

IS “RECOVERED” REALLY RECOVERED?:
“RECOVERED” SPECIES UNDER THE ENDANGERED
SPECIES ACT

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I. INTRODUCTION

The years 2007 and 2008 proved to be banner years for the recovery of threatened and endangered species – at least on the pages of the Federal Register. First, on February 8, 2007, the United States Fish and Wildlife Service (“FWS” or “Service”) published its decision to designate a distinct population segment (“DPS”) of gray wolves (*Canis lupus*) in Minnesota and in the western Great Lakes region and, deeming that DPS sufficiently recovered from risk of extinction, to simultaneously “delist” that population from its list of endangered and threatened wildlife.² Less than a week later, FWS recommended delisting the valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*).³ The following month, FWS announced its decision both to create the Greater Yellowstone Area DPS of grizzly bears (*Ursus arctos horribilis*) and, at the same time, to delist that particular population segment as sufficiently recovered.⁴ Later, the Service announced the potential delisting of the threatened Bliss Rapids snail (*Taylorconcha serpenticola*) and the endangered Utah (desert) valvata snail (*Valvata utahensis*) in the summer of 2007.⁵

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² Final Rule Designating the Western Great Lakes Populations of Gray Wolves as a Distinct Population Segment; Removing the Western Great Lakes Distinct Population Segment of the Gray Wolf from the List of Endangered and Threatened Wildlife, 72 Fed. Reg. 6,052 (Feb. 8, 2007).

³ Initiation of 5-Year Reviews of 58 Species in California and Nevada, 72 Fed. Reg. 7,064, 7,068 (Feb. 14, 2007). The beetle is a medium-sized beetle endemic to the Central Valley of California and found only in association with its host plant, elderberry.

⁴ Final Rule Designating the Greater Yellowstone Area Population of Grizzly Bears as a Distinct Population Segment; Removing the Yellowstone Distinct Population Segment of Grizzly Bears from the Federal List of Endangered and Threatened Wildlife, 72 Fed. Reg. 14,866 (Mar. 29, 2007).

⁵ 90-Day Finding on a Petition to Remove the Bliss Rapids Snail (*Taylorconcha serpenticola*) from the List of Endangered and Threatened Wildlife, 72 Fed. Reg. 31,250 (June 6, 2007); 90-Day Finding on a Petition to Remove the Utah (Desert) Valvata Snail (*Valvata utahensis*) from the List of Endangered and Threatened

Perhaps most compellingly, FWS published its decision to delist the bald eagle (*Haliaeetus leucocephalus*) in the lower forty-eight states on July 9, 2007.⁶ The Service recognized that the bald eagle population in those states has increased from approximately 487 breeding pairs in 1963 to an estimated 9,789 breeding pairs in 2007.⁷ It credited that recovery to various factors, including the reduction in levels of persistent organochlorine pesticides in the environment, habitat protection, and management actions.⁸ The eagle's delisting marked the formal end of a thirty-four year span of protection for the bird under the Endangered Species Act of 1973 ("ESA").⁹

Such delistings, however, did not occur without some controversy. For example, the Western Watersheds Project and other plaintiffs challenged the Service's designation of the DPS for the Yellowstone grizzly bear population by filing a lawsuit in the U.S. District Court for the District of Idaho on June 4, 2007.¹⁰ At the time of the writing of this article, that matter was still pending. Environmental groups enjoyed more immediate success when they sued to force the FWS to "re-list" the Sonoran Desert bald eagle as a distinct population segment.¹¹ This action effectively restored ESA protections to that particular population of eagles.¹²

Further controversy erupted with respect to the Service's efforts to designate a DPS for the gray wolf (*Canis lupus*) in the northern Rocky Mountains and to simultaneously remove that population segment from the list of endangered and threatened wildlife. FWS delisted the DPS on February 27, 2008, but a lawsuit brought by Defenders of Wildlife and other plaintiffs succeeded in obtaining a preliminary injunction that reinstated ESA protections

Wildlife, 72 Fed. Reg. 31,264 (June 6, 2007); 90-Day Finding on a Petition To Remove the Bliss Rapids Snail (*Taylorconcha serpenticola*) from the List of Endangered and Threatened Wildlife; Notice of Document Availability, 73 Fed. Reg. 46,867 (Aug. 12, 2008).

⁶ Final Rule Removing the Bald Eagle in the Lower 48 States from the List of Endangered and Threatened Wildlife, 72 Fed. Reg. 37,346 (July 9, 2007).

⁷ *Id.*

⁸ *Id.*

⁹ 7 U.S.C. § 136; 16 U.S.C. §§ 1531-1544 (2006).

¹⁰ *Western Watersheds Project v. Servheen*, No. 07-cv-243 (D. Idaho June 4, 2007).

¹¹ *Ctr. for Biological Diversity v. Kempthorne*, No. 07-0038-PHX-MHM, 2008 WL 659822 (D. Ariz. Mar. 6, 2008); Listing the Potential Sonoran Desert Bald Eagle Distinct Population Segment as Threatened Under the Endangered Species Act, 73 Fed. Reg. 23,966 (May 1, 2008).

¹² *Ctr. for Biological Diversity v. Kempthorne*, No. 07-0038-PHX-MHM, 2008 WL 659822 (D. Ariz. Mar. 6, 2008).

for those wolves.¹³ On October 14, 2008, in response to the Service's motion that the rulemaking be remanded to it for further action, the District Court for the District of Montana ordered the same and vacated the delisting.¹⁴ Meanwhile, the effort to designate and delist the DPS of gray wolves in Minnesota and in the western Great Lakes region also floundered. On September 29, 2008, the Humane Society of the United States succeeded in convincing the District Court for the District of Columbia to vacate and remand the Service's earlier de-listing decision for those wolves.¹⁵ In response, the Service re-listed the gray wolves of the northern Rocky Mountains and the Great Lakes region on December 11, 2008.¹⁶

Aside from the gray wolves and the Sonoran Desert bald eagle, FWS maintained an impressive pace in 2008 with respect to the proposed delisting of various recovered species. On February 20, 2008, FWS proposed completely removing the brown pelican (*Pelecanus occidentalis*) from the list of endangered and threatened wildlife (currently, it is listed as endangered where it occurs in Mississippi, Louisiana, Texas, along the Pacific coast, and overseas).¹⁷ On

¹³ *Defenders of Wildlife v. Hall*, 565 F. Supp. 2d 1160, 1178 (D. Mont. 2008); Final Rule Designating the Northern Rocky Mountain Population of Gray Wolf as a Distinct Population Segment and Removing This Distinct Population Segment from the Federal List of Endangered and Threatened Wildlife, 73 Fed. Reg. 10,514 (Feb. 27, 2008).

¹⁴ *Defenders of Wildlife v. Hall*, No. 08-56-M-DWM (D. Mont. Oct. 14, 2008) (order granting Defendants' Motion for Voluntary Remand and Vacatur).

¹⁵ *Humane Soc'y of the U.S. v. Kempthorne*, 579 F. Supp. 2d 7, 22 (D.D.C. 2008). On January 14, 2009, however, the Service announced that the western Great Lakes population and portions of the northern Rocky Mountain population (with the exception of those wolves found in Wyoming) were again being delisted. See *Service Removes Western Great Lakes, Portion of Rocky Mountain Gray Wolf Populations from Endangered Species List*, News Release (U.S. Fish & Wildlife Serv.), Jan. 14, 2009, <http://www.fws.gov/news/NewsReleases/showNews.cfm?newsId=D63F2738-D07C-EE09-30CFB02BF47C0A40>.

¹⁶ *Reinstatement of Protections for the Gray Wolf in the Western Great Lakes and Northern Rocky Mountains in Compliance with Court Orders*, 73 Fed. Reg. 75,356 (Dec. 11, 2008). On January 14, 2009, however, the Service announced that the western Great Lakes population and portions of the northern Rocky Mountain population (with the exception of those wolves found in Wyoming) were again being de-listed. See *Service Removes Western Great Lakes, Portion of Rocky Mountain Gray Wolf Populations from Endangered Species List*, News Release (U.S. Fish & Wildlife Serv.), Jan. 14, 2009, <http://www.fws.gov/news/NewsReleases/showNews.cfm?newsId=D63F2738-D07C-EE09-30CFB02BF47C0A40>.

¹⁷ 12-Month Petition Finding and Proposed Rule to Remove the Brown Pelican (*Pelecanus occidentalis*) from the Federal List of Endangered and Threatened Wildlife, 73 Fed. Reg. 9,408 (proposed Feb. 20, 2008).

May 16, 2008, FWS proposed delisting the Maguire daisy (*Erigeron maguirei*) – a herb with dime-sized flowers of white or pink petals native to southeastern Utah’s rocky terrain.¹⁸ Two months later, on July 8, 2008, FWS proposed delisting central Texas’s threatened Concho water snake (*Nerodia paucimaculata*).¹⁹ The following month, on August 6, 2008, FWS likewise proposed delisting the Hawaiian hawk (*Buteo solitarius*), also known as the Io.²⁰ Finally, at the end of August, FWS announced its formal delisting of the Virginia northern flying squirrel (*Glaucomys sabrinus fuscus*).²¹

More delisting activities may be pending in the near future. According to a report prepared by the United States Government Accountability Office in September of 2006, FWS and/or the National Marine Fisheries Service (“NMFS”) anticipates delisting the papery whitlow-wort (*Paronychia chartacea*), the eastern DPS of the Steller sea lion (*Eumetopias jubatus*), and the Magazine Mountain shagreen (*Mesodon magazinensis*) by 2010.²² The papery whitlow-wort is a small, white-flowered plant found in sandy, scrub-oak habitat in Florida and listed by FWS as threatened.²³ The eastern DPS of the Steller sea lion, a massive marine mammal capable of weighing over a ton, is currently listed as threatened.²⁴ The Magazine Mountain Shagreen is a half-inch land snail originally discovered on the northern slope of Magazine Mountain in Logan County, Arkansas, and subsequently declared threatened by FWS.²⁵

¹⁸ Proposed Removal of *Erigeron maguirei* from the Federal List of Endangered and Threatened Plants, 73 Fed. Reg. 28,410 (proposed May 16, 2008).

¹⁹ Proposed Removal of the Concho Water Snake (*Nerodia paucimaculata*) from the Federal List of Endangered and Threatened Wildlife, 73 Fed. Reg. 38,956 (proposed July 8, 2008).

²⁰ Withdrawal of Proposed Reclassification of the Hawaiian Hawk or Io (*Buteo solitarius*) from Endangered to Threatened; Proposed Rule to Remove the Hawaiian Hawk from the Federal List of Endangered and Threatened Wildlife, 73 Fed. Reg. 45,680 (proposed Aug. 6, 2008).

²¹ Final Rule Removing the Virginia Northern Flying Squirrel (*Glaucomys sabrinus fuscus*) from the Federal List of Endangered and Threatened Wildlife, 73 Fed. Reg. 50,226 (Aug. 26, 2008).

²² U.S. GOV’T ACCOUNTABILITY OFFICE, GAO-06-730: MANY FACTORS AFFECT THE LENGTH OF TIME TO RECOVER SELECT SPECIES 9 (2006), available at <http://www.gao.gov/new.items/d06730.pdf>; see also Change in Listing Status of Steller Sea Lion, 62 Fed. Reg. 30,772 (June 5, 1997); Determination of Threatened Status for the Magazine Mountain Shagreen (*Mesodon magazinensis*), 54 Fed. Reg. 15,206 (Apr. 17, 1989); Determination of Endangered or Threatened Status for Seven Florida Scrub Plants, 52 Fed. Reg. 2,227, 2,229 (Jan. 21, 1987).

²³ Determination of Endangered or Threatened Status for Seven Florida Scrub Plants, 52 Fed. Reg. 2,227, 2,229 (Jan. 21, 1987).

²⁴ Change in Listing Status of Steller Sea Lion, 62 Fed. Reg. 30,772 (June 5, 1997).

²⁵ Determination of Threatened Status for the Magazine Mountain Shagreen, 54 Fed. Reg. 15,206 (Apr. 17, 1989).

Furthermore, FWS has long considered delisting the endangered Johnston's frankenia (*Frankenia johnstonii*), a short, spherical, grayish-green shrub that ekes out a hardscrabble existence in the gypseous hills and salt plains of southern Texas; although, as of the writing of this article, the formal delisting had not yet occurred.²⁶ Other species potentially on the verge of a recovery-inspired delisting include the island night lizard (*Xantusia riversiana*) and the Plymouth redbelly turtle (*Pseudemys rubriventris bangsi*).²⁷

If any of those species are removed from the list of endangered and threatened wildlife, they will join an elite fraternity of recovered species. Prior to the delisting of the bald eagle, the distinct population segments of gray wolves and grizzly bears, and the Virginia northern flying squirrel, only seventeen species of plants and animals, or distinct population segments thereof, had been removed from the Service's list of threatened and endangered species upon the completion of successful recovery efforts.²⁸ But the potential for such delisting begs a follow-up question – at least on behalf of the Plymouth redbelly turtle and its assorted brethren who face a similar fate. Just how much of a leap of faith is such a delisting?

Surprisingly, no comprehensive examination exists as to the Service's record with respect to the accuracy and veracity of past assurances and conclusions regarding the species that it has already delisted.²⁹ Confronted with that omission, this article represents an

²⁶ Delisting the Plant *Frankenia johnstonii* (Johnston's frankenia) and Notice of Petition Finding, 68 Fed. Reg. 27,961 (proposed May 22, 2003); U.S. FISH & WILDLIFE SERV., FINAL DETERMINATION TO DE-LIST JOHNSTON'S FRANKENIA (2003), available at <http://www.fws.gov/southwest/science/reviews/johnston.html>. At one point, delisting was anticipated as early as the fall of 2006.

²⁷ See Proposed Rule to Remove the Virginia Northern Flying Squirrel (*Glaucomys sabrinus fuscus*) from the Federal List of Endangered and Threatened Wildlife, 71 Fed. Reg. 75,924 (proposed Dec. 19, 2006); 90-Day Finding on a Petition to Delist the Plymouth Redbelly Turtle (*Pseudemys rubriventris bangsi*), 71 Fed. Reg. 58,363 (Oct. 3, 2006); 90-Day Findings for Petitions to Delist the Island Night Lizard, 71 Fed. Reg. 48,900 (Aug. 22, 2006).

²⁸ See U.S. Fish and Wildlife Serv., Threatened and Endangered Species System (TESS), http://ecos.fws.gov/tess_public/DelistingReport.do (last visited Mar. 13, 2008).

²⁹ Specific monitoring reports for individual species exist and, in fact, form the primary basis for this analysis. These reports provide useful in-depth analysis of individual species offer only isolated, pinpoint views of particular species. At first blush, FWS's biannual "Recovery Report to Congress" seems to promise such a comprehensive analysis. Unfortunately, although certain reports do, upon occasion, address the status and progress of delisted species, such discussions are usually subsumed within the larger context of the reports (i.e., a discussion of ongoing efforts to recover those species that are still listed).

effort to compile, correlate, and review relevant literature in order to ask – and, to the extent possible, answer – a relatively straightforward question: did FWS get it right with respect to the seventeen species it deemed to be recovered as of the summer of 2007? Put another way, and asked with the admitted benefit of hindsight: what assurance do we have that those “recovered” species indeed recovered? This article, admittedly relying on available literature rather than any particular in-the-field scientific research, undertakes that inquiry after first exploring the delisting process itself.

II. THE DELISTING PROCESS

As an initial matter, it is useful to understand how the ESA’s delisting process works – and, in particular, to recognize that, although the idea of “delisting” a species may seem, to the uninitiated, counterintuitive, it does indeed fit within the larger conceptual scope of the ESA.

The Endangered Species Act of 1973 was, in the words of Senator Robert T. Stafford, Chairman of the Senate’s Committee on Environment and Public Works, “a significant statute evolving out of simple statutes enacted in 1966 and 1969.”³⁰ Specifically, the “simple statutes” from which the 1973 Act evolved were the Endangered Species Act of 1966 and the Endangered Species Conservation Act of 1969.³¹ The former, while authorizing the appropriation of up to \$15 million from the Land and Water Conservation Fund to acquire habitats to protect endangered species of wildlife, was otherwise “vague and imprecise” with regard to other aspects of species protection and, importantly, failed to expressly prohibit their taking.³² The latter represented a more innovative piece of legislation that, among other elements, authorized the Secretary of the Interior to promulgate a list of species “threatened with worldwide extinction” and to prohibit their importation into the United States, except in certain limited circumstances.³³

The 1973 Act, referred to herein as simply the ESA, was, along with its subsequent amendments, enacted to fill the number of

³⁰ Robert T. Stafford, *Letter of Transmittal*, in A LEGISLATIVE HISTORY OF THE ENDANGERED SPECIES ACT OF 1973, AS AMENDED IN 1976, 1977, 1978, 1979 AND 1980 (3d ed.1982).

