



# United States Department of the Interior

FISH AND WILDLIFE SERVICE  
Washington, D.C. 20240



In Reply Refer To:  
FWS/AEA/12909

JUL 30 2003

Mr. Eric Wingerter  
National Field Director  
Public Employees for Environmental Responsibility  
2001 S Street, N.W., Suite 570  
Washington, D.C. 20009

Dear Mr. Wingerter:

This responds to your information quality request dated May 28, 2003, alleging violations of Section 515 of Public Law 106-554, commonly referred to as the Information Quality Act (IQA), with regard to our 90-day finding on a petition to list the Tri-state Area Flocks of the Rocky Mountain Population of trumpeter swans. Notice of our finding was published on January 28, 2003 (68 FR 4221). We concluded in our finding that the petition did not contain substantial information indicating that the flock is a Distinct Population Segment (DPS). Therefore, the flock is not a listable entity under the Endangered Species Act (ESA).

The ESA requires that we provide preliminary administrative findings to determine if the petition contains substantial information to indicate that a species may be warranted for listing. In this specific instance, the petition alleged that the Tri-state Area Flocks constitute a DPS within the meaning of ESA and our Distinct Vertebrate Population Policy published on February 7, 1996 (61 FR 4722). In order to qualify as a DPS a potential population must be determined to be both discrete and significant to the taxon. We determined that there was insufficient information in the petition and our files to support concluding that the Flock was either discrete or significant within the meaning of our policy and the ESA.

We are providing the following information in response to your request. Quotes from your letter are in bold type face.

### Argument

*By relying primarily on a single source not compliant with OMB, Departmental and Service DQA Guidelines--namely the Dubovsky and Cornely Study--the Service has violated the Data Quality Act.*

#### **I. The Dubovsky and Cornely Study**

**1. Issue: The 90-day Finding based the bulk of its conclusions on an internal analysis by**

collected since 1949. The report includes a number of problems that make it an improper data source under the DQA.

**Response:** The 90-day finding made by the Service’s Endangered Species Program was based on much more than the conclusions offered in the Dubovsky and Cornely paper. Rather, it was based on many sources of information, all of which are cited in the finding (**SEE ATTACHED BIBLIOGRAPHY**). The authors, Dubovsky and Cornely, cautioned against drawing strong inferences from much of the data and analyses, including their own, due to concerns about how data were collected. Instead, the data-quality issues raised in the Dubovsky and Cornely paper contributed to our finding that the data currently available on trumpeter swans did not support listing the Tri-state Area Flocks of the Rocky Mountain Population as endangered or threatened. These factors, more than any conclusions presented in the Dubovsky and Cornely document, were considered in making our determination.

**2. Issue: Not subjected to peer-review. At the time the Finding was released, the Dubovsky and Cornely analysis had only circulated within the FWS. It had never been published or submitted for peer review of any kind. Although much of this same body of literature had been summarized more comprehensively in the past, in literature that was rigorously reviewed, FWS chose to use the Dubovsky and Cornely analysis almost exclusively.**

**Reliance on this study runs in contrast to the Department of Interior’s [sic.] guidance for the DQA, which proscribes the use of the “best available science . . . including peer-reviewed studies where available.” The DQA further requires that information be “developed from reliable methods and data sources.” By favoring a non-reviewed report over a body of rigorously reviewed studies, the *Finding* violates the DQA.**

**Response:** The Dubovsky and Cornely document includes results and conclusions from numerous articles available in the literature (41 total citations). Thus, many of the statements in the document are simply a reiteration of data available, or conclusions already reached by the authors, in the original papers. In reviewing the information available, Dubovsky and Cornely concluded that much of it did not result from rigorous monitoring designs (e.g., data came from surveys that had inadequate sampling designs and sample sizes; opportunistic rather than methodical collection of data; and lack of statistical tests to ascertain the likelihood of improbable outcomes). Hence, they believed that strong inferences could not logically be made from much of the data. In fact, most of the information regarding trumpeter swans is available in the “gray” literature – reports from agencies, individuals, or proceedings from meetings – and not from peer-reviewed scientific journals.

The Dubovsky and Cornely paper was a Service document. It was requested by the Region 6 Endangered Species Program from the Region 6 Migratory Bird Division, in order to draw upon the Regional Migratory Bird Division’s knowledge about trumpeter swans, and to utilize the

Division's professional assessment of the data on which management recommendations were being based. The paper was not advanced as a "scientific" document; rather, it was what the authors believed to be a critical, objective assessment of the information available for trumpeter swans. When preparing a preliminary finding, we are obligated under 50 CFR 424.14(b) to review information referenced in the petition, other information in our files and other readily available sources. We are not restricted to reviewing only peer-reviewed, scientific articles. We have the latitude to request and incorporate information from other programs within the Service. Such cross-program cooperation is an important and sometimes necessary step in developing arguments forwarded in listing-petition responses.

