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August 31, 2004

MEMORANDUM

TO: Council Members

FROM: Bruce Suzumoto

SUBJECT: Caspian tern management in the Columbia River estuary

Bob Willis and Geoff Dorsey of the U.S. Army Corps of Engineers, Portland District, will discuss the draft Environmental Impact Statement that calls for the relocation of some of the Caspian terns that nest on East Sand Island in the Columbia River estuary. They will also discuss other predation issues and plans for the removal and placement of dredge spoils in the lower river. Attached is a copy of their presentation.

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Predation on Juvenile Salmonids by Caspian Terns and Double-crested Cormorants in the Columbia River Estuary



Avian Predation – Columbia River Estuary

- 2003:
 - Caspian Terns – 8,325 pairs;
 - Double-crested Cormorants – ~10,650 pairs
- 2003 juvenile salmonid consumption
 - Caspian Terns – 4.2 million
 - Double-crested Cormorants – 4.8 million
 - Combined - 9 million

Pacific Coast Caspian Tern Population

(Washington, Oregon, California, Nevada and Idaho)

Historic Breeding Range

- Prior to 1920 – bred only at inland lakes and marshes
- Early 1920's – breeding first recorded at coastal location – San Francisco Bay
- Interior Washington – 1930's
- Late 1950's – Expansion to coastal Washington
- 1980's – largest breeding concentration in Grays Harbor, WA (3500 pairs) and San Francisco Bay (1500 pairs)

Pacific Coast Region Caspian Tern Population Estimates

- 1960-1980 - 70% growth to ~ 5,700 pairs
- 1976-1982 - ~ 6,218 pairs
- 1996-1998 - ~14,534 pairs
- 1997-2003 - ~12,620 pairs

Columbia River Estuary



Columbia River Caspian Tern Population

Columbia River Estuary

- Late 1920's-1930 – Miller Sands Island Constructed
- 1962 – Rice Island Initiated
- 1984 - ~1000 pairs at East Sand Island on 1983 disposal site
- 1986 ~ 1000 pairs to Rice Island
- 1998 - ~8,500 pairs (67%) at Rice Island, CR, OR
- 1999-2001 – Habitat development at ESI; shift of all pairs to ESI completed.
- 2003 – East Sand Island contained 8,325 pairs

