitation of pinnipeds, then this point is obscured by comparing current populations with those occurring “in the past several centuries”. If the comparison was meant to refer to estimates prior to exploitation, then the current population should not be referred to as “high” unless data exist which conclude that populations were smaller at that time. If the comparison was meant to be with population counts following exploitation, then this should be specified.

The Draft Report fails to acknowledge that under conducive environmental and genetic conditions, it is a normal dynamic for populations to increase dramatically after an extensive harvest. As was the case in the South African seal population in the twentieth century (Butterworth et al. 1988), the “dramatic” increase in California sea lions and harbor seals along the west coast represents nothing more than the recovery of a heavily exploited population and claims that current counts are indicative of overpopulation are not conclusive. We assert, as Butterworth et al. noted in South Africa (pg. 182), that there is “*no biological basis for a categorical conclusion that the present overall seal numbers or population growth rate are inappropriately high (presumably the principal reason for the suggestion of an imbalance)*.”

Consequently, the Draft Report should not speculate, use misleading or inaccurate terminology, or provide a potentially biased interpretation of existing data. It should avoid vague and misleading comparative terminology and appropriately reflect the difficulty in determining earlier population numbers and ranges. In particular, the Report should not use language which indicates that there is an “overpopulation” of pinnipeds on the west coast when, in fact, this has not been scientifically established. Thus we recommend that these statement be removed or amended to correctly reflect the controversy regarding their scientific accuracy and substantiation.

#### Information on Pinniped Food Habits

We are concerned that on page 3 of the Draft Report the benefits of food habit studies involving the lethal collection of pinnipeds are elaborated without any discussion of the problems inherent in these studies and the relative benefits of non-lethal research. It is the opinion of The HSUS that lethal food habit studies on pinnipeds will not necessarily produce the most reliable data possible. Recent research has shown that stomach content analysis may not be as reliable or useful a technique as was previously thought (Lavigne, in press; Olesiuk 1990). Another and non-lethal form of food analysis, scat analysis, is currently considered by many scientists to be a more acceptable and appropriate technique (Pierce and Boyle 1991). Scat analysis has frequently cited advantages over stomach content analysis: a large number of samples can be collected quickly, with little effort and cost, and with minimal harm to the animals (Merrick 1995; Olesiuk 1990; Pierce and Boyle 1991). Scat analysis has evolved to the extent that it provides reliable information on the relative frequency of prey and diet composition in pinnipeds (Olesiuk 1990). This technique has also allowed for the identification of some salmonid species which have been commonly overlooked in

earlier studies which utilized stomach content analysis (Merrick 1995; Pierce and Boyle 1991).

Scientists have commented that it is difficult to imagine how comprehensive diet assessments such as those obtained through scat analysis could be undertaken using any other method. Any criticisms previously directed at scat analysis can be largely attributed to inadequate analysis and compensated for by obtaining large sample sizes. For these and other reasons, scat analysis has been cited as perhaps the best-suited approach for obtaining data relevant to investigations of pinniped-fishery conflicts. Consequently, we disagree with the Draft Report that data from lethal takes are “critical” and we suggest that, in the absence of substantiating data, this opinion be stricken from the text.

### Pinniped Predation on Salmonids

#### Learned Behavior

We do not agree with the statement on Page 4, first paragraph, that “*As the number of pinnipeds increases, the likelihood of more pinnipeds discovering these situations increases, as does the opportunity to pass on such learned behavior to other pinnipeds.*” We do not know of any direct evidence which indicates that this type of pinniped foraging is a learned, socially facilitated, or imitated behavior. Such terms defined by precise cognitive and behavioral characteristics should be used carefully and not casually in discussing what may not be socially transmitted foraging strategies.

#### Failure to Discuss Other Factors

While the Draft Report refers to a “number of factors” which have “caused the decline of salmonid populations and still affecting salmonid recovery on the West Coast” (pg. 3), a discussion of these factors is completely missing from this document. Knowledge and consideration of the nature and extent of factors attributed to the fisheries problem are essential to evaluating the relative impact of sea lion predation and making sound fishery management decisions.

Although the Draft Report acknowledges that “*Pinniped predation on small salmonid populations, especially at areas of restricted fish passage* [emphasis added], *can have negative impacts on the recovery of depressed salmonids*” (pg. 4), the report never mentions that the cause of restricted fish passage in the areas of most concern is primarily due to artificial manipulation of the environment. This is despite the NMFS Investigation (1997, pg. 43) acknowledgment that pinniped predation can have a detrimental effect “*particularly where fish passage is restricted by man-made structures (e.g., dams) ...*”. We are similarly concerned that the Draft Report repeatedly makes reference to “conflicts” between pinnipeds and fisheries when, in fact, it is clear to us that it is human alteration of fish passage, along with other problems, which is in conflict with the fisheries and which creates unnatural vulnerability of salmonids to sea lion predation.