³¹ Endangered Species Act of 1966, Pub. L. No. 89-669, §§ 1-3, 80 Stat. 926, 927 (1966) (repealed 1973); Endangered Species Conservation Act of 1969, Pub. L. No. 91-135, 83 Stat. 275 (1969) (repealed 1973).

³² MICHAEL J. BEAN, THE EVOLUTION OF NATIONAL WILDLIFE LAW 320-21 (1983).

³³ Endangered Species Conservation Act of 1969, Pub. L. No. 91-135, 83 Stat. 275 (1969) (repealed 1973).

gaps in species and habitat protection that observers quickly identified as existing in the 1966 and 1969 legislation. The result was "the most comprehensive legislation for the preservation of endangered species ever enacted by any nation."³⁴ Today, the ESA, as a general matter, outlines the procedures and criteria for listing and delisting a species; prevents any federal action from jeopardizing the continued existence of a listed species; bans the taking, import, and export of an endangered species; and controls state and private landowners' actions that may result in the taking of a species.³⁵

For the purpose of this article, section 4 of the ESA and its implementing regulations are of particular importance. Section 4 provides the procedures and criteria for listing a species as threatened or endangered.³⁶ It also, in a largely converse manner explained below, provides the authority for delisting such a species. According to the regulations that implement Section 4, delisting a species is permissible if relevant data – "supported by the best scientific and commercial data available to the Secretary [of the Interior] after conducting a review of the status of the species" – substantiates that the species in question is neither endangered nor threatened for one or more of the following reasons: it is already extinct, it has recovered, or the "[o]riginal data for classification [was] in error."³⁷ Practically speaking, the implementation of delisting is delegated to FWS or, in the case of most marine mammals, the National Marine Fisheries Service ("NMFS"). For the sake of simplicity, this article will generally speak in terms solely of FWS (except in the case of the gray whale, which is discussed later in this article).

As an initial matter, FWS's decision to consider delisting a species can arise either internally from within FWS or externally in response to a written petition by "[a]ny interested person."³⁸ Whether listing or delisting of a species is being considered, the earliest stages of such decision-making involve FWS's consultation with "affected States, interested persons and organizations, other affected Federal agencies, and, in cooperation with the Secretary of State, with the country or countries in which the species concerned are normally found or whose citizens harvest such species from the high seas."³⁹ "Data reviewed by [FWS] may include, but are not

³⁴ *Tenn. Valley Auth. v. Hill*, 437 U.S. 153, 180 (1978).

³⁵ 16 U.S.C. §§ 1533, 1536(a), 1538(a), 1539(a) (2006).

³⁶ 16 U.S.C. § 1533; 50 C.F.R. §§ 424.01-424.21 (2009).

³⁷ 50 C.F.R. § 424.11(d)(1)-(3).

³⁸ 50 C.F.R. § 424.14.

³⁹ 50 C.F.R. § 424.13.

limited to scientific or commercial publications, administrative reports, maps or other graphic materials, information received from experts on the subject, and comments from interested parties.”⁴⁰

Such consultations, and the information they engender, are intended to enable FWS to consider the following factors with respect to listing (or, as the case may be, delisting) a species:

- (1) The present or threatened destruction, modification, or curtailment of [a species’] habitat or range;
- (2) Over-utilization for commercial, recreational, scientific, or educational purposes;
- (3) Disease or predation;
- (4) The inadequacy of existing regulatory mechanisms; or
- (5) Other natural or manmade factors affecting [the species’] continued existence.⁴¹

Technically speaking, the foregoing five factors, as set forth in the ESA, apply expressly to the decision to list, rather than to delist, a species. Nevertheless, they are relevant to the purposes of this article because, in the absence of stated criteria for delisting a species, the ESA’s implementing regulations have adopted those same factors verbatim for delisting a species.⁴² Specifically, those regulations state “[t]he factors considered in delisting a species are those in paragraph (c) of this section [which, in turn, mirror the factors set forth by the ESA above] as they relate to the definitions of endangered or threatened species.”⁴³ Importantly, however, whereas only one of the foregoing factors is necessary to justify listing, there must be a complete absence of all five factors in order to justify a

⁴⁰ *Id.*

⁴¹ 16 U.S.C. § 1533(a)(1) (2006). This is an exclusive list and, as stated in *Defenders of Wildlife v. Secretary, United States Department of the Interior*, Congress intended that the FWS look only to the five factors listed in the ESA and not consider “possible economic or other impacts of such a determination.” 354 F. Supp. 2d 1156, 1159 (D. Or. 2005).

⁴² See 50 C.F.R. § 424.11(c)-(d) (2009); see also H.R. 95-1625, 95th Cong. (1978) (indicating, in the legislative history of the 1978 ESA amendments, that Congress intended for the delisting process to be the same as the listing process). As a practical matter, this approach is expressly recognized in the proposal to designate Yellowstone’s grizzly bears as a distinct population segment and to delist that segment. In pertinent part, that proposal states “[t]he analysis for a delisting due to recovery must be based on the five factors outlined in section 4(a)(1) of the ESA.” Designating the Greater Yellowstone Ecosystem Population of Grizzly Bears as a Distinct Population Segment; Removing the Greater Yellowstone Distinct Population Segment of Grizzly Bears from the Federal List of Endangered and Threatened Wildlife, 70 Fed. Reg. 69,854, 69,865 (Nov. 17, 2005).

⁴³ 50 C.F.R. § 424.11(c)-(d) (2009).

delisting – even if only one factor originally supported the listing of the species.⁴⁴

If FWS finds that a delisting may be warranted, but the available evidence is not sufficiently definitive to justify proposing the action at that time, it may publish a notice of review in the *Federal Register*.⁴⁵ Such a notice will describe the measure under consideration, briefly explain the reasons for considering the action, and solicit comments and additional information on the action under consideration.⁴⁶ If FWS determines, either following the receipt and review of such solicited information or upon the conclusion of its own internal deliberations, that none of the five determining factors are present and that threats to the species have been significantly reduced, it will publish a proposal to delist the species in the *Federal Register* and give appropriate notices to relevant parties.⁴⁷ Public comment periods on such delisting proposals last for at least sixty days and may be extended for even longer periods of time.⁴⁸

As of the writing of this article, nine species have been delisted due to extinction.⁴⁹ Another sixteen species have been delisted due to erroneous data.⁵⁰ For the purpose of this article, however, the

⁴⁴ The logic of such a requirement for totality in the delisting context, as opposed to the listing context, is widely recognized. See, e.g., Elizabeth A. Schulte, Note, *From Downlisting to Delisting: Anticipated Legal Actions if Gray Wolves are Delisted from the Endangered Species Act*, 24 J. LAND RESOURCES & ENVTL. L. 537, 543 (2004); see also *Fund for Animals v. Babbitt*, 903 F. Supp. 96, 113, 116 (D.D.C. 1995).

⁴⁵ 50 C.F.R. § 424.15(a).

⁴⁶ *Id.* FWS can also undertake a formal peer review process, even though this process is not required by the Endangered Species Act or the Administrative Procedures Act, and, in the course of such a review, will typically consider the opinions of three appropriate and independent species specialists, along with the input from the general public, scientific community, and other agencies before making a final delisting decision. See *Ctr. for Biological Diversity v. Badgley*, No. 99-287-FR, 2001 WL 844399, at *24 (D. Or. June 28, 2001); *Endangered and Threatened Wildlife and Plants: Notice of Interagency Cooperative Policy for Peer Review in Endangered Species Act Activities*, 59 Fed. Reg. 34,270, 34,270 (July 1, 1994).

⁴⁷ See 50 C.F.R. § 424.16; see also U.S. FISH & WILDLIFE SERV., DELISTING A SPECIES; SECTION 4 OF THE ENDANGERED SPECIES ACT 1-2 (2007), available at www.fws.gov/enangered/factsheets/delinting.pdf.

⁴⁸ 50 C.F.R. § 424.16(c)(2).

⁴⁹ See U.S. Fish & Wildlife Serv., *supra* note 28. Those nine species are the Guam broadbill (*Myiagra freycineti*), the longjaw cisco (*Coregonus alpenae*), the Amistad gambusia (*Gambusia amistadensis*), the Mariana mallard (*Anas oustaleti*), Sampson's pearlymussel (*Epioblasma sampsoni*), the blue pike (*Stizostedion vitreum glaucum*), the Tecopa pupfish (*Cyprinodon nevadensis calidae*), the Santa Barbara song sparrow (*Melospiza melodia graminea*), and the dusky seaside sparrow (*Ammodramus martimus nigrescens*).

⁵⁰ See U.S. Fish & Wildlife Serv., *supra* note 28. Those species are the Arizona Agave (*Agave arizonica*), Truckee Barberr (*Berberis* (=Mahonia) *sonnei*), Cuneate bidens (*Bidens cuneata*), Bahama swallowtail Butterfly (*Heraclides andraemon bonho-*

proper focus is on species delisted due to being deemed recovered – which is expressed by the Service’s regulations in the following terms:

The principal goal of the U.S. Fish and Wildlife Service and the National Marine Fisheries Service is to return listed species to a point at which protection under the Act is no longer required. A species may be delisted on the basis of recovery only if the best scientific and commercial data available indicate that it is no longer endangered or threatened.⁵¹

“Recovery,” in turn, is defined as an “improvement in the status of a listed species to the point at which listing is no longer appropriate under the [aforementioned] criteria.”⁵²

Whether a species is deemed recovered, extinct, or erroneously listed, a court will afford a great level of deference to FWS’s opinion, particularly with respect to decision-making that involves “a high level of technical expertise.”⁵³ Nevertheless, with respect to a delisting based on a recovery determination, FWS must be able to show how each of the five criteria were met and provide a rational connection between the data used and the decisions made if it hopes to survive a judicial challenge to its decision.⁵⁴

Scrutiny of FWS’s decision does not, however, end with the delisting decision. Pursuant to amendments to the ESA enacted in 1988, FWS is required, in cooperation with the states, to monitor a delisted species for at least five years to assess the species’ ability to sustain without the protections of the ESA.⁵⁵ The proposed monitoring plan is generally available at the time the proposal for the delisting is published in the *Federal Register*. If during the five-year

tei), Lloyd’s hedgehog Cactus (*Echinocereus lloydii*), spineless cactus hedgehog (*Echinocereus triglochidiatus* var. *inermis*), the U.S. population of the Mexican Duck (*Anas diazi*), Tumamoc Globeberry (*Tumamoca macdougalii*), purple-spined cactus hedgehog cactus (*Echinocereus engelmannii* var. *purpureus*), Rydberg Milk-vetch (*Astragalus perianus*), Mckittrick Pennyroyal (*Hedeoma apiculatum*), the Arizona population of the Pygmy owl (*Glaucidium brasilianum cactorum*), Dismal Swamp southeastern Shrew (*Sorex longirostris fisheri*), the Florida population of the Pine Barrens treefrog (*Hyla andersonii*), the Umpqua River’s coastal cutthroat trout (*Oncorhynchus clarki clarki*), and the Indian flap-shelled turtle (*Lissemys punctata punctata*).

⁵¹ 50 C.F.R. § 424.11(d)(2) (2009).

⁵² 50 C.F.R. § 402.02 (2009) (quotation marks omitted).

⁵³ *Defenders of Wildlife v. Babbitt*, 958 F. Supp. 670, 679 (D.D.C. 1997) (quoting *March v. Or. Natural Res. Council*, 490 U.S. 360, 377 (1989) (citations omitted)).

⁵⁴ *See Defenders of Wildlife v. Babbitt*, 958 F. Supp. 670, 679 (D.D.C. 1997) (quoting *March v. Or. Natural Res. Council*, 490 U.S. 360, 377 (1989); *Fund for Animals v. Babbitt*, 903 F. Supp. 96, 114 (D.D.C. 1995)).

⁵⁵ 16 U.S.C. § 1533(g)(1).

monitoring period, the species becomes unstable, FWS can either "relist" the species or extend the monitoring period.⁵⁶

III. RECOVERED SPECIES

Prior to 2007, seventeen species or distinct population segments of species were delisted after being deemed recovered. Those species are the American alligator (*Alligator mississippiensis*), Robbins' cinquefoil (*Potentilla robbinsiana*), Columbian white-tailed deer – Douglas County population (*Odocoileus virginianus leucurus*), Palau ground dove (*Gallicolumba canifrons*), American peregrine falcon (*Falco peregrinus anatum*), Arctic peregrine falcon (*Falco peregrinus tundrius*), Palau fantail flycatcher (*Rhipidura lepida*), Aleutian Canadian goose (*Branta canadensis leducopareia*), Eastern gray kangaroo (*Macropus giganteus*), Red kangaroo (*Macropus fuliginosus*), Western gray kangaroo (*Macropus fuliginosus*), Tinian monarch (*Monarcha takatsukasae*), Palau owl (*Pyrroglaux podargina*), the brown pelican – U.S. Atlantic Coast populations in Florida and Alabama (*Pelecanus occidentalis*), Eggert's sunflower (*Helianthus eggertii*), Hoover's woolly-star (*Eriastrum hooveri*), and the gray whale (*Eschrichtius robustus*).⁵⁷ The particular fates of these species, and their statuses today, are discussed in more detail below.

A. American Alligator (*Alligator mississippiensis*)

In 1791, the trailblazing American naturalist William Bartram recorded an encounter with the American alligator in Florida. "Behold him rushing forth from the flags and reeds," Bartram wrote: "His enormous body swells. His plaited tail brandished high, floats upon the lake. The waters like a cataract descend from his opening jaws. Clouds of smoke issue from his dilated nostrils. The earth trembles with his thunder."⁵⁸ Two centuries later, FWS de-

⁵⁶ See U.S. FISH & WILDLIFE SERV., *supra* note 47, at 1-2.

⁵⁷ U.S. Fish & Wildlife Serv., *supra* note 28. Those nine species are the Guam broadbill (*Myiagra freycineti*), the longjaw cisco (*Coregonus alpenae*), the Amistad gambusia (*Gambusia amistadensis*), the Mariana mallard (*Anas oustaleti*), Sampson's pearlymussel (*Epioblasma sampsoni*), the blue pike (*Stizostedion vitreum glaucum*), the Tecopa pupfish (*Cyprinodon nevadensis calidae*), the Santa Barbara song sparrow (*Melospiza melodia graminea*), and the dusky seaside sparrow (*Ammodramus maritimus nigrescens*).

⁵⁸ WILLIAM BARTRAM, TRAVELS THROUGH NORTH & SOUTH CAROLINA, GEORGIA, EAST & WEST FLORIDA, THE CHEROKEE COUNTRY, THE EXTENSIVE TERRITORIES OF THE MUSCOGULGES, OR CREEK CONFEDERACY, AND THE COUNTRY OF THE CHACTAWS: CONTAINING AN ACCOUNT OF THE SOIL AND NATURAL PRODUCTIONS OF THOSE REGIONS, TOGETHER WITH OBSERVATIONS ON THE MANNERS OF THE INDIANS 118

scribed it far less prosaically as “a large reptile that inhabits wetland areas in all or parts of the following States: Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, North Carolina, Oklahoma, South Carolina, and Texas. The alligator is a member of the Crocodylia, a group of reptiles that has remained relatively unchanged since it evolved some 180-200 million years ago.”⁵⁹

Its own literary shortcomings aside, FWS did not fail to recognize the American alligator as being imperiled by “many years of excessive exploitation and habitat usurpation by man” and included it among the first species to be listed as endangered pursuant to the Endangered Species Preservation Act of 1966.⁶⁰ Nevertheless, the trade in alligator skins initially remained at almost industrial proportions, with poachers hauling their ill-gotten gains in eighteen-wheeler trucks.⁶¹ As the years passed, however, aggressive enforcement of the 1966 Act and its successors helped turn the tide. “All we had to do was stop the poachers, and the gators did the rest,” claimed David Klinger, a FWS official, in 1987.⁶²

As the anti-poaching efforts succeeded and the Southeast’s alligator population rebounded, FWS responded by successively lessening the legal protections that shielded the species. In 1975, the population in three coastal parishes of Louisiana was deemed completely recovered (but reclassified as “threatened due to similarity in appearance” with the American crocodile, which remained listed).⁶³ Two years later, the population in all of Florida and cer-

(Christopher Hill & Natalie Smith eds., Univ. of North Carolina at Chapel Hill 2001) (1791).

