

MEMORANDUM FOR RECORD

SUBJECT: Sufficiency Review for use of a laser to deter Caspian terns from Rice Island in the Columbia River Estuary.

1. Background

Rice Island is located at River Mile 21 in the Columbia River estuary (CRE). Beginning in 1951, the above water portion of the island is comprised solely of dredge material that was placed there from material moved from the nearby navigation channel to the upland site. In the 1990's, Caspian terns (CATE) began using the fresh dredge material for nesting and the population there grew to more than 10,000 pairs. In 1999, the Corps began hazing CATE from Rice Island while creating habitat on East Sand Island (ESI) to attract some of the terns lower in the estuary (River Mile 5). The Corps, U.S. Fish and Wildlife Service (USFWS), and National Marine Fisheries Service (NMFS) cooperated to produce an Environmental Impact Statement (EIS) to analyze the effects a plan for managing the terns in the long term with the goal of reducing predation on juvenile salmonids. Subsequently, these federal agencies completed the *Caspian Tern Management to Reduce Predation of Juvenile Salmonids in the Columbia River Estuary Final Environmental Impact Statement* (USFWS et al. 2005). The USFWS and Corps each issued their own records of decision (RODs) in 2006 (USFWS 2006; Corps 2006). The Final Environmental Impact Statement and the two RODs documents are collectively referred to as the "Caspian Tern Plan." The Plan allows for continued hazing of CATE from not only Rice Island, but all dredge material islands in the Columbia River estuary.

The Corps is responsible for the implementation of terms and conditions of the biological opinions that pertain to the operation and/or maintenance of the Corps' civil works projects. The Corps (referred to as COE in excerpt below) responsibility regarding management of terns in the Columbia River estuary arises from implementation of mandatory terms and conditions of the September 15, 1999 NOAA Fisheries Biological Opinion (BO) on the Corps' Columbia River Channel Operation and Maintenance Program (NOAA Fisheries 1999) and 2000 and 2004 Federal Columbia River Power System (FCRPS) biological opinions (NOAA Fisheries 2000 and 2004b). The 1999 BO addressed both tern and cormorant concerns, and included in sub-section C, the following Terms and Conditions (T&C): "1a. The COE shall modify the habitat on Rice Island by April 1, 2000, so that it is no longer suitable as a nesting site for Caspian terns or provide for the hazing of terns off the island in a manner that will preclude their nesting. The COE shall ensure that any terns hazed off the island do not nest on any dredge spoil islands in the action area (other than East Sand Island). The COE shall

continue to prevent nesting of Caspian terns on disposal islands within the action area for the life of the project.” In accordance with the stipulations of this T&C, the Corps relocated the tern colony from Rice Island to East Sand Island in 1999 and 2000 and has annually maintained habitat on East Sand Island for nesting terns. Hazing operations (see Chapter 2, section 2.2 of the EIS for description) at Rice Island, Miller Sands Spit and/or Pillar Rock Island in the upper estuary (Columbia River mile 21 to 28) have been implemented annually as necessary to discourage terns from attempting to nest at these locations. The following is directly from section 2.2 of the EIS.

“Management actions, as appropriate, may include repeated hazing of adult terns on islands from April 1 to June 15 to prevent colony establishment, nesting habitat modification through establishment of vegetation, or other measures (e.g., installation of silt fencing, see photo below). Hazing would consist of personnel or dogs directly disturbing terns that aggregate on upland habitat suitable for nesting purposes. Personnel may use all-terrain vehicles for ease of access and to cover distances involved at these upper estuary islands.”

Hazing of CATE has occurred every year at Rice Island since 1999. Methods used include, but not limited to; human hazing, installation of silt fence, ropes and flagging grids, placement of eagle decoys, and use of hand-held green lasers. Currently the Corps places hundreds of pounds of polypropylene rope and plastic flagging on Rice Island to prevent formation of a CATE colony and conducts daily dissuasion walks to deter and enumerate CATE presence. These actions are directed by the National Marine Fisheries Service’s 2012 BiOp to the Corps Terms & Conditions 1(K) which specifies that if piscivorous birds are identified in dredge placement areas they must be deterred from breeding there. As such, the Corps implements hazing actions to intentionally flush the birds from the area. Currently observers walk the island to haze/flush CATE from potential nesting areas and enumerate CATE nesting attempts outside and near the ropes, stakes, and flagging.