These points are exacerbated by the Draft Report's focus on pinnipeds that have "learned to exploit situations where salmonids are concentrated and particularly vulnerable" (pg. 3) rather than on the sources of this vulnerability. It is evident that promising solutions to fish passage problems are being overlooked in lieu of a simplistic preoccupation with, and scapegoating of, pinnipeds. Without making artificial structures and habitats more "fish-friendly", it is inconceivable how predation could be treated as a cause of the problem rather than an effect. We highly recommend that this human-induced salmonid vulnerability to pinniped predation be addressed in the Final Report accordingly.

### Ballard Locks

On page 4, second paragraph, the Draft Report reiterates the NMFS Investigation conclusion that a significant negative impact by pinniped predation on one salmonid population has been observed at the Ballard Locks. As a member of the Ballard Locks Pinniped-Fishery Task Force (representing The HSUS), I strongly disagree with this conclusion. As a notable number of members (including unaffiliated scientists) on this Task Force have commented repeatedly (Anonymous 1994, 1995, 1996a), the data did not support the assertion that sea lion predation has exerted a significant negative impact on the steelhead population. Therefore, NMFS should not conclude in the Investigation or the Draft Report that the sea lions at the Locks have caused a "significant negative impact". The documents appear to completely ignore the Task Force reports in this regard. We believe that the Task Force documents clearly represent the wide and notable diversity of professional opinion on this issue and that the Draft Report should be altered accordingly.

We maintain that it was the government's pre-occupation with sea lion predation and removal efforts (lethal and non-lethal) which was primarily responsible for the reduction of the Ballard Locks steelhead to "remnant levels". Emphasis on sea lion predation diverted precious resources and time away from the long term solutions needed to respond to the original and principal causes of the decline of the fish stocks. In the application for the lethal removal of sea lions at the Ballard Locks, the Washington Department of Fish and Wildlife properly but superficially referred to lethal removal of sea lions as a "... short term solution". To use another example from the Ballard Locks, Fraker (1994) stated that "Improving the ability of the steelhead to avoid sea lion predation may provide a longer-term solution. Such means could include provision of escape cover and ways to increase the rate of passage near the locks so that the steelhead would be present in an exposed situation for only a minimal amount of time." Despite this, it is evident that once again, promising long-term solutions to fish passage problems are being overlooked in lieu of a simplistic preoccupation with sea lions. Without making artificial structures and habitats more "fish-friendly", it is inconceivable why predation would be treated as the cause of the problem rather than a symptom.

Despite widespread acknowledgment that sea lion predation was only one of many problems facing the steelhead run at the Ballard Locks, little action was taken to

mitigate any of the other threats to the steelhead with the excuse that they were too “long-term” or needed further study. The result was millions of dollars and over a decade wasted on predation reduction with the result of a run of less than 100 fish by 1993. With this Report, NMFS, PSMFC, and state agencies have the opportunity to implement methods of studying and improving fish passage problems which will most likely address the most serious concerns regarding pinniped predation of fish along the West coast before more emergency situations arise.

We should note in this letter that personnel from NMFS have recently attributed reduced sea lion presence and predation at the Ballard Locks to the permanent removal of three sea lions. While this speculation may be used to justify removal, it appears that NMFS has come to this conclusion prematurely. To our knowledge, NMFS has not examined other highly important factors (such as potentially reduced sea lion presence in the outer bay of the Locks) which would have influenced sea lion presence at the Locks. Further, the Report and Recommendations of the Ballard Locks Task Force (Anonymous 1996a) states that the Task Force “cannot, in the short term, completely evaluate effectiveness of the actions due to the long-term nature of fish stock recovery.” Consequently, we strongly recommend that such premature conclusions do not guide management policy anywhere in the United States.

#### Willamette Falls

Again, we do not agree with the Draft Report’s conclusion (pg. 4) about a “conflict” between sea lions and salmonids at Willamette Falls (please see our comments to William Stelle, dated April 1, 1997, on the *Draft Environmental Assessment (EA) on Preventing California Sea Lion Foraging and Predation on Salmonids at the Willamette Falls Fish Passage Facility - Oregon City, Oregon* for a detailed assessment).

Based on the available data, it is clear to us that sea lion predation is not responsible for the decline of spring chinook and steelhead runs at the Willamette Falls. For example, our calculations showed that the introduced early-winter steelhead run declined by 25% more in 1996 than did the native late-winter run in that year. Since the occurrence of sea lions and the introduced early-winter run do not appear to coincide for a substantial length of time, sea lion predation is unlikely to have caused the decline of this introduced run. Therefore, it is likely that something other than sea lion predation is affecting both the early- and late-winter steelhead runs. Furthermore, it is clear that the spring chinook run was facing serious problems prior to the occurrence of sea lion predation at the Falls. For example, in the EA, the objective of a 100,000 fish run size was “... *not reached in 1995 for the fourth consecutive year*” (pg. 12). Obviously, sea lion predation cannot be responsible for this decline given that the first observed predation at the fishway was in 1995. It was evident in the EA that agency biologists could not conclusively determine that pinniped predation is adversely affecting fish passage in the Willamette Falls fishway.

