

# United States Association of Reptile Keepers

---

## By e-file

Public Comments Processing  
Attn: FWS-HQ-ES-2015-0018  
U.S. Fish and Wildlife Service  
MS: BPHC  
5275 Leesburg Pike  
Falls Church, VA 22041-3803

### **Re: 90-day finding on Egyptian tortoise listing petition**

Dear Ms. Van Norman:

The United States Association of Reptile Keepers (“USARK”) submits this letter in response to the U.S. Fish and Wildlife Service’s (“Service”) positive 90-day finding on a petition to list the Egyptian tortoise (*Testudo kleinmanni*) under the Endangered Species Act (“ESA”). We believe that the best available science supports the listing of this species as threatened and we respectfully request the Service to consider proposing a special 4(d) rule to incentivize captive propagation of the species within the U.S.

USARK is a science-based, non-profit organization representing the full range of people who work responsibly with reptiles, including hobbyists, conservationists, and herpetologists. A core component of our mission is conserving reptiles through educational programs that involve captive animals. These programs offer many people their only connection to wildlife, especially as our society becomes more urbanized and children spend less time in nature.<sup>1</sup> Hands-on interactions with reptiles, including those kept as pets, teach us about empathy, responsibility, and stewardship of the creatures with whom we share this world. USARK promotes these values through our work on captive propagation and education.

#### **I. The Egyptian Tortoise Warrants Listing as Threatened**

As a science-based organization, USARK supports the International Union for Conservation of Nature’s (“IUCN”) finding that the Egyptian tortoise is “critically endangered” in its native range. The species’ range has contracted significantly because of various threats, including urbanization, agriculture, and poaching. There is no direct correspondence, however, between an IUCN Red List finding and an ESA listing. Unlike Red List determinations, ESA listings must consider the five threat factors in section 4(a)(1) of the law. After evaluating past ESA listing decisions and the law’s best available science mandate, USARK believes that the tortoise warrants listing as “threatened.”

---

<sup>1</sup> See Richard Louv, *LAST CHILD IN THE WOODS: SAVING OUR CHILDREN FROM NATURE-DEFICIT DISORDER*, Algonquin Books (2008).

***a. The Service Has Generally Listed Species as Endangered in Only Four Situations***

The ESA defines an endangered species as “any species which is in danger of extinction throughout all or a significant portion of its range” and a threatened species as one “which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.”<sup>2</sup> Although the statute does not define “in danger of extinction,” the Service has interpreted this phrase to mean that a species must be “on the brink of extinction in the wild.”<sup>3</sup> The Service’s only attempt to systematically explain this concept was in a supplemental memo to the U.S. District Court for the District of Columbia in litigation challenging the listing of the polar bear as threatened.<sup>4</sup> The memo explained that “the practice of the Service over the past four decades has been remarkably consistent” and that “species that the Service has determined to be in danger of extinction, and therefore appropriately listed as endangered, generally fall into four basic categories,” which we summarize below.

- *Species facing a catastrophic threat from which the risk of extinction is imminent and certain.* The threat must be both catastrophic and imminent. The Service cites the example of the snail darter, which was known to occur in only a stretch of the Little Tennessee River that was slated to be inundated by the impounded waters of a dam. The completion of the dam threatened “total and virtually immediate obliteration of the species.” The snail darter faced “catastrophic threats that were both imminent and certain.”
- *Narrowly restricted endemics that, as a result of their limited range or population size, are vulnerable to extinction from elevated threats.* This category applies to species whose vulnerability to threats has increased beyond natural levels to the extent that they are currently on the brink of extinction as a result of their limited ranges and population sizes. Thus, in the absence of increased threats, rarity or extremely limited ranges alone do not necessarily require listing as endangered or threatened. The Service had in mind “localized endemics” like the Devil’s Hole pupfish, which lives in a single sinkhole in the southern Nevada desert and is vulnerable to extinction from even a minor drop in groundwater level. Another example is *Phyllostegia hispida*, a plant known only from 24 individuals in a small, remote area of Hawaii, whose habitat was being significantly affected by feral pigs.
- *Species formerly more widespread that have been reduced to such critically low numbers or restricted ranges that they are at a high risk of extinction due to threats that would not otherwise imperil the species.* Range reduction in and of itself does not necessarily mean that a species is in danger of extinction. A severe range reduction combined with ongoing threats, however, can put a species on the brink of extinction. Well-known examples include California condors, black-footed ferrets,

