THE TRUMPETER SWAN SOCIETY

3800 County Road 24 · Maple Plain, MN 55359 · 763/476-4663 · FAX 763/476-1514

March 7, 2003

Dr. Steve Williams
Director, U.S. Fish and Wildlife Service
Main Interior Building
1849 C Street NW, Mailstop 3238
Washington, D.C. 20240

Dear Dr. Williams:

On January 28, 2003 the U. S. Fish and Wildlife Service published a 90-day Finding in the Federal Register in response to the August 25, 2000 petition by the Biodiversity Legal Foundation and Fund for Animals to designate the Tri-state (or Greater Yellowstone) Population of Trumpeter Swans as a Distinct Population Segment (DPS) and list it as threatened or endangered. This is the only breeding population of Trumpeter Swans that escaped extirpation in the lower 48 states. The Trumpeter Swan Society (TTSS) did not join in the listing petition and continues to believe that this important and imperiled population can be saved without invoking the Endangered Species Act, which could hinder essential cooperation from private landowners and states.

The 90-day Finding concluded that the Tri-state Population is neither 1) discrete from the remainder of the taxon *Cygnus buccinator* nor 2) significant to the taxon, and that this breeding group did not meet the criteria for assignment of DPS status. TTSS believes that the Service has a credible argument that the Tri-state Population does not pass the significance test, in the technical sense of significance to the taxon that is specifically required for DPS designation, and might reasonably deny DPS status on that basis.

However, we strongly disagree with the Finding's conclusion that the "*available evidence does not demonstrate that the Tri-state flock is discrete under DPS policy...*". We believe that this conclusion was based upon errors and omissions in the Finding, and fear that the Service's failure to recognize that the Tri-state trumpeters are markedly separated from other breeding populations will damage efforts to securely restore this important group of swans. One of the greatest vulnerabilities of the Tri-state Population is its very substantial, if not total, reproductive isolation. To date there are no data indicating that pairing with Canadian trumpeters is likely or that Canadian trumpeters will abandon their natal areas and fill in vacant Tri-state breeding habitat as the Tri-state Population declines. Failure to recognize the reproductive isolation and resulting vulnerability of the Tri-state trumpeters will impair development of the restoration strategies and actions needed to prevent their decline.

The erroneous conclusion regarding the discreteness of the Tri-state Population was based in large part on an unreviewed internal report by Dubovsky and Cornely (2002), which also contains numerous factual errors and omissions of important information. Therefore, TTSS requests that:

1) The Service work with TTSS and other professional wildlife organizations to review the information that we are providing and revise its 90-day Finding to recognize the Tri-state Population as a discrete breeding population that has tremendous social and historic value, although it does not meet the DPS test of significance to the taxon;

2) The Service remove the Dubovsky and Cornely (2002) report from its website and not circulate it further until it can be reviewed carefully and the errors corrected.

We also ask the Service to carefully review its policies for using the best available scientific data in decision making, and for publishing unreviewed internal reports worldwide on the web.

Few groups of birds are as well known, or as highly valued by the public, as the Trumpeter Swans that nest in Greater Yellowstone. We sincerely want to help the Service prevent the further decline of the Tri-state Population and securely restore this vulnerable breeding group. We hope this information helps us all achieve our common purpose.

Sincerely,

Ruth E. Shea

Ruth E. Shea
Executive Director

Specific Concerns

1. This 90-day Finding imposes an impracticably stringent standard for discreteness that contradicts DPS policy published in the Federal Register (February 7, 1996).

DPS Policy states that "*The Services do not consider it appropriate to require absolute reproductive isolation as a prerequisite to recognizing a distinct population segment. This would be an impracticably stringent standard and one that would not be satisfied even by some recognized species that are known to sustain a low frequency of interbreeding with related species*".

Despite this clear direction, this 90-day Finding bases much of its rationale for concluding the Tri-state Population is not discrete upon the observations of 5 (0.25%) of the 1,971 normal-wild trumpeters that were tarsal-banded or auxiliary marked in Canada or the Tri-state Area between 1949-2002 (Dubovsky and Cornely 2002). These 5 observations included 2 marked Tri-state birds that were each observed once in Alberta (Gale et al. 1987, Dubovsky and Cornely 2002) and three marked Canadian trumpeters that were observed summering in either western Montana (1) or the Tri-state area (2), including 1 Canadian trumpeter that attempted unsuccessfully to nest in the Tri-state area (Gale et al. 1987, Shea and Drewien 1999).

