

***AMERICAN BIRD CONSERVANCY*DEFENDERS OF
WILDLIFE*NATIONAL AUDUBON SOCIETY*SEATTLE
AUDUBON SOCIETY*OREGON NATURAL RESOURCES
COUNCIL ***

September 21, 2004

Ms. Nanette Seto
Migratory Birds and Habitat Programs
U.S. Fish and Wildlife Service
911 N.E. 11th Avenue
Portland, Oregon 97232

Re: Comments on DEIS for Caspian Tern Management to Reduce Predation of
Juvenile Salmonids in the Columbia River Estuary

Dear Ms. Seto:

Thank you for the opportunity to comment on the Draft Environmental Impact Statement for Caspian Tern Management to Reduce Predation of Juvenile Salmonids in the Columbia River Estuary (DEIS). These comments are submitted on behalf of the American Bird Conservancy, Defenders of Wildlife, National Audubon Society, Seattle Audubon Society, and the Oregon Natural Resources Council. We have been concerned with management activities related to Caspian Terns in the Columbia River since 1998 when federal agencies first proposed moving Terns out of the Columbia River and, since then, have consistently called for the formation of scientifically rigorous policy decisions with respect to Tern management.

When our calls for such scientifically rigorous assessments of Caspian Tern management went unheeded, the aforementioned first four groups filed a lawsuit in federal court and prevailed in the case of *National Audubon Society, et al. v. Col. Randall J. Butler, et al.*, (W. Dist. of Washington No. C00-615R (2002)). The Court ruled that the National Environmental Policy Act (NEPA) required the preparation of an Environmental Impact Statement (EIS) before federal agencies could continue efforts to relocate the Tern colony that was then located on Rice Island in the Columbia River. As you know, we negotiated a settlement of that lawsuit that included a timeline for preparation of this EIS and we have submitted detailed comments during the scoping phase of this EIS and on individual documents developed as part of this process. We ask that those comments be incorporated herein and we attach those comments.

Please accept these specific comments on the DEIS:

I. UNDERLYING BASIS FOR CONTROL OF CASPIAN TERNS IS FLAWED.

We and waterbird scientists and predator-prey specialists have continued to emphasize that any management decisions, indeed the decision whether to manage Caspian Terns at all, should be based on sound science. There is no sound scientific evidence in the DEIS that Terns are

limiting salmon numbers. We conclude that Alternatives C and D are still lacking a scientific basis for the following reasons:

a. *The NOAA/NMFS document in Appendix C and its equations used for determining adult salmonid increases from reduction of East Sand colony Terns and other Terns in the Columbia River estuary are not supportable, and in any event, show minimal benefit, if any, for listed salmonids.* This document serves as the underlying basis for the need to control Caspian Terns in the estuary, and appears to be nearly identical to the widely criticized 2002 report prepared by NOAA/NMFS entitled *Caspian Tern Predation on Salmon and Steelhead Smolts in the Columbia River Estuary*. Appendix C appears to contain only some slight changes in wording and a reworking of the calculations. In 2002, we and scientific experts submitted comments to Tara Zimmerman of your office documenting and detailing the flaws in that report. We request that you incorporate those comments as part of our comments on this DEIS rather than reiterating those comments herein. We attach some of those comments you received contesting the scientific merit of the NMFS document and the assumptions based upon it.

The DEIS at page 2-5 relies on these same flawed assumptions. We also note that the “lambdas,” referred to as population growth rates, in the DEIS and Appendix C are simply percent increases in smolts relative to the projected number of smolts consumed by 10,000 pair of terns. We assume 10,000 pair is a rounding error as there never have been that many pair in the Columbia estuary. For example, projected smolt survival was 93.1% with 10,000 pair and 95.6% survival with 5,000 pair. $\text{Lambda} = ((95.6/93.1)^{(1/4.79)} - 1) \times 100 = 1\%$. (^ indicates exponent, minus 1 makes the value a proportion, and x 100 make the value a %). For this type of analysis the assumption is that everything else is constant--an unrealistic assumption, making this useless for any valid management decisions.