⁵⁹ Reclassification of the American Alligator to Threatened Due to Similarity of Appearance Throughout the Remainder of Its Range, 52 Fed. Reg. 21,059 (June 4, 1987).

⁶⁰ Reclassification of American Alligator to Threatened Status in Certain Parts of its Range, 42 Fed. Reg. 2,071 (Jan. 10, 1977); Endangered Species, 32 Fed. Reg. 4,001 (Mar. 11, 1967).

⁶¹ Michael D. Lemonick, *Coming Back From the Brink; Alligators and Leopards Are No Longer Seen As Endangered*, TIME, July 20, 1987, at 70, available at <http://www.time.com/time/magazine/article/0,9171,965010,00.html>.

⁶² *Id.*

⁶³ Wildlife & Fisheries, 40 Fed. Reg. 44,412 (Sept. 26, 1975). Pursuant to section (e) of the ESA, FWS may:

[T]reat any species as an endangered species or threatened species even though it is not listed pursuant to [section 4 of the ESA] if he finds that—

(A) such species so closely resembles in appearance, at the point in question, a species which has been listed pursuant to such section that enforcement personnel would have substantial difficulty in attempting to differentiate between the listed and unlisted species;

tain coastal areas of South Carolina, Georgia, Louisiana, and Texas, was reclassified as "threatened," reflecting a partial recovery of those populations.⁶⁴ Then, in 1979, FWS determined that the populations in an additional nine parishes of Louisiana had completely recovered and listed them as merely "threatened due to similarity in appearance".⁶⁵ Two years later, a similar determination was made regarding the alligator populations in fifty-two Louisiana parishes.⁶⁶ FWS declared complete recovery in Texas in 1983 and reclassified the species to "[t]hreatened due to similarity of appearance."⁶⁷ In 1985, similar success was declared in Florida.⁶⁸

Finally, in 1987, FWS published a final rule declaring the American alligator as completely recovered in the United States and reclassifying it as merely "threatened due to similarity of appearance" throughout the remainder of its range.⁶⁹ The decision to

(B) the effect of this substantial difficulty is an additional threat to an endangered or threatened species; and (C) such treatment of an unlisted species will substantially facilitate the enforcement and further policy of [the ESA].

16 U.S.C. § 1533(e). Here, the similarity in question was with endangered crocodiles.

⁶⁴ Reclassification of American Alligator to Threatened Status in Certain Parts of Its Range, 42 Fed. Reg. 2,071 (Jan. 10, 1977).

⁶⁵ Reclassification of American Alligator in Nine Parishes in Louisiana, 44 Fed. Reg. 37,130 (June 25, 1979).

⁶⁶ Reclassification of American Alligator in Louisiana, 46 Fed. Reg. 40,664 (Aug. 10, 1981).

⁶⁷ Final Rule to Change the Status of the American Alligator in the State of Texas, 48 Fed. Reg. 46,332 (Oct. 12, 1983).

⁶⁸ Reclassification of the American Alligator in Florida to Threatened Due to Similarity of Appearance, 50 Fed. Reg. 25,672 (June 20, 1985).

⁶⁹ Reclassification of the American Alligator to Threatened Due to Similarity of Appearance Throughout the Remainder of its Range, 52 Fed. Reg. 21,059 (June 4, 1987). Again, FWS took into account the American alligator's similarity in appearance with the crocodile, noting:

Although biologists can readily distinguish live alligators from other crocodilians that are listed under the Act, enforcement personnel could have considerable difficulty in making correct species identification, which could hamper enforcement efforts. In addition, small parts and products of processed crocodilian leather are nearly impossible to distinguish when made into goods, thus hampering the identification of legal alligator products from those of endangered or threatened crocodilians. Problems with identification could increase illegal trade in endangered crocodilian products, further jeopardizing these species. By listing the American alligator under the similarity of appearance provisions of the Act, coupled with the special rules for American alligators as specified in § 17.42, the Service believes that enforcement problems can be mini-

do so was relatively uncontroversial, with only ten parties offering comments and no public hearing being held. Still, it was not without its detractors. One commenter, for example, warned that it would be more “prudent” for FWS to “move more slowly toward reclassification.”⁷⁰ Another complained that “[m]ost references cited by the Service in its proposed rule are unpublished manuscripts and are not readily available for critical examination by the scientific community; thus, the quality and validity of these data cannot be evaluated easily or at all.”⁷¹

Because the delisting occurred prior to the ESA’s 1988 amendments, FWS has not undertaken a formal monitoring program of the American alligator, and therefore, five-year monitoring reports are not available to refute the aforementioned comments and concerns. Nevertheless, the conclusion that the American alligator has indeed recovered is difficult to refute. NatureServe, for example, authoritatively declares the species as no longer endangered or threatened, describing it in the following terms: “[P]opulation has shown rapid recovery with enforcement of protective legislation; populations are stable or increasing in most of range; there are currently fourteen million acres of alligator habitat; no longer biologically endangered or threatened.”⁷² The Crocodile Specialist Group, in its 1998 report *Status Survey and Conservation Action Plan, Second Edition: Crocodiles*, echoed that conclusion:

The American alligator is the outstanding example of successful conservation of a crocodylian accomplished by the application of controlled use at a sustainable level. Although heavily exploited since the 1800s, and considered to be endangered in the early 1960s, populations of American alligators have responded well to management and have recovered rapidly. Ex-

mized, while at the same time, the conservation of listed populations of crocodylians can be ensured.

Reclassification of the American Alligator, 52 Fed. Reg. at 21,062.

⁷⁰ *Id.*

⁷¹ *Id.*

⁷² NatureServe Explorer, Alligator mississippiensis, <http://www.natureserve.org/explorer/servlet/NatureServe?searchName=Alligator+mississippiensis> (quotation from “Conservation Status” Tab) (last visited Mar. 13, 2009). NatureServe describes itself as a non-profit conservation organization that provides the scientific information and tools needed to help guide effective conservation action. NatureServe and its network of natural heritage programs are the leading source for information about rare and endangered species and threatened ecosystems. NatureServe, About Us, <http://www.natureserve.org/aboutUs/index.jsp> (last visited Mar. 13, 2009). Its partners include the Nature Conservancy, the National Park Service, and the U.S. Geological Survey. *Id.*

tensive surveys of alligator populations have been done throughout the species' range. Continuous monitoring of numerous localities is conducted as part of sustainable use programs in several states. Overall, alligator populations are quite healthy and, owing to expanding human populations, programs to control alligators that occur near people and dwellings (termed nuisance alligator control) are an integral part of alligator management and conservation.⁷³

Anecdotal evidence certainly supports the conclusions made by NatureServe and the Crocodile Specialist Group regarding the alligator's recovery. Recently, the state of Alabama, for example, faced such an overpopulation of alligators that, in the summer of 2006, it held its first regulated hunting season for alligators.⁷⁴ Forty of the licensed forty-six hunters bagged their allotted alligator over the course of the six-day season.⁷⁵ For Alabama, which in 1938 was the first state to outlaw the hunting of the reptiles, the return to regulated hunting symbolized the completion of a conversation journey that spanned seven decades.⁷⁶

B. Robbins' Cinquefoil (Potentilla robbinsiana)

Contrast Bartram's alligator, "trembl[ing] the earth with its thunder," with the delicate alpine flower known as Robbins', or the dwarf, cinquefoil. A small, almost stemless perennial herb, Robbins' cinquefoil is a member of the rose family.⁷⁷ Found only in the alpine zone of the White Mountain National Forest in New Hampshire (and not identified until 1824), the plant blooms with tiny five-petalled yellow blossoms in late May or early June for a brief three-week period.⁷⁸ With the species' seed dispersal estimated at a mere eight inches in radius, its ability for natural reestablishment is limited, and in fact, at the time of its listing, only two populations

⁷³ JAMES PERRAN ROSS, *Alligator mississippiensis*, in CROCODILES: STATUS SURVEY AND CONSERVATION ACTION PLAN 80 (2d ed. 1998), available at <http://www.flmnh.ufl.edu/natsci/herpetology/act-plan/amiss.htm>.

⁷⁴ Forty Gators Bagged During Alabama's First Regulated Alligator Season (Aug. 28, 2006), <http://www.outdooralabama.com/news/release.cfm?ID=428>.

⁷⁵ *Id.*

⁷⁶ *Id.*

⁷⁷ U.S. Fish & Wildlife Serv., *Rare White Mountains Plant Recovers*, FISH & WILDLIFE NEWS, Winter 2002-2003, at 15-17, available at http://www.fws.gov/international/DIC/regional%20programs/pdf/fwnews_winter02-03.pdf.

⁷⁸ *Id.*; see also Removal of *Potentilla robbinsiana* (Robbins' cinquefoil) from the Federal List of Endangered and Threatened Plants, 67 Fed. Reg. 54,968 (Aug. 27, 2002).

of the plant were known to exist.⁷⁹ The larger population was found on Monroe Flats, in a saddle between Mt. Monroe and Mt. Washington in New Hampshire's Presidential Range, and is limited to a 2.5 acre area.⁸⁰ The smaller population was found on Franconia Ridge, some 18 miles away, and once thought to be extirpated.⁸¹ A single lone plant, however, was discovered in the summer of 1984.⁸² Subsequent transplant efforts at other sites have attempted to supplement these original populations and have been met with varying degrees of success.⁸³

On September 17, 1980, FWS listed Robbins' cinquefoil as an endangered species.⁸⁴ Factors contributing to that decision included inadvertent trampling by hikers (the Appalachian Trail runs through the middle of the plant's limited habitat) and over-zealous collecting by botanists, coupled with the species' small population and its precarious existence in the harsh alpine climate.⁸⁵ Following the plant's listing as an endangered species and the approval of a recovery plan in 1983 (with a subsequent revision in 1991), a period of sustained effort to protect the viable Monroe Flats population followed. Efforts included construction of a screen wall to shelter the population from being trampled by hikers, signs to alert the public to stay on local hiking paths, educational posters, monitoring of trail use, relocation of the local portion of the Appalachian Trail that cut through the plant's habitat, and transplanting plants to other presumably viable habitats in the area.⁸⁶

By the summer of 2001, such efforts had progressed to a point where the species' main population contained more than 14,000 plants, and two transplant sites boasted viable populations.⁸⁷ Destructive hiking had been rerouted or otherwise prohibited. Existing protective regulatory mechanisms were proving to be effective, and there was no indication of over-utilization, disease, or predation of the species.⁸⁸ Upon analyzing the species' status, FWS de-

⁷⁹ Removal of *Potentilla robbinsiana* (Robbins' cinquefoil) from the Federal List of Endangered and Threatened Plants, 67 Fed. Reg. 54,968 (Aug. 27, 2002).

⁸⁰ *Id.*

⁸¹ *Id.*

⁸² Removal of *Potentilla robbinsiana*, 67 Fed. Reg. at 54,968-69.

⁸³ Removal of *Potentilla robbinsiana*, 67 Fed. Reg. at 54,969.

⁸⁴ Determination of *Potentilla robbinsiana* To Be an Endangered Species, With Critical Habitat, 45 Fed. Reg. 61,944 (Sept. 17, 1980).

⁸⁵ Determination of *Potentilla robbinsiana*, 45 Fed. Reg. at 61,944-45.

⁸⁶ *Id.*

⁸⁷ Proposed Rule to Remove *Potentilla robbinsiana* (Robbins' cinquefoil) from the Endangered and Threatened Plant List, 66 Fed. Reg. 30,860, 30,860-61 (proposed June 8, 2001).

⁸⁸ Proposed Rule to Remove *Potentilla robbinsiana*, 66 Fed. Reg. at 30,860-64.

terminated that "threats to the species have been reduced or removed, the number of plants is increasing, the species is not in imminent danger of extinction, and the species appears unlikely to become endangered within the foreseeable future."⁸⁹ Accordingly, on June 8, 2001, FWS proposed the species for delisting.⁹⁰ The following year, after receiving two comments – one from the Appalachian Mountain Club in favor of delisting, and one from an unidentified individual who opposed delisting – FWS formally delisted the species.⁹¹

Delisted in 2002, Robbins' cinquefoil should have a five-year monitoring report published in the imminent future. According to Diana Weaver, a Public Affairs Office specialist with FWS's Northeast Region, FWS "has received a draft of the five-year report from the contractor and [is] in the process of reviewing that report. We expect to have the final completed [in 2007]."⁹² To date, no such report has been made publicly available.

C. *Columbian White-Tailed Deer – Douglas County Population*
(*Odocoileus virginianus leucurus*)

A continent away from Robbins' cinquefoil, a distinct population segment of the Columbian white-tailed deer calls Oregon's Douglas County home. First encountered by the Lewis and Clark expedition in March of 1806 near the mouth of the Willamette River, the deer, identified in the expedition's journals as the "common red deer," elicited the following description:

They do not appear to differ essentially from those of the United States, being the same in shape, size, and appearance. The tail is however different, which is of an unusual length, far exceeding that of the common deer. Captain Lewis measured one, and he found it to be seventeen inches long.⁹³

In later years, FWS would provide a more detailed description of what it recognized as the westernmost representative of the 38 sub-

⁸⁹ Proposed Rule to Remove *Potentilla robbinsiana*, 66 Fed. Reg. at 30,864.

⁹⁰ Proposed Rule to Remove *Potentilla robbinsiana*, 66 Fed. Reg. at 30,860.

⁹¹ Removal of *Potentilla robbinsiana* (Robbin's cinquefoil) from the Federal List of Endangered and Threatened Plants, 67 Fed. Reg. 54,968, 54,971 (Aug. 27, 2002).

⁹² Voicemail from Diane Weaver to author (Jan. 12, 2007).

⁹³ 2 MERIWETHER LEWIS & WILLIAM CLARK, HISTORY OF THE EXPEDITION UNDER THE COMMAND OF CAPTAINS LEWIS AND CLARK, TO THE SOURCES OF THE MISSOURI, THENCE ACROSS THE ROCKY MOUNTAINS AND DOWN THE RIVER COLUMBIA TO THE PACIFIC OCEAN. PERFORMED DURING THE YEARS 1804-5-6. BY ORDER OF THE GOVERNMENT OF THE UNITED STATES 166 (1814).

species of white-tailed deer.⁹⁴ “Generally a red-brown color in summer, and gray in winter, the species has white rings around the eyes and a white ring just behind the nose. Its tail is long and triangular in shape, and is brown on the dorsal (upper) surface and fringed in white.”⁹⁵ At one time, the deer was common throughout the bottomlands and prairie woodlands of the lower Columbia, Willamette, and Umpqua River basins in Oregon and southern Washington.⁹⁶

FWS placed the Columbian white-tailed deer on its inaugural list of endangered wildlife pursuant to the Endangered Species Preservation Act of 1966.⁹⁷ At the time, two populations of the deer existed: one in Douglas County, Oregon (the Douglas County population), and the other in Columbia and Clatsop counties, Oregon, and Wahkiakum County, Washington (the Columbia River population).⁹⁸ The Douglas County population had reached a nadir in the 1930s, with somewhere between 200 to 300 deer left alive.⁹⁹ Culprits for the decline included the conversion of brushy riparian land to agriculture, urbanization, and uncontrolled sport and commercial hunting.¹⁰⁰

By 1999, however, after three decades of protection as an endangered species, the Douglas County population had rebounded to approximately 5,500 animals.¹⁰¹ Factors influencing that recovery included the securing of viable riparian lowland habitat by such agencies as the Bureau of Land Management and by such measures as protective county zoning pursuant to 1995’s Douglas County Land Use Plan.¹⁰² Other factors included legal restrictions on hunting and the absence of disease or predation.¹⁰³ Somewhat counter-intuitively, the proposal to delist the Douglas County population also noted that the expanding population was bringing more deer into contact with a human population that was, for its part, prohibited under the current regulatory regime from “haz[ing], har-

⁹⁴ Proposed Rule to Delist the Douglas County Population of Columbian White-Tailed Deer, 64 Fed. Reg. 25,263, 25,263-64 (proposed May 11, 1999).

⁹⁵ Proposed Rule to Delist the Douglas County Population, 64 Fed. Reg. at 25,264.

⁹⁶ Proposed Rule to Delist the Douglas County Population, 64 Fed. Reg. at 25,263-64.

⁹⁷ Native Fish and Wildlife: Endangered Species, 32 Fed. Reg. 4,001 (Mar. 11, 1967).

⁹⁸ Proposed Rule to Delist the Douglas County Population of Columbian White-Tailed Deer, 64 Fed. Reg. 25,263 (proposed May 11, 1999).

⁹⁹ Proposed Rule to Delist the Douglas County Population, 64 Fed. Reg. at 25,264.