---

<sup>2</sup> 16 U.S.C. § 1532

<sup>3</sup> U.S. Department of Interior, *Supplemental Explanation for the Legal Basis of the Department’s May 15, 2008, Determination of Threatened Status for Polar Bears* (Dec. 22, 2010).

<sup>4</sup> *Id.*

whooping cranes, and many vernal pool species. The extinction of the condor was averted only because the few remaining wild condors were brought into captivity to form a captive breeding and reintroduction program. The black-footed ferret was formerly found throughout the midwest and western states, but by the late 1970s, it was thought to have gone extinct. Ultimately, a single small colony was discovered in Wyoming in 1981 on a privately owned ranch. These animals were left on the ranch where they were closely monitored until a plague and canine distemper outbreak caused population numbers to plummet to 18 individuals. In the case of the vernal pool species in California, over 95 percent of vernal pool habitat has been lost to development and other factors. In many cases, plant and animal species endemic to these vernal pools had become so restricted in their ranges—some even restricted to a single vernal pool complex—that they were highly vulnerable to a multitude of threats.

- *Species with still relatively widespread distribution that have nevertheless suffered ongoing major reductions in their numbers, range, or both, as a result of factors that have not been abated.* Examples include the red-cockaded woodpecker and the Indiana bat. The woodpecker was formerly a common bird distributed continuously across at least 12 states in the southeastern United States. But by the time it was listed, the species had declined to fewer than 10,000 individuals in widely scattered, isolated, and declining populations. This precipitous decline, caused by an almost complete loss of its primary longleaf pine habitat, resulted in the species being currently “on the brink of extinction” because of reproductive isolation, and demographic threats resulting from only small, isolated populations remaining.

The memo explains that “threatened species typically have some of the characteristics of the fourth category above, in that they too have generally suffered some recent decline in numbers, range, or both, but to a less severe extent than endangered species.... Even species that have suffered fairly substantial declines in numbers or range are sometimes listed as threatened rather than endangered, such as the desert tortoise, northern spotted owl, and the southwest distinct population segment of the northern sea otter.”

The Service has applied this memo in several recent decisions to list species as threatened. One example is the April 2, 2015 final rule to list the northern long-eared bat as threatened, thus rescinding the October 2013 proposed rule to list it as endangered.<sup>5</sup> The final rule cites the polar bear memo, explaining that the bat “resides firmly in [the fourth] category where no distinct determination exists to differentiate between endangered and threatened.” As a result, the Service’s threatened finding was “guided by the best available data on the biology of this species, and the threat posed by white-nose syndrome (WNS).” Despite precipitous declines across much of the species range—especially the east, where rates of decline have been as high as 99 percent in hibernating populations—the Service listed the species as only threatened. Among other reasons, the Service explained that “the species still persists in some areas impacted by WNS, thus

---

<sup>5</sup> Endangered and Threatened Wildlife and Plants; Threatened Species Status for the Northern Long-Eared Bat With 4(d) Rule, 80 Fed. Reg. 17, 974 (Apr. 2, 2015).

creating at least some uncertainty as to the timing of the extinction risk posed by WNS” and that “WNS has not yet been detected throughout the entire range of the species, and will not likely affect the entire range for some number of years (again, most likely 8 to 13 years).” Thus, despite the probable spread of fatal WNS across the bat’s entire range within 13 years and the absence of a proven cure for the disease, the Service found that the species was not presently in danger of extinction.

