Field impressions and other thoughts about Tule Geese (*Anser albifrons elgasi*)

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Ever since I read the article in *American Birds* entitled "The Tule Goose mystery — a problem in taxonomy" (Krogman 1978), I have long wanted to know more about these birds and see them in life. The article included a distant black-and-white image of two larger Greater White-fronted Geese (*Anser albifrons*) with long, thick, and dark necks, the caption reading "White-fronted Geese including possibly Tules." My opportunity to see Tule Geese (*A. a. elgasi*) finally came on 30 November 1999, when Bill and Gary Grenfell kindly took me to the Sacramento Valley National Wildlife Refuges (NWRs) — Colusa, Delevan and Sacramento. This is the heart of the winter range for this distinctive subspecies, and of the estimated three hundred Greater White-fronted Geese we saw, we estimated that a third were Tule Geese. Some 70 of these were at the south end of Colusa NWR, and the remaining 30+ were at Sacramento NWR, Glenn County. We were able to get excellent scope views of many of these birds. My field impressions recorded in my notes later that day were as follows:

> "As advertised these birds were significantly larger than Pacific Greater White-fronts (=*A. a. frontalis*), and we did have several side-by-side comparisons. In addition to the larger size, they were much thicker necked and bigger headed, and the bill was both longer and thicker at the base. Also striking was the darker very dark chocolate-brown coloration about the head and neck. The entire face area was a uniform dark brown color. Combined with the bill size and shape differences and larger size, these were the best differences. A few other differences were also noted. The white face or 'front' was more obvious on the Tule Geese. This was no doubt mostly due to the darker head, but I did also note that the base of the maxilla (proximal to the nostril) was whitish too. The bills on the Pacific Greater White-fronts seemed to be a uniform pink color. Also, all of the Tule Geese had white 'fronts', even a number of the immatures. I saw no trace of white feathering on several young Pacific White-fronts. About 40-50% of the Tule Geese showed thin, but seemingly complete orange-buff eye rings. I felt the wing flaps of the Tule Geese (in flight) were slower. Also, as advertised the Tule Geese were less out in the open (at least most of them) and were often partly hidden in the grass and tules. If there were White-fronted Geese out fully in the open, they were usually Pacifics. We actually saw the Tule Geese consuming the tubers of the tules."

Figure 1. Tule Goose (*A. a. elgasi*) at Sacramento National Wildlife Refuge, Glenn Co., on 2 November 2003. Note the long, stout and very dark brown neck and head in strong contrast to the white "front" (feathering around the base of the bill).
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During the winter of 1977-78, while working at Delevan NWR on a study of lead shot ingestion by geese killed by waterfowl hunters, Bill Grenfell (pers. comm.) observed a significant difference between gizzard sizes of Tule and Pacific Greater White-fronted Geese. Grenfell recalls Tule Goose gizzards being the size of a human fist. This was subsequently confirmed by Dan Connelly (*fide* B. Grenfell) who was also involved in that study. In unpublished data, Connelly noted that Tule Goose gizzards were at least twice, sometimes three, times the size of those of Pacific Greater White-fronts. He also noticed differences in food habits. While Pacific Greater White-fronts ate mostly cultivated rice (*Oryza sativa*), Tule Geese favored alkali bulrush (*Scirpus robustus*).

My next chance to observe Tule Geese came on 2 November 2003 when I joined Ed Harper and his friends on an American River College field trip to Sacramento NWR. There we had the opportunity to carefully study two

Figure 2. Pacific Greater White-fronted Goose (*A. a. frontalis*) at Sacramento National Wildlife Refuge, Glenn Co., on 2 November 2003. See discussion in text and compare to Figure 1.

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Tule Geese. I was able to take a digital photo (Figure 1) and shortly thereafter photographed Pacific Greater White-fronted Geese for comparison (Figure 2). Again, I was impressed by the long, thick and dark brown neck that sharply contrasted with the white frontal shield. Not only did the bill length impress me, but the bill depth at the base was also impressive. On neither occasion was I able to ascertain whether the black markings on the under parts were sparser, apparently an average difference in *elgasi*. This character is difficult to ascertain on swimming birds, however, which is for the most part what we were dealing with. On neither occasion were we able to detect any vocal differences between the two subspecies, but possibly the Tule Geese were silent (most were not seen in flight).

These are my only field experiences with this subspecies, but I was left both times with the clear impression that they can be separated in the field, especially if both subspecies (*frontalis* and *elgasi*) are available for comparison.

FURTHER THOUGHTS

As I started reading about Greater White-fronted Geese subspecies, I immediately got thoroughly confused. The situation is really a nomenclatural quagmire, with much disagreement about the systematics and how many subspecies should be recognized as well as to which populations the scientific names should apply. There is even a disagreement about the

spelling of one of the races (*A. a. gambelli*). Some (e.g. Ely and Dzubin 1994- citing R. Banks as the authority) spell it with only one "l," hence *gambeli*. Complicating matters is that most of the subspecies were described from type specimens taken on the wintering grounds or on migration, rather than from the breeding grounds. In fact, it is remarkable that the breeding grounds for *elgasi* were unknown until very recently (see Takekawa 2005). We have all heard about how long it took to find the nest of a Black Swift (*Cypseloides niger*), or a Bristle-thighed Curew (*Numenius tahitiensis*), but these geese proved to be even more elusive in revealing their nesting grounds and thus well deserve being termed "birds of mystery."