**B. Relies on unsupported statements. The report relies on a number of unsupported statements, contrary to standard practice in the scientific community:**

**3. Issue:** On Page 2, paragraph 1, the authors write "No good estimates of abundance exist for any region of North America prior to the 1930's." Here the word "good" is used to wipe out inconvenient anecdotal information. Quantifiable estimates for any species of wildlife rarely exist before the 1930s. However, anecdotal information is nevertheless crucial to an understanding of the historical record and potential abundance. Anecdotal records are usually based on direct observations. The estimates before 1930 for most wildlife species may not lend themselves to statistical analysis, however, that does not mean the estimates are not noteworthy. 90-Day Finding at 2, ¶ 1.

*Response:* We acknowledge that anecdotal information may be useful for some purposes, such as for confirming the presence of an animal in a particular place at a particular point in time. These data could be used to alter survey designs, or to document use of a particular habitat at one point in time. However, such data may not be useful for a rigorous comparison of abundances. We note that PEER acknowledges that there are no quantifiable estimates of swan abundance prior to the 1930s, and that "anecdotal" observations are not amenable to statistical analyses. Yet, an objective, statistical analysis of trends in swan abundance is what the Dubovsky and Cornely paper attempted to achieve with the limited amount of data that lend itself to such analysis. The strength of monitoring programs is dependent on the repeatability (over space and time) of efforts to observe the target organism(s). Sporadic, opportunistic (i.e., anecdotal) observations of organisms, by definition, are not repeated in a consistent manner, and therefore are not amenable to inclusion in analyses like those conducted by Dubovsky and Cornely.

**4. Issue:** On Page 3, paragraph 1, the authors contend "[t]he trumpeter swan was listed in the U.S. Fish and Wildlife Service's (Service) 'Red Book' during the 1960s, due to a limited understanding of its status at the time." Actually, the survival of trumpeters in the 1960's was precarious, and it is likely that Red Book listing was warranted. Here the report makes a generalization on an important subject without citing a single source. 90-Day Finding at 3, ¶ 1.

**Response:** We believe the wording in the Dubovsky and Cornely study appropriately characterizes the state of information during that time. The document neither disputes the Red Book listing, nor does it imply that this listing was not warranted. In fact, the management community (i.e., Federal, state, and provincial conservation agencies and non-governmental entities interested in trumpeter swans) did not know much about the overall status of trumpeter swans in the 1960s. We did have good information about the abundance of nesting trumpeter swans in the Tri-state Area of the United States, but were unsure about how representative the demographics (e.g. changes in abundance, recruitment) of that group were relative to all trumpeter swans. Comprehensive, range-wide surveys for trumpeter swans were not initiated until 1968 (Caithamer 2001). Much of the reliable information on waterfowl abundance was from only the important duck-nesting areas in the north-central United States and Prairie Canada, a relatively restricted area when one considers the potential range for nesting waterfowl. We did have some information about swan abundance from May waterfowl surveys, but those surveys did not (and still do not) cover many areas inhabited by trumpeter swans (e.g., southeastern Yukon Territory, southwestern Northwest Territories, west-central Alberta, and many areas in British Columbia and Alaska). Winter waterfowl surveys are not useful for assessing trumpeter swan abundance because trumpeter and tundra swans cannot reliably be distinguished during aerial surveys. Because we lacked demographic information for this species on a range-wide basis, it was (and is) difficult to ascertain its status during that period. Although not cited in the Dubovsky and Cornely document, the language they used (i.e., ‘due to a limited understanding of its status at that time’) was taken from a previously published Service document (U.S. Fish and Wildlife Service 2001). Thus, the Service believes the wording provided in the Dubovsky and Cornely document is appropriate, and is not biased.

**5. Issue:**        **On Page 3, paragraph 2 the authors state “. . . the historical abundance and range of trumpeters suggest a generally contiguous distribution of the species, likely with a fair amount of mixing of birds from various regions.” Once again, the report does not state a source for this “likely mixing,” a highly significant, and debatable, point. The same paragraph adds, “These populations are defined primarily for management purposes and not in recognition of reproductive isolation or genetic differences.” There is an ample disagreement within the research community on this point and a rigorous assessment would note this. 90-Day Finding at 3, ¶ 2.**