The rationale for the above comes from McClue et al., 2003, Holmes papers (both NOAA/NMFS employees), and ultimately from Caswell (1987, 2001). Using some simple algebra they make use of a relationship $\text{lambda} = \text{Ro}^{(1/T)}$. Ro is population growth rate, T is generation time, and the exponentiation annualizes Ro for comparisons for different generation times. However, any value can be substituted for Ro, limited only by imagination or inattention of reviewers. McClue et al. 2003 used redd counts (spawners) in successive years which has a tradition in salmon biology. However, Appendix C equates Ro with projected % smolt survival and gives the impression that lambda refers to the growth of steelhead populations.

At p. C-12 of the DEIS, it is noted that the maximum proportional increase in lambda (population growth rate) corresponding to complete elimination of mortality due to Caspian Tern predation is 1.9%, using the PIT-tag estimate of predation rate, and 1.3% using the bioenergetics modeling estimate of predation rate. If one accepted these methods, then the DEIS appears to conclude that complete elimination of Caspian Tern predation will have such a small impact on steelhead population growth rates that putative benefits would not be detectable in the real world. Note that this benefit to steelheads presents the maximum benefit from total elimination of predation; benefits to other salmonids are non-significant.

In the predation analysis by NMFS in Appendix C- 17 of the DEIS, the authors note several factors that tend to assure that the predicted percentage change should be viewed as a maximum

possible. They particularly point out the most important unrealistic assumption: that there is no compensatory mortality later in the smolt life cycle, and that benefits from any reduction in Tern predation are “fully realized.” They then acknowledge that Roby et al. (2003) hypothesized that Tern predation was only 50% additive. This factor alone would cut supposed improvements to survival by 50%. NMFS also could have assumed that the mortality was 100% compensatory, but of course this would have reduced any change in lambda to zero.

Thus, for the reasons mentioned above, the DEIS is flawed in its analysis of the impact of Tern predation on juvenile salmonids as it relates to adult returns. Caspian Terns are not a limiting factor on salmonid populations.

b. *The assumptions in the DEIS at page 4-4, (citing D. Roby (in litt.)) regarding the growth of the Tern colony without controls are speculative, and as the DEIS acknowledges, have not been born out by actual population counts.* The DEIS substantiates the need for the preferred alternative C or D based on the premise that without dispersal of most of the colony at East Sand outside the Columbia estuary, the colony will somehow grow to 18,500 pairs by 2009. (See Section 1-2, paragraph 2). But as the DEIS notes, growth did not occur in 2003, as the colony declined to 8,325 breeding pairs from 9,933 in 2002, a 16% decline. This was after three full breeding seasons with the Terns concentrated at East Sand Island where higher breeding success has been noted than when the colony was concentrated on Rice Island.

Table 4-2 in the DEIS documents that there were less breeding Caspian Terns in the estuary (all at East Sand Island) in 2003 than in 1998, when the Terns were concentrated at Rice Island. This is despite the destruction of habitat for Terns relatively nearby, such as at the Asarco site.

Also, habitat limitations undoubtedly are a factor that has and likely will continue to restrict colony growth as there are no plans to increase the existing habitat on East Sand Island. Some birds will likely locate other breeding habitat, just as the federal agencies hope will result from the proposal to destroy habitat at East Sand Island under this DEIS. If NOAA/NMFS has concerns over the colony at East Sand Island growing and increasing salmonid consumption, we suggest that the FWS adopt Alternative A, with modification, and keep the Tern population at the 2003 level. Thus, there would be no growth to concern NOAA/NMFS.

The proposed Preferred Alternative C and Alternative D in the DEIS, the text of the DEIS, and especially statements by NOAA/NMFS, would lead the reader to conclude that Caspian Tern populations are exploding in the Columbia River and along the Pacific Coast. The reality is to the contrary as is documented in the charts in Sections 3-6 to 3-7. Pacific Coast Caspian Tern populations have been stable since 1997 and declined from an average of 14,534 pairs in 1997-1998 to 11,756 in 2003. This includes the 16% decline at East Sand Island noted above.

c. *There is no scientifically peer-reviewed documentation that Caspian Terns are limiting the recovery of ESA-listed wild salmon in the Columbia River.* Indeed, when the Corps was planning to relocate the Tern colony from Rice to East Sand Island in 2000, a number of scientists noted that there was no evidence that the Terns were limiting salmonid recovery. Dr.

