

January 2001

From Population Segregation to Species Zoning: The Evolution of Reintroduction Law under Section 10(J) of the Endangered Species Act

Frederico Cheever

Follow this and additional works at: <https://scholarship.law.uwyo.edu/wlr>

Recommended Citation

Cheever, Frederico (2001) "From Population Segregation to Species Zoning: The Evolution of Reintroduction Law under Section 10(J) of the Endangered Species Act," *Wyoming Law Review*. Vol. 1: No. 1, Article 8.

Available at: <https://scholarship.law.uwyo.edu/wlr/vol1/iss1/8>

This Article is brought to you for free and open access by the UW College of Law Reviews at Law Archive of Wyoming Scholarship. It has been accepted for inclusion in Wyoming Law Review by an authorized editor of Law Archive of Wyoming Scholarship.

WYOMING LAW REVIEW

VOLUME 1

2001

NUMBER 1

FROM POPULATION SEGREGATION TO SPECIES ZONING: THE EVOLUTION OF REINTRODUCTION LAW UNDER SECTION 10(J) OF THE ENDANGERED SPECIES ACT

*Federico Cheever**

I. INTRODUCTION

“Recovery” has become the rhetorical focus of the Endangered Species Act and with good reason. The Act defines recovery as “the use of all methods and procedures . . . necessary to bring any endangered species or threatened species to the point at which the measures provided pursuant to [the Endangered Species Act] are no longer necessary.”¹ Recovery efforts demonstrate that the Endangered Species Act is not about stopping development, but about saving species; not about maintaining species on the brink of extinction but, instead, “conserving” or “recover-

* Associate Professor of Law, University of Denver College of Law. © Federico Cheever 2000. I would like to thank my research assistants Jane Ritter, Sandy Hamilton, Lyle Wallace and—most of all—Kris Zumalt without whom this article would not have been possible; Michael Bean and Paul Lenzini, who provided invaluable guidance concerning legislative history; Dale Goble, Holly Doremus and Bob Keiter who took the time to discuss this idea with me and, of course, Mary McNeil Cheever, Elizabeth Oakley Cheever and Laurel Marion Cheever.

1. 16 U.S.C. § 1532(3) (1985) (defining conservation”); *see also* 50 C.F.R. § 402.02 (1999) (explaining “recovery” to mean improvement in the status of listed species to the point at which listing is no longer appropriate).

ing" them to the point at which they no longer require the protection of the Act.² "Recovery" turns the tables on critics of the Endangered Species Act who characterize the Act as nothing but an ever-growing web of regulation.³

"Reintroduction" has become a prominent and fashionable component of Endangered Species Act recovery programs.⁴ Reintroduction involves returning species members to areas of their historic range from which they have disappeared. In recent years, the U.S. Fish and Wildlife Service (USFWS) has reintroduced "experimental populations" of sea otters,⁵ whooping cranes,⁶ black-footed ferrets,⁷ red wolves,⁸ gray

2. In the words of the Act: "The purposes of this chapter are to provide a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved, [and] to provide a program for the conservation of such endangered species and threatened species . . ." 16 U.S.C. § 1531(b). Conservation, in turn, is defined to include "all methods and procedures . . . necessary to bring any endangered species or threatened species to the point at which the measures provided pursuant to [the Act] are no longer necessary." *Id.* § 1532(3). Accordingly, recovery is the actual as well as the rhetorical focus of the law.

3. See CHARLES C. MANN & MARK L. PLUMMER, *NOAH'S CHOICE* 216-23 (1995) (arguing that the Endangered Species Act fails to strike a balance between biodiversity and human needs); Ike C. Sugg, *Caught in the Act: Evaluating the Endangered Species Act, Its Effects on Man and Prospects for Reform*, 24 CUMB. L. REV. 5 (1993).

4. See U.S. FISH AND WILDLIFE SERV., U.S. DEP'T OF THE INTERIOR, 10 ENDANGERED SPECIES TECHNICAL BULLETIN No. 4 at 10 (1985) (discussing restoration of the peregrine falcon to its historical range in the Southern Appalachians); *id.* vol. 12, no. 10 at 1 (1987) (reintroducing the yellowfin madtom to part of its historic range in Upper Tennessee River basin); *id.* vol. 14, no. 4 at 1 (1989) (re-establishing population of thick-billed parrots to its native Arizona); *id.* vol. 15, no. 6 at 3 (1990) (investigating the possibility of reintroducing the red wolf to its historic range in the Great Smoky Mountains in North Carolina and Tennessee); *id.* vol. 24, no. 3 at 14 (1999) (discussing the restoration of the Karner blue butterfly to its native range in northwestern Ohio).

5. Establishment of an Experimental Population of Sea Southern Sea Otters, 52 Fed. Reg. 29,754 (Aug. 11, 1987) (to be codified at 50 C.F.R. pt. 17).

6. Establishment of Experimental Population of Whooping Cranes in Florida, 58 Fed. Reg. 5647 (Jan. 7, 1993) (to be codified at 50 C.F.R. pt. 17).

7. Establishment of a Nonessential Experimental Population of Black-Footed Ferrets in Aubrey Valley, Arizona, 61 Fed. Reg. 11,320 (Mar. 20, 1996) (to be codified at 50 C.F.R. pt. 17); Establishment of a Nonessential Experimental Population of Black-footed Ferrets in North-Central Montana, 59 Fed. Reg. 42,696 (Aug. 18, 1994) (to be codified at 50 C.F.R. pt. 17); Establishment of a Nonessential Experimental Population of Black-footed Ferrets in Northwestern Colorado and Northeastern Utah, 63 Fed. Reg. 52,824 (Oct. 1, 1998) (to be codified at 50 C.F.R. pt. 17); Establishment of a Nonessential Experimental Population of Black-Footed Ferrets in Southeastern Wyoming, 56 FR 41,473 (Aug. 21, 1991) (to be codified at 50 C.F.R. pt. 17).

8. Determination of Experimental Population Status for an Introduced Population of Red Wolves in North Carolina and Tennessee, 58 Fed. Reg. 52,031 (Sept. 23, 1993) (to be codified at C.F.R. pt. 17); Determination of Experimental Population Status for an Introduced Population of Red Wolves in North Carolina, 51 Fed. Reg. 41,790 (Nov. 19,

wolves,⁹ Mexican wolves,¹⁰ California condors,¹¹ and Delmarva fox squirrels,¹² to name only a few.

The fundamental logic of reintroduction is unassailable. In order to have a species that can overcome the vagaries of the natural world without the protections of the Endangered Species Act, one needs more than one population of creatures. Even Michael Crichton in *The Lost World*, his sequel to *Jurassic Park*, required a second population of dinosaurs on a second island. The denouement for the first book destroyed the original population.¹³ Artificially establishing separate populations is the obvious method of increasing the number of species populations.¹⁴ Unlike Crichton, USFWS and state wildlife agencies can generally reintroduce protected species into habitats in which they recently thrived.

However, reintroduction to further recovery requires thinking at levels beyond those required by traditional species preservation programs. Once we understand that species conservation requires more than simply protecting species remnants from the most obvious and redressable threats to survival, we encounter novel issues. Recovery is a tricky business. The Endangered Species Act offers very little guidance concerning how to determine when a species no longer requires its protection.¹⁵ Species population dynamics and available habitat, although essential components, generally do not offer any bright lines for determin-

1986) (to be codified at 50 C.F.R. pt. 17).