**Response:** We believe that trumpeter swans were more abundant historically than they are today. Various sources (e.g., Banko 1960, Mitchell 1994) have noted a much wider distribution of birds than occurs today, and the take of swan skins by traders suggests this species was much more abundant during the early- to mid-1800s. Wintering areas were perhaps more widely distributed than today (see Mitchell 1994, Gale et al. 1988). Although there is no definitive information in the historical records about the degree to which swans from different breeding areas commingled on wintering areas, we note that swans from different breeding areas currently are sympatric during winter. There is reason to believe that such was the case historically, and that it probably occurred over a broader wintering range. The laws of probability suggest that, as the number of

individuals increase and commingle on wintering areas (where pair-formation can occur, see arguments elsewhere in this response), the likelihood that individuals from different breeding areas would pair increases (provided no behavioral or other mechanisms exist to prevent such a pairing). The authors used the qualifier “likely,” implying that definitive data to support a stronger conclusion are not available. Finally, the statements regarding how “populations” are defined is a statement of the current Service position on this subject, and the source (Trost et al. 2000) was provided in the Dubovsky and Cornely document.

**6. Issue: C. Fails to use accepted methods for information collection. In places, Dubovsky and Cornely make conclusions at odds with the body of history on Trumpeter populations.**

**For example, biologists commonly referred to the trumpeter swans of the tri-state area as a remnant population since the 1930's due to their significance as a distinct, remnant, self-sustaining population of birds. Through the following decades, this terminology was consistently applied. In the 1980s, biologists began to use the term “subpopulation,” still recognizing the distinctness of the tri-state trumpeters from the Interior Canadian “subpopulation.”**

*Response:* The request takes issue with the use of the term “flock” when characterizing the birds nesting in the Tri-state Area. The Service acknowledges considerable debate over the terminology used to describe these birds. In the past, several terms have been used to describe various geographic components of the RMP, including segments, populations, subpopulations, and flocks. There is no consensus on this issue. The Service has taken the position that currently there is insufficient biological evidence to suggest that one term is more appropriate than another, and adopted the term “flocks” for certain aggregations of birds to be consistent with the terminology adopted by the Pacific Flyway Council (U.S. Fish and Wildlife Service, 2001), a group with which the Service has a Memorandum of Understanding to cooperatively manage migratory birds. We believe that the wording in the Dubovsky and Cornely paper is appropriate.

**7. Issue: On page 2, paragraph 1, they write that, “[p]robably due to the take of trumpeters for markets and subsistence, trumpeter abundance was reduced throughout the continent, . . .” 90-Day Finding at 2, ¶ 1. The demise of trumpeter swans due to market hunting is not in question. It is well established among professional biologists to be the major cause. This statement raises doubt where it doesn’t generally exist in the scientific community.**

*Response:* We agree that the likely cause for the overall decline was market hunting, but there are no data to conclusively prove that this activity was the primary cause. Other things could have contributed to the decline in the number of swans, including habitat degradation, increases in predators, etc., and different factors may have been the primary cause in different areas. Thus, we believe the word “probably” is an adequate qualifier.

**8. Issue:** By ignoring historic protocols, the authors come to misleading conclusions. On Page 8, paragraph 3, the authors note, “. . . the total number of birds derived from tri-state stocks was 697 for 2001 (Fig. 11), or 7% higher than the peak number of tri-state nesting birds.” 90-Day Filing at 8, ¶ 3. Combining numbers of High Plains birds with those of the tri-state birds is not common practice among experienced swan managers or biologists because the High Plains birds do not contribute to the productivity or security of the tri-state birds. Adding the High Plains swans to the tri-state swans biases the numbers of birds upwards, so that the overall number of tri-state birds appears higher.

*Response:* The Dubovsky and Cornely document explains the geographical and numerical extent of swans that contained the Tri-state birds’ genome by describing the various restoration attempts for RMP swans. They note that the Malheur National Wildlife Refuge (NWR) in Oregon, the Ruby Lake NWR in Nevada, and High Plains flocks were derived birds translocated from Red Rock Lakes NWR (RRLNWR) and present arguments that High Plains birds do not commingle with swans from Canada, suggesting a fair degree of genomic integrity with the RRLNWR stock. Dubovsky and Cornely were providing information that, through restoration efforts, the genome of the Tri-state birds is now spread over the landscape in these restoration flocks, and were trying only to document how many birds containing the genetic makeup of Tri-state birds exist. Nowhere did they state or argue that the High Plains birds should be considered a part of the Tri-state Area Flocks. In reviewing this information, however, we see no biological reason why the High Plains birds were placed in the IP instead of the RMP. Although they appear not to interact with birds in the Tri-state Area, they are derived from Tri-state stock. We note that previously, some birds transplanted from RRLNWR to Nevada, Oregon, and Washington state were initially labeled as Pacific Coast Population birds, but later were placed in the RMP in recognition of the derivation of the birds and similarity of management issues (Herbert 1992). Some authors and managers e.g., Banko 1960, Page 1974, Mitchell and Shandruk 1992) have thought that birds in the Tri-state Area might be limited by habitat resources, suggesting it may not be possible to increase the number of birds in regions of the Tri-state Area above a certain level. If this is the case, transplanting birds from the Tri-state Area to develop nesting flocks at other, distant sites appears a good conservation strategy to spread out the risk of losing that genetic component as a result of a localized, catastrophic event.