2. Description of the Modification of the Proposed Action

The proposed action is to implement use of an unmanned green laser in lieu of a comprehensive array of iron t-post, polypropylene rope, and plastic caution flagging tape to deter CATE from nesting on Rice Island.

For the 2021 nesting season, the Corps proposes to use an autonomous green laser machine to dissuade CATE from the area. Corps personnel will monitor when dissuading and enumerating CATE abundance to ensure the laser is operating properly, and not causing potential effects greater than traditional survey methods. Monitoring triggers to cease operations are defined to ensure bird health and safety and will be enforced if they are met. Corps personnel will communicate with Streaked Horned Lark (*Eremophila alpestris strigata*; SHLA) biologists to ensure the SHLA distribution and

behavior is not being impacted using the laser. The long-term hope is that this technology will minimize human impact and presence on the island while concomitantly reducing plastic debris and waste, and increasing the cost saving to the Project. Below we elucidate our intentions and provide specific comment to concerns previously mentioned with this proposal.



Figure 1. Vicinity Map of East Sand Island (river mile 5), Rice Island (river mile 21), Miller Sands Spit (river mile 23) and Pillar Rock Island (river mile 27) in the Columbia River Estuary. The Corps manages these islands for placement of dredged material.

3. National Environmental Policy Act (NEPA)

The NEPA documents listed below were used to compare the proposed scope of work compared to the original scope of analysis for management of CATE in the Lower Columbia River estuary including hazing of CATE from Rice Island.

- a. 2005 Environmental Impact Statement Caspian Tern Management to Reduce Predation of Juvenile Salmonids in the Columbia River Estuary Final Environmental Impact Statement.
- b. 2014 Environmental Assessment Columbia River Federal Navigation Channel Operations and Maintenance Dredging and Dredged Material Placement Network Update, River Miles 3 to 106.5.
- c. 2014 Environmental Assessment *Caspian Tern Nesting Habitat Management at East Sand Island, Clatsop County, Oregon.*

The above documents clearly demonstrate the need and requirements for hazing CATE from dredge material placement islands in the CRE and provide some methods for doing so but is also somewhat vague in all methodologies that could be used. The suggested methods in these documents and been used with mixed success. The use of hand-held green lasers has been used with some success at ESI and Rice Island. The proposed deployment and use of an unmanned laser with frequent on-site monitoring is within the original scope of analysis for both the 2005 EIS and 2014 Dredging EA, as all hazing methods requiring human access to the island. There are two areas that have not been fully analyzed regarding use of green lasers, which include effect to non-target wildlife species and effects to human or the human environment.

The effects of lasers on non-target species such as gulls, Canada geese, song sparrow and SHLA were not specifically spelled out in previous NEPA analysis, however the more general effects of the hazing program were considered in both the NEPA and section 7 analyses for the Corps dredge material islands. The Corps recently communicated with the USFWS (USF&W communication: Kris Sclafani, Feb., 18, 2021 and May 11, 2021, Kat Brown, Feb. 11, 2020 and Michelle McDowell, Apr. 13, 2021) about the concerns of lasers on non-target species protected under the Migratory Bird Treaty Act (MBTA). The USFWS considered all tern hazing methods a benefit to SHL since the habitat would then not be occupied by terns and available for larks. Additionally, The USFWS believes that the remote use of lasers, if successful, would allow for less human presence on the island which too would be a benefit to larks. Thus, USFWS determined there would be little impact and encouraged monitoring and reporting the results of the laser methods. Similarly, regarding ESA-listed SHL, the USFWS determined the use of the unmanned green laser would have negligible effects on SHLAs and again encouraged monitoring and reporting.