9. Establishment of a Nonessential Experimental Population of Gray Wolves in Central Idaho and Southwestern Montana, 59 Fed. Reg. 60,266 (Nov. 22, 1994) (to be codified at 50 C.F.R. pt. 17); Establishment of a Nonessential Experimental Population of Gray Wolves in Yellowstone National Park in Wyoming, Idaho, and Montana, 59 Fed. Reg. 60,252 (Nov. 22, 1999) (to be codified at 50 C.F.R. pt. 17).

10. Establishment of a Nonessential Experimental Population of the Mexican Gray Wolf in Arizona and New Mexico, 63 Fed. Reg. 1752 (Jan. 12, 1998) (to be codified at 50 C.F.R. pt. 17).

11. Establishment of a Nonessential Experimental Population of California Condors in Northern Arizona, 61 Fed. Reg. 54,044 (Oct. 16, 1996) (to be codified at 50 C.F.R. pt. 17).

12. Determination of Experimental Population Status for an Introduced Population of Delmarva Fox Squirrel, 49 Fed. Reg. 35,951 (Sept. 13, 1984) (to be codified at 50 C.F.R. pt. 17).

13. MICHAEL CRICHTON, *THE LOST WORLD* 39-44 (Knopf 1995).

14. See *infra* Part II.

15. See Federico Cheever, *The Road to Recovery: A New Way of Thinking About the Endangered Species Act*, 23 *ECOLOGY L. Q.* 1, 37-40; TIM W. CLARK ET AL., *ENDANGERED SPECIES RECOVERY; FINDING THE LESSONS, IMPROVING THE PROCESS* (1994).

ing when a species is healthy enough to do without the Act's protection.¹⁶

Reintroduction is tricky as well. The wholesale relocation of significant numbers of one species into habitat in which their kind have not existed in the recent past involves unknown factors and unavoidable risks.¹⁷ Experience suggests we rarely, if ever, know enough to predict the outcome of reintroduction efforts with much confidence.¹⁸

The relationship between recovery and reintroduction is not necessarily a positive one. In fact, there is a strong argument that section 10(j)¹⁹ of the Endangered Species Act, the current law governing reintroduction of most protected species, entices wildlife managers to undercut the politically charged, amorphous, strategic goal of "recovery" in favor of the concrete, tactical goal, "reintroduction." In other words, section 10(j) encourages wildlife managers to subordinate the welfare of the species in fifty or one hundred years to establishing another population of the species next year.

Section 10(j) requires wildlife managers to keep reintroduced "experimental" populations "wholly separate geographically" from "non-experimental populations of the same species." This obligation appears to have arisen out of a legislative compromise concerning the effect of section 10(j).²⁰ Section 10(j) relaxes the protection afforded members of protected species when those species members have been reintroduced into habitat from which they were previously absent. Indeed, that is section 10(j)'s function. The "wholly separate geographically" requirement limits section 10(j) potential to reduce the protections

16. See Holly Doremus, *Delisting Endangered Species: An Aspirational Goal, Not a Realistic Expectation*, 30 ENVTL. L. REP. 10,434 (2000).

17. Joel M. Carson, *Reintroducing the Mexican Wolf: Will the Public Share the Costs or Will the Burden be Borne by a Few?* 38 NAT. RESOURCES J. 297 (1998); Inga Haagensohn Causey, *The Reintroduction of the Wolf in Yellowstone: Has the Program fatally Wounded the Very Species it Sought to Protect?* 11 TULANE ENVTL. L. J. 461 (1998); Steven Cribb, *Endangered Species Act, Section 10(j): Special Rules to Reestablish the Mexican Wolf in its Historic Range in the American Southwest*, 21 ENVIRONES ENVTL. L. & POL'Y J. 49 (1998); Craig E. Enochs, *Gone Today, Here Tomorrow, Policies and Issues Surrounding Wildlife Reintroduction*, 4 HASTINGS W.-NW. J. ENVTL. L. & POL'Y J. 91 (1997); Robert C. Moore, *The Pack is Back: The Political Social and Ecological Effects of the Reintroduction of the Gray Wolf to Yellowstone National Park and Central Idaho*, 12 T.M. COOLEY L. REV. 647 (1995); John Andrew Zuccotti, *A Native Returns: The Endangered Species Act and Wolf Reintroduction to the Northern Rocky Mountains*, 20 COLUM. J. ENVTL. L. 329 (1995).

18. See *infra* Part IV.

19. 16 U.S.C. § 1539(j) (1985).

20. See *infra* Part III.E.

afforded to naturally occurring members of the same species. If reintroduced “experimental populations” overlap with natural “non-experimental” populations, then section 10(j) requires that all species members be treated as fully protected. Without a “wholly separate geographically” requirement, section 10(j) could create a significant risk of de facto reduction of protection for all members of the protected species anywhere near a reintroduction site.

Unfortunately, despite its laudable purpose, the “wholly separate geographically” requirement can frustrate recovery. First, because it makes experimental status contingent on population segregation, it can create a perceived need to prevent “overlap” of experimental and non-experimental populations. This need to prevent overlap can frustrate recovery by encouraging wildlife managers to actively isolate experimental and naturally occurring populations. Preventing population interaction can endanger the genetic health and recovery prospects of the species.²¹ Second, the “wholly separate geographically” requirement can frustrate recovery by creating confusing regulatory variation concerning members of the same species, thereby aggravating any burden placed on humans whose activities may be affected by reintroduction.²² This not only frustrates the long-term goal of recovery by turning people against the protected species, but also frustrates the primary goal of section 10(j), facilitating acceptance of reintroduction among affected human populations.

21. See *infra* Part II; EDWARD O. WILSON, *THE DIVERSITY OF LIFE* 221-37 (1992); REED F. NOSS & ALLEN Y. COOPERRIDER, *SAVING NATURE'S LEGACY* 61 (1994).

22. For example, the special takings rule of the gray wolf in Idaho provides:

Any livestock producers on their private land may take (including to kill or injure) a wolf in the act of killing, wounding, or biting livestock Provided that such incidents are to be immediately reported within 24 hours to the Service project leader for wolf reintroduction or agency representative designated by the Service, and livestock freshly (less than 24 hours) wounded (torn flesh and bleeding) or killed by wolves must be evident. . . . The taking of any wolf without such evidence may be referred to the appropriate authorities for prosecution.

Experimental Population: Special Rules—Vertebrates, 50 C.F.R. 17.84(i)(3)(ii). Things are less clear before the first bite.

Landowners on their private land and livestock producers . . . that are legally using public land . . . may harass any wolf in an opportunistic (the wolf cannot be purposely attracted, tracked, waited for, or searched out, then harassed) and noninjurious (no temporary or permanent physical damage may result) manner at any time, provided that such harassment is non-lethal or is not physically injurious to the gray wolf and is reported within 7 days to the Service. . . .

Id. at 17.84(i)(3)(i). On the other hand, “opportunistic” harassment is illegal in northern Montana.

In this article, I will argue that the notion of population segregation embodied in the “wholly separate geographically” requirement was a flawed basis on which to limit section 10(j)’s power to reduce the protections provided by the Endangered Species Act. It creates too much uncertainty. The evolution of rulemaking under section 10(j), from the time of its enactment to the present, suggests that USFWS has reached the same conclusion I have.