Cynthia Tynan, then with NMFS' Northwest Fisheries Science Center, wrote regarding the Caspian Tern 2000 Management Plan:

At present, there is no scientific evidence to support the statement that piscivorous birds 'may be one of the factors that currently limit salmonid stock recovery.'In summary, the jack return data demonstrates that smolts at present are surviving well to age one despite predation by piscivorous birds during out-migration in the river. Given the PIT-tagged smolts on Rice Island show that terns forage primarily on surface-oriented hatchery steelhead smolts, with a small percentage of their diet consisting of wild chinook or steelhead, it is very possible that terns benefit the recovery of wild salmon and the survivorship of smolts that swamp the spring out-migration. A management plan must consider the possibility that removal of Caspian terns from the estuary could actually have an adverse effect on the recovery of salmon. It is well known that simply increasing the number of smolts reaching the mouth of the estuary, e.g., by increasing the load of hatchery smolts placed in the river, does not produce higher returns.

(For citations and copies of these written statements of Dr. Tynan quoted here and below, please see American Bird Conservancy's written comments dated March 7, 2001 submitted to the Corps of Engineers on its 2001 Environmental Assessment and FONSI (attached) and the attachments thereto).

II. DEIS FAILS TO ASSESS THE POSSIBLE NEGATIVE IMPACTS ON SALMONID RECOVERY FROM TERN DISPERSAL.

The DEIS' preferred alternative is flawed, as is Alternative D, because, as suggested by Dr. Tynan, there is no analysis of whether reduction of the East Sand Island Tern colony by ~70% would have an adverse effect on the recovery of salmon. Indeed, recent research by University of Washington researcher Dr. Julia Parrish for the Chelan County Public Utility District has verified that such an adverse effect on salmon could occur. See attachment. The U.S. FWS authorized take of Caspian Terns, gull species, and other waterbirds at mid-Columbia dam sites, because of those species' alleged salmonid consumption, was found to be targeting the wrong species and further, could be retarding salmon recovery. Just as Dr. Tynan noted above, in July 2004, Dr. Parrish advised the Chelan County Public Utility District Commissioners that the diets of gulls at the mid-Columbia dams consisted of 75% northern pikeminnow, a fish that preys on salmon. Dr. Parrish cautioned officials that salmon could suffer if the utility tries to reduce gull populations which are currently consuming large numbers of a fish that eats salmon smolts.

Thousands of gulls, cormorants, and Caspian Terns have been shot at dam sites in the mid-Columbia and upper Columbia system under FWS permits because of concern that they are feeding on salmon. However, Dr. Parrish found that mergansers ate 60% of salmonids consumed by birds, gulls 25%, and cormorants and Caspian Terns a very small percentage. Thus, it appears that the wrong species have been targeted. The final EIS should include this research as well as a thorough science-based assessment of the potential to retard rather than enhance listed salmon species recovery by reducing Caspian Terns in the estuary by ~70%.

Moreover, consumption of salmonids by Terns from East Sand Island is at least 90% hatchery-reared species. Such hatchery salmonids cannibalize smaller wild salmonids. Such a positive benefit from the Terns for recovery of wild salmon stocks is not mentioned in the DEIS.

Further analysis needs to be made of the potential for increased consumption of salmonids if Terns are displaced from East Sand Island. The birds may choose to re-locate at sites other than those discussed in the DEIS where they may well consume more salmonids than they do at East Sand Island. The DEIS notes at Table 4-5, that the diet of Caspian Terns at Grays Harbor was as much as 21% salmonids, at Commencement Bay, 52%, and at San Francisco Bay, 8.7%. Scientists have noted that dislocated Terns may react not by settling in at the limited habitat to be provided at distant locations, but by dispersing further up the Columbia River in search of alternate habitat and foraging in smolt-rich waters.

III. DEIS MINIMIZES EXISTING RELEVANT SCIENTIFIC DATA AND FAILS TO FULLY ANALYZE THE TWO-THIRDS REDUCTION IN SALMONID CONSUMPTION FROM THE RELOCATION OF TERNS TO EAST SAND ISLAND AND THE LIKELIHOOD THAT THIS REDUCTION INCREASED IN 2004.