¹⁰⁰ *Id.*

¹⁰¹ *Id.*

¹⁰² Proposed Rule to Delist the Douglas County Population, 64 Fed. Reg. at 25,266.

¹⁰³ *Id.*

ass[ing], dispers[ing], or lethally tak[ing] listed deer, even where serious continued damage is occurring."¹⁰⁴ Such prohibitions, FWS warned, prevented the "development and implementation of management procedures necessary[] to control and enhance deer populations" and the "fostering [of] better land manager-landowner relationships that are necessary for effective long-term conservation."¹⁰⁵

On May 11, 1999, FWS proposed to delist the Douglas County population.¹⁰⁶ A prolonged public notice period, intended to allow adequate peer review of the proposed rule in conjunction with various comments offered during the public comment period, followed.¹⁰⁷ That effort culminated in the publication of a supplemental proposed rule, leading to another public comment period that extended until August 20, 2002.¹⁰⁸ In the latest round of public notice, 23 written and oral comments were received, with only one opposing the delisting.¹⁰⁹ That sole comment failed to dissuade FWS that the five factors required to delist a species (i.e., no threats to habitat or range, no overutilization, absence of disease or predation, adequate existing regulatory mechanisms, and no other natural or manmade factors affecting the species' continued existence) had indeed been met.¹¹⁰ Accordingly, on July 24, 2003, FWS deemed the Douglas County population of deer – which by then had grown to a population of some 6,000 animals – as recovered and delisted it.¹¹¹

In order to assess the veracity of that delisting decision and to detect the failure of the Douglas County population to sustain itself in the absence of protective measures provided by the ESA, FWS developed and implemented a post-delisting monitoring plan.¹¹² The plan involved three components: (1) spring and fall popula-

¹⁰⁴ *Id.*

¹⁰⁵ Proposed Rule to Delist the Douglas County Population, 64 Fed. Reg. at 25,267.

¹⁰⁶ Proposed Rule to Delist the Douglas County Population, 64 Fed. Reg. at 25,263.

¹⁰⁷ Final Rule to Remove the Douglas County Distinct Population Segment of Columbian White-Tailed Deer from the Federal List of Endangered and Threatened Wildlife, 68 Fed. Reg. 43,652 (July 24, 2003).

¹⁰⁸ *Id.*

¹⁰⁹ *Id.*

¹¹⁰ Endangered Species Act, 16 U.S.C. § 1533 (a)(1)(a)-(e) (2000); 50 C.F.R. § 424.11 (d)(1984); *see also* Final Rule to Remove the Douglas County Distinct Population Segment of Columbian White-Tailed Deer from the Federal List of Endangered and Threatened Wildlife, 68 Fed. Reg. 43,652, 43,653 (July 24, 2003).

¹¹¹ Final Rule to Remove the Douglas County Distinct Population, 68 Fed. Reg. at 43,652-53.

¹¹² 16 U.S.C. § 1533 (g)(1); Final Rule to Remove the Douglas County Distinct Population, 68 Fed. Reg. at 42,657.

tion surveys; (2) data-gathering to track incidence of disease; and (3) assessment of habitat protection efforts.¹¹³

In April of 2006, FWS's Roseburg, Oregon, Field Office published the first report of assessment activities conducted pursuant to that plan.¹¹⁴ That report noted a "strong, upward trend" in the deer population, with total figures reaching 6,300 in 2005; an absence of increased mortality due to two diseases (adenovirus hemorrhagic disease and deer hair loss syndrome) endemic to the population; and the completion of several habitat restoration projects.¹¹⁵ In the end, the report concluded that "the deer in Douglas County remain secure, absent the protections provided by the Endangered Species Act."¹¹⁶

D. *Palau Fantail* (*Rhipidura lepida*), *Palau Ground Dove* (*Gallinula canifrons*), and *Palau Owl* (*Pyrroglaux (=Otus) podargina*)

Even further afield from the cool alpine habitat of Robbins' cinquefoil, in the far western recesses of the Central Pacific, one finds the islands of the Republic of Palau. For the most part, the republic is a cluster of volcanic and coral limestone islands, alternating between rocky forested highlands and forbidding coastal mangrove swamps.¹¹⁷ The Second World War brought Palau briefly to the United States' attention when U.S. Marines stormed ashore the island of Peleliu and the U.S. Army captured nearby Anguar. Over two months of fierce cave-by-cave fighting, often supported by flame-throwers, followed.¹¹⁸ The naval bombardments and land battles eventually left Palau's islands – destined to become part of the United States' post-war Trust Territory of the Pacific Islands – in U.S. hands. The ferocious fighting also, however, devastated the islands' wildlife, particularly Palau's bird population.

¹¹³ Final Rule to Remove the Douglas County Distinct Population, 68 Fed. Reg. at 43,657-58.

¹¹⁴ U.S. FISH & WILDLIFE SERV., 2003-2005 POST DELISTING MONITORING REPORT FOR THE DOUGLAS COUNTY DISTINCT POPULATION SEGMENT OF THE COLUMBIAN WHITE-TAILED DEER (2006), *available at* <http://www.fws.gov/oregonfwo/Species/Data/ColumbianWhiteTailedDeer/Documents/CWTDPostDelistingMonitoringReport2003-2005.pdf>.

¹¹⁵ *Id.* at 1-2.

¹¹⁶ *Id.* at 8.

¹¹⁷ OCEANIA: A REGIONAL STUDY 341 (Frederica M. Bunge & Melinda W. Cooke eds., 1st ed. 1984).

¹¹⁸ SAMUEL ELIOT MORISON, THE TWO-OCEAN WAR: A SHORT HISTORY OF THE U.S. NAVY IN THE SECOND WORLD WAR 427-28 (1963).

Those birds' numbers included LaPerouse's, or Micronesian, megapode (*Magapodius laperouse*), the Palau fantail, the Palau ground dove, and the Palau owl. The latter three are relevant to this article. The fantail is a small, sparrow-like bird with, as the name suggests, an unusually broad fan of tail feathers and a preference for dwelling in the islands' forests.¹¹⁹ Harder to spot is the Palau ground dove, the accurate assessment of which is hindered by inaccessible forest habitat, low population density, a secretive nature, and a "soft and infrequently voiced call."¹²⁰ The Palau owl, on the other hand, "is a vocal species, and can be readily located by its loud and persistent calls that are voiced during the night."¹²¹

On June 2, 1970, as part of its implementation of the Endangered Species Conservation Act of 1969, FWS published a list of 248 "Endangered Foreign Fish and Wildlife."¹²² That list included the Palau fantail, the Palau ground dove, and the Palau owl and, pursuant to the terms of the 1969 act, prohibited importing those species into the United States without a permit. Subsequent discussion of the birds' initially imperiled status cited the impact of the Second World War's battles on their populations and, in the case of the owl, suspected ingestion of the coconut rhinoceros beetle – an imported species believed to be capable, if swallowed alive, of burrowing its way out of an owl's stomach and killing the bird in the process.¹²³

By 1984, however, FWS had reconsidered the three species' status. On September 19, 1984, it proposed delisting each of the species, declaring "these species are distributed throughout their former range, are found in relatively high numbers, and are faced with no foreseeable threat."¹²⁴ It also admitted that the "original status information was meager and more recent and complete information is now available" – information that revealed "stable populations that survive at or near their respective carrying capaci-

¹¹⁹ Determination to Remove Three Palau Birds from the List of Endangered and Threatened Wildlife, 50 Fed. Reg. 37,192, 37,193 (Sept. 12, 1983). This bird is often mislabeled as the "Palau fantail flycatcher," a separate species, even in FWS documents. See E-mail from Eric VanderWerf to James L. Noles, Jr., author (Jan. 16, 2007) (on file with author).

¹²⁰ Determination to Remove Three Palau Birds from the List of Endangered and Threatened Wildlife, 50 Fed. Reg. at 37,193.

¹²¹ *Id.*

¹²² Conservation of Endangered Species and Other Fish or Wildlife, 35 Fed. Reg. 8,491, 8,496 (June 2, 1970).

¹²³ Proposal to Remove Three Palau Birds from the List of Endangered and Threatened Wildlife, 49 Fed. Reg. 36,665, 36,666 (proposed Sept. 19, 1984).

¹²⁴ Proposal to Remove Three Palau Birds, 49 Fed. Reg. at 36,665.

ties.”¹²⁵ Interestingly, FWS’s statement regarding its “original status information” comes close to admitting that an equally apt rationale for delisting might be that, rather than the species having recovered from the brink of extinction, the original data used in the species’ classification as endangered was erroneous.¹²⁶

At any rate, FWS’s solicitation of input on its delisting proposal garnered a total of two comments, one from the Trust Territories’ Chief Conservationist, the other from an ornithologist at Louisiana State University.¹²⁷ Both commentators agreed with FWS’s conclusions and supported the decision to delist.¹²⁸ Perhaps not surprisingly, therefore, on September 12, 1985, FWS removed the three species from its list of endangered and threatened wildlife.¹²⁹

Because they were delisted prior to the 1988 amendments to the ESA, a five-year monitoring program for these birds was not required. There is, therefore, no readily available formal data against which to assess FWS’s conclusions regarding the species’ ongoing recovery. Nor do the distant Palau fantail, ground dove, and owl demand attention, like the American alligator, by virtue of their very proximity. Nevertheless, ongoing survey efforts by the Palau Conservation Service for diurnal forest birds indicate that, today, the Palau fantail is “a common and widespread species” while, for its part, “the Palau ground dove appears to be fairly rare and only locally distributed.”¹³⁰ With respect to the Palau owl, “my impression is that it is reasonably widespread, but different surveys would be required to adequately assess its status,” said Eric VanderWerf, a former FWS employee who assisted the Palau Conservation Service with the surveys.¹³¹

E. Arctic Peregrine Falcon (Falco peregrinus tundrius) and American Peregrine Falcon (Falco peregrinus anatum)

Unlike the birds of Palau, isolated on their western Pacific archipelago, the peregrine falcon boasted a worldwide distribution with three distinct subspecies – Peale’s falcon, the Arctic peregrine

¹²⁵ Proposal to Remove Three Palau Birds, 49 Fed. Reg. at 36,667.

¹²⁶ U.S. GOV’T ACCOUNTING OFFICE, ENDANGERED SPECIES: MANAGEMENT IMPROVEMENTS COULD ENHANCE RECOVERY PROGRAM 18 (1988), available at <http://archive.gao.gov/d17t6/137715.pdf>.

¹²⁷ Determination to Remove Three Palau Birds from the List of Endangered and Threatened Wildlife, 50 Fed. Reg. 37,192, 37,193 (Sept. 12, 1985).

¹²⁸ *Id.*

¹²⁹ Determination to Remove Three Palau Birds, 50 Fed. Reg. at 37,192.

¹³⁰ See Email from Eric VanderWerf to James L. Noles, Jr., author (Jan. 14, 2007) (on file with author).

¹³¹ See *id.*

falcon, and the American peregrine falcon – found in North America.¹³² A medium-sized raptor with a wing-span of nearly four feet, the peregrine falcon is a handsome bird, white or buff-colored in the front with a bluish-gray back.¹³³ Talented fliers, they prey on other birds, and occasionally bats, snatching their prey out of mid-air in the sharp talons.¹³⁴ Although Peale's falcon is a year-long resident of the Pacific Northwest, the Arctic and American falcons migrate each winter to South America – thus its name "peregrine" is derived from the Latin word for "traveler."¹³⁵

The Arctic and American peregrine falcon populations declined precipitously in North America following World War II, primarily due to organochlorine pesticides such as DDT.¹³⁶ These pesticides consisted of stable, persistent chemical compounds which accumulated in the fatty tissues of animals eventually eaten by predators such as the falcon.¹³⁷ This poisoning of the falcons' food chain caused both direct mortality of falcons and, more insidiously, adverse impacts on the species' reproductivity.¹³⁸ For example, DDE, a metabolite of DDT, worked to prevent normal calcium deposition during eggshell formation, resulting in thin eggs susceptible to cracking and breakage during incubation.¹³⁹ Egg loss led, in some areas of North America, to a virtual cessation in successful reproduction.¹⁴⁰

By the 1970s, the American peregrine falcon was essentially extirpated east of the Rocky Mountains in the United States.¹⁴¹ Even in the Rocky Mountain region, where DDT use was less prevalent, the population declined by two-thirds and disappeared from Southern California altogether.¹⁴² In Alaska and Canada, the Arctic

¹³² Proposed Rule to Remove the Peregrine Falcon in North America from the List of Endangered and Threatened Wildlife, 63 Fed. Reg. 45,446 (proposed Aug. 26, 1998).

¹³³ Proposed Rule to Remove the Peregrine Falcon, 63 Fed. Reg. at 45,446.

¹³⁴ *Id.*

¹³⁵ Proposed Rule to Remove the Peregrine Falcon, 63 Fed. Reg. at 45,446-47; *see also* U.S. FISH & WILDLIFE SERVICE, PEREGRINE FALCON (1995).

¹³⁶ Proposed Rule to Remove the Peregrine Falcon in North America from the List of Endangered and Threatened Wildlife, 63 Fed. Reg. at 45,447; *see also* Proposal to Remove the Arctic Peregrine Falcon from the List of Endangered and Threatened Wildlife, 58 Fed. Reg. 51,035 (proposed Sept. 30, 1993).

¹³⁷ Proposed Rule to Remove the Peregrine Falcon in North America from the List of Endangered and Threatened Wildlife, 63 Fed. Reg. 45,446, 45,447 (proposed Aug. 26, 1998).

¹³⁸ *Id.*

¹³⁹ *Id.*

¹⁴⁰ *Id.*

¹⁴¹ *Id.*

¹⁴² *Id.*

peregrine falcon population apparently experienced a similar decline.¹⁴³ Only the Peale's peregrine falcon, relatively isolated from DDT exposure in the Pacific Northwest, seemed stable.¹⁴⁴ Recognizing the impending loss of the American and Arctic peregrine falcons, FWS listed those two subspecies as endangered under the Endangered Species Conservation Act of 1969.¹⁴⁵

As the years passed, however, it was not necessarily the protections afforded by the ESA that recovered North America's peregrine falcon population. Rather, much of the credit belongs to the restrictions placed on organochlorine pesticides: DDT was banned in Canada in 1970 and in the United States in 1972.¹⁴⁶ FWS declared that "[t]he most significant factor in the recovery of the peregrine falcon was the restriction placed on organochlorine pesticides."¹⁴⁷ Reintroduction of captive-bred birds also helped to augment the recovery effort, particularly in the eastern United States where the species had been extirpated.¹⁴⁸

By September 30, 1993, FWS was confident enough of the Arctic peregrine falcon's recovery to propose the species for delisting.¹⁴⁹ In a number of survey areas, the falcon's population had doubled or even tripled, approaching what scientists believe to be those habitats' so-called "carrying capacity."¹⁵⁰ Relatively speaking, the delisting proposal for this subspecies proved uncontroversial. FWS received a total of thirty-nine comments during a ninety-day comment period, with twenty-four supporting the delisting, five

¹⁴³ Proposal to Remove the Arctic Peregrine Falcon, 58 Fed. Reg. at 51,036.

¹⁴⁴ Proposed Rule to Remove the Peregrine Falcon in North America, 63 Fed. Reg. at 45,447.

¹⁴⁵ United States List of Endangered Native Fish and Wildlife, 35 Fed. Reg. 16,047 (Oct. 13, 1970). The foreign population was also listed as endangered. Both lists were subsequently combined with the passage of the Endangered Species Act of 1973.

¹⁴⁶ PBS.org, A Falconer's Memoir: When Is a Peregrine Like a Phoenix?, <http://www.pbs.org/falconer/man/ddt.htm> (last visited Mar. 13, 2009).

¹⁴⁷ Proposed Rule to Remove the Peregrine Falcon in North America from the List of Endangered and Threatened Wildlife, 63 Fed. Reg. 45,446, 45,448 (proposed Aug. 26, 1998); *see also* Proposal to Remove the Arctic Peregrine Falcon from the List of Endangered and Threatened Wildlife, 58 Fed. Reg. 51,035, 51,042 (proposed Sept. 30, 1993) (declaring that, with respect to the peregrine falcon in general and the Arctic peregrine falcon in particular, "an overwhelming body of evidence has been accumulated showing that organochlorine pesticide poisoning affected survival and reproductive performance sufficiently to cause the decline").

¹⁴⁸ Proposed Rule to Remove the Peregrine Falcon in North America, 63 Fed. Reg. at 45,448.

¹⁴⁹ Proposal to Remove the Arctic Peregrine Falcon, 58 Fed. Reg. at 51,035.

