Pacific Seabird Group

DEDICATED TO THE STUDY AND CONSERVATION OF PACIFIC SEABIRDS AND THEIR ENVIRONMENT

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Tara Zimmerman
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Re: Comments on Status Assessment and Conservation of the Caspian Tern

Dear Tara:

On behalf of the Pacific Seabird Group (PSG), we thank you for the opportunity to review the draft Status Assessment and Conservation Recommendations for the Caspian Tern (*Sterna caspia*) in North America. As you know, PSG is an international non-profit organization that was founded in 1972 to promote knowledge, study and conservation of Pacific seabirds. PSG takes a broad international perspective in recognition that the oceans are tied together by the wandering of seabirds and the flow of ocean currents. Our membership is drawn from the entire Pacific basin, including Canada, Russia, Japan, China, Mexico, Australia, New Zealand, and the USA. Among PSG's members are biologists who have research interests in Pacific seabirds, government officials who manage seabird refuges and populations and individuals who are interested in marine conservation. PSG has a long history of interest in the Caspian tern issues in the Pacific Northwest.

As you will recall, PSG has suggested for several years that the type of effort that is exemplified in the subject report be undertaken, and that a region-wide management plan be developed. We congratulate the Service for getting this project underway, and hope that PSG can contribute to the intelligent management of Caspian terns and other pisciverous species in the region.

Overall, this draft is an impressive review of the status, conservation and management issues for this species, and it is evident that the authors have invested a great deal of time and effort.

Inevitably any critical review must focus on statements or issues with which we have a disagreement or where we think additional work or explanation is needed. These comments should not be construed in any way to mean that we do not appreciate the quality and level of effort that has been expended by the authors, and are intended to contribute to increasing the report's effectiveness. Most of the following comments will refer to a specific page or pages, but at the outset we suggest that it might be helpful if the authors more frequently referred to the literature to support various statements and data. In addition, we believe that the geographic accounts in the appendix need to be completed because they provide much useful information.

P. 6. The summaries would be more helpful if they included, perhaps parenthetically, number of pairs and number of sites. Even with Table 4 and the Appendix, the reader has to dig deeply to achieve such a perspective.

The geographical divisions of North America might be more biologically meaningful if, at least with regard to Regions 1 and 2, the authors took into account geography and likely migratory/ dispersal behavior. 'Pacific Coastal' should include colonies from interior Washington, Oregon and California, where the individuals fly to the Pacific coast before migrating south (pp 8-9). 'Western Interior' should include central Canada as well as Montana, Wyoming and Utah, which are more or less contiguous to the south of the Canadian region occupied by Caspian terns, and in addition these birds likely take a direct overland route south (p. 9).

The terms "locally common to abundant breeder," "locally fairly common breeder," etc. have little meaning for colonial breeding species. Within any colony, birds will be very dense and abundant, and not far away they will be absent. Calling this "locally abundant" is not meaningful, and will not be understood by, e.g., NMFS salmon managers. Even the entire North America breeding population of Caspian terns pales against the population of single colonies of many other colonial 'seabird' species. A total U.S. breeding population of 20,938 pairs (Table 3) is not very many birds at that spatial scale. For example, on the Pacific coast (14,534 Caspian tern pairs) the federally endangered Brown Pelican is probably more abundant. For this reason, a description might be more appropriate than using these qualitative and subjective terms.

P. 7. Migration. The sentence mentions "populations." What do you mean by this? Colonies? As with many migratory species, there is a cline in the extent of movement. The draft includes some information that infers this for Caspian terns, which disappear seasonally from northern and central North America, where their presence is well defined annually. In mid-coast areas they linger longer, and on the Gulf Coast and farther south Caspian terns occur year-round. A summary figure would be useful showing the months they are present for different types of localities/regions. This would prevent incorrect conclusions by some readers who might claim that because, e.g., Lewis & Clark did not report Caspian terns in Columbia River estuary, then historically they must never have occurred there (Lewis & Clark were in this area from November-March, when Caspian terns would have been absent).

P. 9. We suggest that you pose two different models of Caspian tern migration: the California gull model where they fly to Pacific Coast and the least tern model where they fly directly south.

P. 10. What do you mean by “natal origin?” Is this colony-specific, or region-specific, or something else?

P. 11. What is meant by “inland?” From a continental perspective, the states listed are all “coastal” and considering the documented foraging ranges of some colonies, many of these sites could include terns that forage in marine habitats.

P. 13. The item “only a single parent and young” is important but the point is not discussed much. Post-fledging parental care is very much a part of this species’ breeding strategy. ‘Tradition’ (learning) may be important to this species and may explain why the species began in recent decades to nest on artificial sites. It is also at root of the social attraction theme used in colony restoration, movement etc. How does one change Caspian tern tradition? This aspect of its natural history should be discussed much more in terms of its causes and implications.

P. 15. Reproduction phenology. This section should be expanded to include more detail and perhaps a figure showing dates of first eggs by latitude and or average, e.g., March temperature. In a NMFS document currently being reviewed an inference is made that the nesting of Caspian terns in the Columbia River estuary is timed to correspond with salmon smolt escapement. Is this true? Is the phenology in that location anomalous relative to other populations in the region? This seems unlikely, but should be addressed. For a species that likely evolved to depend on river bars for breeding, a high degree of phenological plasticity (and relaxed philopatry) may be necessary even if no longer expressed.