The DEIS acknowledges a reduction in juvenile salmonid consumption in the Columbia River estuary, but never details the very significant reduction achieved by deliberate management actions in 2000 that forced all Terns onto East Sand Island. In 2003, nesting Caspian Tern consumption of juvenile salmonids in the estuary had been reduced by about 8.2 million (66%), as compared to the 1998 consumption estimate when the colony was concentrated on Rice Island. Further, preliminary data from Columbia Bird Research indicates that in 2004:

17% of the identifiable fish delivered to the East Sand Island tern colony (N = 5,493) were salmonids...This compares to 25% salmonids in the diet of East Sand Island terns by this time last year. The proportion of juvenile salmonids in the diet of East Sand Island terns this year promises to be the lowest since we began collecting diet data in 1997....The proportion of juvenile salmonids in the diet during 2003 (24%) was the lowest ever recorded for terns nesting in the estuary.

See: <http://www.columbiabirdresearch.org>. Given the 29% reduction in salmon as a percentage of the Terns' diet from 2003 to 2004, the overall reduction in salmon smolts should be even more dramatic in 2004 (even if Tern numbers increased), lessening the need to reduce the population of Caspian Terns on East Sand Island. The mission of the FWS, NOAA/NMFS, Army COE, and state agencies has been accomplished: Caspian Tern predation of salmon smolts is down by over two-thirds.

IV. DEIS VIOLATES THE SETTLEMENT AGREEMENT IN FAILING TO ANALYZE PLACING CASPIAN TERN PREDATION IN CONTEXT WITH OTHER FACTORS INFLUENCING ESA-LISTED SALMONID RECOVERY.

The settlement agreement in *National Audubon Society v. Butler* requires the agencies to prepare an EIS that includes "a discussion of Caspian Tern predation *in context* with other factors

influencing ESA-listed salmonid recovery.” Thus, the EIS must fully discuss *all* factors limiting salmon recovery and put Tern predation in that context. The EIS must include a thorough analysis of the Four-H’S and their impact on listed salmon recovery. In our scoping comments, we noted this requirement from our settlement agreement and had specifically requested that the EIS include a detailed analysis of adult salmon mortality of both smolts and adults passing through dams (leaving the river and returning to spawn), mortality of adults related to harvest, mortality of adults and juvenile salmon related to poor habitat conditions from land use practices and direct pollution, mortality to juveniles and adults related to poor hatchery practices, mortality related to all other predators, and mortality related to natural factors, such as ocean currents, weather events such as El Nino, and lack of prey. The decline in spawning habitat and the blockages created by dams should have been assessed in the DEIS to determine how much this influences adult returns. Better management at dams, dam removal, improved hatchery practices, further restrictions on harvest, habitat protections and improvements should all be addressed, not just Tern predation.

Section 4.7 of the DEIS acknowledges that: “Cumulatively, these [other] actions have the potential to influence population growth rate to a substantially greater degree than would be realized from solely reducing predation from avian predators in the Columbia River estuary....” However, the DEIS goes on to state that “This EIS is not addressing the issue of overall salmon recovery, and thus, will not thoroughly analyze the effects of the Four H’s and associated management actions to aid salmon recovery. Instead the EIS and proposed action is focused specifically on the management of Caspian terns in the estuary to reduce predation on juvenile salmonids as one measure to aid salmon recovery.” (Section. 1-9).

The DEIS further claims that the report prepared by NOAA/NMFS (Appendix C) and the content of Chapter 4 provide sufficient analysis of these issues, and that a detailed analysis is being prepared in a separate biological opinion. To the contrary, Appendix C merely quantifies Tern predation with no comparison of salmon losses due to the Four-H’s, and Chapter 4 does not include this analysis in any form. Moreover, a biological opinion to be prepared at a later date is no substitute. This detailed analysis of the major sources impacting salmon recovery was required in our Settlement Agreement and must be addressed in the final EIS. As the DEIS acknowledges, the Four-H’s have a significantly greater influence on ESA-listed salmonid recovery than Tern predation. Thus, before federal agencies commit funding and actions aimed at one bird that eats primarily hatchery-reared rather than wild salmon smolts, the analysis mandated by the settlement agreement must be made and included in the final EIS. Certainly, with the considerable attention and research documenting wild salmon stocks, that data is readily available.