Possibly of most importance is the timing of the decrease in run sizes relative to the observation of sea lion predation at the Falls. While trends and other important

historical information were not provided in the EA, it is evident that these runs were exhibiting significant declines prior to the occurrence of sea lions in the area. We found it wholly inadequate for agencies to claim effects from predation without supplying reviewers (let alone examining for themselves) information on fish passage and rates of decline prior, and subsequent to, predation. Such data are critical for determining actual predation impacts and the likely consequences of sea lion removal.

### Concern Based on Speculation

We believe that it is purely hypothetical to state that “*depressed salmonid populations at some sites could continue to decline due to pinnipeds, even if other sources of mortality may have been curtailed*” (pg. 5). As stated earlier, with the highly controversial exception of the Ballard Locks, it has not been determined that pinnipeds have had a significant negative impact on any wild salmonid population in the first place. Therefore, to state that an impact which may not even exist is expected to continue is highly speculative. The speculative nature of this statement is exacerbated by hypothesizing that the other sources of mortality would be curtailed, something on which we have yet to see progress made.

### Pinniped Impacts on West Coast Ecosystems

#### Economic Impact

While the Draft Report makes it clear that pinnipeds are “*causing economic impacts of undetermined magnitude*” on the west coast (pg. 5), it does not substantiate that these impacts exceed levels which would be considered reasonably acceptable by the general public. We note that the report on the Status and Future of Salmon of Western Oregon and Northern California (Botkin et al. 1995, pg. 132) states that, “*Based on available data it appears that sea lions and harbor seals take a small percentage of the salmon caught commercially and by sport fishermen. Even if one were to accept the most liberal estimates of salmon consumption rates and marine mammal population sizes which we do not ... the take by marine mammals appears to be no more than 10 percent of the combined total of human and marine mammal harvests*”. We also note that, as early as 1901, Merriam reported that “*sea lions along the California coast fed almost exclusively on squid, even in areas where local fishermen were confident that they were preying heavily upon salmon.*” We note that this citation is missing both in the Draft Report and in the NMFS Investigation (1997).

The HSUS believes that there is an acceptable level of risk inherent in any commercial venture. We do not see why lethal removal is warranted simply because fishers have grown accustomed to reduced populations of pinnipeds in this century. We see this as an opportunity for NMFS to respond to the concerns of all citizens and develop and implement better solutions to the primary problems facing depleted fisheries as well as solutions which minimize marine mammal predation in specific sites in a humane and effective manner.

## Aquaculture

The Draft Report states that various aquaculture operations are negatively impacted by pinnipeds (pg. 6) yet we refer to the Gulf of Main Aquaculture-Pinniped Task Force Report (Anonymous 1996b) which concluded that fish farms in Maine had not taken adequate measures to exclude pinnipeds. We know of no quantitative assessment of impacts which has been done on the west coast, but it is possible that similar conclusions would be reached on this coast as well.

## Threats to Human Safety

This section of the Draft Report (pg. 7, second paragraph) elaborates on the threats which pinnipeds pose to human safety and complains about the restrictions in the MMPA with regard to mitigating these threats. However, although mentioned later in the document, this section completely overlooks mention of the MMPA provision which permits lethal removal of marine mammals which threaten public safety. Consequently this section should be re-written to reflect the ability to lethally remove pinnipeds under certain circumstances, without portraying pinnipeds as an uncontrollable risk to human safety.

Furthermore, the MMPA also allows for an abundance of non-lethal measures which are not unlike those used in most park systems for terrestrial and avian “problem” animals (e.g., depredating raccoons, squirrels biting people that feed them). We also point out that there has been a notable increase in the illegal feeding of free-ranging marine mammals (pinnipeds and cetaceans alike) in U.S. waters. The feeding of pinnipeds actually reinforces the use of docks and other “problem areas” where feeding occurs. Consequently, until NMFS begins to enforce the laws against feeding marine mammals (as we and other organizations have requested repeatedly), the agency has no justification for attempting to address this problem through lethal removal. We remind NMFS that the Steller sea lion which was killed several years ago in Alaska under the nuisance animal provision of the MMPA had been provisioned with food by humans.

## Deterrence Efforts

We disagree with the statement that “*no safe, effective deterrent devices or techniques that provide long-term resolution have been identified [to deter pinnipeds]*” (pg. 7). A similar statement is found in the Discussion on page 10 which reads “*available non-lethal measures have not proven reliable*”. While no completely or universally effective solutions have been identified, the preponderance of the literature suggests that some effective means of non-lethal pinniped predation deterrence are available (Anonymous 1996b; Pemberton and Shaughnessy 1993; Smith 1994). For example predator nets, if used properly, “are an effective means of predator control” around aquaculture sites (Anonymous 1996b; Pemberton and Shaughnessy 1993).