¹⁵⁰ Proposal to Remove the Arctic Peregrine Falcon, 58 Fed. Reg. at 51,036-37.

opposing it, and ten offering no position.¹⁵¹ In the end, FWS completed its analysis of the ESA's section 4(a)(1) factors, determined that delisting was appropriate, and declared that "[a] widespread recovery has followed restrictions on the use of organochlorine pesticides in the United States and Canada. This recovery indicates that the subspecies is no longer endangered or likely to become endangered within the foreseeable future in a significant portion of its range."¹⁵² Accordingly, FWS delisted the species.¹⁵³

Meanwhile, five regional American peregrine falcon recovery plans – four for American peregrine falcons in the western United States and Canada and one for the eastern United States introduced population – were developed and implemented.¹⁵⁴ An important component of several of these plans was the release of captivity-bred falcons, and, in southwest Canada, the northern Rocky Mountain states, and the Pacific Coast states alone, some 3,400 young falcons were released.¹⁵⁵ The success of these efforts, coupled with the species' ongoing recovery in the wake of the ban on organochlorine pesticides, led FWS, on June 30, 1995, to provide advanced notice of a pending proposal to delist the species.¹⁵⁶ That notice sparked 171 comment letters, with 92 supporting the proposal to delist, 46 opposing it altogether, 13 supporting a mere down-listing to threatened, and 20 expressing no opinion.¹⁵⁷

Encouraged by the response, FWS proceeded with its delisting effort in the summer of 1998.¹⁵⁸ By then, FWS could report that, with respect to a combined population size goal of 456 pairs, the American peregrine falcon population consisted of a minimum of 1,388 pairs of falcons occupying the raptor's range in Alaska, Canada, and the western United States.¹⁵⁹ Another 174 pairs could be

¹⁵¹ Removal of Arctic Peregrine Falcon from the List of Endangered and Threatened Wildlife, 59 Fed. Reg. 50,796, 50,798 (Oct. 5, 1994).

¹⁵² Removal of Arctic Peregrine Falcon, 59 Fed. Reg. at 50,802.

¹⁵³ *Id.*

¹⁵⁴ Advanced Notice of a Proposal to Remove the American Peregrine Falcon from the List of Endangered and Threatened Wildlife, 60 Fed. Reg. 34,406-07 (June 30, 1995).

¹⁵⁵ MICHAEL GREEN ET AL., U.S. FISH & WILDLIFE SERV., MONITORING RESULTS FOR BREEDING AMERICAN FALCONS (*FALCO PEREGRINUS ANATUM*), 2003, at 2 (2006), available at http://library.fws.gov/BTP/peregrine_breeding.pdf.

¹⁵⁶ Advanced Notice of a Proposal to Remove the American Peregrine Falcon, 60 Fed. Reg. at 34,406.

¹⁵⁷ Proposed Rule to Remove the Peregrine Falcon in North America, 63 Fed. Reg. at 45,455.

¹⁵⁸ Proposed Rule to Remove the Peregrine Falcon in North America, 63 Fed. Reg. at 45,446.

¹⁵⁹ *Id.*

found in the five recovery units included in the eastern recovery plan, and an additional 31 pairs were located in midwestern states not encompassed by the eastern plan.¹⁶⁰

FWS further found that habitat modification or destruction was not a limiting factor in the species' recovery and that the continuing protection afforded by the Migratory Bird Treaty Act (MBTA) would continue to prevent overutilization for commercial, recreational, scientific, or educational purposes.¹⁶¹ Nor was disease or predation (in the form of the great horned owl) affecting overall recovery.¹⁶² FWS further concluded that existing regulatory mechanisms, such as the MBTA and prohibitions on unregistered pesticide use, would continue to protect the species.¹⁶³ Finally, with regard to "[o]ther natural or manmade factors affecting [the falcon's] continued existence[,]" FWS reiterated its determination that organochlorine pesticides had been the major culprit in the falcon's decline, and that their disuse would enable the species' continued recovery.¹⁶⁴

FWS announced its intention to delist the species on August 26, 1998, and initiated a three-month comment period that included a pair of public hearings and a formal scientific review peer review process.¹⁶⁵ This time, the public comment period garnered 29 oral comments and 893 comment letters, with 633 supporting the delisting.¹⁶⁶ By then, FWS could report 1,425 pairs in the western United States, Alaska, and Canada, in addition to pairs reported in the Midwest and the eastern United States, and it found arguments that the species had not recovered to be unconvincing.¹⁶⁷ It also rejected arguments that the species had to be recov-

¹⁶⁰ *Id.*

¹⁶¹ Proposed Rule to Remove the Peregrine Falcon in North America, 63 Fed. Reg. at 45,457.

¹⁶² Proposed Rule to Remove the Peregrine Falcon in North America, 63 Fed. Reg. at 45,457-58.

¹⁶³ Proposed Rule to Remove the Peregrine Falcon in North America, 63 Fed. Reg. at 45,458.

¹⁶⁴ Proposed Rule to Remove the Peregrine Falcon in North America, 63 Fed. Reg. at 45,456-60.

¹⁶⁵ Proposed Rule to Remove the Peregrine Falcon in North America, 63 Fed. Reg. at 45,446; *see also* Final Rule to Remove the American Peregrine Falcon from the Federal List of Endangered and Threatened Wildlife, and To Remove the Similarity of Appearance Provision for Free-Flying Peregrines in the Coterminous United States, 64 Fed. Reg. 46,542, 46,550 (Aug. 25, 1999).

¹⁶⁶ Final Rule to Remove the American Peregrine Falcon, 64 Fed. Reg. at 46,550.

¹⁶⁷ Final Rule to Remove the American Peregrine Falcon, 64 Fed. Reg. at 46,551.

ered in each area within its historic range, noting that the ESA contained no such requirement.¹⁶⁸

Instead, the Service's analysis of the enumerated section 4(a)(1) factors assured FWS that recovery had occurred and that the species' survival was not endangered or threatened in the foreseeable future.¹⁶⁹ Important data points for FWS's conclusion included, in addition to the rebounding population numbers, the ongoing restrictions on organochlorine pesticide use and the continued protections available under the MBTA and state laws.¹⁷⁰ Accordingly, FWS delisted the American peregrine falcon effective August 25, 1999.¹⁷¹

Subsequent monitoring, as reported by FWS, seems to justify that decision. In 2003, the Service implemented the first of five nationwide monitoring efforts for the falcon, with more than 300 observers monitoring 438 falcon locations across six monitoring regions.¹⁷² The results of that effort documented the total number of nesting pairs at 3,005 and led FWS to conclude that the falcon's population "is secure and vital."¹⁷³ Furthermore, a second round of monitoring was completed in 2006, and, according to FWS, "preliminary results indicate that the peregrine population continues to grow."¹⁷⁴ FWS stated that "[f]inal results and analyses from 2006 will be published in a report in the summer of 2007" and that "[m]onitoring will continue in 2009, 2012 and 2015."¹⁷⁵

"The 1972 ban [on DDT] kicked off a comeback," declared *National Geographic* magazine in 2008, offering a short summary of the bird's fate since its delisting. It labeled the falcon's recovery "an endangered species success story."¹⁷⁶

¹⁶⁸ *Id.*

¹⁶⁹ Final Rule to Remove the American Peregrine Falcon, 64 Fed. Reg. at 46,556.

¹⁷⁰ Final Rule to Remove the American Peregrine Falcon, 64 Fed. Reg. at 46,554-56.

¹⁷¹ Final Rule to Remove the American Peregrine Falcon, 64 Fed. Reg. at 46,542.

¹⁷² GREEN ET AL., *supra* note 155, at 1-2.

¹⁷³ *Id.* at 1.

¹⁷⁴ World's Fastest Bird Continues to Rebound, News Release (U.S. Fish & Wildlife Serv.), Oct. 10, 2006, <http://www.fws.gov/news/NewsReleases/showNews.cfm?newsId=33259AAF-DFFB-AD8C-6E348975F8B6468F>.

¹⁷⁵ *Id.*

¹⁷⁶ Helen Fields, *A Twist of the List*, NAT'L GEOGRAPHIC, Mar. 2008, at 24, 24.

F. *Eastern Gray Kangaroo* (*Macropus giganteus*), *Western Gray Kangaroo* (*Macropus fuliginosus*), and *Red Kangaroo* (*Macropus rufus*)

As do the birds of Palau, Australia's eastern gray kangaroo, the western gray kangaroo, and the red kangaroo occupy an unusual niche in the pantheon of "recovered" species, thanks to their foreign status. Unlike the obscure birds of that Pacific archipelago, however, these species require little description. Kangaroos are arguably one of the most distinctive and readily recognizable animals on the planet. Other than coloration and size (standing as tall as two meters, the red kangaroo is the largest living marsupial), the primary difference in these three species of kangaroo is their habitat.¹⁷⁷ Red kangaroos live primarily in the dry inland areas of Australia, including the continent's desert and grasslands.¹⁷⁸ Eastern and western gray kangaroos, however, apparently prefer a wetter climate and live throughout "eastern Australia and across the southern coast to south-west Western Australia."¹⁷⁹

The British expedition led by Captain James Cook marked the Europeans' first encounter with the kangaroo. In 1770, Cook described the animal as follows:

The head, neck, and shoulders are very small in proportion to the other parts of the body; the tail is nearly as long as the body, thick near the rump, and tapering towards the end . . . its progress is by successive leaps or hops, of a great length, in an erect posture; the fore-legs are kept bent close to the breast, and seemed to be of use only for digging; the skin is covered with a short fur, of a dark gray or mouse color, excepting the head and ears, which bear a slight resemblance to those of a hare . . .

The next day our kangaroo was dressed for dinner, and proved most excellent meat . . .¹⁸⁰

Within two decades, English colonists arrived on Australia's shores and quickly began competing with the kangaroos for scant forage. A little over a century later, a globe-trotting English visitor observed that "[t]he kangaroo is becoming as scarce here as the buffalo in the States."¹⁸¹ "The kangaroo remains, of course, the most interest-

¹⁷⁷ See Australian Government, Dep't of the Environment, Water, Heritage, & the Arts, Kangaroo Biology, <http://www.deh.gov.au/biodiversity/trade-use/wild-harvest/kangaroo/biology.html> (last visited Mar. 13, 2009).

¹⁷⁸ *Id.*

¹⁷⁹ *Id.*

¹⁸⁰ JAMES COOK, THE VOYAGES OF CAPTAIN JAMES COOK 272-73 (1842).

¹⁸¹ 2 H.R. HAWEIS, TRAVEL AND TALK, 1885-93-95: MY HUNDRED THOUSAND MILES OF TRAVEL THROUGH AMERICA, AUSTRALIA, TASMANIA, CANADA, NEW ZEALAND, CEYLON, AND THE PARADISES OF THE PACIFIC 102 (1896).

ing and singular of all the Australian creatures, and with the emu rightly supports the country's shield," he continued.¹⁸² "Still the kangaroo must go. He eats grass, and there is not enough grass for the sheep. His tail makes good soup, and his hams are not bad when cured, but there is too much meat over here, and people prefer mutton."¹⁸³

By all accounts, Australia's kangaroos continued on that precipitous course for the next eight decades. On December 30, 1974, FWS announced the listing of the eastern gray kangaroo, the western gray kangaroo, and the red kangaroo as threatened wildlife under the Endangered Species Act.¹⁸⁴ Considering the species' status in the wake of a five-week fact-finding visit to Australia, FWS biologists identified a number of pertinent factors. In particular, FWS noted habitat pressure on the western gray kangaroo from a growing agricultural presence in Western Australia, the potential for excessive hunting in the absence of adequate regulatory controls, a lack of coordination between the regulatory agencies in the various Australian states (and, to some extent, funding limitations), and an absence of formal preserves.¹⁸⁵ Analysis of such factors led FWS to conclude that, while the species did not warrant listing as endangered, listing of the species as threatened was appropriate.¹⁸⁶ Later, FWS more succinctly summarized the reasons for its listing decision as follows:

This action was taken essentially for the following reasons: (1) There was no clear evidence available to the Service at the time that overall take was being carefully regulated and monitored by the various Australian States; (2) no reliable estimates of kangaroo numbers were available to the Service from most of the Australian States; and (3) the Australian government had expressed concern over kangaroo populations and imposed a ban on kangaroo exports. Because of the widespread fear that too many kangaroos were being killed to sustain viable populations, the Service considered it a prudent conservation move to classify the three major trade species (red, eastern gray, and western gray kangaroos) as Threatened.¹⁸⁷

¹⁸² *Id.*

¹⁸³ *Id.* at 102-03.

¹⁸⁴ Miscellaneous Amendments, 39 Fed. Reg. 44,990 (Dec. 30, 1974) (amending 50 C.F.R. § 17).

¹⁸⁵ Miscellaneous Amendments, 39 Fed. Reg. at 44,990-91.

¹⁸⁶ *Id.*

¹⁸⁷ Proposed Removal of Red, Eastern Gray, and Western Gray Kangaroos from the U.S. List of Threatened and Endangered Wildlife, 48 Fed. Reg. 15,428 (proposed Apr. 8, 1983).

Accordingly, FWS listed the three kangaroo species as threatened and prohibited their importation into the United States until such time that pertinent Australian states certified viable sustained-yield programs that did not threaten the species' ongoing survival.¹⁸⁸

By 1981, Australia's states had provided the requisite certification, and, in turn, FWS permitted commercial importation of those kangaroos into the United States over the course of a two year period.¹⁸⁹ On November 10, 1982, Australia followed its certification with a formal petition to FWS that the Service remove the kangaroos from its list of threatened and endangered wildlife altogether.¹⁹⁰ In response, FWS proposed, on April 8, 1983, to delist those three species.¹⁹¹ "[A]erial surveys," the proposal noted, "have demonstrated that red, eastern gray, and western gray kangaroos do indeed occur in very large numbers."¹⁹² Survey figures indicated populations of at least 10.5 million red kangaroos and at least 7.5 million eastern and western gray kangaroos.¹⁹³ "Thus, we have a situation where literally millions of kangaroos range over a sparsely inhabited region (total population about 15,000,00 [sic] people) of more than 2,500,000 sq[ua]re miles."¹⁹⁴

The proposal to delist the kangaroos further noted that (1) population monitoring programs demonstrated that the status of the kangaroos had not been affected by lifting the U.S. import ban; (2) kangaroo populations, rather than being cyclical, actually fluctuate and there was no evidence that such fluctuations were of such magnitude to cause concern with respect to culling pressure on the species; (3) the Australian government had provided assurances that, should the species suffer an unforeseen decline, it would curtail the commercial harvest of the species; and (4) FWS was convinced that Australian law was "adequate to deal with any threat to kangaroos caused by man."¹⁹⁵

Subsequent events, however, temporarily derailed FWS's efforts to delist the three species of kangaroos. First, a drought in the summer of 1982-1983 caused significant reductions in kangaroo

¹⁸⁸ Miscellaneous Amendments, 39 Fed. Reg. at 44,991-92.

¹⁸⁹ Proposed Removal of Red, Eastern Gray, and Western Kangaroos, 48 Fed. Reg. at 15,428.

¹⁹⁰ *Id.*

¹⁹¹ *Id.*

¹⁹² Proposed Removal of Red, Eastern Gray, and Western Gray Kangaroos, 48 Fed. Reg. at 15,429.

¹⁹³ *Id.*

¹⁹⁴ Proposed Removal of Red, Eastern Gray, and Western Gray Kangaroos, 48 Fed. Reg. at 15,432.

¹⁹⁵ Proposed Removal of Red, Eastern Gray, and Western Gray Kangaroos, 48 Fed. Reg. at 15,431-32.

populations and raised questions as to the scope of the species' ability to recover.¹⁹⁶ Second, Greenpeace USA, with subsequent support from other groups, petitioned FWS on December 20, 1989, "to reinstate the ban on commercial importation of kangaroos and kangaroo products."¹⁹⁷ In response, a FWS team visited Australia, studied the kangaroos' status and, in particular, focused on the Australian government's management of those particular kangaroo populations.¹⁹⁸ A report on the team's findings followed. FWS publicly noticed the team's report and solicited public comments from August 8, 1990, to November 6, 1990.¹⁹⁹ The responses to that comment period included a petition by the Wildlife Legislative Fund that requested FWS to proceed with the delisting.²⁰⁰ Accordingly, an additional comment period followed to solicit further comments on the Wildlife Legislative Fund's petition.²⁰¹ That period lasted from June 12, 1991, until September 24, 1991.²⁰²

On January 21, 1993, FWS again proposed to delist the red, eastern gray, and western gray kangaroos.²⁰³ The Service noted that previous proposals, notably its report of August 8, 1990, and the Wildlife Legislative Fund petition that was publicly noticed on June 12, 1991, had garnered "over 32,000 cards and letters bearing about 35,000 signatures from citizens of more than 40 countries Virtually all correspondents supported the request to continue to ban the importation of kangaroo products into the U.S. and/or advocated the retention of threatened status for the species."²⁰⁴ On the other hand, however, the Service noted that a delisting decision "seems consistent with listing decisions made by other bodies."²⁰⁵ In particular, it identified the Appendices to the Convention in International Trade in Endangered Species of Wild Fauna and Flora as not listing the kangaroos.²⁰⁶ Furthermore, it noted that not only did the Australian Conservation Foundation describe the species as "abundant," but also that neither the International Union for Con-

¹⁹⁶ Removal of Three Kangaroos from the List of Endangered and Threatened Wildlife, 60 Fed. Reg. 12,887, 12,888 (Mar. 9, 1995).