On June 15, 2000, the FWS Region 1 Director sent a letter regarding the Caspian Tern to Will Stelle, NMFS Regional Director. Your office has a copy of that letter. The FWS wrote that:

From a longer term perspective, the actual benefits of reducing smolt predation on salmon recovery remains to be seen. Scientists from multiple organizations and agencies, including yours, continue to tell us that our efforts would be better focused on “All H” actions that would have the most significant recovery benefits. We also know

that salmon declines were not caused by seabird predation, since the declines occurred before there was any significant predation in the estuary. Additionally, we should not ignore the record returns of chinook jacks in 1998, 1999, and 2000 and the tremendous return of adult chinook in 2000, which suggests that avian predation is not limiting the number of jack or adult spring chinook returning in recent years. That is why we have advocated for a recovery strategy that is focused on actions that will have the most significant benefit for salmon recovery.

Given this FWS position, it is all the more remarkable that the DEIS effectively chooses to ignore a detailed analysis of the Four-H's, ignore the fact that salmon declines were not caused by seabird predation, ignore the necessity to focus efforts on the Four-H's, and ignore the record returns of chinook jacks and adult chinook.

V. DEIS FAILS TO INCLUDE AVAILABLE SCIENTIFIC INFORMATION OF RECORD RETURNS OF SALMONIDS DURING PERIOD OF INCREASED TERN POPULATIONS IN THE COLUMBIA ESTUARY.

As we noted in our scoping comments, this EIS must include information on the high salmon returns in recent years and must acknowledge that the majority (over 90%) of smolts consumed by Terns are hatchery salmon, not wild salmon. A thorough discussion of both of these important items is lacking in the DEIS. We request that this deficiency be remedied in the final EIS.

The highly questionable NOAA/NMFS model with its flawed assumptions (such as no compensatory mortality) in Appendix C for predicting increases in adult salmon from Tern management is once again confounded, because while the Terns were increasing and before management actions to reduce Tern predation of salmon took full effect, a number of adult salmon returns were reaching record high numbers.

Steelhead runs have been at record high levels in recent years, including Snake River and upper Columbia steelhead ESU's. According to the DEIS, these are the ESU's that experienced the highest observed levels of Tern predation. If Tern predation from the large colony at East Sand Island was in any way responsible for retarding the growth in steelhead recovery, how do the FWS, NMFS, and other contributors to the DEIS account for these record runs, concurrent with the high numbers of Caspian Terns in the estuary? Terns could be benefitting adult returns, as pointed out by Dr. Tynan. These important factors are not assessed in the DEIS. However, given the assumption of this EIS that Terns have some impact in limiting salmon recovery, this information – which indicates Terns in fact are not a factor in salmon recovery – must be thoroughly assessed in the final EIS.

VI. LONG-TERM OWNERSHIP AND MANAGEMENT OF EAST SAND ISLAND IS NOT ADDRESSED.

The settlement agreement in *National Audubon Society v. Butler*, requires the FWS and Corps of Engineers to issue a joint recommendation on future ownership of East Sand Island by March 1, 2003 and also make recommendations for funding of management on the Island. On February

28, 2003, the Corps and FWS issued their Joint Statement on the Ownership of East Sand Island. For several years we have been advocating that the FWS assume ownership of the island and add it to the National Wildlife Refuge System in order to protect it as an important waterbird breeding site. Beginning in 1999, Pacific Seabird Group has requested that the FWS include East Sand Island in a National Wildlife Refuge. East Sand Island is a designated Globally Important Bird Area and, as the DEIS notes, has the largest Caspian Tern colony in the world, the largest Pacific Coast colony of Double-crested Cormorants, over 6,700 roosting endangered California Brown Pelicans, and a large mixed gull colony. It is listed as one of the 500 most important bird areas in the United States. (Chipley et al., *The American Bird Conservancy Guide to the 500 Most Important Bird Areas in the United States*. Random House, N.Y. 2003). The one-page February 28, 2003 FWS/Corps statement did not make a clear recommendation about future ownership of the island but instead simply maintained the status quo.

According to the agencies' joint statement, the Corps plans to excess the island (dispose of it) and believes that transfer to FWS is "the best end result to manage the significant wildlife resources present on East Sand Island." The FWS stated that such a transfer decision was premature and that it needed to assess the information to be gathered in the EIS before such a decision on ownership could be made. The FWS noted that other ownership options by state, municipal, or NGO conservation groups should be evaluated.