These 5 records, collected over a 50+ year period, are totally inadequate to support the 90-day Finding's conclusion that "*However, current banding and marking information, (although limited in extent) indicates that there is some dispersal of swans from the Yellowstone Ecosystem to other parts of the RMP area and vice versa, and that pairings between Tri-state birds and Canadian birds can be expected to occur.*" To date, there has been no known productive pairing between the Western Canada and Tri-state breeding populations in the wild and only one documented unsuccessful attempt (Gale et al. 1987, Shea and Drewien 1999).

2. The Finding errs in its assertion that pairing usually occurs during the fall and winter months when the Western Canada and Tri-state populations are sympatric and therefore mixed pairings can be expected to occur. The finding wrongly cites Gale et al. (1987) in support of that conclusion, while omitting any mention of that report's real conclusion.

Gale et al. (1987) conducted a 3-year review, funded by the Service, of all known data pertaining to the Tri-state and Canadian trumpeters and their conclusions regarding population discreteness and pair bonding directly contradicted those of the 90-day Finding. This review involved the Pacific Flyway Subcommittee on Rocky Mountain Trumpeter Swans, all living Tri-state and Canadian Trumpeter Swan biologists and managers dating back to Winston Banko in the 1950s, 7 researchers and state and federal managers who co-authored chapters, and 13 managers and researchers, including Winston Banko, who reviewed various drafts of the report. The primary authors were Ruth Gale (now Ruth Shea), Dr. Oz Garton (U. of Idaho), and Dr. Joe Ball (Montana Coop. Unit). While not advocating official ESA listing, Gale et al. (1987) concluded: "*The continued survival of the Tri-state breeding population is in doubt. There is currently no evidence that these swans interbreed with the Interior Canada trumpeters. Until evidence of matings between the two groups is found, the Tri-state trumpeters should be viewed as a significant breeding population whose continued existence is threatened, and managed as a threatened population".*

3. The Finding omits relevant marking studies by Wyoming Game and Fish Department (Lockman et al. 1987) and the Canadian Wildlife Service (Turner 1987 *in* Gale et al. 1987) that contradicted the Finding. Those studies indicated that pair bonds most likely are formed when the Tri-state and Canadian breeding populations are separate.

The Finding's new theory that Canadian and Tri-state trumpeters usually form pair bonds *"during the fall and winter months"* and that pairings between the two groups *"can be expected to occur"* is contradicted by the marking data from normal-wild Canadian and Tri-state trumpeters marked on their natal areas. Two studies have examined the behavior of marked sibling groups of normal-wild trumpeters and followed subadults through the pair-bonding process. During 1973-78, while the Grande Prairie flock numbered <200 swans, the Canadian Wildlife Service marked 232 Grande Prairie swans, including 56 broods, with coded neckbands. This research revealed the very strong philopatry of Canadian trumpeters and found no pairing with Tri-state swans. It concluded that pairing most likely occurred when the populations were apart either during migration or on the breeding grounds (Turner 1987 *in* Gale et al. 1987). During 1982-86, at a time when the Wyoming flock contained about 60 adults, the Wyoming Game and Fish Department studied the movements and behaviors of 42 marked trumpeters, including 5 sibling groups. This research documented the maintenance of adult-cygnet bonds until after Canadian trumpeters had migrated in March, the fidelity of Wyoming yearlings and subadults to the Tri-state region, breakdown of sibling bonds and beginning of courtship during late winter of their second or third year, and lasting pair bond formation following a period of intense courtship at spring staging areas in April and early May, after Canadian trumpeters had migrated (Lockman et al. 1987).

4. The genetics conclusions in the 90-day Finding are based on several errors and omissions, and also do not comply with the DPS policy, which stressed that genetic distinctiveness need not be proven before a group can be deemed discrete when it stated, *"Thus, evidence of genetic distinctiveness or of the presence of genetically determined traits may be important in recognizing some DPS's, but the draft policy was not intended to always specifically require this kind of evidence in order for a DPS to be recognized*."

The Finding attempts to build the case that not enough time could possibly have elapsed for the morphology, behavior, or genetics of Tri-state trumpeters to have become distinctly different from those

of other Trumpeter Swan flocks. The Finding's argument starts with the unsupported speculation that no significant differences existed among trumpeters before the mid-1800's, and then confuses the fundamental biological concepts of generation length (not calculated) and maximum individual longevity (24+ years) to conclude that the Tri-state Population has had only 6 or 7 generations (150/24+) in which divergence could possibly have occurred. The Finding omits any mention of the severe bottlenecks experienced by both the Tri-state and Canadian trumpeters that could have accelerated their divergence through founder effect and drift (Gale et al. 1987, Pelizza and Britten 2002). In addition, the Finding omits reference to the peer-reviewed publication by Pelizza and Britten (2002), which was supported by the Service, co-authored by one of their employees, available before the Finding was published, and which found statistically significant genetic differences between Tri-state and Alaskan trumpeters. This research directly refutes the Finding's speculation that there has been insufficient time for genetic divergence of the Tri-state trumpeters from other Trumpeter Swan populations.