The problems begin with the text of section 10(j). Section 10(j) and its legislative history establish three things about the “wholly separate geographically” requirement. First, section 10(j) provides for a relaxed level of protection for reintroduced populations.²³ Congress intended this to facilitate reintroduction by providing assurances to those people who might be burdened by the reintroduction and, therefore, might oppose it. USFWS has enthusiastically embraced this philosophy, applying the lowest level of protection authorized by 10(j)—the “experimental non-essential” designation—to every formally reintroduced population.²⁴

23. See *infra* Part III.A.

24. See Holly Doremus, *Restoring Endangered Species: The Importance of Being Wild*, 23 HARV. ENVTL. L. REV. 1, 38-42 (1999). In the comments accompanying the original 1984 rulemaking on experimental populations, USFWS suggested that “essential” experimental populations would be rare. Endangered and Threatened Wildlife and Plants; Experimental Populations, 49 Fed. Reg. 1168 (Jan. 9, 1984) (to be codified at 50 C.F.R. pt. 17) (proposed rule); *id.* at 33,885, 33,893 (Aug. 27, 1984) (to be codified at 50 C.F.R. pt. 17) (final rule). However, exactly how rare did not become apparent until USFWS began reintroducing populations for which no other wild population existed. See, e.g., Proposed Determination of Experimental Population Status for an Introduced Population of Red Wolves in North Carolina, 51 Fed. Reg. 26,564, 26,566 (July 24, 1986) (to be codified at C.F.R. pt. 17) (“Although extirpated from the wild, the red wolf nevertheless is secured in seven widely separate captive breeding programs and zoos in the United States . . . it is highly unlikely that disease or other natural phenomenon would threaten the survival of the species”); Establishment of a Nonessential Experimental Population of Black-Footed Ferrets in Southeastern Wyoming, 56 Fed. Reg. 41,473, 41,475 (Aug. 21, 1990) (to be codified at C.F.R. pt. 17) (“Captive animals selected for release will be as *genetically redundant* as possible with the gene pool in the captive breeding population, hence, any loss of released animals is unlikely to have appreciable impacts on existing genetic diversity in the species”). In its 1984 rulemaking, USFWS announced that the proper inquiry for determining whether an experimental population is “essential” was “whether the loss of the experimental population would be likely to appreciably reduce the likelihood of survival of that species *in the wild*.” Endangered and Threatened Wildlife and Plants; Experimental Populations, 49 Fed. Reg. at 33,888. Now that standard had been reduced to “the survival of the species” in the wild or in zoos. Annihilation of the one existing wild population of red wolves would plainly reduce the likelihood of the survival of the species in the wild. In fact, after annihilation of the experimental population, that “likelihood” would cease to exist.

Second, "experimental populations," whose reintroduction 10(j) authorizes, must be "wholly separate geographically" from any preexisting populations of the species *at the time of reintroduction*.²⁵ While the Tenth Circuit Court of Appeals has recently given USFWS some flexibility in manipulating the meaning of "population,"²⁶ the law draws a bright line between placing species members in unoccupied habitat and augmenting existing populations with new members, directly or indirectly. The first is the subject of section 10(j). The second is not.

Third, "experimental population" status created under section 10(j) will persist only as long as the population remains readily distinguishable from other preexisting wild populations. The legislative history of the 1982 amendments to the Endangered Species Act indicates that Congress considered the possibility that an experimental population could intermingle or "overlap" with an existing population and assumed that significant intermingling would result in the automatic termination of "experimental population" status.²⁷

For section 10(j) to be effective at putting the minds of potential reintroduction opponents at rest, the relaxed protection it confers must be certain in both scope and duration. A rancher who fears losing calves to reintroduced wolves is unlikely to become a supporter of wolf reintroduction if section 10(j) will give him a right to shoot some, but not all, wolves that might threaten his herd and if his right to shot those wolves will last for an unknown period of time. For the scope and duration of relaxed protections to be certain they must be within the control of some human agency. However, the legislative history of the 1982 amendments to the Endangered Species Act indicate that the relaxed protection provided under section 10(j) can be terminated by the introduced population *itself* if it intermingles with preexisting populations.

When USFWS reintroduces an experimental population, it promulgates rules endeavoring to strike a balance between the needs of the reintroduced population and the concerns of the human users of the reintroduction area.²⁸ The structure of these rules suggests they are intended, in most cases, to last until the recovery of the species.²⁹ However, under

25. See *infra* Part III.E.

26. *Wyo. Farm Bureau Fed'n v. Babbitt*, 199 F.3d 1224, 1236-37 (10th Cir. 2000).

27. See *infra* Part III.E.

28. Mimi S. Wolok, *Experimenting with Experimental Populations*, 26 ENVTL. L. REP. 10,018 (1996) (describing proposed and final reintroduction rules).

29. See, e.g., Establishment of a Nonessential Experimental Population of Gray Wolves in Central Idaho and Southwestern Montana, 59 Fed. Reg. 60,266 (Nov. 22, 1994) (to be codified at 50 C.F.R. pt. 17); Establishment of a Nonessential Experimental

the current law, USFWS rulemaking cannot guarantee how long those rules will actually remain in effect. The law limits USFWS authority when the population merges into other populations of the same species.

How could Congress make this mistake? How could it create a law specifically designed to put our hypothetical rancher's mind at rest, but at the same time give the power to terminate the effect of that law to the hypothetical wolves? I believe Congress chose this flawed mechanism for limiting the effect of section 10(j) by applying a flawed perception of nature. Congress did not anticipate this problem when it drafted section 10(j) because Congress applied a static notion of biology. Congress assumed that, in all cases, populations, if left alone, would stay separate into the indefinite future. As I discuss in Parts II and III, species populations do surprising things, but they rarely do nothing at all.³⁰

From the start, USFWS knew better than Congress and actively guarded against "overlap" as an implicit limitation on the agency's rulemaking authority. As discussed in Part IV, USFWS first endeavored to solve the problem by forcing nature to conform to Congress' expectations. USFWS relied on active species "population segregation" to prevent the overlap problem.³¹ Fear of overlap was, by no means, the only motivation for population segregation. However, I will argue that it was an important one. By "population segregation" I mean active wildlife management to keep populations apart. This generally involves capturing and controlling reintroduced animals.

More recently, after a decade of reintroduction experience, USFWS is more inclined to accept nature on its own terms and to instead interpret Congress' mandate to conform to nature's terms. USFWS has developed a more flexible but less obviously legal approach, what I will call "species zoning." By "species zoning" I mean a system of protection based on geographical location without regard to the lineage of species members. Whatever species members are found within the designated "experimental population area" are deemed members of the experimental population. Whatever members are found outside the designated area are deemed not to be.³² As discussed in Part V, federal courts, by and large, have supported USFWS in this evolution. However, judicial support

Population of Gray Wolves in Yellowstone National Park in Wyoming, Idaho, and Montana, 59 Fed. Reg. 60,252 (Nov. 22, 1994) (to be codified at 50 C.F.R. pt. 17).

30. See *infra* Part II & III.

31. See *infra* Part IV.

32. See *infra* Part IV.

leaves unanswered fundamental questions about the allowable extent of species zoning under section 10(j).³³

Finally, in Part VI, I argue that one simple solution to the problem, one way to recognize the needs of long-term species recovery while providing USFWS with the tools it desires to mollify potential reintroduction opponents, is to embrace “species zoning” wholeheartedly.³⁴ I suggest amending section 10(j) to both ratify and further the developing USFWS law of species zoning. The law should authorize reintroducing agencies to relax the protections of the Endangered Species Act for a particular species within a specific well-defined area without regard to which creatures have been artificially reintroduced and which have not.³⁵ In other words, Congress should abolish the “wholly separate geographically” requirement.