**9. Issue:** Dubovsky and Cornely periodically reject consensus in the scientific community by ascribing common beliefs to a minority. On page 4, paragraph 2, they write that “. . . a few conservation groups are concerned that the trumpeter swans nesting in the tri-state area could be out competed for limited resources by their Canadian counterparts, or experience substantial winter mortality due to severe winter weather.” 90-Day Filing at 4, ¶ 2. While this statement seems intended to trivialize legitimate concerns, it is also misleading. Many interested parties, including the USFWS, Canadian Wildlife Service, the Province of Alberta, State of Idaho and the

**Pacific Flyway, are concerned about these factors and potential winter mortality. FWS has spent hundreds of thousands of dollars over the past 15 years to re-distribute swans to more temperate winter habitat. It has funded hazing, captive rearing, and relocation efforts as well to help solve these problems.**

*Response:* We acknowledge that several groups, including the Service, have expressed concern for the welfare of these birds during winter, where most of the Tri-state flocks inhabit a relatively small amount of real estate. However, the level of concern is not similar among all groups. Some are very concerned that a severe winter-mortality event is imminent, and believe that great effort and expense should be invested to try and rectify the situation. In contrast, some groups believe that no concern is warranted; if the habitat is unsuitable, the birds will relocate (at least temporarily) to habitats that better meet their needs. Although the Service is concerned about the concentrations of wintering birds in the Tri-state Area, it sees no imminent threat to the survival of the trumpeter swans. Rather, the Service prefers to take actions to foster a broader distribution of birds. We believe that doing so will lessen impacts to the habitat by the swans and will lessen the likelihood that resource limitations (if they exist) will result in increased mortality on these winter areas. Therefore, considering the specific wording in Dubovsky and Cornely (“a few conservation groups are concerned that trumpeter swans . . . could be out competed . . . or experience *substantial* winter mortality . . .” [emphasis added]), we do not feel that it is misleading, although we recognize that a better explanation of the range of concern could have been provided.

**D. Makes misleadingly selective use of data. Data pieces that contradict the authors’ thesis are regularly omitted from the Dubovsky and Cornely report.**

**10. Issue:** On page 10, the authors note that “. . . when biologists wish to make inferences about free-ranging, unmanipulated birds, they tend to use only information from normal, wild birds.” “We would expect these birds to behave ‘normally’ . . .” These statements are used to discount observed migrations of Swans into Utah. 90-Day Filing at 10. In 2001, PEER published a white paper titled, “Swan Dive: Trumpeter Swan Restoration Trumped by Politics” which described the fate of 2 cygnets from Red Rocks Lakes NWR killed in Utah. These were “normal, wild birds,” yet the authors ignore their existence. Other swans from the Tri-state area have migrated to their premature death in Utah, yet Dubovsky and Cornely downplay the significance of the migration.

*Response:* This issue involves using a selected group of marked animals to infer “natural” movements of unmanipulated birds. The request contends that by selective screening of data, the Dubovsky and Cornely document “discounts” observed movements into Utah. First, there is a long history of using only birds considered to be “normal” and “wild” when analyzing mark-recapture data. Researchers and managers routinely select only those animals that are minimally

manipulated to make inferences about wild populations. That is the reason for the “status” and “additional information” codes in the database of all bird banding and recovery data, which is maintained by the United States Geological Survey’s Bird Banding Laboratory (BBL). Using those codes, the investigator can select only those animals deemed likely to exhibit “normal” behaviors. However, in addition to patterns of recoveries for these “normal, wild” birds, Dubovsky and Cornely also present recovery information for leg-banded birds that were captured and translocated to other areas or were hand-reared. They also reported on resighting locations of neck-collared birds that were captured during summer or winter in the United States and translocated to distant release sites. However, information from these latter groups of birds are less likely to represent “natural” movements of birds due to the extensive handling associated with the translocation efforts, the release of these birds into unfamiliar surroundings, and in some cases the disruption of family groups. In response to the assertion that two trumpeter swans from Red Rock Lakes National Wildlife Refuge were “ignored” by the authors, the Service found that recovery locations for some birds in the neck-collar database were inadvertently missed, due to an unconventional method for storing neck-collar recovery data (some recoveries were recorded in the banding file, but not in the recovery file). A reexamination of the neck-collar data detected the two swans (30J and 32J). However, these two swans were described in the analysis of the BBL band-recovery data (banded birds 61924708 and 61924710) and were two of the three birds shot or found dead during the hunting season in Nevada and Utah. Thus, although these birds were inadvertently overlooked in the initial analysis of the neck-collar database, the movements of these two birds were not “ignored” in the Dubovsky and Cornely document; they had already been documented in an earlier section.