¹⁹⁷ *Id.*

¹⁹⁸ *Id.*

¹⁹⁹ Removal of Three Kangaroos, 60 Fed. Reg. at 12,893.

²⁰⁰ *Id.*

²⁰¹ *Id.*

²⁰² Removal of Three Kangaroos, 60 Fed. Reg. at 12,888.

²⁰³ Notice of Finding on Petitioned Action and a Proposed Rule Pertaining to Three Species of Kangaroos in Mainland Australia, 58 Fed. Reg. 5,341, 5,341 (proposed Jan. 21, 1993).

²⁰⁴ Notice of Finding, 58 Fed. Reg. at 5,342.

²⁰⁵ *Id.*

²⁰⁶ *Id.*

servation of Nature and Natural Resources, the Council of Nature Conservation Ministers, World Wide Fund for Nature Australia, nor the Fund for Animals, Ltd. listed the kangaroos as endangered, threatened, or vulnerable.²⁰⁷

The proposal addressed a number of general or recurring comments, analyzed the kangaroos' status and likely future in light of the ESA's Section 4(a)(i) factors, and, in the end, concluded that "present kangaroo populations are substantial and kangaroo management programs have been developed and implemented that are sufficient to maintain sustainable kangaroo populations throughout their present range."²⁰⁸ Proposing to delist those three species of kangaroo, the Service announced a forty-five day comment period on the proposal on January 18, 1993.²⁰⁹ It subsequently extended that comment period until March 7, 1994, to allow consideration of recent population estimates provided by the Australian Nature Conservation Agency.²¹⁰ That agency reported the following 1993 population figures for the kangaroos: 8,566,400 red kangaroos, 10,800,000 eastern gray kangaroos, and as many as 2,064,600 western gray kangaroos within the surveyed Commercial Utilization Areas.²¹¹

During the comment period, FWS received approximately 740 comments.²¹² "Virtually all correspondents supported the request to ban the importation of kangaroo products into the United States and/or advocated the retention of threatened status for the species," FWS admitted.²¹³ "Most comments provided no substantive information on these issues," it added, and noted that some 700 responses seemed to have been generated by an "Action Alert" issued by the Humane Society of the United States.²¹⁴ With the submitted comments in hand, FWS completed its analysis of the data and information otherwise developed and proceeded to evaluate the kangaroos' status pursuant to the five listing criteria established by the ESA.²¹⁵ At the end of that analysis, FWS concluded that delisting was indeed warranted and, on March 9, 1995, announced

²⁰⁷ *Id.*

²⁰⁸ Notice of Finding, 58 Fed. Reg. at 5,349.

²⁰⁹ Notice of Finding, 58 Fed. Reg. at 5,351.

²¹⁰ Additional Comment Period on the Proposed Ruling Pertaining to Three Species of Kangaroos in Mainland Australia, 59 Fed. Reg. 8163, 8163 (Feb. 18, 1994).

²¹¹ Additional Comment Period, 59 Fed. Reg. at 8164.

²¹² Removal of Three Kangaroos from the List of Endangered and Threatened Wildlife, 60 Fed. Reg. 12,887, 12,889 (Mar. 9, 1995).

²¹³ *Id.*

²¹⁴ *Id.*

²¹⁵ Removal of Three Kangaroos, 60 Fed. Reg. at 12,895-904.

the removal of the three kangaroos from the threatened species list.²¹⁶

A snapshot of kangaroo populations ten years later evidences some population declines but, in general, buttresses FWS's decision regarding the kangaroos, particularly in light of an ongoing drought.²¹⁷ According to Australia's Department of Environment, Water, Heritage and the Arts, the estimated kangaroo populations within the commercial harvest areas were, in 2006, as follows: 7,892,774 red kangaroos, 10,424,926 eastern gray kangaroos, and 2,642,224 western gray kangaroos.²¹⁸

G. *Aleutian Canada Goose* (*Branta canadensis leucopareia*)

The Aleutian Canada goose is a small subspecies of Canada goose, distinctive from other subspecies thanks to a distinct white neck ring at the base of its black neck.²¹⁹ It is also distinguished by an "abrupt forehead, separation of the white cheek patches by black feathering along the throat, and a narrow border of dark feathering at the base of the white neck ring."²²⁰ Historically, it resided in the Aleutian Archipelago and on islands south of the Alaskan Peninsula east to near Kodiak Island when it was not wintering in Japan or along the United States' Pacific Coast south to Mexico.²²¹

Unfortunately, fur traders believed those same islands could essentially serve as pens for the Arctic and red fox, and, from 1750 to 1936, traders introduced such foxes to more than 190 islands in the goose's breeding range.²²² The result was devastating and, by 1967, its known breeding range was believed to be limited to the small, isolated Aleutian island of Buldir, where the foxes had not

²¹⁶ Removal of Three Kangaroos, 60 Fed. Reg. at 12,904.

²¹⁷ AUSTRALIAN GOVERNMENT, DEP'T OF ENVIRONMENT, WATER, HERITAGE, & THE ARTS, BACKGROUND INFORMATION: COMMERCIAL KANGAROO AND WALLABY HARVEST QUOTAS 4 (1995), available at <http://www.environment.gov.au/biodiversity.trade-use/publications/kangaroo/pubs/2007-commercial-harvest-quotas.pdf>.

²¹⁸ Australian Government, Dep't of Environment, Water, Heritage, & the Arts, Population Estimates of Kangaroos Within the Commercial Harvest Areas, <http://www.environment.gov.au/biodiversity/trade-use/wild-harvest/kangaroo/population/2006.html> (last visited Mar. 13, 2009).

²¹⁹ Proposal to Remove the Aleutian Canada Goose from the List of Endangered and Threatened Wildlife, 64 Fed. Reg. 42,058, 42,058 (proposed Aug. 3, 1999).

²²⁰ *Id.*

²²¹ *Id.*

²²² *Id.*

been introduced.²²³ Hunting along the geese's migratory flyways exacerbated the species' decline.²²⁴

Reacting to the species' decline, FWS classified the Aleutian Canada goose as endangered on March 11, 1967, on the Service's inaugural list of endangered species.²²⁵ Spurred by the passage of the ESA in 1973, FWS began active recovery efforts aimed at the goose in 1974.²²⁶ At the time, the task of recovery appeared formidable. A spring count at a principal migration stopover near Crescent City, California, in 1975 counted only 790 birds.²²⁷

To achieve recovery, FWS developed a recovery program including

banding of birds on the breeding grounds to identify important wintering and migration areas; closure of principal wintering and migration areas to hunting of all Canada geese; acquisition, protection and management of important wintering and migration habitat; removal of foxes from potential nesting islands; propagation and release of captive Aleutian Canada geese on fox-free nesting islands in the Aleutians; and translocation of molting family groups of wild geese from Buldir Island to other fox-free islands in the Aleutians.²²⁸

The closure of hunting areas in California and Oregon proved successful, as did the translocation of family groups to other islands.²²⁹ The release of captive birds proved less successful.²³⁰ Nevertheless, FWS was able to report increases in the geese population from 1975 to 1989 at annual rates ranging from 6 to 35 percent and a peak winter count in 1989/1990 of 6,300 geese.²³¹ Encouraged by this success, FWS reclassified the species from endangered to threatened on December 12, 1990.²³² At the time, however, it warned that, "due to the small size of reestablished breeding populations, the continued presence of introduced arctic fox on many former

²²³ *Id.* Subsequently, scientists discovered remnant populations on Chagulak Island in the Aleutians and on Kiliktagik Island south of the Alaska Peninsula. See Reclassification of the Aleutian Canada Goose from Endangered to Threatened Status, 55 Fed. Reg. 51,106, 51,110 (Dec. 12, 1990).

²²⁴ Proposal to Remove the Aleutian Canada Goose, 64 Fed. Reg. at 42,059.

²²⁵ Native Fish and Wildlife, Endangered Species, 32 Fed. Reg. 4,001 (Mar. 11, 1967).

²²⁶ Proposal to Remove the Aleutian Canada Goose, 64 Fed. Reg. at 42,059.

²²⁷ *Id.*

²²⁸ *Id.*

²²⁹ *Id.*

²³⁰ Proposal to Remove the Aleutian Canada Goose, 64 Fed. Reg. at 42,060.

²³¹ *Id.*

²³² Reclassification of the Aleutian Canada Goose from Endangered to Threatened Status, 55 Fed. Reg. 51,106, 51,106 (Dec. 12, 1990).

nesting islands, and threats to the species on the wintering grounds from habitat alteration and disease, the Service finds that delisting is premature."²³³

The passage of nearly a decade brought further success to the goose's recovery effort. By 1999, FWS was able to estimate the total species population at some 32,000 individuals, with the total population boasting an overall annual growth rate of 14%.²³⁴ This was well in excess of the first goal of the species' recovery plan; to wit, an overall population of at least 7,500.²³⁵ FWS admitted that not all components of the species' recovery plan had been fulfilled (notably the establishment of at least fifty breeding pairs on Alaska's Semidi Islands and the securing of 25,000-35,000 acres of feeding and roosting habitat for migrating birds).²³⁶ Nevertheless, in the opinion of FWS, "the explosive growth of the western Aleutian breeding segment assures the future viability of the Aleutian Canada goose subspecies."²³⁷ Other contributing factors included ongoing fox removal from several islands, continued acquisition of conservation habitat, and the continued protection afforded by the MBTA.²³⁸

Accordingly, on March 20, 2001, FWS announced the removal of the Aleutian Canada goose from its list of endangered and threatened species.²³⁹ In that announcement, FWS credited the goose's recovery primarily to four activities: the removal of introduced foxes from some of the nesting islands; the release of captive-reared and wild, translocated family groups of geese to fox-free islands to establish new breeding colonies; protection of the Aleutian Canada goose throughout its range from mortality due to hunting and disease; and protection and management of migration and wintering habitat.²⁴⁰ In that same announcement, FWS committed, pursuant to section 4(g)(1) of the ESA, to at least a five-year monitoring plan of the purportedly recovered species.²⁴¹ That plan reportedly encompasses (1) monitoring population size on wintering and migration areas; (2) monitoring productivity of the Semidi Islands population segment on the wintering grounds; and (3)

²³³ Reclassification of the Aleutian Canada Goose, 55 Fed. Reg. at 51,111.

²³⁴ Proposal to Remove the Aleutian Canada Goose, 64 Fed. Reg. at 42,060.

²³⁵ Proposal to Remove the Aleutian Canada Goose, 64 Fed. Reg. at 42,061.

²³⁶ Proposal to Remove the Aleutian Canada Goose, 64 Fed. Reg. at 42,061-62.

²³⁷ Proposal to Remove the Aleutian Canada Goose, 64 Fed. Reg. at 42,063.

²³⁸ Proposal to Remove the Aleutian Canada Goose, 64 Fed. Reg. at 42,064-66.

²³⁹ Final Rule to Remove the Aleutian Canada Goose from the Federal List of Endangered and Threatened Wildlife, 66 Fed. Reg. 16,643 (Mar. 20, 2001).

²⁴⁰ *Id.*

²⁴¹ Final Rule to Remove the Aleutian Canada Goose, 66 Fed. Reg. at 16,665.

monitoring the status of breeding birds on nesting islands in Alaska over at least a five-year period.²⁴²

Although a comprehensive report on the progress of the aforementioned plan is not yet available, Greg Balogh, a biologist with FWS's Endangered Species Program in Anchorage, Alaska, reports that bird counts of the wintering population in California and Oregon in the winter and spring of 2004-2005 estimated 63,774 birds in the Humboldt Bay/Crescent City area alone.²⁴³ Those figures are incorporated in the Pacific Flyway Council's *Pacific Flyway Databook 2005* at *Appendix A, Summary of Goose Population Monitoring Programs, 2004-2005*, and in particular in the *Observations of Neck-banded Aleutian Canada Geese Progress Report (July 2005)* contained therein. Although the 2004-2005 figures mark a decrease from an estimated high of nearly 70,000 geese observed at the birds' spring staging areas in California and Oregon in 2003-2004, the overall trend remains a positive one since the time of delisting.²⁴⁴ A waterfowl population status report published by FWS in 2008 offered further cause for optimism. That report reported 800 geese in 1974; 34,300 in 2000; and 114,000 in 2008.²⁴⁵

H. *Tinian Monarch* (*Monarcha takatsukasae*)

The Tinian Monarch was identified as a distinct species in 1931 by the famed Japanese ornithologist Yoshimaro Yamashina.²⁴⁶ Yamashina found the song bird on Tinian, a thirty-eight square mile island in the Pacific's Commonwealth of the Northern Mariana Islands. Yamashina's new species was a six-inch-long flycatcher, with light reddish-orange underparts, olive-brown upper parts, dark brown wings and tail, and a white rump and overtail.²⁴⁷ A forest dweller, the bird faced significant habitat loss on Tinian through a series of historic events: Spanish use of the island in the

²⁴² *Id.*

²⁴³ E-mail from Greg Balogh to James L. Noles, Jr., author (Jan. 8, 2007) (on file with author) (citing KENNETH M. GRIGGS, ALEUTIAN CACKLING GOOSE MONITORING PROGRAM: SUMMARY OF REPORTS FROM THE SACRAMENTO VALLEY, SAN JOAQUIN VALLEY, AND THE COAST OF NORTHERN CALIFORNIA AND SOUTHERN OREGON, 2004-2005 (2005)).

²⁴⁴ Pacific Flyway Council, *Observations of Neckbanded Aleutian Canada Geese Progress Report*, in 2005 PACIFIC FLYWAY DATA BOOK app. A, at 5 (2005).

²⁴⁵ U.S. FISH & WILDLIFE SERV., WATERFOWL POPULATION STATUS, 2008, at 62 (2008), available at <http://www.fws.gov/migratorybirds/reports/status08/StatusReport2008.pdf>.

²⁴⁶ Proposed Rule to Remove the Tinian Monarch from the Federal List of Endangered and Threatened Wildlife, 64 Fed. Reg. 8,533 (proposed Feb. 22, 1999).

²⁴⁷ Proposed Rule to Remove the Tinian Monarch, 64 Fed. Reg. at 8,533.

18th century as grazing land for large herds of cattle and goats; a Japanese company's lease of the entire island in 1926 for sugarcane production; the destruction, during combat or during subsequent military construction, of Tinian's remaining forests during World War II; and the growth of tangantangan thickets, which, as of 1999, constituted between a third and a half of the island's vegetation.²⁴⁸

In the face of what seemed to be low numbers of surviving birds, FWS listed the Tinian Monarch as endangered in 1970 under the authority of the Endangered Species Conservation Act of 1969.²⁴⁹ Explaining that decision some thirty years later, FWS stated:

We based our decision to list the monarch as endangered on an estimate by Gleize of 40-50 monarchs on Tinian after WWII, although it is not clear if his report was an estimate of the number of birds he saw, or an estimate of the entire population. Pratt et al. suggested that this estimate represented only the number of birds Gleize observed in a specific, small part of the island. About the same time as Gleize, Downs reported that monarchs restricted in distribution to distinct locations on the island, while Marshall considered the monarch to be abundant. In the late 1970s, Pratt et al. estimated monarchs to number in the tens of thousands and to prefer tangantangan thickets.²⁵⁰

In 1982, FWS conducted forest bird surveys of the southern Mariana Islands and, at that time, found the monarch to be "the second most abundant species on Tinian with a population estimate of 40,000, distributed throughout the island and across all forested habitat types."²⁵¹ Apparently, the bird had adapted zestfully to the shrubbery provided by the tangantangan thickets.²⁵² Such survey results spurred FWS, in 1985, to propose removing the Tinian Monarch from the endangered and threatened species list altogether; however, public comments made in 1987 convinced FWS to merely reclassify the bird as threatened.²⁵³

²⁴⁸ Proposed Rule to Remove the Tinian Monarch, 64 Fed. Reg. at 8,534.