However, Congress inserted the “wholly separate geographically” requirement into section 10(j) with good reason: to limit the power of section 10(j) to reduce protections for species members. This purpose should be honored, but in some other way. I suggest imposing a temporal limitation in place of a geographical one. In light of our ignorance about the dynamics of nature, I argue that species zoning should be explicitly temporary. The relaxation of protection authorized by section 10(j) should last only for a stated period of time and then, absent further action, species members within the zone should be entitled to the full protection of the Endangered Species Act.

This approach would prevent countless unnecessary arguments about the genetic make-up of a specific population of wolves or birds or fish. This approach would also prevent arguments about what constitutes a “population” of wolves. At the same time, it would allow the reintroducing agency to relax the protections of the law in the interest of reducing opposition to reintroduction. Finally, it would allow that relaxation in a manner more certain than the current law allows.

In *Jurassic Park*, while flying to the island where he would shortly be pursued by dinosaurs, Michael Crichton’s obnoxious and brilliant mathematician Ian Malcolm asserts that even simple systems can

33. See *infra* Part V.

34. See *infra* Part VI.

35. Needless to say, any such authority could only be exercised in the furtherance of the Endangered Species Act’s overriding goal, the conservation of the species. 16 U.S.C. § 1536 (a)(1) (1985). See also, J.B. Ruhl, *Section 7(a)(1) of the “New” Endangered Species Act*, 25 ENVTL. L. 1107 (1995).

produce complex behavior.³⁶ Malcolm predicts that the Dinosaur Park with its creatures, reintroduced under controlled circumstances, will not operate as its creators expect. The same logic applies to the reintroduction of endangered and threatened species. While most species are unlikely to chase attractive Ph.Ds and vulnerable children around exotic locales, they will do unpredictable things. Crichton's plot in *Jurassic Park* is implausible because the unpredictable effects needed to happen on cue so they could be resolved in a four hundred-page paperback. The logic of the fictional Ian Malcolm applies much more convincingly to reintroduction under the Endangered Species Act because the reintroduction process involves long-term "experimental population" designations. If reintroduced "experimental populations" will do the unexpected, we are unwise to link important legal distinctions to what we expect them to do. By making "experimental" status contingent on population segregation, section 10(j)'s "wholly separate geographically" requirement does just that. By decoupling legal designation and population behavior, we can avoid some uncertainty in the future.

II. VIEWS OF NATURE

I still remember the sixteen-millimeter film from high school biology. It began by showing a sand beach somewhere on the shore of Lake Michigan. The narrator's calm, didactic voice presented the beach as a starting point in the process of "succession." Cut—the beach has sprouted grass. Small creatures appear, living among the grasses. A few minutes later—cut—small pine trees establish themselves, bringing new creatures with them. A moment later the pine trees are tall, but pine reproduction falters. Hardwood saplings, maple and oak, are growing beneath the mature pines. Birds arrive in greater numbers. A few minutes more and the hardwoods outlive the pine and create a "climax forest." For a few moments the camera pans over the closed forest canopy with its towering tree trunks, buzzing insects and twittering birds. When the film ended, we were left with the strong impression that the climax forest would last forever.

This image, although a good-faith recollection, is a caricature of the "old" view of biological systems: quick development through succession followed by a more or less perpetual, mature "balance of nature." This steady state, as the film narrator pointed out, would be disturbed only by occasional "outside" forces such as forest fires, tornadoes, floods, or human interference.

36. MICHAEL CRICHTON, *JURASSIC PARK* 73-75 (Knopf 1990).

Newer biological thinking emphasizes that those less predictable forces—fires, tornadoes, floods, and even people—are as much a part of “the system” as the more predictable succession of trees and birds. Accordingly, “the system” is vast, covering entire landscapes, in a sense the entire planet. Further, recent scholars note there is little evidence for the abundance of the steady state “climax” ecosystems which the old model would predict. The natural carrying capacity for elephants on Kenya’s Tsavo National Park varies dramatically from year to year,³⁷ wolf and moose populations on isolated Isle Royale in Lake Superior vary over time,³⁸ the tree species composition of a hardwood forest in New Jersey continues to change hundreds of years after the last significant human disturbance.³⁹

Biologist Daniel Botkin, author of the extraordinarily influential *Discordant Harmonies: A New Ecology for the Twenty-First Century*, observes:

The changes that must take place in our perspective are twofold: the recognition of the dynamic rather than the static properties of the Earth and its life-support system, and the acceptance of a global view of life on the Earth. We have tended to view nature as a Kodachrome still-life . . . but nature is a moving picture show⁴⁰

Historian William Cronon, in the introduction to his equally influential *Changes in the Land: Indians, Colonists and the Ecology of New England*,⁴¹ points out:

[T]he analogy of comparing biotic communities to organisms came to be criticized The model forced one to assume that

37. DANIEL B. BOTKIN, *DISCORDANT HARMONIES: A NEW ECOLOGY FOR THE TWENTY-FIRST CENTURY* 16-19 (1990).

38. *Id.* at 27-32.

39. *Id.* at 51-54.

40. *Id.* at 6. Botkin points out that this realization has been difficult for biologists to accept. It should be easy for lawyers. Biological systems, like legal systems are “process oriented.” In evaluating and regulating systems of adjudication lawyers concern themselves less with the varying outcomes (how many judgments of liability, how many defendants convicted) than with the integrity of the process that generates those results (did the trier of fact consider the proper evidence, did the defendant have a reasonable opportunity to present a defense). In protecting them we should concern ourselves more with the integrity of the systems that produce outcomes than with the outcomes achieved.

41. WILLIAM CRONON, *CHANGES IN THE LAND: INDIANS, COLONISTS AND THE ECOLOGY OF NEW ENGLAND*, 10-12 (1983).

any given community was gradually working either to become or remain a climax, with the result that the dynamics of nonclimax communities were too easily ignored. . . . With the imperatives of the climax concept no longer so strong, ecology was prepared to become at least in part a historical science, for which change was less the result of disturbance than of the ordinary processes whereby communities maintained and transformed themselves.⁴²

Reed Noss, research scientist, author, and outspoken conservation biologist, notes: "Among the new paradigms in ecology, none is more revolutionary than the idea that nature is not delicately balanced in equilibrium, but rather is dynamic, often unpredictable, and perhaps even chaotic."⁴³

This dynamic quality in nature makes endangered species reintroduction necessary. It is not only necessary to further species recovery, it is necessary to ensure species survival. The existence of a number of separate species populations increases the chance that the species will survive one of the catastrophic events—floods, fires, epidemics, or oil spills—which are part of life on this planet. While the survival of any species over time is a matter of chance, the chances go up when the number of populations is greater. As Noss points out, "[s]pecies well distributed across their native range are less susceptible to extinction than species confined to small portions of their range The idea here is that a widely distributed species will be unlikely to experience a catastrophe, disturbance, or other negative influence across its entire range at once."⁴⁴

In her excellent article about species reintroduction, *Restoring Endangered Species: The Importance of Being Wild*,⁴⁵ Professor Holly Doremus observes that the purpose of the Endangered Species Act is to preserve species *in the wild*, not in zoos or virtual zoos.⁴⁶ If we accept this almost indisputable point and if we accept the dynamic quality of nature, then reintroduction becomes a wise, even a necessary mechanism to preserve species.

Nonetheless, for many species, reintroduction of isolated populations cannot be the end of the recovery process. For many species, popu-

42. *Id.* at 11.