Some authorities (Bellrose 1980, Sinclair et al. 2003) continue to use the name *gambelli* for the Tule Goose, but Hartlaub's (1852) type specimens for that subspecies were apparently taken in Texas, well to the east of the winter range of the Tule Goose as here defined. The existence of darker birds wintering in California have been known for nearly a century (Swarth and Bryant 1917), but assigning them to a race (*gambelli*) whose description is based on birds collected from Texas was likely an error. Delacour and Ripley (1975) proposed a new subspecies name, *elgasi*, for the darker California birds, which have since proved to breed just to the south of the Alaska range and north of Cook Inlet (see Takekawa 2005). In the 35th supplement to the Check-list of North American Birds (AOU 1985), there is a provocative addition to the 6th edition of the Check-list (AOU 1983):

> "p. 66. In "Notes" section of *Anser albifrons,* add: . . .There is evidence that the large form breeding (presumably) in the Cook Inlet area of southern Alaska and wintering in the Sacramento Valley of California represents a distinct subspecies group, *A. a. elgasi* Delacour and Ripley, 1975 (Tule Goose), differing from *A. albifrons* behaviorally, ecologically and morphologically (Krogman, 1978, Am. Birds, 32, pp. 164-166; Krogman, 1979, *in* Jarvis & Bartonek, Symposium on Management and Biology of Pacific Flyway Geese, Northwest Section, The Wildlife Society, Corvallis, Oregon, pp. 22-43; and Bauer, 1979, *loc. cit.,* pp. 44-55), the differences noted for *elgasi* are large enough that investigation of whether or not it deserves recognition as a full species is in order."

The wording has been only slightly modified for the 7th edition of the Check-list (AOU 1998). Thus, for now at least, the AOU endorses *A. a. elgasi* as the appropriate scientific name for what are here considered Tule Geese, the large, dark birds breeding in south-central Alaska and wintering in the Sacramento Valley.

Even the more recent popular literature is confusing. For instance in the relatively recent photographic guide to waterfowl (Ogilvie and Young 1998), the English name of Tule Greater White-fronted Goose is used for the subspecies *A. a. gambelli* and the name of Elgas's Greater White-fronted

Goose is applied to *elgasi*. None of the photos in that guide are of the large and dark necked *elgasi*. In fact there are very few published photos and few illustrations of *elgasi*, a complicating factor in learning how to identify these birds. The well used waterfowl guide by Madge and Burn (1988) doesn't illustrate *elgasi* (or *frontalis*). Some early field guides (Hoffman 1927, Peterson 1941) made passing mention of the Tule Goose (as *gambeli*), but did not illustrate it. Current field guides for the most part have not illustrated or discussed the distinctive Tule Goose. The only two currently popular guides that have illustrated it are Sibley (2000– wherein it is referred to as the "taiga" race) and National Geographic Society (1999 – referred to as *elgasi*).

It is probably a good idea when learning about the various subspecies to learn first the distribution of each, where it breeds, where it winters, and its migration routes. Information on banding recoveries presented in Ely and Dzubin (1994) indicates a roughly 99% accordance between the breeding and winter grounds (e.g. only 1% deviation or so are from the expected population). This means that while vagrants from one subspecies do occasionally turn up in the range of another subspecies, the overwhelming majority of White-fronts at any given location should be of the expected subspecies, the ranges of which are now pretty much known (e.g., see discussion in Takekawa 2005).

The old axiom, "when you hear hoof beats, think horses, not zebras," can be loosely applied to Greater White-fronted Geese. Don't make it more complicated than it is. When one looks at the breeding ranges of the various North American populations, birds breeding north of the Alaska Range take a more easterly route while migrating in a general southerly direction. Thus the populations breeding in northern Alaska and northwestern Arctic Canada, migrate south through the central Great Plains. These birds are recognized by some as *gambelli*. The birds (*frontalis*) that breed in western Alaska (Yukon Delta) winter in large numbers in the Central Valley of California, while *elgasi*, breeding south of the Alaska Range, winters in the Sacramento Valley. Gibson and Kessel (1997) in their inventory of the species and subspecies of Alaska birds adopt this treatment, and simply describe *gambelli* as large and pale, *frontalis* as small and pale, and *elgasi* as large and dark. This means that from a Central Valley perspective, you are comparing the largest and darkest birds (*elgasi*) to the smallest and palest (*frontalis*). Under this arrangement of scientific names and ranges there are still complexities to be resolved. For instance the relationship of darker birds from the Old Crow Flats in the northern Yukon Territory, described by Elgas (1970), remains in doubt. Sinclair et al. (2003) indicate that recent studies on molting birds there (including molecular data) indicate their affinities are with birds from south central (thus *elgasi*) rather than with birds from northern Alaska or the Northwest Territories, but, inexplicably, these authors then state these birds are *frontalis*! They (Sinclair et al. 2003) indicate that additional studies are needed with birds

that are known to be nesting in that region.

No doubt over the next decades revisions on the nomenclature in this species will follow that will hopefully bring clarity to what has been a very murky and confusing subject. In the meantime just enjoy watching these distinctively marked geese that represent one of the world's scarcer birds.

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