Another example is the April 2014 final rule to list the lesser prairie-chicken as threatened.<sup>6</sup> There, the Service found that:

The best available information indicates that, while there have been major range reductions (84 percent) as a result of factors that have not been abated (cumulative habitat fragmentation and drought), there are sufficient stable populations such that the species is not on the brink of extinction.... As a result, it is unlikely that a single stochastic event (e.g., drought, winter storm) will affect all known extant populations equally or simultaneously; therefore, it would require several stochastic events over a number of years to bring the lesser prairie-chicken to the brink of extinction due to those factors alone.... [Further], the threats to the species are not likely to impact all remaining populations significantly in the near term because these activities either move slowly across the landscape or take several years to plan and implement.

Thus, even an 84 percent range contraction does not warrant an endangered listing where enough populations remain to buffer against immediate extinction. Further, where threats to the species have gradual effects that do not impact all populations simultaneously (unlike with the snail darter), those threats are not so “imminent” as to place the species “on the brink of extinction.”

***b. The Egyptian Tortoise Does Not Fit Any of the Four Categories Warranting an Endangered Finding***

Nothing in the listing petition even remotely suggests that the tortoise falls under the first three categories. First, the species is not facing a catastrophic threat from which the risk of extinction is imminent and certain. Habitat loss, predation, disease, and overutilization of the tortoise have been occurring for decades and manifest gradually rather than as “total and virtually immediate obliteration of the species” as with the snail darter. Habitat loss, for example, occurs through “chain reaction” resulting from overgrazing and overbrowsing.<sup>7</sup> Second, the species is not a narrowly restricted endemic that is vulnerable to extinction from elevated threats. Unlike the Devil’s Hole pupfish and other endemic species that have always been confined to a single pool or several acres of unique habitat, the Egyptian tortoise still occurs in at least Libya and Israel,

---

<sup>6</sup> Endangered and Threatened Wildlife and Plants; Determination of Threatened Status for the Lesser Prairie-Chicken, 79 Fed. Reg. 19974 (Apr. 10, 2014).

<sup>7</sup> Friends of Animals, Petition to List the Egyptian Tortoise (*Testudo kleinmanni*) Under the Endangered Species Act (2014), 12 (“Tortoise Listing Petition”).

spanning approximately 6,410 square miles. Third, the species has not been reduced to such critically low numbers or restricted ranges that it faces a high risk of extinction from threats that would not otherwise imperil the species. According to the listing petition, the tortoise is still found in two geographically distinct regions in Libya and parts of the Negev Desert in Israel. Within these areas, tortoises number 7,470 individuals, of which approximately 5,000 are mature individuals.<sup>8</sup> By contrast, the California condors, black-footed ferrets, whooping cranes, and many vernal pool species numbered well under 100 individuals (or were restricted to a single site) at the time of listing as endangered. Compared to those species, the Egyptian tortoise exhibits considerably more resiliency, redundancy, and representation—the three factors the Service now uses to evaluate extinction risk in listing and delisting decisions.<sup>9</sup>

While the fourth situation is a closer call, the best available scientific data suggest that the status of the Egyptian tortoise is more similar to that of the northern long-eared bat and lesser prairie-chicken than to the red-cockaded woodpecker. Unlike the woodpecker—which was on the brink of extinction because of demographic threats resulting from small, isolated populations—there are inadequate data to reasonably infer that threats to the Egyptian tortoises would have equally drastic demographic effects within the foreseeable future. As explained earlier, thousands of adult tortoises still occur across at least three distinct geographic areas, thus creating some redundancy and resiliency to buffer against stochastic and deterministic threats. And as we will explain later, successful captive assurance colonies exist throughout zoos and private collections in the U.S. and Europe—a safeguard not available to the woodpecker, condor, or ferret at the time of their listing.

In deciding whether to list the Egyptian tortoise as threatened, we recommend the Service compare the species to the lesser prairie-chicken. Although both have declined by approximately 85 percent from historical baselines, neither faces the type of imminent threat that places it on the brink of extinction. Habitat loss and fragmentation have been incremental for both species, and “fairly good habitat patches still exist in Libya” according to the IUCN.<sup>10</sup>

Comparisons to the northern long-eared bat are also apt. The Service expressed “uncertainty as to the timing of the extinction risk posed by WNS” and that it “will not likely affect the entire range for some number of years (again, most likely 8 to 13 years).”