43. Reed Noss, *Some Principles of Conservation Biology As They Apply to Environmental Law*, 69 CHI-KENT L. REV. 893 (1994).

44. *Id.* at 900.

45. Doremus, *supra* note 24.

46. *See id.* at 10-15.

lations must interact over time to maintain “genetic diversity.” Genetic diversity is an essential factor in avoiding species extinction, just as species diversity is essential in preventing ecosystem degradation. Species populations with low genetic diversity may suffer reduced fertility and survival. Over time, they will be less able to adapt to environmental change. Population interaction slows or reverses two trends which otherwise lessen genetic diversity—inbreeding depression and genetic drift. When populations are small, as they are with endangered species, these two phenomena can decrease genetic diversity at a dramatic and lethal rate.

Inbreeding depression occurs most frequently in small, isolated populations where mating pairs are likely to be closely related. If a mating pair is closely related and both mates carry a recessive, defective, or lethal gene their offspring are less likely to survive to have offspring of their own. The entire population ultimately gives up a significant part of its reproductive potential. Inbreeding depresses reproductive potential because the chances that two related individuals will carry the same defective gene are much greater than the chances that two unrelated individuals will carry the same defective gene.

Genetic drift—the chance fluctuation in genes that leads to the random, gradual disappearance of certain genes—becomes a significant factor when the effective population size is less than five hundred (effective population size is defined as “an idealized population, with random mating of individuals, possessing the same amount of genetic drift as the actual population.”⁴⁷ This factors in the age, health, and breeding patterns of the individuals of a given population, and the effect of those factors on the genetic path and portrait of a population and ultimately its survival.). Gradual elimination of individual genes reduces the variability of the population as a whole, leaving the species less capable of adapting to changes in its environment. Interaction between populations lessens the impact of this phenomenon.⁴⁸

While many have pointed out these significant changes in our thinking about the natural world, these changes in thinking have a difficult time seeping into our legal system. Most obviously, members of Congress are more likely to have seen a film like the one I saw in high school biology than they are to have read Daniel Botkin’s *Discordant Harmonies*. Less obviously and perhaps more significantly, the notion of

47. WILSON, *supra* note 21, at 237.

48. See NOSS & COOPERRIDER, *supra* note 21, at 61 (“Ultimately, small populations on habitat islands, if they survive at all, may lose their evolutionary potential unless enriched by gene flow from other populations.”).

"chaotic" nature does not mesh well with our fundamental notions of legal and regulatory structures. One of the primary consolations the legal system provides to those subject to its rules is a reasonable level of certainty. When we try to formulate rules to protect an unpredictable nature we cannot provide the certainty we wish and are tempted to make promises we cannot keep without doing great harm to the species we aspire to protect.⁴⁹

III. REINTRODUCTION IN CONGRESS

A. What the Statute Says

While the dynamic view of nature may support the process of reintroduction and challenge the assumptions of law, these concerns were not evident in the fashioning of the provision that governs most reintroduction under the Endangered Species Act. In 1982, when adding section 10(j) to the Endangered Species Act by amendment, Congress did not focus on providing for the dynamics of nature. Rather, Congress wished to add "flexibility" to the law by creating mechanisms for getting around the stricter provisions of the Act in order to eliminate, or at least limit, resistance to protected species reintroductions. Congress was not thinking a great deal about recovery either. The detailed recovery planning provisions would not be added to the Endangered Species Act until 1988.⁵⁰

Generally, the Endangered Species Act protects administratively listed⁵¹ threatened and endangered species with a set of interlocking pro-

49. See Habitat Conservation Plan Assurances (No Surprises) Rule, 63 Fed. Reg. 8859 (Feb. 23, 1998) (to be codified at 50 C.F.R. pt. 17.3, 17.22, 17.32, 222.3, 22.22). On August 11, 1994, USFWS and NMFS issued a document regarding their "no surprises" policy. Under the policy, in negotiating "unforeseen circumstances" provisions in Habitat Conservation Plans, USFWS and NMFS will not "require the commitment of additional land or financial compensation beyond the level which was otherwise adequately provided for a species under the terms of a properly functioning HCP." U.S. FISH AND WILDLIFE SERV. AND NAT. MARINE FISHERIES SERV., NO SURPRISES: ASSURING CERTAINTY FOR PRIVATE LANDOWNERS IN ENDANGERED SPECIES ACT HABITAT CONSERVATION PLANNING (1994). Permits issued under the "no surprises policy" may last for decades. The "no surprises" policy provides another example of the temptation to make promises agencies cannot keep without harm to a species.

50. Endangered Species Act Amendments of 1988, Pub. L. No. 100-478, 102 Stat. 2306, 2307 (1988).

51. Section 4 of the Act requires the federal designation or "listing" of endangered and threatened species of both plants and animals. An endangered species is any species "in danger of extinction through all or a significant portion of its range." 16 U.S.C. § 1532(6) (1985). A threatened species is any species "which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of

tections. Section 9 of the Endangered Species Act prohibits any person⁵² from “taking” any member of a protected species of wildlife. To “take” a species is to “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.”⁵³ “Harm” is an act that actually kills or injures wildlife. Harm includes “significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavior patterns, including breeding, feeding or sheltering.”⁵⁴

Section 7 of the Endangered Species Act requires that all federal agencies “insure that any action authorized, funded or carried out by such agency . . . is not likely to jeopardize the continued existence of any endangered species or threatened species”⁵⁵ To satisfy this requirement, all federal agencies generally must consult with either the USFWS or the National Marine Fisheries Service (NMFS) when any activity which they authorize, fund, or carry out could affect listed species.⁵⁶

Section 4⁵⁷ requires USFWS or NMFS, “to the maximum extent prudent⁵⁸ and determinable,”⁵⁹ to designate critical habitat for all endan-

its range.” *Id.* § 1532(20). Although these definitions suggest that a species should be entitled to protection as a result of its biological status alone, the actual trigger for protection is an administrative listing process. “Listing” is the essential first step in application of the Endangered Species Act for the preservation of a particular species. A species, according to the Act, “includes any subspecies of fish or wildlife or plants, and any distinct population segment of any species of vertebrate fish or wildlife which interbreeds when mature.” *Id.* § 1532(16). This means that USFWS/NMFS may list “distinct population segments” of vertebrate species. A species can be proposed for listing in one of two ways: the government may select a candidate species and then propose listing, or “an interested person” may petition the appropriate agency for listing. *Id.* § 1533(b)(3)(A).

52. A person includes:

[A]n individual, corporation, partnership, trust, association, or any other private entity; or any officer, employee, agent, department, or instrumentality of the Federal Government, of any State, municipality, or political subdivision of a State, or of any foreign government, any State, municipality, or political subdivision of a State; or any other entity subject to the jurisdiction of the United States.

Id. § 1532(13).

53. *Id.* § 1532(19).

54. 50 C.F.R. § 17.3 (1999).

55. 16 U.S.C. § 1536(a)(2) (1988).

56. *Id.* Once consultation has been initiated, the federal agency involved and any permit or license applicant involved may not make any irreversible or irretrievable commitment of resources. *Id.* § 1536(d).

57. *Id.* § 1533(a)(3)(A).