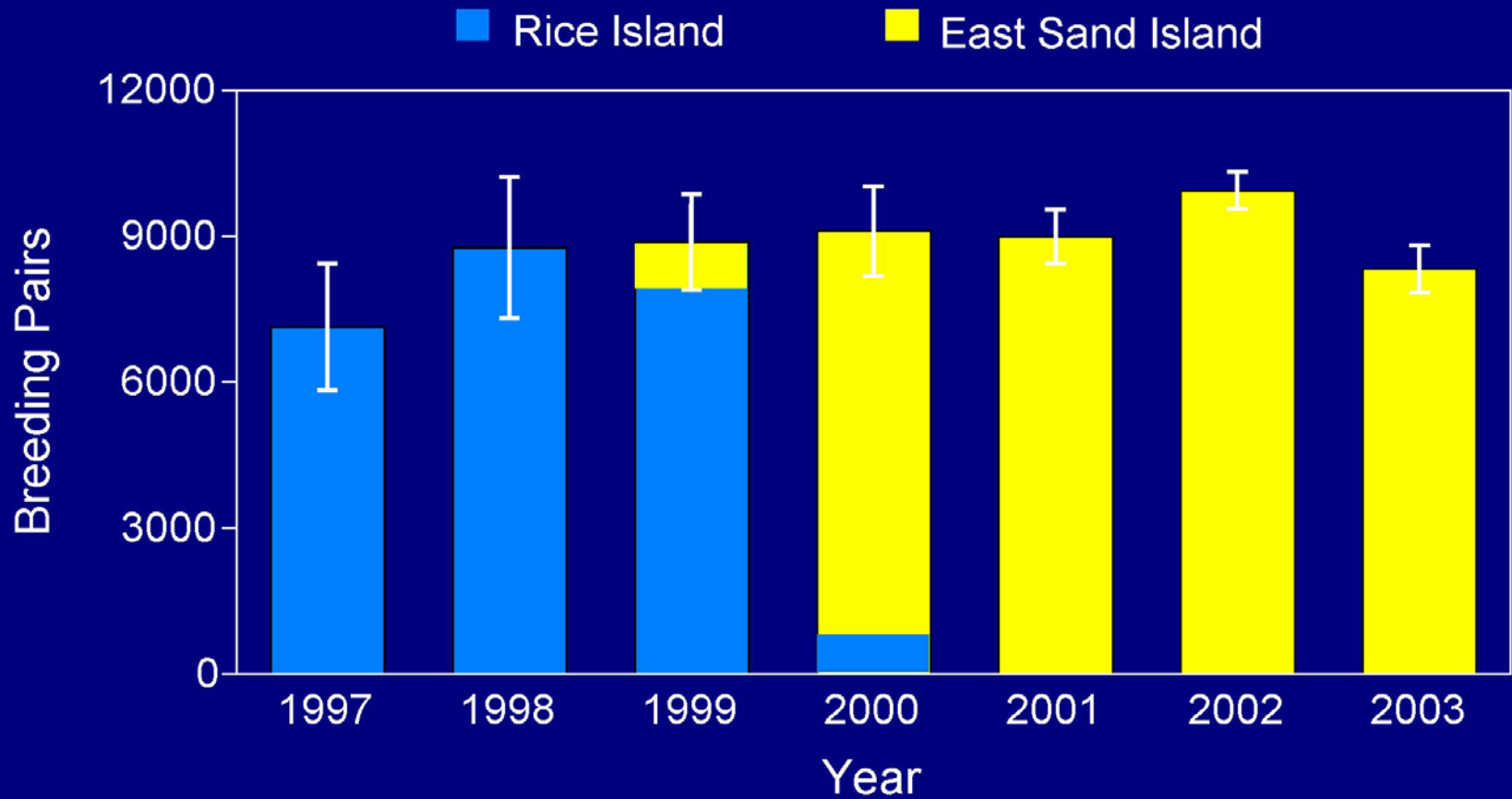
Caspian Tern Management Columbia River Estuary

- East Sand Island – annually prepare ~6 acres
 - Supports entire Caspian tern population
- Rice Island – Former colony location at d/s end overgrown with vegetation; ~160 acres bare sand at Elev. 40-50 ft; future disposal on entire 230 acre site. No hazing required in 02, 03, 04.
- Miller Sands Spit – Frequent use for dredged material disposal; hazing required in 03. Future disposal use.
- Pillar Rock Island - Frequent use for dredged material disposal; hazing required in 02, 03, and 04. Future disposal use.