²⁴⁹ Conservation of Endangered Species and Other Fish or Wildlife, 35 Fed. Reg. 8,491 (June 2, 1970).

²⁵⁰ Proposed Rule to Remove the Tinian Monarch, 64 Fed. Reg. at 8,534 (dates omitted from quotation).

²⁵¹ Proposed Rule to Remove the Tinian Monarch, 64 Fed. Reg. at 8,534 (date omitted from quotation).

²⁵² Proposal to Remove the Tinian Monarch Flycatcher from the List of Endangered and Threatened Wildlife, 50 Fed. Reg. 45,632, 45,632 (proposed Nov. 1, 1985).

²⁵³ Proposal to Remove the Tinian Monarch Flycatcher, 50 Fed. Reg. at 45,632; Reclassification of the Tinian Monarch from Endangered to Threatened Status, 52 Fed. Reg. 10,890, 10,890 (Apr. 6, 1987).

A decade later, the National Wilderness Institute submitted a petition to FWS on February 3, 1997, which requested that the Tinian Monarch be delisted altogether.²⁵⁴ This request came on the heels of a FWS survey in 1996 that estimated the species' population at 55,721 birds.²⁵⁵ In response, FWS undertook an analysis of the Tinian Monarch that examined the bird's status and prospects with respect to the ESA's five listing factors.

Much of that analysis focused on the factor which addressed "present or threatened destruction, modification or curtailment of its habitat or range."²⁵⁶ With respect to that factor, FWS relied heavily on the bird's apparent adaptation to the tangantangan habitat and the U.S. Navy's long-term lease of 71% of the island for training – a lease that, to date, has had "little to no impact" on the monarch population – to conclude that such threats were negligible, even in the face of a growing civilian population on the island.²⁵⁷ Another factor, "disease or predation," focused on the potential for the introduction of Guam's brown tree snake (*Boiga irregularis*) to the island, but FWS took comfort in ongoing, and apparently successful, snake control measures.²⁵⁸ Similarly, FWS deemed existing regulatory mechanisms, particularly strict quarantine laws, to be protective of the birds.²⁵⁹ FWS solicited comments on the proposed delisting; in response, it received only two, neither of which directly opposed the delisting.²⁶⁰

The public comment period eventually garnered two comments, neither of which directly opposed the delisting.²⁶¹ Accordingly, FWS formally delisted the Tinian Monarch from its list of threatened species on September 21, 2004.²⁶² It also stated that a post-delisting monitoring plan would be undertaken for at least five years to monitor the bird's status.²⁶³ Such monitoring will take place from 2006 through 2010.²⁶⁴

²⁵⁴ Proposed Rule to Remove the Tinian Monarch, 64 Fed. Reg. at 8,535.

²⁵⁵ Proposed Rule to Remove the Tinian Monarch, 64 Fed. Reg. at 8,534.

²⁵⁶ Proposed Rule to Remove the Tinian Monarch, 64 Fed. Reg. at 8,535-36.

²⁵⁷ Proposed Rule to Remove the Tinian Monarch, 64 Fed. Reg. at 8,535.

²⁵⁸ *Id.*

²⁵⁹ Proposed Rule to Remove the Tinian Monarch, 64 Fed. Reg. at 8,535-37.

²⁶⁰ Proposed Rule to Remove the Tinian Monarch, 64 Fed. Reg. at 8,537; Final Rule to Remove the Tinian Monarch from the Federal List of Endangered and Threatened Wildlife, 69 Fed. Reg. 56,367, 56,368 (Sept. 21, 2004).

²⁶¹ Final Rule to Remove the Tinian Monarch, 69 Fed. Reg. at 56,368.

²⁶² *Id.*

²⁶³ Final Rule to Remove the Tinian Monarch, 69 Fed. Reg. at 56,372.

²⁶⁴ Fish and Wildlife Service, Notice of Availability of the Post-delisting Monitoring Plan for the Tinian Monarch, 70 Fed. Reg. 33,522 (June 8, 2005).

I. Brown Pelican (Pelcanus occidentalis)

When John James Audubon penned a description of the brown pelican in 1844, he offered a prescient observation of the bird's future:

The Pelicans in fact are, year after year, retiring from the vicinity of man, and although they afford but very unsavory food at any period of their lives, will yet be hunted beyond the range of civilization, just as our best of all game, the Wild Turkey, is now, until to meet with them the student of nature will have to sail around Terra del Fuego.²⁶⁵

For years, the pelicans retreated in the face of an encroaching human population. By the latter half of the 20th century, however, the birds faced an insidious enemy from which they could not flee – modern-day organochlorine pesticides such as DDT and endrin.²⁶⁶ Such chemicals sparked what FWS described as a "population crash," which caused, between 1957 and 1961, the virtual disappearance of the 50,000 pelicans that formerly nested along the Texas and Louisiana coasts.²⁶⁷ Birds along the Atlantic and Pacific coasts faced similar, although not quite as catastrophic, challenges.²⁶⁸ Accordingly, on October 13, 1970, FWS listed the brown pelican as endangered throughout its entire range in the United States.²⁶⁹ Shortly thereafter, the United States Environmental Protection Agency banned the use of DDT in the United States on October 13, 1972, and sharply curtailed the use of endrin.²⁷⁰

With DDT banned and endrin's use limited, the residual levels of those pesticides in the environment – and in the pelican's food chain – began falling.²⁷¹ Pelican populations responded by rebounding. By 1983, surveys counted the following numbers of brown pelican nesting pairs in the United States: 6,980 in Florida; 4,919 in South Carolina; 1,250 in North Carolina; and four on a

²⁶⁵ JOHN J. AUDUBON, THE BIRDS OF AMERICA 38 (1844).

²⁶⁶ Removal of the Brown Pelican in the Southeastern United States from the List of Endangered and Threatened Wildlife, 50 Fed. Reg. 4,938, 4,938 (Feb. 4, 1985).

²⁶⁷ Removal of the Brown Pelican in the Southeastern United States, 50 Fed. Reg. at 4,938.

²⁶⁸ *Id.*

²⁶⁹ Conservation of Endangered Species and Other Fish or Wildlife, 35 Fed. Reg. 16,047 (Oct. 13, 1970).

²⁷⁰ Removal of the Brown Pelican in the Southeastern United States, 50 Fed. Reg. at 4,938-40.

²⁷¹ *Id.*

dredge-spoil island in Mobile Bay.²⁷² These figures represented breeding populations that were commensurate with 1970 levels in Florida and that represented a fourfold increase in South Carolina and over a 1000 percent increase in North Carolina.²⁷³ Subsequent documentation reported that, by the following year, there were 5,070 nesting pairs in South Carolina.²⁷⁴

Encouraged by such increases, FWS proposed to remove those brown pelicans found in Alabama, Florida, Georgia, South Carolina, North Carolina, and points northward along the Atlantic coast from its list of endangered species on November 10, 1983.²⁷⁵ In support of that proposal, and after analyzing the brown pelican's status and prospects vis-à-vis the relevant delisting criteria, FWS reasoned that "a large percentage of the brown pelican's nesting habitat . . . is protected from human intrusion and development. Furthermore, the availability of nesting habitat, on a range-wide basis, is not limiting to brown pelicans."²⁷⁶ FWS also found little concern with respect to "[u]tilization for commercial, recreational, scientific or educational purposes," particularly in light of the bird's continued protection under the Migratory Bird Treaty Act ("MBTA"), or with "[d]isease or predation."²⁷⁷ The protections available pursuant to the MBTA also provided assurances to FWS with respect to "existing regulatory mechanisms adequate to prevent the decline of [the] species or degradation of its habitat."²⁷⁸

In considering the delisting, FWS also examined whether there were "[o]ther natural or manmade factors affecting its continued existence."²⁷⁹ FWS recognized that natural factors – high winds, inundation, food shortages, and the like – might adversely affect pelicans, but only on a short-term, localized basis.²⁸⁰ With respect to man-related factors such as environmental contamination,

²⁷² Proposal to Remove the Brown Pelican in Southeastern United States from List of Endangered and Threatened Wildlife, 48 Fed. Reg. 51,736, 51,736-37 (proposed Nov. 10, 1983).

²⁷³ *Id.* at 51,736-37

²⁷⁴ Removal of the Brown Pelican in the Southeastern United States, 50 Fed. Reg. at 4939.

²⁷⁵ Proposal to Remove the Brown Pelican in Southeastern United States, 48 Fed. Reg. at 51,736.

²⁷⁶ Proposal to Remove the Brown Pelican in Southeastern United States, 48 Fed. Reg. at 51,738.

²⁷⁷ *Id.*

²⁷⁸ Removal of the Brown Pelican in the Southeastern United States, 50 Fed. Reg. at 4,939.

²⁷⁹ Proposal to Remove the Brown Pelican in Southeastern United States, 48 Fed. Reg. at 51,739.

²⁸⁰ *Id.*

commercial and recreational fishing activity, and coastal oil and gas development, FWS recognized the positive impact of pesticide regulation on the birds, found no inherent conflicts between the pelicans and fishing enterprises, and saw the positive effects of stringent regulations associated with oil and gas drilling in the subject states' coastal waters.²⁸¹

The proposal to delist the aforementioned populations of brown pelicans garnered a total of forty-seven comments, both pro and con, from "[s]tate wildlife agencies, local governments, national conservation groups and zoological societies, seabird hospitals, professional biologists, and other private citizens" and a petition from the employees of John's Pass Seafood Company on Treasure Island, Florida, calling for reclassification to threatened.²⁸² After considering those comments, the Service removed those particular populations from the endangered species list on February 4, 1985.²⁸³

The requirement to conduct post-delisting monitoring was not enacted until 1988.²⁸⁴ Thus, it is difficult to quantify the brown pelican's recovery in the wake of its delisting. Anecdotal evidence reveals some troublesome individual episodes. Perhaps most ironically, nest pairs of brown pelicans at Florida's Pelican Island National Wildlife Refuge declined from 200 in 1986 to 47 in 2004 – a decline "related to the erosion of the rookery island and the general decline of wildlife species in the South Florida Ecosystem."²⁸⁵ On a more positive (and more general) note, however, FWS reported in January of 2008 that "the species has made a strong comeback With an estimated 400,000 birds in Peru, [FWS] estimates the global population at 650,000 brown pelicans."²⁸⁶

J. Eggert's Sunflower (Helianthus eggertii)

For many years, scientists believed that Eggert's sunflower (*Helianthus eggertii*) existed only at thirty-four sites found in upland or "barrens" areas of Alabama, Kentucky, and Tennessee, usually in

²⁸¹ *Id.*

²⁸² Removal of the Brown Pelican in the Southeastern United States, 50 Fed. Reg. at 4,940.

²⁸³ Removal of the Brown Pelican in the Southeastern United States, 50 Fed. Reg. at 4,938.

²⁸⁴ 16 U.S.C. § 1533(g)(1) (2006).

²⁸⁵ U.S. FISH & WILDLIFE SERV., PELICAN ISLAND NATIONAL WILDLIFE REFUGE: COMPREHENSIVE CONSERVATION PLAN 12, 14 (2006), available at http://library.fws.gov/CCPs/pelicanisland_final.pdf.

²⁸⁶ U.S. FISH & WILDLIFE SERV., BROWN PELICAN (2008), available at http://www.fws.gov/endangered/factsheets/brown_pelican.pdf.

open fields or thickets.²⁸⁷ On May 22, 1997, however, the plant – boasting three-inch in diameter yellow flowers crowning eight-foot tall stalks – found a new home on FWS’s list of threatened species.²⁸⁸ The listing capped an administrative process that had commenced three years earlier following the Service’s adoption of a Smithsonian Institution report that identified the species as threatened.²⁸⁹

In listing Eggert’s sunflower as threatened, the Service warned that the flower was imperiled by “habitat alteration; residential, commercial, or industrial development; plant succession; and conversion of its limited habitat to pasture or croplands. Herbicide use, particularly along roadsides, also poses a threat.”²⁹⁰ In particular, FWS determined that “[o]ver 50 percent of the known *H. eggertii* sites are threatened by the encroachment of more competitive herbaceous vegetation and/or woody plants that produce shade and compete with this species for limited water and nutrients.”²⁹¹ FWS also declared that a period of extended drought was “[a]n additional factor that threatens the survival of *H. eggertii*.”²⁹²

In the years that followed, FWS embarked upon a species recovery plan focused on Eggert’s sunflower. That effort included a series of surveys that identified additional populations and the negotiation of cooperative management agreements for twenty-six of the twenty-seven populations located on public lands (the twenty-seventh population was already protected by an existing conservation easement).²⁹³ Within seven years, FWS had identified 279 sites comprising 68 populations of the plant, and, reassured by the combination of management plans and the sheer number of previously

²⁸⁷ Determination of Threatened Status for *Helianthus eggertii* (Eggert’s Sunflower), 62 Fed. Reg. 27,973 (May 22, 1997).

²⁸⁸ Determination of Threatened Status for *Helianthus eggertii*, 62 Fed. Reg. at 27,973.

²⁸⁹ Determination of Threatened Status for *Helianthus eggertii*, 62 Fed. Reg. at 27,975.

²⁹⁰ Determination of Threatened Status for *Helianthus eggertii*, 62 Fed. Reg. at 27,973.

²⁹¹ Determination of Threatened Status for *Helianthus eggertii*, 62 Fed. Reg. at 27,975.

²⁹² Determination of Threatened Status for *Helianthus eggertii*, 62 Fed. Reg. at 27,976.

²⁹³ U.S. Fish & Wildlife Serv., National Recovery Champions—2007, <http://www.fws.gov/southeast/es/07RecoveryChampionsLeaders.html> (last visited Mar. 13, 2009).

unknown populations, the Service proposed delisting the species on April 5, 2004.²⁹⁴

The proposal to delist Eggert's sunflower garnered only two comments – one from the Tennessee National Guard (which supported the delisting) and one from a nonprofit organization which opposed the action.²⁹⁵ A period of peer review subsequently followed.²⁹⁶ In the end, FWS decided to delist the plant, admitting, in part, that risks associated with "activities affecting the species' habitat . . . are considerably less than what was understood at the time of listing."²⁹⁷ For example, the clear-cutting of a site in 1998 that was once home to hundreds of the sunflower had been assumed, at the time, to have wiped out the population thereon.²⁹⁸ In 2003, however, FWS determined "that the site had 1,578 total stems, including 951 flowering stems. Logging had only a temporary negative effect, and the land disturbance resulted in greatly increasing the population[,] size[,] and vigor of the plants at this site."²⁹⁹ "At the time of listing, we did not fully understand that the *H. eggertii* could readily adapt to certain manmade disturbances that are replacing the dwindling natural barrens," FWS admitted.³⁰⁰

On August 18, 2005, the Service delisted Eggert's sunflower, following an analysis that focused primarily on the absence of the present or threatened destruction, modification, or curtailment of the species habitat or range.³⁰¹ By then, FWS could count 287 sites for the sunflower – eight more than the previous year.³⁰² In connection with the delisting, FWS published and solicited comments regarding a draft post-delisting monitoring plan for the species.³⁰³

²⁹⁴ Proposed Removal of *Helianthus eggertii* (Eggert's Sunflower) from the Federal List of Endangered and Threatened Species and Determination That Designation of Critical Habitat Is Not Prudent, 69 Fed. Reg. 17,627 (proposed Apr. 5, 2004). The FWS's determination of "not prudent" was spurred by a court order directing FWS to reconsider an earlier decision that declined to designate such habitat. See *S. Appalachian Biodiversity Project v. U.S. Fish & Wildlife Servs.*, 181 F. Supp. 2d 883 (E.D. Tenn. 2001).

²⁹⁵ Removal of *Helianthus eggertii* (Eggert's Sunflower) from the Federal List of Endangered and Threatened Plants, 70 Fed. Reg. 48,482, 48,485 (Aug. 18, 2005).

²⁹⁶ *Id.*

²⁹⁷ Removal of *Helianthus eggertii*, 70 Fed. Reg. at 48,487.

²⁹⁸ *Id.*

²⁹⁹ *Id.*

³⁰⁰ *Id.*

³⁰¹ Removal of *Helianthus eggertii*, 70 Fed. Reg. at 48,487-88.

³⁰² Removal of *Helianthus eggertii*, 70 Fed. Reg. at 48,484.

³⁰³ Draft Post-Delisting Monitoring Plan for Eggert's Sunflower (*Helianthus eggertii*), 70 Fed. Reg. 48,577 (Aug. 18, 2005).