Non-explosive acoustic devices are also considered an effective tool in deterrence of pinnipeds in at least some contexts (e.g., Anonymous 1996a; Anonymous 1996b; Norberg and Bain 1994) and may prove to be more effective if “nuisance” animals are

not at risk of being deafened by explosive devices also used in deterrence efforts. Smith (1994, pg. 21) noted that “If proper precautions are taken [in aquaculture sites], the shooting of problem animals should rarely be required (Rueggeberg and Booth 1989).” We also note that the term “reliable” is subjective as what may be considered reliable or acceptable by one fisher may not be viewed similarly by another.

Several proposals and recommendations which have been submitted to NMFS in the past several years by NMFS regional offices, PSMFC, and the Ballard Locks Pinniped-Fishery Task Force to study non-lethal deterrence devices have been consistently rejected by NMFS. For example, the Ballard Locks Pinniped-Fishery Task Force has repeatedly recommended study and implementation of a sea lion barrier (the original NMFS barrier was not found to be satisfactory) and a steelhead refuge (Anonymous 1994, 1995, NMFS 1996) to no avail. Hilda Diaz-Soltero, as Regional Director of NMFS, Southwest Region, in a letter to the president of the California Fish and Game Commission (May 5, 1995) commented on lethal removal by saying that “I also think that measures other than lethal removal should be identified and investigated before preceding with that option”. She also stated, “*How can the Secretary of Commerce possibly address the problem in California when no research is being done and the last federally funded interaction study was during 1979-1981?*”. It is premature to recommend killing pinnipeds without funding the studies necessary to identify non-lethal solutions to the problems of concern.

The Draft Report states that some sea lions have “learned” to tolerate or avoid the effects of “all” deterrence devices (pg. 7). We do not know of any evidence to support this, particularly in the case of underwater explosive devices. While temporary benefits may be incurred through the use of these devices, they may actually do more harm than good because sea lions may become permanently deafened (immediately or through repeated exposure) (NMFS 1989), making the animals to other acoustical deterrents. Even some salmon growers in Maine often choose not to use seal bombs because of concerns about consequent deafness making seals unresponsive to other acoustical deterrents (Anonymous 1996b). We recommend that the Report be amended to include the likelihood that animals may be deafened by these devices and that there is no evidence that some sea lions have “learned” to tolerate or avoid their effects.

## Ecosystem Impacts

In discussion of ecosystem impacts (pg. 8), the Draft Report blatantly and completely ignores the benefits which pinnipeds may have on commercial fisheries and to the ecosystem as a whole. This is despite mention of the benefits which pinnipeds may have on fish stocks and the ecosystem in the NMFS Investigation (1997) and other documents (e.g., Bonner 1990; DeMaster and Sisson 1992). There is no reference to the notable documentation of pinniped predation on predators of salmon and other commercially valuable fish, let alone acknowledgment of the lack of data available on this potentially significant issue. Indirect benefits of pinnipeds on the ecosystem (e.g., beneficial effect of carcasses and feces as a nutrient in the ecosystem, availability as prey to larger, and possibly threatened or endangered predators) have also been

ignored. Also, since the Draft Report has included economic impact as part of ecosystem impact, we question why reference to the tourism revenue generated by pinnipeds was completely excluded from the document.

As stated by Bonner (1990, pg. 130), *“It is exceedingly difficult to find convincing examples that fish-eating mammals have affected the abundance of a fish stock (IUCN 1981) ... The seemingly self-evident proposition that more seals mean fewer fish is not actually soundly based ... In an undisturbed ecosystem seals and their prey will have evolved together to form a complicated web of feeding relationships. Seals that feed on fish usually take a variety, some of which may themselves be fish predators. If one species becomes scarce, the seals may switch to another, allowing a recovery of the depleted species. Such relationships will have been built up over thousands of generations and are not easily susceptible to the simple modeling that is implied by the fisherman’s argument.”*

We believe that the exclusive reference to the negative impacts that pinnipeds have on the “ecosystem” (at least as it is defined in this document) without attention to any of the real or potential positive benefits of pinnipeds in the ecosystem indicates that this report was written with an incomplete and potentially biased view of the ecosystem.

## Discussion

Mangel et al.

With respect to the interpretation of one of Mangel et al.’s (1996) principles on page 8, we agree that management decisions should be, at least in part, *“directed toward minimizing risks to biodiversity”*. However, pursuit of this biodiversity does not justify not doing as much as is reasonably possible to preserve the lives and welfare of animals which may be perceived as an obstacle to this goal. For example, we maintain that many promising non-lethal options to lethal removal have not been given reasonable attention by NMFS. We recommend including reference to Goodrich and Buskirk (1995) which elaborates on methods in preserving biodiversity which accommodate a variety of interests.