**11. Issue:        Conversely, on Page 14, paragraph 2, the Finding states that “. . . two U.S.-nesting birds were sighted in Alberta, and 2 birds marked in Grande Prairie summered in the U.S. (Gale et al. 293-294). 90-Day Filing at 14, ¶ 2. We contend that these instances suggest some reproductive intermingling of the Canada and Tri-state Area flocks may be occurring, that gene flow is possible between the groups, and that sampling procedures may simply be inadequate to detect much interchange to date.” Here Dubovsky and Cornely postulate intermixing of breeding populations based on 4 non-breeding birds with great zeal while ignoring more abundant data documenting migration of Trumpeters into Utah.**

***Response:*** Dubovsky and Cornely intended that, because these birds were detected in their non-natal areas (in addition to detection of one mixed Tri-state/Canadian pair), that some intermixing of flocks *may* be occurring and that gene flow *may* be occurring, but that sampling procedures *may* be inadequate to detect much interchange to date. We fail to see how these simple statements exhibit “great zeal” as contested in the request. Further, as noted above, the authors had discussed movements of swans marked in Canada and the United States in a previous section of their report (**INFORMATION FROM BANDING/MARKING PROGRAMS**). The authors already had noted issues regarding marking programs conducted to date (e.g., relatively small sample sizes, undocumented amounts of observer effort), and

cautioned that strong inferences should not be drawn from such data.

**12. Issue:** On page 8, paragraph 2, the authors state: “. . . recent surveys suggest swan abundance is increasing in Montana. If the rate of growth is maintained, the number of swans in Montana will reach 1963-88 levels in approximately 13 years.” 90-Day Filing at 8, ¶ 2. The conclusion is not supported by any analysis of available data and directly contradicts other recently peer-reviewed and published analyses which they ignore. They also ignore the 2002 USFWS Fall Survey of Trumpeter Swans, which revealed a significant loss of Montana swans over the previous winter. It is difficult to see how the “recent surveys” suggest an increase. Given the continued drought and lack of secure wintering habitat in Utah, the prediction that swan numbers will increase in Montana is unsupported by available data.

*Response:* The Dubovsky and Cornely paper looked at the time predicted to reach 1953-88 levels, not 1963-88 levels as stated in the request. In reviewing the data, we find that the average abundance of birds counted during fall in Montana during 1953-88 was 354 birds. We note that the 1953-88 time frame was a period of general decline in these birds, and that Banko (1960:162-163) had suggested that the carrying capacity of the landscape may have been reached during the 1950s (we note also that birds were being supplementally fed during winter, which likely artificially increased the carrying capacity of the natural landscape). The count of swans in Montana during the fall of 2001 was 149 birds, and the regression of fall counts in Montana vs. year for 1993-2001 suggests a 6.9 percent annual rate of growth (Dubovsky and Cornely state 7 percent). Given these numbers, and assuming that growth rate is maintained (an assumption clearly specified in Dubovsky and Cornely), the number of birds in 2014 would be 357. Of course, this analysis relies on some assumptions about the growth rate of these birds and the carrying capacity of the landscape. But clearly the analysis of Dubovsky and Cornely is consistent with the above results. Finally, although the request alleges that Dubovsky and Cornely ignored recently peer-reviewed and published analyses, the request does not specify these publications. Therefore, it is not possible for us to assess the validity of this argument.

Dubovsky and Cornely report did not ignore the 2002 survey because, and as stated in the report, they did not have the results of the September 2002 survey at the time the report was finalized. Thus, the count could not have been included in the analyses they conducted.

**13. Issue:** Dubovsky and Cornely use loaded language to introduce a non-empirical bias. On page 14, paragraph 1, the authors write that, “. . . few of those who voice concern about the status of tri-state swans mention issues related to habitat management at Red Rock Lakes or elsewhere as potential factors influencing swan status.” 90-Day Filing at 14, ¶ 1. Such statements have no place in a “scientific” paper performing an objective analysis.