---

<sup>8</sup> IUCN Red List Summary for Egyptian Tortoise (*Testudo kleinmanni*), [www.iucnredlist.org/details/21652/0](http://www.iucnredlist.org/details/21652/0)

<sup>9</sup> See, e.g., U.S. Fish and Wildlife Service, *Draft Species Status Assessment Report New Mexico meadow jumping mouse (Zapus hudsonius luteus)*, May 30, 2013 (“[W]e evaluate the current status and future viability of the species in terms of resiliency, redundancy, and representation. Resiliency is the ability of the species to withstand stochastic events and, in the case of the jumping mouse, is best measured by habitat size. Redundancy is the ability of a species to withstand catastrophic events by spreading the risk and can be measured through the duplication and distribution of resilient populations across the range of the jumping mouse. Representation is the ability of a species to adapt to changing environmental conditions and can be measured by the breadth of genetic diversity within and among populations and the ecological diversity of populations across the species range.”)

<sup>10</sup> IUCN Red List Summary for Egyptian Tortoise.

Similarly, there is little credible information on the timeframe over which threats to the Egyptian tortoise will manifest. Factors such as pace of human settlement, overgrazing, and agricultural expansion across the range of the Egyptian tortoise are not described with any specificity in the listing petition. Even if those trends were detailed, information about how such threats actually affect tortoise populations remains unclear. When confronted with such uncertainty, the Service often refrains from speculating about the impact of threats on species viability. In a recent example, the Service withdrew a proposed rule to list a distinct population segment of the wolverine in the contiguous U.S.<sup>11</sup> The primary reason was “uncertainty in how climate change will affect wolverine habitat and population persistence.” Thus, the question was not *whether* climate change is occurring in the U.S., but “*how* fine-scale changes in snow patterns may affect population viability.”<sup>12</sup> Given the “variety of fine-scale local factors that determine where wolverines den, the quality of den sites, and how wolverines use the landscape,” the Service lacked “a clear understanding of how changes in snowfall will affect wolverine habitat quality and ultimately population viability and persistence.”<sup>13</sup> The same is true for understanding how the viability of the tortoise is affected by land use activities within the regions of Libya and Israel where the tortoise occurs.

Equally unclear is how the species will be impacted by any future demand for *wild-caught* tortoises. Even according to the listing petition, “today’s demand in the Egyptian tortoise on the international pet market seems to be met mostly through *captive-bred individuals*...”<sup>14</sup> Although the petition states that captive breeding “might also encourage a black market for illegal activities,” it provides no data or citations to support this speculation. Thus, the magnitude of any illegal harvest in the future is unclear.

For all the reasons described above, we believe that threats to the tortoise are severe enough to warrant listing as threatened but not so severe as support an endangered finding at this time. Through the polar bear memo, the Service has provided a framework for distinguishing between threatened and endangered species. Nothing about the tortoise suggests that it falls within any of the first three categories in the polar bear memo—imminent and catastrophic threat, narrowly restricted endemic, or depletion to critically low numbers such that unabated threats would place the species on the brink of extinction. The fourth category is a closer call but ultimately inapt based on our comparison to the listing decisions for the northern long-eared bat, lesser prairie-chicken, desert tortoise, northern spotted owl, and the southwest distinct population segment of the northern sea otter.

***c. Successful Captive Propagation of the Egyptian Tortoise Further Supports Only a Threatened Listing***

---

<sup>11</sup> Endangered and Threatened Wildlife and Plants; Threatened Status for the Distinct Population Segment of the North American Wolverine Occurring in the Contiguous United States; Establishment of a Nonessential Experimental Population of the North American Wolverine in Colorado, Wyoming, and New Mexico, 79 Fed. Reg. 47522 (Aug. 13, 2014).

<sup>12</sup> *Id.* (emphasis added)

<sup>13</sup> *Id.*

<sup>14</sup> Tortoise Listing petition, pg. 17 (emphasis added).