5. The Finding arbitrarily rules that the major behavioral difference between the Tri-state and Canadian trumpeters (e.g. the Tri-state Population is almost entirely non-migratory while the Western Canada Population is entirely migratory) is *"not a unique behavioral trait within the meaning of DPS policy"*. Migration, or lack thereof, is one of the most fundamental behaviors of avian species, impacting their energetics, habitat use patterns, productivity, and survival; these impacts are clearly evident when the Canadian and Tri-state trumpeters are compared (Gale et al. 1987). The Finding presents no objective rationale for disregarding this fundamental and significant behavioral difference.

6. The Finding's conclusions regarding movements and dispersal of marked trumpeters are based almost entirely upon the unreviewed analysis in the internal report by Dubovsky and Cornely (2002), which contains numerous errors and omissions of data that lead to incorrect conclusions.

Dubovsky and Cornely (2002) analyzed data from Canadian and Tri-state trumpeters marked between 1949-2002 by splitting the data into 5 categories, based upon whether the birds were normal-wild or translocated/captive reared, whether the records came from the Bird Banding Lab (BBL) database or the Service's Pocatello database, and whether swans were translocated in summer or winter. The majority of sightings of these same marked trumpeters have previously been summarized by Gale et al. (1987) and Shea and Drewien (1999). Problems in the Dubovsky and Cornely (2002) analysis are more numerous than we can address in this letter, however we will point out several examples at this time:

a. Dubovsky and Cornely (2002) analyzed the most informative set of birds, the 1,971 normal-wild trumpeters (including about 769 with auxiliary markers) that were marked on nesting areas in 1949-1998, but relied only on BBL records or 1988-2002 data in the Service's Pocatello database. This was a major mistake because neither of those databases contain the thousands of records of neck-band resightings that were made of these birds between 1949-88. The BBL did not accept neckband data in those years and the Service's database contains no records prior to 1988. Thousands of resightings of individually neck-banded birds, including long-term studies of the Wyoming and Grande Prairie flocks and marking studies at Red Rock Lakes NWR, were overlooked by the Dubovsky and Cornely (2002) analysis. It was these marking studies of normal-wild birds, conducted over a 50+ year period, that have provided much of the knowledge of the behavior, and discreteness, of the Tri-state and Western Canada populations. To understand this information, one must either read the individual study reports, read the summary in Gale et al. (1987) that was written with assistance from the original researchers, or dig into the various Canadian Wildlife Service, Red Rock Lakes NWR, or Wyoming Game and Fish auxiliary marker records. Dubovsky and Cornely (2002), and the 90-day Finding, completely ignore these important data.

b. The analysis of 155 Red Rock Lakes normal-wild trumpeters that were marked and released the same day at their nesting area wrongly concluded that none have migrated to Utah. The analyses omit pertinent data, including a 2-year-old female from Red Rock Lakes shot in the swan hunt near Ogden Bay, Utah in November 1985, 2 Red Rock Lakes cygnets that migrated to Utah in November 1992 and were shot in the swan hunt, and a radioed adult from Red Rock Lakes that migrated with its mate to western Colorado and returned through north-eastern Utah in winter 1984-85 (McEneaney 1986 in Gale et al. 1987). A complete review of the original data would be needed to identify all omissions.

c. The analysis of swans captured during summer in the U.S. and translocated to distant release sites is also missing relevant data, particularly the resightings from Utah, such as the 4 Tri-state trumpeters from Grays Lake that migrated to west-central Utah in winter 1989-90 (Engler 1990). Again, a complete review of the original data would be needed to identify all omissions.

d. In the analysis of resightings of swans captured during the winter in the U.S. and translocated to other locations, large amounts of relevant data are also inexplicably missing. Again, it is impossible to detect all the omissions without searching the entire Pocatello database. However, easily detectable omissions include resightings from southern California, southern and western Nevada, Arizona, northern Mexico, southeastern New Mexico, and northern Texas, and hundreds of resightings from Oregon and Utah (Shea and Drewien 1999). The magnitude of omissions indicates that either the Pocatello database has somehow been corrupted or it was improperly queried.

e. The discussion of Tri-state Population trend in Dubovsky and Cornely (2002) is premised upon an erroneous portrayal of changes in the Tri-state fall survey effort since the 1940s. Dubovsky and Cornely (2002) once again wrongly cite Gale et al (1987) when they assert that the fall survey area expanded significantly between 1946-65 and then reference a personal communication as their sole basis for stating that the coverage has remained relatively consistent since 1966. Their portrayal completely contradicts previous reviews of the original survey maps and reports that showed that the survey area was remarkably consistent during the period 1946-65 (Gale et al. 1987) but changed significantly after 1966 as large new areas were included and survey frequency was reduced to once every 3 years during 1968-82 (Gale et al 1987, Lockman et al. 1987, Shea and Drewien 1999). Dubovsky and Cornely (2002) also omitted any reference to the USFWS September 2002 Tri-state Population Survey data, which were available to them and which found a 22% decline in the population since the September 2001 survey.