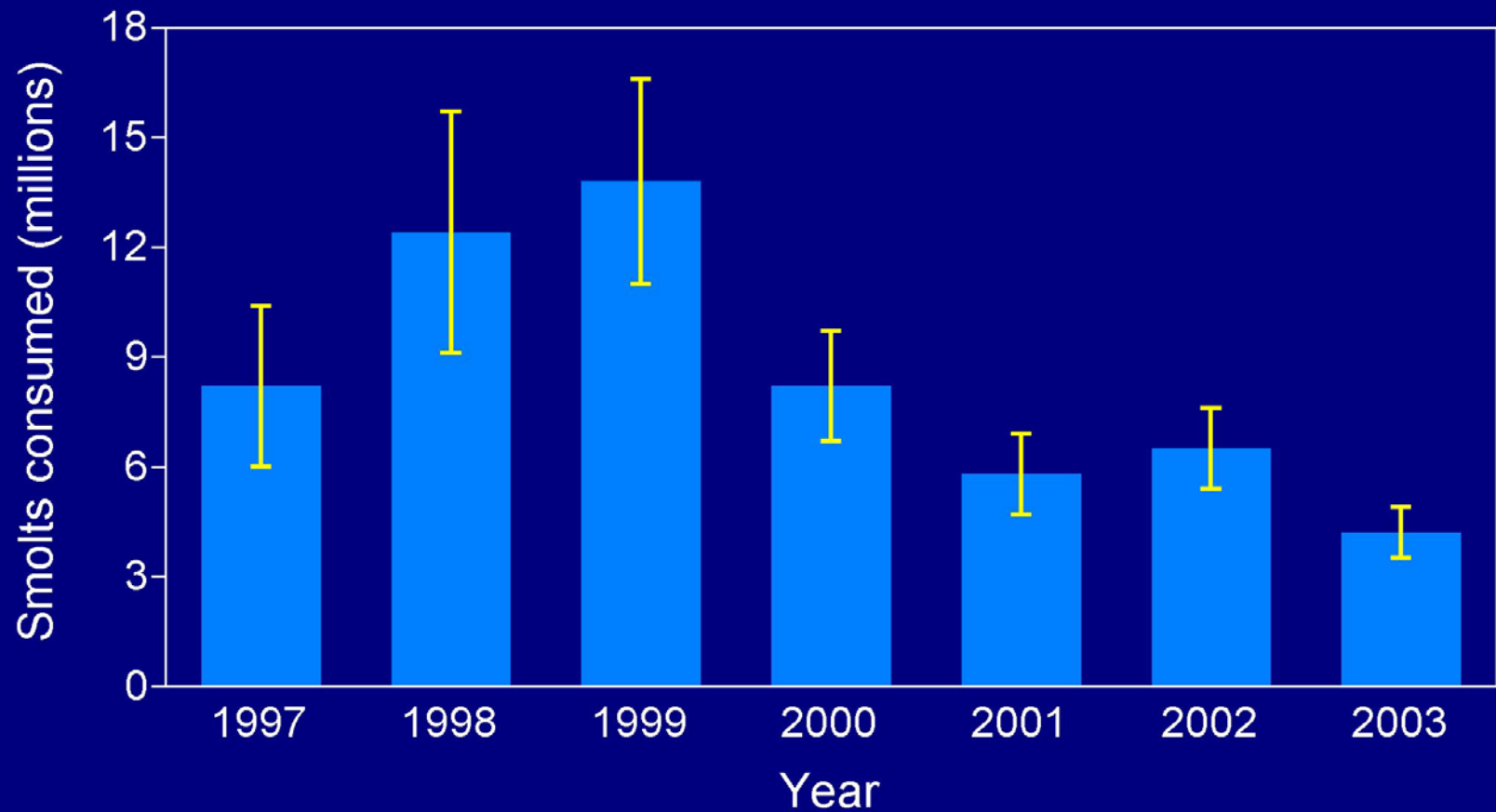
Caspian Tern Management – Relocation



Caspian Tern Colony Size in the Columbia River Estuary



Salmonid Consumption by Caspian Terns in the Columbia River Estuary



INTERAGENCY EIS – 2002 Settlement Agreement

- USFWS (lead), NOAA Fisheries, & Corps
- Caspian Tern Management to Reduce Predation of Juvenile Salmonids in the Columbia River Estuary
- July 23, 2004 – Released Draft EIS to Public; Comments due September 20, 2004
- January 2005 – Final EIS
- February 2005 - ROD

EIS Alternative C – Redistribution of ESI Tern Colony (Preferred Alternative)

- Population objective of 2,500 – 3,125 pairs
- Ramp habitat acreage down gradually
- Maintain 1-1.5 acres of habitat on ESI
- Redistribute tern population through nesting habitat (~10 ac) development/social facilitation at 7 locations in WA (1), OR (3) and CA (3)