58. Designating critical habitat is “not prudent” when either “[t]he species is threatened by taking or other human activity, and identification of critical habitat can be expected to increase the degree of such threat to the species, or [s]uch designation would

gered and threatened species.⁶⁰ Section 7 protects designated critical habitat. Along with the prohibition against jeopardy, section 7 requires federal agencies to "consult" to insure their actions do not result in the "destruction or adverse modification" of critical habitat.⁶¹

The better known 1982 amendments to the Act authorized USFWS and NMFS to allow exceptions to the section 9 "taking prohibition" under explicit, limited circumstances.⁶² The new sections 7(b)(4) and 7(o)(2) and the revised section 10(a) authorize NMFS and USFWS to allow "incidental taking" of species protected by section 9 if the "incidental taking" is not likely to jeopardize the continued existence of the species and "not appreciably reduce the likelihood of the survival and recovery of the species in the wild."⁶³ The creation of both the "incidental take permit" and "incidental take statement" processes provided the foundation for the complex habitat preservation and destruction schemes developing now.

In its final form, section 10(j) authorizes USFWS or NMFS to release "experimental populations" into the wild when the populations are "wholly separate geographically from nonexperimental populations of the same species"⁶⁴ and the agency "determines that such release will further the conservation of such species."⁶⁵

Under the terms of the provision, any such "experimental popu-

not be beneficial to the species." 50 C.F.R. § 424.12(a)(1) (1999).

59. Critical habitat is not determinable when either "[i]nformation sufficient to perform required analyses of the impacts of the designation is lacking," or "[t]he biological needs of the species are not sufficiently well known to permit identification of an area as critical habitat." 50 C.F.R. § 424.12(a)(2).

60. Although the USFWS/NMFS may list a foreign species as threatened or endangered, the USFWS/NMFS may not designate critical habitat in any area outside the jurisdiction of the United States. *Id.* § 424.12(h).

61. 16 U.S.C. § 1536(a)(2)(1988).

62. Endangered Species Act Amendments of 1982, Pub. L. No. 97-304, 96 Stat. 1411 (1982) (current version at 16 U.S.C. §§ 1533, 1535, 1539).

63. 16 U.S.C. § 1539(a)(2)(B)(I)(iii). Legislative history indicates that the section 7 "jeopardy" standard and the section 10(a) "not appreciably reduce" standard are identical. H.R. CONF. REP. NO. 835, 97th Cong., 2d Sess. (1982) *reprinted in* 1982 U.S.C.A.N. 2807, 2870 ("The Secretary will base his determination as to whether or not to grant the permit, in part, by using the same standard as found in section 7(a)(2) of the Act, as defined by Interior Department regulations, that is, whether the taking will appreciably reduce the likelihood of the survival and recovery of the species in the wild."). *See* 50 C.F.R. § 402.02 (1999).

64. 16 U.S.C. § 1539(j)(1) (1988).

65. *Id.* § 1539(j)(2)(A).

lation” must be treated as a “threatened species.”⁶⁶ This effectively relaxes the section 9 “taking prohibition” as it applies to experimental populations.⁶⁷ The section 9 taking prohibition applies automatically to “any endangered species of fish or wildlife,” but not to threatened creatures.⁶⁸ Section 9(g) authorizes the agencies to promulgate regulations under section 4(d) to protect threatened species under the taking prohibition. However, neither section 9(g) nor section 4(d) impose significant explicit constraints on what those regulations can say.

In addition, before releasing the population, the reintroducing agency must decide “whether or not such population is essential to the continued existence of an endangered species or a threatened species.”⁶⁹ If the agency decides that the population is “non-essential,” then additional protections fall away.

For purposes of the section 7 jeopardy prohibition and consultation requirements, section 10(j) requires a “non-essential” population be treated as a species proposed for listing unless the population “occurs in an area within the National Wildlife Refuge System or the National Park System.”⁷⁰ Section 10(j) flatly prohibits designation of critical habitat for non-essential populations.⁷¹

Section 10(j) addresses each of the provisions that might provide significant protection for reintroduced populations and reduces or eliminates the protection each affords. First, by requiring that all experimental populations, essential or non-essential, be treated as threatened species, section 10(j) relaxes the Act’s taking prohibition. Section 10(j) appears to limit the discretion of the introducing agency, but actually expands it. While the threatened designation is automatic, it places the decision of how to apply the section 9 taking prohibition squarely in the hands of the reintroducing agency. The agency can make that prohibition as strong and, perhaps,⁷² as weak as it wishes through the section 4(d) rulemaking process.⁷³

66. *Id.* § 1539(j)(2)(C).

67. Legislative history for section 10(j) indicates that USFWS could authorize taking of experimental populations in appropriate circumstances. S. REP. NO. 97-418, at 8 (1982); Doremus, *supra* note 24, at 50.

68. 16 U.S.C. § 1538(a)(1).

69. *Id.* § 1539(j)(2)(B).

70. *Id.* § 1539(j)(2)(C)(i).

71. *Id.* § 1539(j)(2)(C)(ii).

72. *Sierra Club v. Clark*, 577 F. Supp. 783, 789 (D. Minn. 1984) (holding that proposed regulations permitting a public hunting season on the wolf goes against the legislative intent behind the Endangered Species Act and is therefore illegal. It further noted that “to ‘conserve’ the wolf does not mean to ‘manage’ the wolf by declaring a public

Second, by relegating all “non-essential” experimental populations to the status of species proposed for listing, section 10(j) relaxes the Act’s section 7 jeopardy prohibition. The statute provides the agencies with less flexibility concerning the application of section 7 than it does for section 9. Although the provisions weakening the consultation and critical habitat provisions only apply after the agency makes a “non-essential” determination, that determination is constrained by the language of the statute and its interpretation. Once the agency makes the non-essential determination, the agency loses almost all authority to apply the protections embodied in section 7.

The statute’s relegation of non-essential populations to “proposed status” for purposes of section 7 not only deprives those populations of the protection afforded by the jeopardy prohibition embodied in section 7(a)(2), but also deprives federal agencies of almost all the information gathering and de facto disclosure associated with consultation. Species subject to “proposed status” are protected only under the conference requirement in section 7. If a federal action is likely to jeopardize a “proposed” species, the action agency must “confer” with the USFWS.⁷⁴ “Conference” consists of “informal discussions” in which applicants for federal permits or licenses may be involved.⁷⁵ During the conference, USFWS or NMFS may make “advisory recommendations, if any, on ways to minimize or avoid adverse effects.”⁷⁶

This relegation of non-essential populations to “proposed” status is so broad that it effectively renders the prohibition against critical habitat redundant. The Endangered Species Act protects critical habitat exclusively through section 7. Once the protections of section 7 have been removed, the designation of critical habitat becomes an administrative rulemaking process without teeth.

The text of section 10(j) does not deal explicitly with the possibility of subsequent intermingling of an experimental population with

hunting season.”) *aff’d in part, rev’d in part*, *Sierra Club v. Clark*, 755 F.2d 608 (8th Cir. 1985) (affirming the district court’s ruling and further holding that the discretion given the Secretary in section 10(j) for the taking of animals in experimental populations does not naturally then apply to the taking of threatened species).

73. See, e.g., *Determination of Threatened Status for Contiguous U.S. Population Segment of the Canada Lynx*, 65 Fed. Reg. 16,052, 16,084 (Mar. 24, 2000); *Proposed Special Regulation for Preble’s Meadow Jumping Mouse*, 63 Fed. Reg. 66,777 (Dec. 3, 1998).

74. 50 C.F.R. § 402.10(a) (1999).

75. *Id.* § 402.10(c).