*Response:* As we stated previously (point I.2., above), the Dubovsky and Cornely was not

purported to be a “scientific” document. Rather, it was a Service document prepared in response to a request from the Region 6 Endangered Species Program to gain the Regional Migratory Bird Division’s perspective on the information on which management decisions for trumpeter swans were being based. This issue contends that Dubovsky and Cornely “use loaded language to introduce a non-empirical bias.” We find sufficient reasoning for the Dubovsky and Cornely statement. Dr. Cornely has been involved with trumpeter swan management, monitoring, and research for 25 years and is a former Board Member of The Trumpeter Swan Society. He has extensive experience with all three recognized trumpeter swans populations. For the last 15 years he has been the Regional Chief of the Division of Migratory Birds for the U.S. Fish and Wildlife Service. Dr. Dubovsky, although only recently involved in trumpeter swans issues, participated in the development of the Trumpeter Swan Implementation Plan (Pacific Flyway 2002), attends all swan subcommittee meetings of the Pacific Flyway Study Committee, and has read swan documents extensively since becoming involved in swan issues over 2 years ago. Both authors state that, until very recently, issues of habitat management for swans at RRLNWR or how swan habitat management may be influencing status of swans have seldom been mentioned at venues they have attended. Rather, discussions have been dominated by arguments about the effects of swan hunts on status, and the need for translocations and hazing to disperse swans wintering in the Tri-state Area.

**14. Issue:** On page 7, paragraph 1, state: “However, during the late 1980s, managers enacted several rather dramatic management actions.” 90-Day Filing at 7, ¶ 1. In reality, these actions were taken by the Service officially, and in conjunction with the Pacific Flyway Council. Calling them “rather dramatic” and ascribing them to a few “managers” adds unnecessary bias, implying that the managers were operating independent of the Service.

**Response:** The request takes issue with the words “rather dramatic” regarding some management actions taken by the Service and others during the late 1980s. The Dubovsky and Cornely document state that those actions included intensive hazing designed to force swans from winter areas where birds were concentrated, extensive translocations of swans from primary wintering areas to alternative wintering sites, and the termination of a 67-year practice of providing feed to wintering swans at RRLNWR (although we note a typographical error; the feeding program occurred from 1935-1992, a 57-year period, not a 67-year period). The authors described those actions as dramatic; we note that such actions are not typically directed at free-ranging migratory birds. Also, they did not attribute them to a “few” managers, as stated in the request. Rather, the authors used only the unquantified term “managers.” The Service sees no intent that the wording in the Dubovsky and Cornely document was selected to mislead readership, or imply that groups were operating independent of the Service.

*Use of the Service’s secondary, back-up source--the Gale et al. Study--  
has been impeached by that source’s lead author.*

## II. The Gale et al. Study

**15. Issue:** The second major study cited in the 90-day Finding was a 1987 study by R.S. Gale, E.O. Garton, and I.J. Ball. This study, cooperatively funded by the Service and the states of Wyoming, Idaho and Montana, and having been peer-reviewed by numerous Service, State and private trumpeter swan biologists, may be considered a “reliable data source” under the DQA. However, FWS misinterpreted the import of the study.

**In a March 7, 2003 letter to FWS Director Steve Williams -- the study’s lead author, Ruth Shea (formerly Ruth Gale) --- details the manner in which the study was misappropriated by the service. See Letter, Ruth Gale Shea to Steve Williams (March 7, 2003), attached as Exhibit A.**

**Response:** The Service does believe that the *data* in that document are reliable (i.e., the data were correctly recorded), and in fact much of it was used or referred to in preparation of the 90-day finding. However, the Service takes exception to several *conclusions* made by the authors, as specified below.

**16. Issue: A. Selecting Data.** Shea notes that the Finding simply ignores Gale et al. when the data do not agree with the Service’s theses. For example, the Finding asserts that trumpeters form pairings “during the fall and winter months,” and that interbreeding between Canadian and Tri-state populations occurs. According to the Shea letter, Gale et al. “concluded that pairing most likely occurred when the populations were apart either during migration or on the breeding grounds.”

**Response:** The request contends that Dubovsky and Cornely distorted the Gale et al. conclusions regarding the timing of trumpeter swan pair formation. The 90-day finding cited Gale et al. (1988) as a source of information that trumpeter swans could pair in fall and winter months. However, the use of this citation was in reference to information contained in the report, and not the conclusions of the authors. For example, the following quotes are taken directly from that document: (page 88) “*Five female and four male trumpeters, transplanted from RRL to Lacreek NWR as cygnets in 1962, were wing-clipped, neck-banded, and kept together in a holding pen. The birds began courtship displays in mid-January 1964, at 20 months of age, and continued intermittently until about mid-March. A less active period of display occurred during late March and continued until mid-April.*”; (page 89) “*Holton (1985) recorded no courtship displays while observing summer nonbreeding flocks in Grande Prairie and concluded that pair formation probably occurred after swans departed in the fall and prior to their return in the spring.*”; “*In Wyoming, pair bond initiation occurred in mid to late winter and through the spring.*”; and “*Although Delacour and Mayr (1945) stated that ‘pair formation in all temperate zone swans occurs in the fall,’ others have observed that pairing can occur in the spring.*” In addition to citing Gale et al. (1988), the 90-day finding also cited Johnsgard (1978) on fall and winter pairing of trumpeter swans.