A year and a half later, FWS published the final plan, which called for five years of monitoring the species (from 2006 to 2010).³⁰⁴

With such post-delisting monitoring still in its nascent stage, it is premature to judge the status of the sunflower's recovery. However, an article published in *Environmental Species Update* in the summer of 2006, the prime contractor for operations on Arnold Air Force Base (the largest Federal landowner harboring the species) wrote of seventy-three populations of the species (representing an increase of five additional populations from the time the species was proposed for delisting).³⁰⁵ Such observations indicate that, in the span of two years, populations of the species increased 7%. Thus, at the admitted risk of placing undue influence on a limited statistical sample, initial indications are that Eggert's sunflower's prospects continue to look promising.

K. Hoover's Woolly-Star (Eriastrum hooveri)

Whether Hoover's woolly-star ever warranted "recovery" in the first place is, in hindsight, a fair question. Found in scrubby habitat in California's San Joaquin Valley, the plant is a two to three inch tall herb with fuzzy stems, wiry branches and small white flowers.³⁰⁶ By 1986, scientists reported that a number of the historical and extant populations of the species had been extirpated from Kern County and, by 1990, practically all of the remaining known populations of the herb were reportedly threatened by "[a]g-land conversion, urbanization, conversion of habitat for ground-water recharge basins or disposal of nutrient-agricultural effluent, and oil and gas development."³⁰⁷ More specifically, FWS reported that the species had been extirpated from 12 of its 130 known populations; that of the remaining 118 populations, 39 were located on public lands vulnerable to mineral extraction, oil and gas development, and/or livestock grazing; and that another 70 populations were located on private lands subject to an even greater panoply of development threats.³⁰⁸ In total, the Service reported that "92 percent of the extant populations of *E. hooveri* are variously threat-

³⁰⁴ Post-Delisting Monitoring Plan for Eggert's Sunflower (*Helianthus eggertii*), 72 Fed. Reg. 11,046 (Mar. 12, 2007).

³⁰⁵ Debbie Sizemore, *Eggert's Sunflower Prospers at Arnold AFB*, ENDANGERED SPECIES BULL., Jul.-Sept. 2006, at 12.

³⁰⁶ Determination of Endangered or Threatened Status for Five Plants from the Southern San Joaquin Valley, 55 Fed. Reg. 29,361, 29,363 (July 19, 1990). The species' common name seems to be alternatively spelled "wooly" and/or "woolly," even in official documents.

³⁰⁷ *Id.* (quotation marks omitted).

³⁰⁸ Five Plants from the Southern San Joaquin Valley, 55 Fed. Reg. at 29,368.

ened."³⁰⁹ Although the Service declined to declare the herb in immediate danger of extinction, it did determine that the species was "likely to become in danger of extinction in the near future," and, as a result, the Service listed Hoover's wooly-star as a threatened species on July 19, 1990.³¹⁰

Subsequent surveying efforts associated with recovery planning for the species soon called the original decision into question. In particular, Bureau of Land Management surveys conducted on private and public lands in 1992 and 1994 led to an estimation of 1,056 *Eriastrum hooveri* sites occupying approximately 2,426 acres and stretching across some 140 miles – a distance that approximated the species' historic range.³¹¹ FWS took further comfort from changes in ownership patterns across the species' range that, coupled with various management agreements and other protections, suggested that Hoover's wooly-star would continue to lead a metaphorically sheltered life.³¹² Furthermore, additional research determined that the species was more resilient and less vulnerable to land disturbance activities than previously believed.³¹³ Finally, FWS admitted that the original surveying (and limited numbers encountered) may have been related to a severe drought that plagued the San Joaquin Valley in the 1980s.³¹⁴ Accordingly, on March 6, 2001, FWS proposed to delist the species.³¹⁵

The proposal to delist Hoover's wooly-star and the call for comments on the same sparked a public response commensurate with the herb's size. One scientist offered her services as a peer reviewer and one member of the public offered a comment in favor of delisting.³¹⁶ No other comments were received. By that time, additional surveying revealed that the species grew on at least 1,128 sites spread across 196 miles.³¹⁷ On October 7, 2003, the Service announced that it was delisting the species, noting that Hoover's wooly-star would continue to be monitored for at least five years

³⁰⁹ *Id.*

³¹⁰ Five Plants from the Southern San Joaquin Valley, 55 Fed. Reg. at 29,361, 29,368.

³¹¹ Proposal to Delist *Eriastrum hooveri* (Hoover's Woolly-Star), 66 Fed. Reg. 13,474, 13,475-13,476 (proposed Mar. 6, 2001).

³¹² Proposal to Delist *Eriastrum hooveri*, 66 Fed. Reg. at 13,476.

³¹³ Proposal to Delist *Eriastrum hooveri*, 66 Fed. Reg. at 13,478.

³¹⁴ Proposal to Delist *Eriastrum hooveri*, 66 Fed. Reg. at 13,475.

³¹⁵ Proposal to Delist *Eriastrum hooveri*, 66 Fed. Reg. at 13,474.

³¹⁶ Removing *Eriastrum hooveri* (Hoover's wooly-star) from the Federal List of Endangered and Threatened Species, 68 Fed. Reg. 57,829, 57,833 (Oct. 7, 2003).

³¹⁷ Removing *Eriastrum hooveri*, 68 Fed. Reg. at 57,831.

commensurate with the post-delisting monitoring plan and in coordination with the Bureau of Land Management.³¹⁸

With Hoover's woolly-star delisted only five years ago, a formal assessment of the species' recovery has yet to be published and distributed. Nevertheless, given that much of the species' "recovery" was related to the sheer number of previously undiscovered populations of the plant, it seems unlikely that Hoover's woolly-star will spark any future reassessment.

L. Gray Whale (Eschrichtius Robustus)

The habitat of Hoover's woolly-star – even if larger than once thought – certainly pales in comparison to that of the gray whale. In fact, the thirty-ton leviathans are renowned for engaging in the longest annual migration of any mammal. Every year, the eastern North Pacific (California) population of gray whales migrates from their mating grounds in the lagoons of Baja California to their feeding grounds in the Arctic waters of the Bering Strait.³¹⁹ A much smaller population (the western or Korean population) makes a similar journey from the waters of southern China along the coast of Asia to the Arctic.

The whales' epic journey, however, was not without its perils. Even though the gray whale earned the sobriquet "devil-fish" for its violent resistance to the whalers' harpoons, it was nevertheless hunted to the very brink of extinction. By 1921, the species had become so rare that a single sighting merited publication in the *Journal of Mammalogy*, and, in 1937, the gray whale was the first whale species listed for protection under the League of Nation's International Agreement for the Regulation of Whaling.³²⁰ In 1970, FWS listed it as an endangered species pursuant to the Endangered Species Conservation Act of 1969, along with the sperm whale and all of other species of baleen whale.³²¹ Congress conferred additional protection on the species pursuant to the Marine Mammals Protection Act in 1972.³²²

Sheltered by such protection, the eastern population of gray whales rebounded over the course of the next two decades. By 1991, NMFS could estimate a stock size of approximately 21,113 whales, registering a population increase of 3.2% a year from 1967

³¹⁸ Removing *Eriastrum hooveri*, 68 Fed. Reg. at 57,836-37.

³¹⁹ DICK RUSSELL, *EYE OF THE WHALE* 22 (2001).

³²⁰ *Id.* at 26.

³²¹ Conservation of Endangered Species and Other Fish or Wildlife, 35 Fed. Reg. 8,491, 8495 (June 2, 1970).

³²² 16 U.S.C. § 1372 (2006).

to 1988.³²³ Although recognizing that certain threats to the whale still exist (notably increasing vessel traffic; industrial development in the species' calving lagoons, feeding grounds, and along migration routes; and potential oil spills), NMFS concluded that "current and near-future levels of human activities do not pose a threat to the species' continued existence."³²⁴ Additionally, NMFS found current aboriginal annual harvests (of some 165 whales per year) to be within the maximum sustainable yield for the species.³²⁵ NMFS drew further confidence from the continuing regulatory protection provided by the MMPA and from an apparent decline in whale entanglements in fishing boat gill nets.³²⁶ Accordingly, on November 22, 1991, NMFS proposed that the eastern population of gray whales be removed from the endangered species list.³²⁷

NMFS's proposal, which was followed by a pair of public hearings and a 104-day public comment period, garnered 103 letters from the general public, 612 photocopied form letters, and, finally, 30 letters that "substantially discussed the science upon which the proposal was based."³²⁸ Although the majority of the comments opposed the proposed delisting, NMFS stood firm, solaced in large part by its recognition that the eastern population "has recovered to near or above its estimated pre-commercial exploitation population size. It is estimated to be between 60 and 90 percent of its carrying capacity and will probably continue to increase until density dependent factors slow the rate of growth."³²⁹ On June 16, 1994, NMFS published notice that it was removing the eastern gray whale from the endangered species list.³³⁰

Five years later, NMFS conducted a review of the whale's population.³³¹ The results of that review were encouraging. It revealed a continuing growth rate (rising at 2.5% annually) for the population and pegged the total number of Eastern North Pacific gray whales at 26,600.³³² The only sour note sounded by the review was recogni-

³²³ Proposal to Remove Gray Whale from Endangered Species List, 56 Fed. Reg. 58,869, 58,870 (proposed Nov. 22, 1991).

³²⁴ Proposal to Remove Gray Whale, 56 Fed. Reg. at 58,871-72.

³²⁵ Proposal to Remove Gray Whale, 56 Fed. Reg. at 58,872.

³²⁶ Proposal to Remove Gray Whale, 56 Fed. Reg. at 58,873-74.

³²⁷ Proposal to Remove Gray Whale, 56 Fed. Reg. at 58,874.

³²⁸ Removal of Gray Whale from Endangered Species List, 58 Fed. Reg. 3,121 (Jan. 7, 1993) (notice of determination).

³²⁹ Removal of Gray Whale, 58 Fed. Reg. at 3,134.

³³⁰ Final Rule to Remove the Eastern North Pacific Population of the Gray Whale from the List of Endangered Wildlife, 59 Fed. Reg. 31,094 (June 16, 1994).

³³¹ Gray Whale Research and Monitoring, 64 Fed. Reg. 54,275 (Oct. 6, 1999) (notice of report availability).

³³² *Id.*

tion of an increased rate of gray whale stranding along the North American coast.³³³

Subsequently, NMFS continued to track and assess the vitality of the eastern gray whale and memorialized those surveys in a series of stock assessment reports. In 2005, NMFS listed so-called “abundance estimates” of 29,758 for the years 1997/1998; 19,448 for 2000/2001; and 18,178 for 2001/2002.³³⁴ NMFS reasoned that “[t]he decline in the 2000/01 and 2001/02 abundance estimates may be an indication that the abundance was responding to environmental limitations as the population approaches the carrying capacity of its environment.”³³⁵ More reassuringly, NMFS noted that, in the wake of the 2000-2002 period of decline, counts of stranded dead gray whales dropped to levels below those seen prior to the period of decline, living whales no longer appeared to be emaciated (as was the case during the earlier period), and calf counts were rebounding.³³⁶ In its partially revised stock assessment report for 2007, NMFS did not provide updated population figures (reserving those figures for an update to be completed in 2008).³³⁷ NMFS did note, however, that U.S. commercial fishery-related mortality levels for the species were less than 41.7 animals per year (“approaching zero mortality and serious injury rate”) and that “abundance will rise and fall as the population adjusts to natural and man-caused factors affecting the carrying capacity of the environment.”³³⁸

In the fall of 2007, however, a trio of researchers from Stanford University and the University of Washington published the results of a DNA study of gray whales in the *Proceedings of the National Academy of Sciences*.³³⁹ They concluded that, based on the genetic diversity of the whale DNA studied, the historic pre-whaling population of gray whales was far greater than currently understood.³⁴⁰ Specifically, they estimated that the whale’s pre-whaling

³³³ Gray Whale Research and Monitoring, 64 Fed. Reg. at 54,275-76.

³³⁴ R.P. ANGLISS & R.B. OUTLAW, U.S. NAT’L OCEANIC & ATMOSPHERIC ADMIN., ALASKA MARINE MAMMAL STOCK ASSESSMENTS 2005, at 152 (2005), available at <http://www.nmfs.noaa.gov/pr/pdfs/sars/ak2005.pdf>.

³³⁵ *Id.* at 153.

³³⁶ *Id.*

³³⁷ R.P. ANGLISS & R.B. OUTLAW, U.S. NAT’L OCEANIC & ATMOSPHERIC ADMIN., ALASKA MARINE MAMMAL STOCK ASSESSMENTS 2007, at 146, (2008) available at <http://www.nmfs.noaa.gov/pr/pdfs/sars/ak2007.pdf>.

³³⁸ *Id.* at 152.

³³⁹ S. Elizabeth Alter et al., *DNA Evidence For Historic Population Size and Past Ecosystem Impacts of Gray Whales*, 104 PROC. NAT’L ACAD. SCI. 15,162 (2007), available at <http://www.pnas.org/content/104/38/15162.full.pdf+html>.

³⁴⁰ *Id.* at 15,165.

population may have been as great as 117,000 whales.³⁴¹ Such estimates led the study's authors to warn that "[t]hese numbers suggest the eastern Pacific population, even if it historically accounted for only half of the entire Pacific population, should be considered depleted and should regain higher management protection."³⁴² In doing so, they challenged arguments that the eastern Pacific gray whale population had indeed reached its long-term carrying capacity.³⁴³

IV. CONCLUSION

In concluding the foregoing review, one is left with the challenge of answering the question posed at the beginning of this article – for the seventeen species reviewed, has “recovered” indeed meant “recovered?” Recognizing the inherent limitations of relying on the sources of information generally cited in this article, the answer seems to be a qualified “yes.”

The first such qualifier of the affirmative conclusion is that perhaps several of these species did not necessarily “recover” (despite declarations to that effect). Rather, they might have been erroneously listed in the first place. Consider, for example, the Palau fantail, the Palau owl, the Palau ground dove, Eggert's sunflower, and Hoover's wooly-star. The same might well be said of Australia's formerly listed kangaroos.

A second qualifier is that a number of these species have been delisted for a very short period of time. Hoover's wooly-star and the Douglas County population of the Columbian White-tailed Deer were delisted in 2003. FWS delisted Robbins' cinquefoil, the American peregrine falcon, and the Aleutian Canada goose less than a decade ago. Finally, Eggert's sunflower was delisted only four years ago, in 2005.

³⁴¹ *Id.* at 15,166.

³⁴² *Id.*

³⁴³ *Id.* These scientists' conclusions were seized upon by the popular media as evidence that “[t]he success story of the Pacific gray whales' full recovery is wrong.” See, e.g., Kenneth Weiss & Karen Kaplan, *Gray Whale Recovery Called Incorrect*, L.A. TIMES, Sept. 11, 2007, at A10. Such assertions, however, erroneously imply that the previous declaration of recovery was pegged to the whale's return to pre-whaling levels. Rather, it is the five factors provided by the ESA that govern a delisting analysis. See 16 U.S.C. § 1533(a)(1)(A)-(E) (2006). Furthermore, a species is implicitly deemed to have recovered – at least as far as the ESA is concerned – not when historic populations have been achieved but rather when it is “no longer sufficiently at risk of extinction to be listed as endangered or threatened.” See H.R. REP. NO. 95-1625, at 6 (1978), as reprinted in 1978 U.S.C.A.N. 9453, 9456 (1978).

A third qualifier is that the international species delisted prior to 1988 have not generated the same intense level of post-delisting scrutiny. Thus, care should be taken with respect to assessing the scale of such species' recovery, particularly in light of this article's narrow inquiry.

The final qualifier – or at least cautionary note – is that total credit for several species' recovery does not necessarily belong to the Endangered Species Act. Birds such as the Aleutian Canada goose and the peregrine falcon are protected by the Migratory Bird Treaty Act. Brown pelicans, like the peregrine falcon, benefited immensely from the banning of DDT. Prohibitive hunting regulations shield the American alligator population. Gray whales remain protected by the Marine Mammal Protection Act. Thus, it is overly simplistic to declare or imply that each delisting is solely attributable to the Endangered Species Act.

Despite such qualifiers, it can certainly be said that the survey of species examined by this article failed to reveal any particular instance where FWS or NMFS made an erroneous decision with respect to a delisting. Granted, the proverbial jury may still be out with respect to several species, but, at present, even the most ardent critic of past or pending delistings would have difficulty pointing to a single case where a "recovered" species has subsequently become imperiled – and for that, all parties concerned with such matters should take some degree of comfort.