Further, our review of Mangel et al. (1996, pg. 338) revealed that only the first part of the second principle was cited in the Draft Report; the second part of this principle states that *“as a general rule neither the resource nor other components of the ecosystem [emphasis added] should be perturbed beyond natural boundaries of variation.”* Our interpretation of this certainly does not substantiate altering the range or population size of pinnipeds, particularly if there is any indication (which there is) that the range or size may be natural. Also, we do not see how Mangel et al.’s principles can be cited at all when the primary threats to fisheries are not being addressed by NMFS (the paper cites that at least 42% of the U.S. fishery stocks are overexploited) and non-lethal alternatives are not being reasonably explored. Of relevance is one of Mangel et al.’s stated mechanisms for achieving this principle which requires that

conservation management “*avoid disruption of food webs, especially removal of top or basal species*” (pg. 342).

Our review of Mangel et al. (1996) also revealed that the principle cited in the Draft Report used to substantiate the Report’s recommendations was only one of several which were documented. Other principles include “*understanding and taking account of the motives, interests, and values of all [emphasis added] users and stakeholders*” (pg. 338). We cite this to remind NMFS that we are concerned that it is only the motives, interests, and values of PSMFC and other fishing interests which are being given reasonable input in management decisions affecting pinnipeds and fisheries on the west coast.

Mangel et al. (pg. 339) also states that the ecosystem should be maintained so that “*consumptive and non-consumptive [emphasis added] values could be maximized on a continuing basis*”. We emphasize non-consumptive values and impacts because these were apparently overlooked in the Draft Report. Also we remind NMFS that while we do not yet have a clear picture of society’s values are, society certainly appears to hold the value of marine mammals as well as fish stocks in high regard.

Lastly, we reiterate again, that with the controversial exception of the Ballard Locks, it has not been determined that pinnipeds are having a significant negative impact on any wild salmonid population. Therefore, endorsing removal of them for the preservation of biodiversity appears to be a deficient argument.

#### “Cumbersome” Authorization Process

We are concerned that the NMFS considers the Authorization Process as “cumbersome” (pg. 8, final paragraph) given that the agency was developed and has been funded, in part, to protect marine mammals as well as fisheries. This authorization process was designed to provide mammals (including threatened species such as the Steller sea lion) with a reasonable amount of protection. We remind NMFS that the process would not need be as “*time-intensive, difficult, and expensive*” if NMFS would consider responding to proposals and recommendations to study and implement moderately priced (relative to what has already been spent), promising, and non-lethal solutions to pinniped predation in selected areas of concern. We further reiterate that such solutions would not only be likely to offer benefits in the short-term but would also be effective in offering long-term benefits as well.

#### Garrott et al. and Aplet et al.

The Draft Report (pg. 9) cites Garrott et al. (1993) and Aplet et al. (1992) with reference to “*common species [that] displace [emphasis added] more sensitive species and disperse [emphasis added] from remote or protected areas ...*” and relates this to expanding pinniped populations. Once again, NMFS has not provided evidence which substantiates the statement that pinnipeds are displacing any fish species nor that they

are dispersing to areas which they may not have inhabited prior to extensive human exploitation. Consequently, this reference appears to be inappropriate.

### Removal of Excess Members from a Population

It is evident to us that the reference in the Draft Report (pg. 9, last paragraph) to the MMPA provision regarding removal of excess members from a marine mammal population to “help” the population is entirely inappropriate here. First of all, as stated earlier, it has not been determined that west coast pinniped populations are in excess numbers. Obviously, if neither MNPL or OSP has been reached, it cannot benefit the population to remove animals for this reason. Second, the Draft has already established that the population does not need “help” because it continues to increase.

### Lethal Removal and PBR

The Draft Report (pg. 10, second paragraph) refers to lethal removal of pinnipeds in numbers below the amount authorized by the Potential Biological Removal (PBR) level as an acceptable action condition only in that “*such takes have no adverse biological effect on the population ... even if that populations’ OSP cannot be determined*”. The HSUS is very concerned that biological effect on the population is the only consideration for lethal removal in the Draft Report. The ambiguity of earlier attempts to portray lethal removal of nuisance animals as a population management strategy. While we understand that NMFS officials have denied that this proposal represents a cull, NMFS should consider that the text within this Draft Report does not appear to contradict such an assertion and makes it appear that a cull is being defended here.

### Conclusions

Once again, the Draft Report makes reference (pg. 11, second paragraph) to areas where predation of declining salmonids is prevalent without any mention of the artificial vulnerability to predation in many of these areas which humans have created, let alone the primary causes of decline, which have also been due to anthropogenic factors. In the second paragraph of this section, we note a fundamental difference in the opinion expressed in the Draft Report and that of The HSUS. The Report states that “*salmonids need to be given precedence when conflicts [emphasis added] arise between these protected species*”. The HSUS does not agree with the perception that there is a “conflict” between these two types of animals. As stated earlier, any perceived conflict between pinnipeds and fisheries can usually be attributed to the real conflict between human activity and fisheries, which only predisposes fisheries to unusual vulnerability to pinniped predation. In any efforts to “restore the balance” of the ecosystem (which we commonly hear as a goal of fisheries interest groups), one must realize that as a predator of fish, humans have not demonstrated an ability to act sustainably over the long term, whereas marine mammals have.