The joint statement concluded that the Corps will retain ownership and management responsibility for East Sand Island until the EIS is completed, suggesting that resolution of ownership of the island will occur along with the EIS process. However, the DEIS again "punts" on this important issue, making the DEIS deficient and violating the settlement agreement. We support the Corps position that East Sand Island be transferred to the FWS as "the best end result to manage the significant wildlife resources present on East Sand Island." East Sand Island should become part of the Oregon Islands NWR. We request that the final EIS address this issue and set forth plans for FWS ownership and management for the waterbird resources as suggested by the Corps, PSG, and the plaintiffs.

VII. DEIS FAILS TO FULLY ASSESS THE IMPACTS TO CASPIAN TERN POPULATIONS FROM PREFERRED ALTERNATIVE C AND ALTERNATIVE D.

We noted in our EIS scoping comments that the EIS should assess the impact (including cumulative impacts) of any management actions affecting the Caspian Terns nesting in the Columbia River estuary on regional and global Tern populations. The DEIS gives short shrift to this impact. The final EIS must evaluate and discuss the concerns of Tern scientists who have studied this bird nationally and in the Pacific Coast Region.

In the peer-reviewed *Status Assessment and Conservation Recommendations for the Caspian Tern in North America* by W. David Shuford and David P. Craig (August 2002), it is noted that:

Despite recent population increases, the Caspian Tern (*Sterna caspia*) is of conservation concern in the Pacific Northwest because of the concentration of breeding terns at relatively few sites and fisheries conflicts at the Columbia River estuary, where currently

two-thirds of the Pacific Coast and one-quarter of the North American population occurs. Although not listed at the national level, the species is listed as threatened or endangered in three states or provinces and is considered of special concern in ten more....the continental population is estimated to be a minimum of 32,000 to 34,00 pairs, distributed differentially among regions.

Waterbird biologists and researchers Linda Wires and Dr. Francesca Cuthbert have written about the Caspian Tern colony in the Columbia estuary:

It is an uncommon species except for a few locations where large numbers (>1000 pairs) nest. For most bird species, global population estimates are difficult if not impossible to make. For a species like the Caspian, uncommon and breeding in visible colonies, estimates are more accurate. Del Hoyo et al. (1996) recently estimated the world population of Caspian Terns at about 50,000 pairs. Although the species is not globally threatened, many populations are vulnerable and some have recently declined....Large colony size for Caspian Terns is 500 pairs; there are only 7 colonies in North America with 1000 or more pairs. Therefore, any actions that may negatively impact this colony must be avoided. It is truly a globally unique resource. Large declines in this colony will be significant for the Pacific Coast and the continental population as a whole.

See Wires and Cuthbert Letter of Nov. 23, 1998 to Bob Willis and Lynne Hamilton (Army Corps of Engineers) on the Draft Environmental Assessment for Caspian Tern Management.

In addition to impacts to Tern populations from any extirpations from East Sand Island, Wildlife Services killed 2,380 Caspian Terns in the mid-Columbia in Washington State from 1997 to 2001 under a FWS MBTA Permit solely because the birds eat juvenile salmon at dams and hatcheries. This killing was contested by plaintiffs and the Parrish study noted above documents the folly of this killing. This take is in addition to hundreds of other Caspian Terns shot annually in the estuary at East Sand Island and elsewhere on the Columbia by researchers under FWS permits. The EIS should examine this Tern mortality related to salmonids and its affects on Tern populations in the Pacific Northwest.

VIII. THE PREFERRED ALTERNATIVE (ALTERNATIVE C) DOES NOT PROVIDE ADEQUATE ASSURANCES OF SUITABLE ALTERNATIVE HABITAT.

a. *Movement of some Terns from East Sand is justified but only when suitable habitat is established and nesting occurs successfully elsewhere.* We agree that the current human-induced concentration of Caspian Terns on the one large breeding colony in the Columbia River estuary is not ideal for Caspian Terns. The potential for disease, severe weather events, oil spills, and introduced predators causing significant damage to this important Tern colony is of concern. Nonetheless, the current management action to scarify at least 6 acres at East Sand Island should be continued without any diminishment in colony size until suitable nesting habitat is established elsewhere and some of the Terns nest and successfully breed at the new habitat. Moreover, it is not sufficient to create 2 acres of habitat for each acre destroyed at East Sand Island at San Francisco Bay, some 600 miles distant from East Sand Island, or at Crump Lake, Oregon some