76. *Id.* If the action agency and the USFWS/NMFS wish, the consultation can be conducted in accordance with the procedures for formal consultation. *Id.* § 402.10(d).

preexisting wild populations. However, the definition of “experimental population” strongly implies that the status is contingent on continued isolation: “For purposes of this subsection, the term ‘experimental population’ means any population (including any offspring arising *solely* therefrom) authorized by the Secretary for release . . . but only when, *and at such times as*, the population is wholly separate geographically from nonexperimental populations of the same species.”⁷⁷

To add to the confusion, Congress never intended section 10(j) to be the exclusive mechanism for species reintroduction. At the time Congress began considering the language that would become section 10(j), USFWS had already engaged in a number of experimental reintroductions. The legislative history for section 10(j) contains nothing to suggest these reintroductions were illegal. For example, since the passage of section 10(j), the California condor was returned as a nonexperimental population to the Los Padres National Forest in southern California,⁷⁸ and peregrine falcons have been released in a range of locations.⁷⁹ Other scholars report that “plant reintroductions are occurring regularly without formal listing as experimental populations,”⁸⁰ and that USFWS has reintroduced small mammals without any formal consideration of their section 10(j) status.⁸¹

Section 10(j)’s failure to provide exclusive authority for reintroduction, coupled with its language and the nature of the other 1982 amendments to the Endangered Species Act, make a powerful case that

77. 16 U.S.C. § 1539(j)(1) (1988) (emphasis added).

78. *See Nat. Audubon Soc’y v. Hester*, 801 F.2d 405 (D.C. Cir. 1986).

79. 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 Conterminous United States, 64 Fed. Reg. 46,542, 46,543 (Aug. 25, 1999). The rule states in part:

Recovery plans for peregrine falcons called for captive rearing and release of birds in several areas of North America. In the eastern United States, where peregrine falcons were extirpated, the initial recovery objective was to reestablish peregrine falcons through the release of offspring from a variety of wild stocks being held in captivity by falconers. The first experimental releases of captive-produced young occurred in 1974 and 1975 in the United States. Since then, approximately 6,000 falcons were released throughout its historic range in North America. These releases helped to re-establish breeding pairs in areas where the species was extirpated, and accelerated the recovery of the species.

Id.

80. Doremus, *supra* note 24, at 22.

81. Wolok, *supra* note 28, at 10,022-23 (“Translocations [of the Delmarva fox squirrel] under full endangered species status have occurred at several other sites in Virginia, Maryland, and Delaware, with mixed success.”).

section 10(j) is a tool with one purpose. That purpose is to relax the protections otherwise provided by the Endangered Species Act.

B. A Fully Formed Idea

The notion of a legislative response to the "problems" associated with reintroduction emerges full blown in the legislative history during the Endangered Species Act Oversight Hearings before the Subcommittee on Environmental Pollution of the Committee on Environment and Public Works of the United States Senate. Those hearings took place in early December 1981, almost a year before the 1982 amendments to the Act. In his introductory remarks, Robert Jantzen, then director of USFWS, asserted that his agency was reviewing "whether there should be a procedure under the Act for listing a special category of experimental populations" ⁸² Jantzen observed that reintroduction is "[o]ne of the most effective means for achieving recovery" and acknowledged the concern "[s]everal states" had expressed "that since the Act does not treat experimental populations differently from wild populations, state wildlife and management options available in an area where reintroduction has occurred would be altered or eliminated." ⁸³ Jantzen did not say what "management options" would be "eliminated" by the reintroduction of fully protected populations.

Jantzen was encapsulating, for congressional consumption, a debate that had begun years before. Two weeks before, Jantzen's agency had prepared an issue paper entitled, "Should the Experimental Population Concept be Considered for the Reintroduction of Listed Species." ⁸⁴ The paper observed "[o]ne of the most effective recovery measures is the reintroduction of a species into its historical range." ⁸⁵ The paper went on to compare the wisdom of a statutory or regulatory approach to facilitating reintroduction. The paper defined the term "experimental" to include those species populations for which "reintroduction into historical range has been identified as a viable recovery alternative" when "procedures . . . can be developed to allow for greater management flexibility and to encourage participation by management oriented wildlife agencies at

82. *Endangered Species Act Oversight: Hearings Before the Subcomm. on Envtl. Pollution of the Comm. on Envtl. & Pub. Works of the United States Senate*, 97th Cong. 81 (1982) [hereinafter *Environmental Pollution Subcommittee Hearings*] (statement of Robert Jantzen, Director, USFWS).

83. *Id.*

84. *Endangered Species Act: Hearings Before the Subcomm. on Fisheries and Wildlife Conservation and the Env't of the Comm. on Merchant Marine & Fisheries of the House of Representatives*, 97th Cong. 547 (1982) [hereinafter *Fisheries and Wildlife Conservation Hearings*].

85. *Id.*

both the State and Federal level.”⁸⁶ Without making a final recommendation, the paper leaves the impression that a statutory fix is the best solution. However, the impetus for experimental population legislation did not come from USFWS. As the issue paper plainly indicates, the real proponents were state wildlife agencies, particularly in the State of New Mexico.

A letter dated August 31, 1981, from Harold Olsen to Robert Brantley outlined the recent history of the legislative experimental population concept.⁸⁷ Harold Olsen worked for the New Mexico Department of Fish and Game. Robert Brantley was Chairman of the Endangered Species Committee of the International Association of Fish and Wildlife Agencies (IAFWA). According to Olsen, the “concept was originated in late 1978 and early 1979” with the aim of facilitating “reintroduction of endangered/threatened species into their historic range.”⁸⁸ Olsen referenced the failure of state attempts at protected species reintroduction under the USFWS “administrative ‘experimental population’ approach.” Olsen continued, “[w]e do not feel the [United States Fish and Wildlife] Service has pursued the experimental population concept with sufficient vigor to bring it to realization.”⁸⁹

Olsen urged Brantley to support “the experimental population concept” as “an amendment to the Endangered Species Act at the soonest possible time.”⁹⁰ Olsen attached a four-page draft amendment prepared by the New Mexico Department of Fish and Game for discussion at the September 1981 annual meeting of the IAFWA.⁹¹

The New Mexico draft attached to Olsen’s letter contains many of the most prominent elements in the current section 10(j). It authorized the establishment “of populations in addition to those already occurring in the wild” and, “[w]here distinct from naturally occurring populations,” denominated them “experimental.”⁹² It provided that “an experimental population” will not be listed as endangered or threatened, unless “the Secretary determines that such population is essential for the sur-

86. *Id.*

87. Letter from Harold Olsen, New Mexico Department of Fish and Game, to Robert Brantley, Chairman of the Endangered Species Committee of the International Association of Fish and Wildlife Agencies (Aug. 31, 1981) (on file with author).

88. *Id.*

89. *Id.*

90. *Id.*

91. State of New Mexico Department of Game and Fish, Proposed Amendment to the Endangered Species Act (Feb. 1980) (on file with author).

92. *Id.* § 18(a).

vival of endangered or threatened species."⁹³ The draft provision flatly prohibited designation of critical habitat for "experimental populations" and exempted them from the consultation requirements of section 7.⁹⁴

Like the final version of section 10(j), the New Mexico draft did not deal specifically with the intermingling of species populations. However, it required that experimental populations be "distinguishable from naturally occurring wild populations . . . by virtue of geographic distribution, physical or other characteristics, tagging or marking, or by other factors."⁹⁵

Unlike the final law, the New Mexico draft implied a broad notion—a wildlife managers' notion—of experimental population. As opposed to the "wholly separate geographically" standard in the final law, the New Mexico draft embraced almost any method of distinguishing the experimental population from other species members including not only "geographic distribution," but also "tagging or marking."⁹⁶ The New Mexico draft accepted, without consideration, the notion that the relaxation of protections must attach only to the reintroduced creatures and their progeny, "distinguishable" from other populations.