In the second paragraph, it is also stated that “*reasonable options*” must be made available to managers without obtaining “*perfect*” and “*largely unobtainable information*”

*in every case*". We note that these terms are highly subjective and that what may be considered "reasonable" by NMFS and fishing interests may not be so considered by the rest of the population. Furthermore, we do not agree that demonstrating a significant negative impact on a population as is currently required by the MMPA requires "perfect" or "largely unobtainable information". We assert that merely because NMFS and PSMFC have not been able to produce the scientific data to substantiate their opinions and justify their goals does not mean that the information is "unobtainable" or needs to be "perfect". It may be that the data are "unobtainable" because the premises behind the theories held by NMFS and PSMFC (that pinnipeds are having a negative impact on fisheries) are inaccurate in the first place.

Again, in this second paragraph, we note the expressed need for "*remedial action to be taken in the certain situations where thorough documentation may be lacking.*" We disagree that the recommendations made in this Draft Report can be considered remedial, particularly when potential solutions to the sources of the problems have been continuously overlooked. In this same paragraph, we recommend that the last sentence be stricken or re-written as there is no scientific basis for implying that pinnipeds are "driving" salmonid populations to ESA listing status.

Later in the Draft Report (pg. 13, first paragraph), this issue resurfaces when, in the proposed framework, procedures for lethal removal are described "*where these pinniped species are adversely impacting salmonid populations identified as being of special concern ....*". This statement appears unnecessary because Sec. 120 of the MMPA was already amended to provide for lethal removal of pinnipeds in 1994.

On page 11 (last paragraph), we note that the Draft Report acknowledges that the extent or impact of conflicts from pinnipeds with docks and boats and annoyance to fishermen has not been quantified, which we believe is necessary before making such a radical recommendation as lethal removal. Also, NMFS has not even published deterrence guidelines, making the Draft Document's claim that non-lethal deterrence is not effective premature. Again, we also find the mention of the issue of human safety completely inappropriate when the MMPA already allows lethal removal for protection of human safety.

We disagree with the assumption (pg. 12, second paragraph), that "*some people equate California sea lions and Pacific harbor seals with marine mammals that are actually endangered*" because of similar protection afforded by the MMPA and the ESA. While not yet adequately assessed, there appears to be strong public concern for marine mammals without reference to their population status (e.g., Kellert et al. 1995).

We find the analogy between controlling over-abundance of deer (page 12, second paragraph) and the Draft Report's recommendations for "managing" pinnipeds faulty. For example, the Draft Report states that "*the over-abundance of deer in a particular area is usually handled by removing a portion of the herd*". Deer populations are not managed by allowing homeowners to shoot individual deer that eat their gardens or cross in front of their cars. Deer hunts are highly regulated and based on precise

management goals and associated strategies (e.g., only killing bucks, bag limits, and specific number targets and goals for the hunt). We do not know of any state agency that would manage “over-abundant” deer simply by relying on citizens or even agency staff to kill select nuisance animals.

We also disagree with the appropriateness of the analogy of “nuisance predators” such as bears and mountain lions “*which can be lethally removed by state resource agencies before they pose an immediate threat to human safety*”. We note that in these cases, non-lethal preventative measures are frequently employed prior to lethal removal when possible. But most importantly, land-owners often do not have the legal authority to kill these animals without undergoing a very selective and discriminating process (Washington Department of Fish and Wildlife, Enforcement Officer, personal communication 1997). More to the point, these animals are generally not killed because they raid gardens or inhabit someone’s tennis court. Yet, these are the reasons that are analogous to NMFS killing seals and sea lions that steal bait or recreationally caught fish or haul out on docks. We are concerned because it appears that NMFS is not even proposing to follow the principles that underlie these debatably more publicly acceptable practices in other species. There is no “Management Plan” in the Draft Report similar to those prepared for deer. When more dangerous situations arise, the MMPA provision for lethal removal of marine mammals threatening public safety is available.

Lastly, we do not understand what is meant by having a need to take “*immediate lethal action with a strictly “nuisance” pinniped, even if such action is clearly warranted to prevent a more serious problem in the future*” (pg. 12, last sentence in the second paragraph). The HSUS is not aware of any evidence that anyone, let alone scientists, has developed criteria for determining which “nuisance” animals “clearly” indicate that they will cause “serious problems” in the future. We are also interested in knowing what type of more “serious problems” are indicated by a sea lion eating bait from a hook or hauling out on a dock?