State/Federal Restrictions

- WDFW does not support active management of sites in WA that could serve as alternate habitat
- ODFW will not support managed relocation of Caspian terns to any sites in OR other than historic use sites.
- CDFG has expressed concerns about impact of terns on ESA-listed salmonids at Humboldt Bay and the Sacramento River Valley
- USFWS's CNO did not support tern nesting habitat development at Humboldt Bay

Caspian Tern Draft EIS Provisions Columbia River Estuary

- Corps will continue to prevent Caspian tern nesting in the upper estuary (Rice, Pillar Rock, Miller Sands Spit)
- USFWS will permit egg take if initial hazing activities fail
- Corps can resume dredged material disposal on d/s end (former colony location) of Rice Island.

BENEFIT

(Current Operations)

- EIS Implementation Cost: 5 sites @ \$3.25 million
- EIS Plan: Save 3.87 - 4.28 MILLION JUVENILES (All Juvenile Salmonids in Estuary)
- 67% Associated with FCRPS (2.59 – 2.89 Million Juveniles).
- BY Comparison:
 - FCRPS 2000 BiOp RPA (hydropower measures) = 2.15 million juveniles, cost is \$865 million
 - B2 Corner Collector = 300,000 juveniles, cost was \$48 million
 - Colony relocation from Rice to East Sand Island = 32.5 million juveniles from 2000-2003; cost was \$3.5 million for research (1997-2003) plus \$1,000,000 for NEPA/implementation/OSM

Responsibility for Implementation?

Options

- USFWS – Implement as funding becomes available; Monitoring funds in FY06
- Corps/BPA/Other fund implementation (offsite)??? and monitoring/research
- NOAA Fisheries will evaluate benefits of action for listed ESU's
- Tern DEIS – 4 steelhead ESU's w/ λ greater than 1.0