350 miles distant, unless Terns are first attracted and nesting at the proposed new sites. The DEIS notes a cost of nearly \$1.2 million to prepare and monitor the Crump Lake site. Sites at Willapa Bay, Grays Harbor, and perhaps Dungeness NWR make much more biological sense in attracting Terns from East Sand Island but the former two have been eliminated from the DEIS because of political considerations, as have other prime sites. The final EIS should reevaluate these closer habitat sites and set forth a proposal including these sites within the proposed action, before plans are adopted to move Terns off of East Sand Island.

b. Much more effort needs to be put into developing safe and productive sites for Caspian Terns before plans to disperse or reduce numbers within the estuary can be pursued. Linda Wires, co-author of the Birds of North America species account of the Caspian Tern and co-author of a review of Caspian Tern population trends across North America has commented on Tern relocation mentioned in the 2002 NMFS Predation Analyses:

NMFS believes that it is important to pursue a long term strategy to disperse the birds to a broader and more extensive array of habitats that offer a diversity of prey resources. Because the bulk of the Pacific Coast Caspian Tern population is located in one very large colony (East Sand Island), this population is highly vulnerable to stochastic events, such as storms, oil spills, disease, etc. Additionally, conflicts with humans are likely to continue due to the number of birds consuming resources of human interest. For these reasons, I agree that moving some fraction of the East Sand Island to a number of natural or human created sites along the Pacific Coast may help conserve this population and reduce conflicts. However, suitable habitat, especially in the Pacific Northwest, which historically has comprised a very significant portion of the Pacific Coast range, appears quite limited. Many of the suitable bays and estuaries along the Pacific Northwest provide habitat for endangered salmonids; historic sites, such as Grays Harbor, have undergone anthropogenic and natural changes that may have made them unsuitable for successful nesting (Thompson et al. 2002). Additionally, local people may not welcome the establishment or re-establishment of Caspian Terns. Much more effort needs to be put into developing safe and productive sites for Caspian Terns in this area before plans to disperse or reduce numbers within the estuary can be pursued.

We agree with Ms. Wires and would emphasize that her comments need to be addressed in the EIS. The federal agencies need to locate and assure development of safe and productive sites for Terns before any plans to disperse or reduce Caspian Terns in the estuary are pursued. Alternative C, as currently formulated, does not include those assurances.

c. The DEIS fails to fully disclose how relocation will occur. The DEIS outlines in general terms how Terns will be attracted to other locations with decoys and vocalizations, but fails to disclose how the proposed alternative sites will be made suitable for the Terns and how FWS proposes to attract Terns to proposed sites so far removed from East Sand Island. The EIS must more thoroughly document the feasibility of such long distance relocations, and document how they will be accomplished.

d. *The DEIS' proposed alternative Tern breeding sites are highly unlikely to attract and support ~12,000 Caspian Terns.* The DEIS plan to reduce the Caspian Terns on East Sand Island and attract them to sites up to 600 miles distant falls far short of the goals to assure these birds will not be displaced to locations where they may consume more salmonids or where they cannot successfully breed. The math simply does not add up. For example, Dungeness NWR is not adequate to support 3,500 breeding Tern pairs. This is an unreasonable expectation given the predator and public access issue. The number of Caspian Terns has been stable in the San Francisco Bay estuary from 1982 to 2003. It is unlikely that there would be any substantial increase in numbers under current conditions, especially since there are plans to remove some of the salt pond islands and levees where 20% of the Caspian Terns nested in 2003. See Cheryl M. Strong (San Francisco Bay Bird Observatory) et al., *Forster's Tern, Caspian Tern, and California Gull colonies in the San Francisco Bay: habitat use, numbers and trends, 1982-2003*, for the journal *Waterbirds*, in press, (2004) (attached).