Affects to the human environment was in the analysis in the above NEPA documents but not specifically analyzed for the use of green lasers. The proposed laser can cause retinal damage if directly pointed into the eye within 0.5 miles, however the chances of this are de minimis due to the following factors; habitat modification that completely entraps the lasers programmed path, and Rice Island is considered a remote island in the CRE that is only accessible by boat. There is a low occurrence of recreation on the island, mostly for fishing along the shoreline. The proposed laser use would be in the upland portion of the island away from most human use areas. Advisory signs will be placed on the island during the duration of use to inform the public of lasers and ask that they stay away from the area. These signs will be placed at 500 feet from the laser machine at all know access points. The laser use will be mainly in late evening until dawn when recreation use is at its lowest. The Corps notified multiple agencies and river user groups in Clatsop County for regional awareness, including the Columbia Bar Pilots (Dustin Johnson response May 17, 2021), U.S. Coast Guard (Greg Merten USCG

Sector Columbia River, Command Center, response May 17, 2021), Oregon State Division of State Lands (Blake Helm response May 17th 2021), and the Columbia River Tow Boaters (Audrey Gurule response May 17th, 2021 others to inform them about the intended use of the green laser, its timing and duration of use.

4. Endangered Species Act

Implementation of tern dissuasion, as outlined in Corps 2014 biological assessment (BA), can have adverse effects to SHLA. The 2014 BiOp states:

“The effects to larks may include flushing adults or young, increased exposure of eggs and juveniles to weather and predation, nest abandonment or destruction, and possible mortality of eggs or young. Depending on the proximity, frequency and duration of these activities, dissuasion of avian predators could result in reduced survival of affected larks. Dissuasion measures could preclude the use of suitable nesting habitat, which would indirectly affect individual larks. However, habitat availability is not assumed to be a limiting factor in the action area (Pearson et al. 2008, Schapaugh 2009, and Camfield et al. 2011).”

Thus, the scale and extent of potential effects are based on the proximity, frequency, and duration of activities. The scale and extent of effects proposed by the implementation of the laser as an alternate dissuasion technique would have effects consistent with those described in the BA and BiOp, and could reduce affects to SHLA by minimizing human access to the island in the future. The effects from the laser would not exceed those caused by the current methods of CATE dissuasion except for the potential for ocular damage because of laser-eye strike. SHLA will not be active when the laser is operable. Moreover, animals are not going to allow this laser to touch them in low light situations. They will move prior to an eye strike. And last, the area where we are using it has not had SHLA in it since the placement event last year. It is not good SHLA habitat. The USFWS considered all tern hazing methods a benefit to SHL since the habitat would then not be occupied by terns and available for larks. Additionally, The USFWS believes that the remote use of lasers, if successful, would allow for less human presence on the island which too would be a benefit to larks.

5. National Historic Preservation Act

On January 11, 2021, the Corps submitted letters to the Oregon State Historic Preservation Office (SHPO), Washington Department of Archaeology and Historic Preservation (DAHP), and eight local tribes asking for concurrence that continuing to use man-made islands, such as Rice Island, as dredge material placements sites will not affect historic properties. On January 15, 2021, and February 11, 2021, both DAHP and SHPO, respectively, both concurred with the finding. As the use of lasers is to haze CATE, to enable the island to continue to be used as a dredge material placement site, this follows suit with the intent. Additionally, because Rice Island is entirely man made by the Corps since 1951 and has never been inhabited or used for any other purpose,

there is no potential for historical properties to be located on the island. The proposed action of using an unmanned green laser on the island to haze CATE has no potential to effect historic properties.

6. Other Laws and Executive Orders

Compliance with all other laws and executive orders remains valid with no need for further coordination or consultation on the modifications of the proposed action because the other laws and Executive Orders do not apply to the modifications of the proposed action and/or are applicable but are within the scope of the analysis of the original proposed action.

7. Determination of Sufficiency

The modified activities are within the NEPA scope of analysis of the Environmental Assessments (EA) and the Environmental Impact Statements for the project and no further evaluation is required under NEPA. The modified activities are also in compliance with the ESA and NHPA based upon the review described herein. All other compliance with other laws and executive orders evaluated in the 2005 EIS and 2014 EAs remains in effect and valid without modification.

Encls

1. [EIS Original], 2005
2. [EA, Original], 2014
3. [EA, Original], 2014
4. [NHPA MFR update], 2021
5. [ESA Consultation], 2014
6. [Email responses], 2021

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