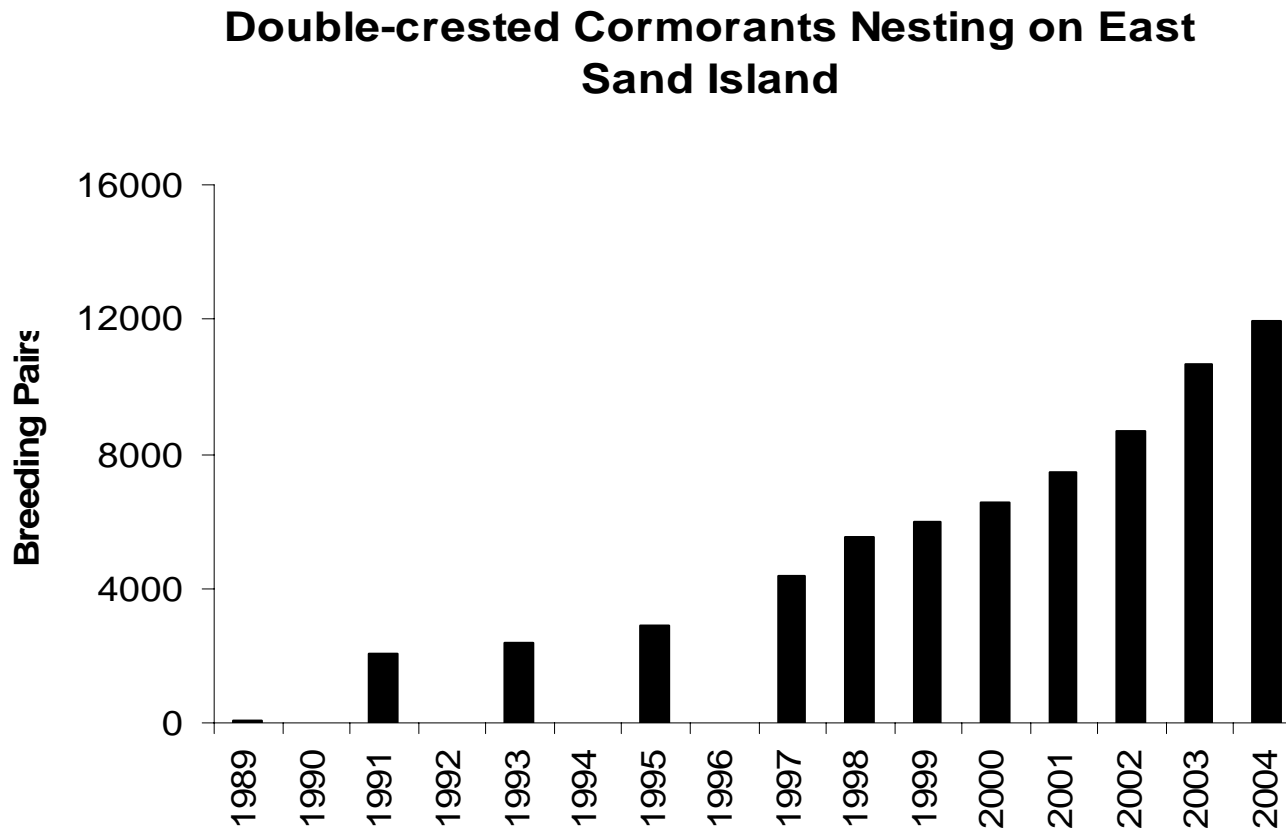
Double-crested Cormorants



Pacific Coast Population Double-Crested Cormorants

- Low Point for Regional Population – 1970's
- 2000-2003 – 24,000 pairs in population; far below historical population levels
- Colonies in decline – British Columbia, Washington, Channel Islands of S. CA
- Baja California – colonies rebuilding but magnitude less than historic
- San Francisco Bay, Humboldt Bay and Columbia River estuary – colonies increasing with largest increase in Columbia River estuary

Background: Cormorants



Issues Pertaining to Double-crested Cormorant Management in Estuary

- Currently only research at ESI ongoing; no management plan or action in place in region
- No Interagency agreement on need or direction
- EIS required per Federal District Court Settlement to Implement Management of Population on LCR
- Baseline Research
- Implementation of Management Measures

Double-crested Cormorants – Research and Management Needs

–Who's Role?

- Determine boundaries of regional population
- Determine status and productivity of regional breeding colonies
- Further define predation on juvenile salmonids in Columbia River Estuary
- Evaluate habitat modification/colony reduction means in Columbia River Estuary
- Evaluate habitat modification/social facilitation measures to redistribute Columbia River estuary population

Predation Summary

- Caspian Terns - Columbia River Estuary
 - Complete EIS
 - Implementation of Preferred Alternative
 - Funding (Who, When)
 - Maintain Research/Monitoring Effort through 3-5 years of EIS Implementation
- Double-crested Cormorants - Columbia River Estuary
 - Initiate additional research (local, regional)
 - Complete regional population analysis
 - Initiate EIS for population redistribution
 - Implement EIS preferred alternative


www.ColumbiaBirdResearch.org

Columbia River Bird Research - Microsoft Internet Explorer

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New! 2001 Draft Season Summary
Past weekly reports
Seasonal trends
Field chronology
Movies and photos
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Background
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Columbia Bird Research

Provided here are in-season weekly reports and background information on a study investigating the impacts of piscivorous waterbirds (i.e., terns, cormorants, and gulls) on the survival of juvenile salmonids in the lower Columbia River. These data were collected by researchers working with Oregon State University, Washington Department of Fish and Wildlife, Columbia River Inter-Tribal Fish Commission, and Real Time Research.



Weekly reports on managed Caspian terns are provided to monitor and evaluate the 2001 Caspian Tern Management Plan (Click [here](#) to see map of study area). Other data on unmanaged bird populations (i.e., double-crested cormorants and glaucous-winged/western gulls) are being collected by the researchers, but are not provided in detail here.



Wanted
Banded Terns

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