IX. WE SUPPORT MODIFIED ALTERNATIVE A; PLANS TO REDUCE BREEDING ACREAGE AT EAST SAND TO 1-1.5 ACRES AND COLONY SIZE TO 2,500-3,125 ARE PREMATURE AND ARBITRARY.

a. *Given the concerns documented above with the underlying premise of the need to eliminate most Terns from the Columbia River estuary, we believe the only prudent course is to continue the current management plan, as outlined in Alternative A, but modified to include provisions of the Preferred Alternative C, to accomplish redistribution of part of the East Sand Island colony.* Again, we concur that the current human-induced concentration of Caspian Terns at East Sand Island is not ideal for Caspian Terns. We support the dispersal and re-location of some of the Caspian Terns from the colony at East Sand Island. We support this dispersal through habitat modification ONLY if and when suitable habitat is established elsewhere and there are assurances that the dispersed Terns will colonize and breed successfully. This habitat must be free of introduced predators. Until such suitable habitat is established elsewhere, the 6 acres of habitat on East Sand Island must be scarified and maintained annually. The management actions should include, as suggested in the DEIS, management of predators and human disturbance and social facilitation by attracting Terns with decoys and vocalizations at new sites. We wish to emphasize that no reduction in habitat or any dispersal of Terns should occur on East Sand Island until suitable habitat is prepared and available at alternate sites, and these sites are supporting nesting Caspian Terns which are successfully fledging young.

b. *The reduction by 60-70% of the East Sand colony to 2,500-3,215 Tern pairs by reducing the 6 acres to 1-1.5 acres presents serious risks to Tern populations.* We would urge that the habitat at East Sand Island not be reduced below 2 acres, even if Terns re-locate and breed successfully at newly established habitat. After the phased approach of Alternative C occurs over the first five to seven years, habitat acreage at East Sand Island could be carefully assessed and the consequences of habitat destruction at East Sand Island fully analyzed. We also urge that any habitat destruction at East Sand Island below 6 acres be compensated at 2-1, not as suggested in the DEIS at 2-1 for any acreage reduced below 4.3 acres. Our Settlement Agreement provides for 6 acres and that has been the practice; any loss below 6 acres should be at 2-1 to assure the Terns re-locate and breed successfully and have room for any needed expansion. A further assessment of the Tern colony would be then made in 5-7 years. We cannot support a numerical limitation

on the number of Terns at East Sand Island until and unless adequate breeding habitat is established elsewhere and Terns have colonized this new habitat. We would urge that any limitations be kept in abeyance as a 60%-70% reduction is very substantial with unknown consequences on Tern populations.

c. The DEIS Alternatives C and D proposals to re-locate and establish alternative nesting sites at distant and substantially different sites from East Sand Island is of concern (as noted above). Any actions to destroy East Sand Island habitat must proceed cautiously and only with assurances that the displaced Terns will successfully relocate and breed. Many of the proposed locations are entirely different habitat types from that of East Sand Island and are located hundreds of miles from East Sand Island. For example, the DEIS has added the Dungeness NWR as the closest alternative nesting site for displaced Terns. This habitat is not an island, but is on a peninsula, and is accessible to mammalian predators and human disturbance. In one recent year, nearly the entire season's reproduction was destroyed by a single coyote over a six-night period. Effective predator control may not be feasible at this site, as is noted in the DEIS, Appendix G-3.

IX. ALTERNATIVE D IS DRACONIAN AND UNSUPPORTED BY SCIENCE AND MUST BE REJECTED.

This Alternative should be rejected out of hand. In addition to the concerns we have expressed with Preferred Alternative C, Alternative D would add lethal control of Terns if the colony size is not reduced to at least 3,125 pairs. Up to 50% of breeding Terns would be killed each year. This is a draconian measure that will definitely affect national Caspian Tern populations negatively and is not supported by science. We note that all alternatives include provisions that: prevent Terns from nesting on upper estuary islands such as Rice, Miller Sands Spit, and Pillar Rock; provide for issuance of egg take permits on these islands if habitat and harassment fail to prevent nesting; and allow dredge disposal to resume on Rice Island where Terns formerly nested. These actions, coupled with the relocation of some East Sand Island Terns under the conditions noted in paragraph VIII., above, should further reduce predation on juvenile salmonids.

X. NO MEASURES SHOULD BE TAKEN AGAINST THE CRESCENT ISLAND COLONY.

We are concerned that other colonies of Caspian Terns will come under attack and request that the final EIS assure that remaining colonies not be disturbed (unless habitat is augmented/created at these sites). Specifically, the Crescent Island colony should be protected.

Again, thank you for the opportunity to comment on this important bird conservation issue.

Respectfully Submitted,

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