Pp. 16-17. Breeding Site Fidelity. The authors state that "Fidelity to the natal colony by Caspian Terns in the Pacific population appears to be fairly low, as only 16 of 41 returns (39%) of breeding age adult terns banded as nestlings were encountered at their natal colony versus 25 (61%) relocated elsewhere. Most of the non-natal colony returns (17 of 24, 71%) were from adults collected at Rice Island (1997-2000) that had been banded as chicks on the Sand Island colony in Gray's Harbor during the late 1970s and early 1980s." These data and the discussion are misleading. The authors note that these birds were banded about 20 years ago in Grays Harbor where all suitable habitat was destroyed years ago. As we all know, agency officials have been working hard to lure terns from Sand Island to East Island. These are not “normal” conditions, and should be acknowledged.

P. 18. How was annual survival rate calculated? What is an encounter? What is the data source? What were the trends of the colonies that dominate the data set: growing, declining, etc.?

Pp. 17-19. Demography and limiting factors. There is little discussion of limiting factors (presumably, population growth limitation?). Given long adult life, frequent breeding failures, etc. breeding success does not necessarily rank high among limiting factors at the colony level. Post-fledging parental care, which is unusual in colonial birds, indicates that parental investment is increased once the tenuous colony phase is accomplished. Consider discussing Gill and Mewaldt's (1983) data for demography.

Page 23. The report should include the fact that Caspian terns in the Potholes fly 45-60 km to Wanapum, Priest Rapids and Rock Island Dams to forage based on terns shot and PIT tag recoveries on Solstice Island. Cite Brad Ryan's (NMFS) reports.

P. 24. Winter and summer non-breeding seasons. Because it is very cold at the inland lakes during winter, why would many aquatic birds winter there? Is the third sentence talking about wintering areas or distribution in general?

P. 25. This document needs more population comparisons with other terns and the species, to place it in context. How many endangered roseate or least terns exist?

P. 26. Trends. The surveys also provided the first reasonable indications of distribution.

P. 26. Note that the Pacific coast/Western region has the largest population because it is the most extensive of the five geopolitical regions. Note that without Rice/East Sand Island, the population would be among the smallest of any region.

P. 28. Clarify that that much of the increase of the Columbia River population was due to loss of breeding habitat elsewhere. Note that even with hatcheries, the current salmon population is a small percentage of what it was before the dams were constructed in the mid-1900s). Consider whether some loss of interior habitat can be attributed to competition for nesting habitat by California, ring-billed, western and glaucous-winged x western gulls.

Pp. 25-32. Each regional section should begin with a with reference to current population size. This will put into perspective statements that a population has doubled when it increased by, say, 100 pairs.

P. 33. Habitat loss. Clarify that ‘growth’ constitutes rebounding from former decimation.

P. 34. Emphasize that this species’ breeding strategy includes the use of ephemeral sites (gravel bars etc.) that in modern times no longer are allowed to exist because of dams, diking of wetlands, etc.

P. 36. It is unlikely that oil spills are a serious concern for this species.

P. 53. The full paragraph is confusing, needs citations to explain who is concerned or not concerned about the status of the species..

Pp. 54-64. Conservation Recommendations. Much of this is impractical. It would help if these were prioritized, which would likely vary by region. Recommendations regarding monitoring; habitat management and protection; research, and education while worthy are so expensive to implement that few could be implemented. Monitoring is critical where the species is listed as vulnerable and where there are identified management concerns (e.g., Columbia River). Elsewhere, funding and resources for monitoring will only be available at refuges, preserves where the needs for management of other species will rank far above Caspian terns. Why monitor reproductive success when we already know that it has little to do with population

growth (e.g. the poor success at Rice Island, the largest colony of all)? We suggest focusing on a regional survey/analysis to show (1) historical breeding sites; (2) sites currently used; and (3) what needs to be done to insure a well-spread regional population (i.e. public acquisition of some sites; social attraction at others, etc.).

Concerning research on pp. 60-61, we offer the following comments.

Bullet one. Why more feasibility studies? Barges work and apparently too well, as documented in the report.

Bullet two. Why more experiments? The Rice Island experience shows what works.

Bullet three. There is no evidence that Caspian terns have any meaningful impact on salmon growth, and how can we separate tern impacts from natural variability or other factors? After 20 years of intense tern predation, how can anyone explain the huge increases in up-river salmon migration during the past three years on the Columbia?

Bullet four. Why more experiments on deterring terns? The report documents what works to discourage terns.

Bullet six. Meta-population dynamics and demography may be the highest priority research for this species, given its regional histories of ready colony abandonment and colonization. What constitutes a Caspian tern "population?" Perhaps genetic work is needed. Given the confusion over where most colonies may winter, or what routes they take, and the importance of this work, perhaps widely spread banding efforts should be instituted to delineate 'populations' and migratory routes.

Bullet seven. There is little documentation of contaminants being a problem except at very local levels (where most other birds in the neighborhood are affected, too).

Again, we appreciate this opportunity to comment on the draft report. We hope our comments are of some value, and will gladly lend our expertise to managing Caspian terns and other pisciverous birds in the Pacific Northwest at any time.

Sincerely,

Craig S. Harrison
Vice Chair for Conservation