## Recommendations

Our overall concern with the Draft Report’s recommendations of “Site Specific Management” (pg. 12) is that it is not clear how killing a few individuals in any particular area is going to solve the problem of “nuisance” animals. This rationale simply is not consistent with wildlife management principles, particularly in the case of territorial carnivores. In the case of pinnipeds, we already have evidence that shooting individual “nuisance” animals does not work (e.g., Fraker 1994; Pemberton and Shaughnessy 1993; neither of which are referenced in the NMFS Investigation literature review). The results of killing individuals can be described simply; one animal is killed and another takes his place.

Contrary to what the Draft Report states, The HSUS does not consider the killing of individual animals to be “conservative” (pg. 12, third paragraph) as compared to the killing of larger numbers of animals. It is not simply the number of animals to be taken which is a factor in the evaluation of management programs, but whether or not the

means will achieve the stated goal, which is of paramount importance. The killing of individual animals is senseless given the evidence that this method is an “*inefficient and ineffective means of protection*” and “*should not be used*” (Pemberton and Shaughnessy 1993, pg. 157).

NMFS states (e.g., Internet posting on MARMAM, June 2, 1997) that the Draft Report does not recommend a cull, yet we are confused by the repeated mention that there is an “excess” of pinnipeds and reference to Potential Biological Removal levels. Consequently, we see a disturbing ambiguity between the stated goal and the methods recommended in the Draft Report to achieve this goal. If, in fact, NMFS is considering a cull, we note that culling should not be considered any more of a practical solution to the problems facing declining or recovering fisheries than would killing small numbers of animals (e.g., DeMaster and Sisson 1992). In summery, “*killing as a wildlife management practice for large mammals is controversial, particularly for seals (Lister-Kaye, 1979) and especially so when based on a value judgment and not on a scientifically ascertained necessity (Butterworth et al., 1988; Caughley, 1981)*” (Pemberton and Shaughnessy 1993, pg. 157).

We are also concerned with what the Draft Report refers to as a “*streamlined approach ... to take necessary and appropriate action*”. We note that from our perspective, the only “streamlined” aspect of these recommendations is that they permit the killing of animals without the “cumbersome” input of science, sound wildlife management policy, and public representation and opinion. What the Draft refers to as “necessary and appropriate” is neither in our opinion; not because of any preference for marine mammals over fisheries but because of what we perceive as a lack of science and sound judgment in management policy.

We also have an unresolved question with respect to the “framework” which is referred to in the first line of page 13. Does this framework involve the states” authorizing private citizens to shoot pinnipeds? This is certainly less acceptable than having state marksmen kill the animals (for the well-being of people as well as the animals).

The Draft Report repeatedly mentions killing pinnipeds at levels less than the PBR levels (e.g., pg. 13, second paragraph). However, there is no mention of what impact Native American tribal takes of pinnipeds may have on pinniped populations. While a small number of pinnipeds have been taken annually by tribes, representatives from the Muckleshoot tribe have publicly and repeatedly stated that they are planning to harvest potentially hundreds or thousands of seals and California sea lions from Washington state waters. We note that there does not appear to be any mandatory state or federal reporting requirements for these tribes. Consequently, NMFS and PSMFC would not know whether or not the amount of pinniped killing would remain within PBR levels.

We also have a problem with the Draft Report’s contention that “*lethal methods would be discontinued once safe, effective, and long-term non-lethal methods are developed*”. We note a similar reference on page 14 of the document in the discussion of developing “*safe, effective, non-lethal deterrents*”. There is scarcely any incentive to develop these

alternatives if killing animals is allowed. The small array of techniques and devices which are available were mostly created following laws which restricted the killing of marine mammals. With the granting of requests to kill pinnipeds, any incentive to add money to the budget to remedy the “*shortage of expertise in deterrence technology within NMFS*” (pg. 14) would disappear. It is also unlikely that “*research and development*” would become a priority when it is not one now.

### Three Components

Referring to the first component, page 13 (third paragraph) states that this authorization “*would only apply to those areas where resource agencies have determined that there is an urgency to immediately remove pinnipeds lethally*”. Yet the Draft Report does not specify how the areas where pinnipeds can be killed will be limited. The document elaborates on how fish stocks declines are widespread which implies that pinnipeds will be killed practically everywhere. The Draft Report does not define the process by which this determination will be made.

We also note that it has already become evident in the Ballard Locks situation that state and federal agencies will not explore the most promising and feasible non-lethal alternatives identified by a government appointed Task Force. How then can the public have faith in their determination of “*non-lethal methods that are not likely to provide immediate resolution to the conflict*”? In our opinion, there is no such assurance. Furthermore, NMFS has not provided a definition or determination of “reasonable” or “viable” deterrence methods.

The next component (pg. 13, last paragraph) refers to lethal removal of pinnipeds which are “*preying on salmonid populations of concern or are impeding passage of these populations ...*”. However, “of concern” is not defined and neither is “impeding passage”. We are concerned about loose definitions of these terms.

The third component refers to lethal removal of individual pinnipeds repeatedly conflicting with human activities. While individual sea lions sitting on a dock may be identified over time, there is usually no way to accurately identify “rogues” raiding fish pens or “interfering with fishing operations”(Anonymous 1996b).