We were aware of two citations in Gale et al. (1988) regarding the potential for trumpeter swans to pair in the spring. Regarding the study of Turner (1987), Gale et al. (1988:89) state that Turner *suspected* (emphasis added) that pairing occurred when flocks were apart (i.e., spring). The wording, therefore, suggests that a firm conclusion could not be drawn from the data at hand. Furthermore, the Turner (1987) paper based its conclusions on the absence of marked birds from the United States nesting groups associated with birds that were marked on natal areas in Canada. Conclusions from mark-recapture data are greatly influenced by the percentage of birds marked and on the extent of observer effort to resight birds. According to the Bird Banding Laboratory database, not many young swans (i.e., local, hatch-year, second-year birds [the cohorts which may be more likely than older birds to show movements to new areas]) were marked in the United States with a marker that would facilitate resighting birds during the years of Turner's study. If the BBL database accurately reflects the birds that were marked during that time (which we believe it does), the few young birds marked in the United States would result in a low probability of detecting cross-group pairings within these young cohorts, even if we assumed that neckband (marker) retention was very high and mortality of these young birds was low. For this reason, and lacking more information about the amount of effort expended to observe marked birds and the amount of area searched, we deemed that any conclusion of when pairing occurred based on these data would have been overstated.

A second study (Lockman et al. 1987) was cited in Gale et al. as evidence that pairing of swans could occur in spring. However, the BBL database indicates that few Canadian RMP swans were marked during the years Lockman et al. (1987) did their study. Because of this, and because of the relatively small sample of young studied by Lockman et al. (i.e., the 5 sibling groups which equated to 12 birds, acknowledged as a small sample size in Gale et al. 1988:271), we would be hesitant to extend inferences from this small group of birds to the entire Tri-state Area Flocks.

Finally, the following is an excerpt from Gale et al. (1988:90) following a discussion of the papers mentioned above (emphasis added): *"If temporal or behavioral mechanisms exist which prevent pair formation (and thus cross matings) between the Interior Canada and Tristate subpopulations, then these two groups should be recognized and managed as separate populations. If Rocky Mountain trumpeters form pair bonds in a manner favoring selection of a mate from a swan's own natal area, the possibility that the ICSP and TSP are genetically isolated is increased."* Also (page 298), *"As the numbers of wintering Canadian migrants increase in the Tristate area, the odds of pair formation between Tristate and Canadian trumpeters will increase if such pairing is not prevented by subtle social or temporal barriers."* Thus, these statements from Gale et al. do not definitively state that pairing is completely disjunct, spatially, temporally, or behaviorally between RMP flocks. We believe such statements are not consistent with the subsequent conclusions made by Gale et al.

Taking into consideration all of the information above, the Service did not believe that compelling evidence was presented by the petitioners or exists in the literature to conclude that swans nesting in the Tri-state Area pair at times or places completely disjunct from other swans of the RMP. The Service is not contending that **all** pair bonding occurs in the winter or that it does not also

occur at other times. We recognize that pairing of individuals might occur across a relatively large time frame, including late winter and early spring. Also, no information was presented in the petition to indicate that significant behavioral mechanisms exist between Canadian and United States nesting RMP trumpeter swans that would suggest pairing between the groups cannot occur, nor are we aware of any such studies. For these reasons, together with behavior of Anatidae in general, it is the Service's position, as stated in the 90-day finding, (FR 68:4228) that "Pairing of swans generally occurs during the fall and winter months." The Service's conclusions differ from conclusions stated by Gale et al., but we believe the use of Gale et al. as a citation accurately reflects information included in that document.

**17. Issue:** Similarly, the Finding contends that major differences in migration patterns between the two swan populations (i.e., the Canadian population tends to migrate while the Tri-state populations does not) do not constitute "a unique behavioral trait within the meaning of DPS policy." (Federal Register 2003: Vol. 68, No. 18:14). According to the Shea letter, Gale et al. specifically details how migration patterns impacts "energetics, habitat use patterns, productivity, and survival," making migration pattern "one of the most fundamental behaviors of avian species."