7. <u>The Finding's analysis regarding differences in control of exploitation, habitat management, conservation status, or regulatory mechanisms in Canada and the U.S. inaccurately describes status in both countries and wrongly concludes that *"essentially no differences in management exist"*</u>.

The Finding wrongly describes the status of trumpeters in the Province of Alberta as "vulnerable" when, in fact, they have been classified as "threatened" since June 2001 and the Province is currently developing a recovery plan. The Finding also errs when it states that "*Neither country has a sport-hunting season specifically for trumpeter swans*" and that the only allowable harvest of trumpeters is by limited quota in Utah and Nevada. In fact, since 1995 the Service has also legalized the harvest of Trumpeter Swans in Montana, where no quota (other than total number of generic swan permits issued) or mandatory examination of harvested birds exists.

Contrary to the Finding, this difference in management has created the paradoxical situation where a bird that is threatened in Alberta, where all swan hunting is prohibited, can be legally harvested in a specifically authorized hunt as it migrates through Montana. Although trumpeter harvest is technically

illegal in the Central Flyway portion of Montana, state monitoring has also documented hunter harvest of trumpeters in the eastern portion of the state during the Tundra Swan hunt, with no measures implemented to halt this illegal harvest.

Legal harvest of trumpeters in Montana can impact Tri-state, as well as Canadian trumpeters (including the threatened Alberta segment). During the 1980s, nesting Tri-state trumpeters were increasing along the East Front of the Rocky Mountains of Montana, near the Tundra Swan hunt zone (Gale et al. 1987). This most northerly extension of the Tri-state Population held the potential to expand and gradually establish a reproductive link across Montana between Tri-state trumpeters and Canadian trumpeters nesting in southern Alberta. After 7 years of legalized Trumpeter Swan harvest, however, Montana's East Slope flock have declined and may have been extirpated (USFWS 1999, 2000, 2001). Although the role that harvest played in their demise can never be known with certainty, the prospects for rebuilding a continuous breeding distribution between the Tri-state and Western Canada populations by reoccupying central Montana nesting habitat are diminished as long as the swan hunt in that area continues.

References

Dubovsky, J. A. and J. E. Cornely. 2002. An Assessment of Information Pertaining to the Status of Trumpeter Swans (*Cygnus buccinator*). Unpublished Report, USFWS, Region 6, Denver, Colorado.

Engler, J. 1990. Status of Trumpeter Swan at Fish Spring National Wildlife Refuge. Utah Birds 6(1):1-12.

Gale, R. S., E. O. Garton, and I. J. Ball. 1987. The History, Ecology and Management of the Rocky Mountain Population of Trumpeter Swans. Unpublished Report, USFWS, Montana Cooperative Wildlife Research Unit, Missoula.

Lockman, D. C., R. Wood, H. Smith, B. Smith, and H. Burgess. 1987. Rocky Mountain Trumpeter Swan Population – Wyoming Flock, 1982-86. Progress Report. Wyoming Game and Fish Department, Cheyenne.

McEneaney, T. 1986. Movements and Habitat Use Patterns of Centennial Valley Trumpeter Swan Population (Montana) as Determined by Radio Telemetry Data. Unpublished Report, USFWS, Red Rock Lakes National Wildlife Refuge, Lakeview, Montana.

Pelizza, C. A. and H. B. Britten. 2002. Isozyme Analysis Reveals Genetic Differences between Three Trumpeter Swan Populations. E. C. Rees, S. L. Earnst and J. Coulson (Eds.) Proceedings of the Fourth International Swan Symposium, 2001. Waterbirds 25, Special Publication 1.

Shea, R. E. and R. C. Drewien. 1999. Evaluation of Efforts to Redistribute the Rocky Mountain Population of Trumpeter Swans. Unpublished Report, USFWS, Office of Migratory Bird Management, Portland, Oregon.

Turner, B. 1987. The Grande Prairie Trumpeter Swan Neck-band Program. Proceedings and Papers of the 10th Trumpeter Swan Society Conference. The Trumpeter Swan Society, Maple Plain, Minnesota.

USFWS. 1999-2001. Fall Trumpeter Swan Survey of the Rocky Mountain Population/U.S. Flocks. USFWS, Red Rock Lakes National Wildlife Refuge, Lakeview, Montana.