Unlike most imperiled species, the Egyptian tortoise benefits from robust captive propagation efforts. While the focus of an ESA listing analysis is on wild populations, captive assurance colonies can help secure the existence of the species, particularly against unforeseen catastrophes that may affect wild populations. Further, captive propagation often can contribute to reintroduction programs, as has occurred with the tortoise. The Service considers these efforts under section 4(b)(1)(A) of the ESA, which requires the agency to take “into account those efforts, if any, being made by any State or foreign nation, or any political subdivision of a State or foreign nation, to protect such species, whether by predator control, protection of habitat and food supply, or other conservation practices, within any area under its jurisdiction, or on the high seas.”

The Association of Zoos and Aquariums (AZA) studbook for the tortoise currently lists 130 animals held across 28 institutions (20 belonging to AZA facilities and another 8 with private individuals or organizations).<sup>15</sup> The first recorded captive hatching of an Egyptian tortoise in a U.S. zoo occurred in 1995. Since then, 323 animals have hatched from adult animals recorded in the studbook, and 110 of those were from private collections. Overseas conservation programs, both in situ and ex situ, have also succeeded to varying degrees. The Dutch–Belgium Turtle and Tortoise Society and the European Studbook Foundation (ESF) have collected 7457 Euros since 2008 for in situ recovery projects in Egypt. Further, during the past two decades, Sherif and Mindy Baha El Din have taken conservation initiatives for the Egyptian tortoise, with help from the ZSL London Zoo and the United Kingdom based Tortoise Trust.<sup>16</sup> Mindy passed away in March, 2013. Her husband, Sherif, is still a strong advocate for conservation of Middle Eastern herps. The attached documents provide additional information on in situ and ex situ conservation efforts for the species that were overlooked in the listing petition.

## **II. If the Service Lists the Egyptian Tortoise as Threatened, it Should Propose a Special 4(d) Rule Exempting Captive Propagation and Interstate Commerce and Transport of the Species Within the U.S.**

If the Service lists the tortoise as threatened, it should propose a special 4(d) rule that exempts activities associated with captive propagation of the species within the U.S. We recognize that the Service is still many months away from deciding whether listing is warranted and, if so, whether a special rule is necessary and advisable to help conserve the species. Nonetheless, we respectfully request the Service to consider our perspectives on a potential special rule at this time and would be pleased to resubmit these comments at a later time if necessary.

Our proposed exemption would facilitate the exchange of captive tortoises among zoos and private keepers, thus helping to secure the future of the captive assurance colonies in the country. We realize that the Service may be concerned about captive

---

<sup>15</sup> Personal communication, Barry Downer, Curator of Herpetology and Aquatics at the Tulsa Zoo.

<sup>16</sup> Baha El Din et al., The status of *Testudo kleinmanni* and *T. wernerii* in Egypt. *Chelonian Conservation* 4: 648–655 (2003).

breeding creating a black market for illegally acquired tortoises smuggled from other countries. To our knowledge, however, there are no records of Service confiscations of the species after 1999 and only 2 after 1995 (one in 1999 and another one in 1998 that remains questionable). Indeed, there are no records of imports to the U.S. after 1996. Put simply, the U.S. is not a driver of illegal trade of the species, and a 4(d) exemption limited to U.S. animals poses no threat to wild populations.

There is ample precedence for granting such an exemption for the Egyptian tortoise. The Service has granted exemptions for captive propagation or interstate commerce of at least 16 other species, including the ones listed below.

| <b>Primates</b><br>50 C.F.R. 17.40(c) | <b>Other mammals</b><br>50 C.F.R. 17.40(k) | <b>Birds</b><br>50 C.F.R. 17.41(c) |
|---------------------------------------|--|------------------------------------|
| Black howler monkey                   | Canada Lynx                                | Salmon-crested cockatoo            |
| Chimpanzee                            |  | Yellow-billed parrot               |
| Formosan rock macaque                 |  | White cockatoo                     |
| Gelada baboon                         |  |                                    |
| Japanese macaque                      |  |                                    |
| Lesser slow loris                     |  |                                    |
| Long-tailed langur                    |  |                                    |
| Philippine tarsier                    |  |                                    |
| Purple-faced langur                   |  |                                    |
| Stump-tailed macaque                  |  |                                    |
| Toque macaque                         |  |                                    |
| White-footed tamarin                  |  |                                    |