*Response:* We acknowledged in the petition finding that there are differences in migration distances traveled between the groups. However, there is no evidence of major differences in mating behaviors provided by the petitioners that would tend to isolate breeding groups, and that current data is insufficient to assess the current level of interchange among the RMP groups. The DPS Policy provides that behavior can be considered as a factor when considering discreteness, but the data on energetics, habitat use, productivity, and survival as it affects the Tri-State Area Flocks was insufficient to justify discreteness under the Act. The petitioners did not provide sufficient information and analyses to support their contention that differences in migration behavior differentially affects demographics of the various nesting flocks comprising the RMP.

**18. Issue: B. Re-interpreting Data.** The Service incorrectly cites Gale et al. to support its conclusion that members of the Tri-state population of trumpeters are likely to interbreed with the Western Canada population (Dubovsky and Cornely, 2002:14). In contrast, the Gale et al. report specifically concluded that "[t]here 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." The Shea letter argues that FWS "wrongly cites" the study, "while omitting any mention of that report's real conclusion."

**In selectively using and misinterpreting the data from the Gale et al. study, the Service violates DQA mandate that Service reports "ensure and maximize the quality, objectivity, utility and integrity" of agency data and information.**

**Response:** The Service notes the conclusion by Gale et al. in the PEER request. However, contrary to the allegation in the request (that on page 14 Dubovsky and Cornely “incorrectly cites” that document to support their conclusion), Dubovsky and Cornely did not cite Gale et al. in support of their conclusion. Rather, Dubovsky and Cornely cite incidences of a mixed pairing and resightings of four individuals (analyses in Dubovsky and Cornely 2002, Gale et al. 1988) and draw their own conclusion. The fact that these sightings occurred is not in dispute. Dubovsky and Cornely provide arguments that monitoring of swans may not have been sufficient to detect mixed pairings, thus explaining the absence of such pairings in the mark/recovery databases. We acknowledge that this conclusion conflicts with that of Gale et al. However, although the conclusion of Dubovsky and Cornely may be different than that of Gale et al., they did not misrepresent the Gale et al. conclusions, as alleged. Finally, the Service notes that the quote used in the PEER request regarding the Shea letter (i.e., that letter “argues that FWS ‘wrongly cites’ the [Gale et al.] study, ‘while omitting any mention of that report’s real conclusion’”) actually refers to a comment Shea made regarding Dubovsky and Cornely’s statements about the timing of pairing, not about potential interbreeding. We have responded to the issue of timing of pairing earlier in this document (see response to point II.16. above).

### **Service Conclusions**

RMP trumpeter swan management is very controversial. The RMP was petitioned to be listed in the late 1980s, and status of the Tri-state Area Flocks has been of concern to stakeholders for a long time. We acknowledge that various groups have strong opinions about how this group of birds should be managed, and that those views often conflict. Inadequate information to draw definitive conclusions about the ecology of these birds and their habitats is one cause of these disagreements. The lack of solid information is an artifact of collecting data without good study designs, precluding our ability to make strong inferences from results. Unfortunately, this leads to different stakeholders drawing different conclusions when looking at the same data. Such debates, if developed constructively, can serve to further our knowledge about these birds by focusing on data needs and designing monitoring programs directed at critical information gaps. We are committed to continuing efforts to enhance the status of trumpeter swans, and will continue to work with our partners to that end.

The Service has conducted an analysis of issues raised in your IQA request. You propose that we withdraw our 90-day finding. However, your allegations do not provide any information that would cause us to revise our conclusion that the petition is not substantial. Based on the above analyses, we see no new information in your request that would lead us to conclude that the Tri-state Area Flocks of trumpeter swan are either discrete or significant to the rest of the taxon within the meaning of the ESA. As a result of our analysis, we find that no correction of information is warranted.

If you are interested in seeking a reconsideration of this response to your IQA request, you may submit an appeal to the Service within 15 business days from the date of this letter and should

warranted.

If you are interested in seeking a reconsideration of this response to your IQA request, you may submit an appeal to the Service within 15 business days from the date of this letter and should contain the following:

- I. Indication that the person is seeking an appeal of an FWS decision on a previously submitted request for a correction of information, including the date of the original submission and date of FWS decision;
- II. Indication of how the individual or organization is an “affected person” under the provisions of the Service’s guidelines;
- III. Name and contact information. Organizations submitting an appeal should identify an individual as a contact;
- IV. Explanation of the disagreement with the FWS decision and, if possible, a recommendation of corrective action; and
- V. A copy of the original request for the correction of information.

Please submit your appeal to:

Correspondence Control Unit  
Attention: Information Quality Request Processing  
U.S. Fish and Wildlife Service  
1849 C Street, NW, Mail Stop 3238-MIB  
Washington, D.C. 20240

Sincerely,



Thomas O. Melius  
Assistant Director - External Affairs

cc: Ralph Morgenweck

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## Attachment

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