### Authority for Lethal Removal by Commercial Fishermen

Page 15 of the document states that “*authorization should be based on a demonstrated need, and be limited to specified areas and fisheries.*” The problem is that just about all types of fishers (e.g., pot fishers, abalone fishers, longliners, salmon fishers, gillnetters) have complained about perceived marine mammal impacts. On what basis would this be differentiated from a general authorization? Furthermore, what is a “demonstrated need”? We have seen the problems in demonstrating need in Maine (Anonymous 1996).

The HSUS is also particularly concerned about fishers being “trained” or “demonstrating the ability” to distinguish between Steller sea lions and other pinnipeds. What mechanisms will be in place if one or more of these threatened animals are killed by fishers despite the training and testing? Will the authority to kill then be suspended? If there is no basis for confidence in the killing of “abundant” species only, then how can this recommendation be justified? We remind the authors of the 1987 Kokechik decision in which the court ruled that incidental take of an abundant species would not be allowed when the take of a depleted species could not be prevented.

Not only is there reason to doubt that fishers’ reports of Steller sea lion kills would be accurate or dependable, but according to various NMFS documents, reliable reporting of any species of pinnipeds did not occur under the interim exemption (Section 114). Consequently, we are not satisfied with the proposed reporting requirements described in the Draft Report (pg. 15, second paragraph).

### Information Needs

Similar to our concerns about incentives for developing non-lethal deterrence methods, we do not see the incentive for conducting “costly” research on pinnipeds (pg. 15, last paragraph) when authorization has been granted to kill pinnipeds without such information from this research.

### Problems with the NMFS Investigation Report

The HSUS has noted several aspects of the NMFS Investigation (1997) to be incomplete, inaccurate, or unsubstantiated. While we understand that NMFS has not solicited comments on this report, our comments would be available to NMFS should they be requested.

### Our Conclusion

We do not believe that NMFS should manage marine mammals with a disproportionate amount of reference to fishing interests and opinions when they represent only a small segment of the nation’s population. Based on our review of available data, we do not believe that removal of pinnipeds will achieve the stated goals of fisheries protection and enhancement as stated in the Draft Report. Also, we strongly believe that sea lion predation is not responsible for the decline of fisheries along Washington, Oregon, and California. As stated in a report from an IUCN workshop on marine mammal-fishery interactions (Lavigne 1982, pg. 315), “*With the exception of the sea otter (Enhydra lutris) (Estes 1981) there is not a single substantiated case to support the frequently stated claim that marine mammals are capable of successfully competing with man for commercially-exploited fisheries.*” The report continues, “*a decrease in marine mammal population will not result in a proportionate decrease in food consumption ... Although superficially it may seem logical to reduce predator populations ... there is little evidence to support such action.*” Another workshop (Beverton 1985, cited in DeMaster and

Sisson 1992, pg. 322) concluded that *“there were no unambiguous examples in which marine mammal predation has affected the abundance of a commercial fish stock.”*

We believe that it is crucial that managing agencies mitigate the true sources of the fisheries declines. We are concerned that pinniped predation is being addressed so actively while other unsound fisheries management practices, which are having a much more significant negative impact on fisheries, continue to be implemented. To quote Waples (1994, pg. 885), *“If the root causes of decline of salmon populations are not addressed, even the best-informed genetic principles cannot ensure long term viable populations.”* We agree with Hilda Diaz-Soltero of NMFS when she stated in a letter to the president of the California Fish and Game Commission, May 5, 1995, *“I believe that sea lion predation on salmonids is currently serving as a scapegoat for the harm that has been rendered to anadromous fish habitat. If the habitat for salmonids can be restored and the productivity of the fisheries increased, perhaps the recovery of the once depleted sea lion and harbor seal populations would not be as much of a concern.”* We note that it has recently been observed that *“many game biologists have long appreciated the fact that limited financial resources may be better spent on habitat improvement rather than continual predator removal”* (Cote and Sutherland 1997, pg. 403).

The HSUS recommends that NMFS and the PSMFC a) investigate the real and primary cause(s) of the fish run declines (e.g., hatchery fish competition, fish passage problems due to construction and operation of fishways and dam, water and general habitat degradation) and implement solutions to mitigate them as well as b) conduct studies and implement pinniped deterrence methods limited to those which are humane and realistically promising (e.g., alternative barrier designs, expanded acoustic deterrence devices). We oppose sea lion removal (lethal or non-lethal), the use of seal bombs, or any other methods which may inadvertently result in an increase of predation in the long term.

We thank you for your attention to our concerns and our recommendations. We believe that options exist which will investigate, address, and mitigate the factors which negatively impact depleted fisheries much more successfully than the lethal removal of pinnipeds and satisfy the scientific and public concern for the protection of other species in the ecosystem as well. We hope that you find our comments helpful in the development of a management plan to enhance depleted fish runs. We remain ready to work with you in your efforts.

Sincerely,

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