For the 12 primate species, the special rule applies to “any live member of such species held in captivity in the United States on the effective date of the final rulemaking, or to the progeny of such animals, or to the progeny of animals legally imported into the United States after the effective date of the final rulemaking,” provided a person can document that the animal was captive before the special rule became effective.<sup>17</sup>

The special rule for the Canada lynx is similar, stating that “you may take lawfully obtained captive lynx without a permit” and “may deliver, receive, carry, transport, ship, sell, offer to sell, purchase, or offer to purchase in interstate commerce captive lynx and captive lynx parts and products in accordance with State or tribal laws and regulations.”<sup>18</sup> Imports and exports are also allowed “provided the specimens are tagged with Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) export tags and/or accompanied by a valid CITES export permit.”

<sup>17</sup> 50 C.F.R. 17.40(c).

<sup>18</sup> 50 C.F.R. 17.40(k).

The special rule for the three bird species provides that “except where use after import is restricted under § 23.55 of this chapter, you may deliver, receive, carry, transport, or ship in interstate commerce and in the course of a commercial activity, or sell or offer to sell, in interstate commerce the species listed in this paragraph (c) without a permit under the Act.”<sup>19</sup> For the yellow-billed parrot, the Service reasoned that:

We have no information to suggest that interstate commerce activities are associated with threats to the yellow-billed parrot or will negatively affect any efforts aimed at the recovery of wild populations of the species. Therefore, because acts in interstate commerce within the United States have not been found to threaten the yellow-billed parrot, the species is otherwise protected in the course of interstate commercial activities under the incidental take provisions and foreign commerce provisions contained in 50 CFR 17.31, and international trade of this species is regulated under CITES, we find this special rule contains all the prohibitions and authorizations necessary and advisable for the conservation of the yellow-billed parrot.<sup>20</sup>

We believe that a special rule for the Egyptian tortoise, identical in scope to the one for the three bird species and the Canada lynx, is “necessary and advisable” for the conservation of the species. As noted earlier, trade and confiscation data indicate the complete absence of imports of Egyptian tortoises into the U.S. since the mid-1990s. As with the yellow-billed parrot, there is “no information to suggest that interstate commerce activities are associated with threats” to the tortoise or “will negatively affect any efforts aimed at the recovery of wild populations of the species.” To the contrary, an exemption will continue to allow U.S. zoos, private breeders and institutions to maintain the current captive assurance colonies by assuring minimally restricted interstate transportation to other assurance colonies is a viable option. This will provide a crucial source of genetic diversity for future captive breeding and reintroduction efforts.

\* \* \* \* \*

Thank you for your time and consideration regarding our comments. USARK strongly supports the conservation of all reptiles and believes that responsible captive propagation can further this goal by educating the public about wildlife and by enhancing captive assurance colonies. Should you have any questions, please do not hesitate to contact me at [President@USARK.org](mailto:President@USARK.org). Have a good day.

Sincerely,



Phil Goss, President, USARK  
United States Association of Reptile Keepers

---

<sup>19</sup> 50 C.F.R. 17.41(c).

<sup>20</sup> Endangered and Threatened Wildlife and Plants; Listing the Yellow-Billed Parrot With Special Rule, and Correcting the Salmon-Crested Cockatoo Special Rule, 78 Fed.Reg. 15624, 15640 (Mar. 12, 2013).

**Attachments:**

1. Attum et al (2007). *Egyptian Tortoise Conservation: A Community-Based, Field Research Program Developed From a Study on a Captive Population*. *Zoo Biology* 26:397-406 (2007)
2. Zwartpoorte, H. (2014). *Captive Breeding the Critically Endangered Egyptian tortoise *Testudo kleinmanni* Lortet, 1883, for an in situ recovery project in Egypt*. *Int. Zoo Yb.* 49: DOI: 10.1111/izy.12075 (2015)
3. Zwartepoorte, Henk (~2013). *The Egyptian tortoise –*Testudo kleinmanni*- a recovery project in Egypt*