In its annual meeting, in September 1981, the IAFWA endorsed the general idea of experimental populations and, more specifically, endorsed legislative action preventing states from being penalized by the establishment of critical habitat for reintroduced populations.⁹⁷

C. December 1981: Introduction to Congress

During the December 1981 oversight hearings in the U.S. Senate, a number of parties supported a statutory solution for the experimental population problem along lines similar to those proposed by New Mexico Game and Fish. The representative of the American Fur Resources Institute took the opportunity to urge "experimental population" legislation and, particularly, to decry the danger of designation of critical habitat for reintroduced populations.⁹⁸

93. *Id.* § 18(c).

94. *Id.* § 18(d)(1).

95. *Id.* § 18(b).

96. *Id.*

97. See *Environmental Pollution Subcommittee Hearings, supra* note 82, at 164 (letter from Robert Brantly, Chairman, International Association of Fish and Wildlife Agencies (IAWFA), to members of the Endangered Species Committee and IAFWA (Oct. 14, 1981)).

98. See *id.* at 154 (statement of the American Fur Resources Institute).

More significantly, William Huey, Secretary of the New Mexico Natural Resources Department—Harold Olsen’s superior—and Chairman of the Legislative Committee of the IAFWA—Bob Brantley’s organization—succinctly stated the New Mexico/IAFWA position:

At the present time, if a state fish and wildlife managing agency wishes to introduce or reintroduce an endangered species, the protective features of the Act . . . come into play and prevent the legitimate and entirely safe harvest of both resident and migratory populations. The end-result is that the states are reluctant to engage in the restoration of endangered forms and the restrictive provisions of the Act become self-defeating.⁹⁹

Testimony of other witnesses during the December hearings buttressed Huey’s observations. Lonnie Williamson of the Wildlife Management Institute urged experimental population legislation for similar reasons. Williamson focused directly on the perceived evils of critical habitat designation¹⁰⁰ for reintroduced populations. James Tate, an ecologist working for ARCO Coal, testifying on behalf of the Western Regional Council (a group of western business and industrial concerns), opined that “categories of experimental populations should be added to the Endangered Species Act, allowing innovative experimental techniques that would allow a project to continue should the experimentation be successful.”¹⁰¹ Only Christine Stevens, Secretary for the Society for Animal Protective Legislation, explicitly conditioned support for experimental populations on “adequate protection for the experimental population.”¹⁰²

The chorus of pro-experimental population witnesses during the December 1981 oversight hearings struck home with Senator John Chafee of Rhode Island, Chairman of the Committee. After Tate’s testimony, Chafee declared:

The point you made about the reintroduction or the introduction of endangered species, so-called experimental populations . . . a

99. See *id.* at 160 (statement of William S. Huey, Chairman, IAFWA). The IAFWA also believed an experimental population provision would add flexibility the statute which had been removed through litigation prohibiting hunting of threatened species. Telephone Interview with Paul Lenzini, General Counsel, IAFWA (Aug. 13, 1999).

100. See *Environmental Pollution Subcommittee Hearings*, *supra* note 82, at 183 (statement of Lonnie L. Williamson, Secretary, Wildlife Management Institute).

101. See *id.* at 272 (statement of James Tate, Western Regional Council).

102. See *id.* at 252 (statement of Christine Stevens, Secretary, Society for Animal Protective Legislation).

point raised the other day by Mr. Huey . . . I think it is a very valid point—something should be done, as you noted. In many instances the process defeats what we are trying to do; we are discouraging people from taking a chance on the reintroduction of an experimental population of endangered species. Such reintroduction and recovery are two of the goals of the act, obviously. Hopefully, we can accomplish something here.¹⁰³

All of the support offered for experimental population legislation during the December 1981 hearings assumed that the statutory “experimental population” designation would be long term. Only a long-term designation could resolve the problems the witnesses presented. At the same time, witnesses assumed that experimental populations would remain geographically distinct from preexisting populations for as long as the “experimental” designation persisted. No one suggested that these assumptions might be in conflict.

D. The Whooping Crane Paradigm

The testimony during the oversight hearings is remarkable for its consistency, lack of controversy, and lack of particulars. Each witness urging experimental population legislation used the same terminology and offered similar arguments. Most focused on critical habitat problems. No one challenged the wisdom of an experimental population provision. To the degree that there had ever been controversy about the wisdom of experimental population legislation, it had been resolved outside the halls of Congress.

Where did the impetus for this legislation come from? Why did New Mexico and the IAFWA lead the charge? What actual experience led them to believe that reintroduction of fully protected populations would eliminate “management options,” “prevent the legitimate and entirely safe harvest of both resident and migratory populations,” and otherwise discourage “people from taking a chance on the reintroduction of an experimental population”? Three species reintroductions came up during the hearings—endangered fish,¹⁰⁴ peregrine falcons,¹⁰⁵ and whooping cranes. However, the experiential kernel of the push for ex-

103. See *id.* at 273 (statement of Senator John Chafee, Chairman, S. Comm. on Env't and Pub. Works).

104. Letter from Harold Olsen, *supra* note 87.

105. See *Environmental Pollution Subcommittee Hearings*, *supra* note 82, at 321 (statement of James Tate, Western Regional Counsel, referring to Atlantic Richfield's refusal to allow falcon reintroductions).

perimental population legislation seems to have to do with whooping cranes.

The whooping crane was listed as an endangered species in both 1967¹⁰⁶ and 1970,¹⁰⁷ under early versions of endangered species legislation. The whooping crane is an enormous and photogenic bird, reduced by hunting and habitat destruction to the very brink of extinction. One small, self-sustaining population migrates annually between Wood Buffalo National Park in northern Canada and the Arkansas National Wildlife refuge in Texas. Their size, charisma, and rarity make whooping cranes prime candidates for active species recovery programs. Over the years "whoopers" have been bred in captivity,¹⁰⁸ introduced in various locations,¹⁰⁹ led about by small planes,¹¹⁰ and, generally, subjected to more than the usual indignities associated with the brink of extinction.

One ill-fated whooping crane recovery program began in 1975 and had a significant effect on the development of experimental population law. The "whooping crane foster parent program" involved placing the eggs of captive whooping cranes in the nests of sandhill cranes. Theoretically, the sandhill cranes would raise the young whoopers, who would then leave their foster parents, mate with each other, and establish a new self-sustaining population.¹¹¹ Whooping crane eggs were placed in sandhill crane nests at Gray's Lake National Wildlife Refuge in Idaho.¹¹² When winter came, the young whoopers followed their foster parents south into New Mexico. The testimony of William Huey, before the Senate subcommittee in April 1982, picks up the story:

The young whoopers fly south with their foster parents and winter in New Mexico with the sandhills but begin to break with

106. Native Fish and Wildlife, 32 Fed. Reg. 4001 (Mar. 11, 1967).

107. Conservation of Endangered Species and Other Fish and Wildlife, 35 Fed. Reg. 8495 (June 2, 1993) (to be codified at 50 C.F.R. pt. 17).

108. *Helping Endangered Whooping Cranes Help Themselves*, ST. PETERSBURG TIMES, Mar. 8, 1996 (documenting Florida reintroduction of captive-bred cranes).

109. See Establishment of Experimental Population of Whooping Cranes in Florida, 58 Fed. Reg. 5647 (Jan. 22, 1993) (to be codified at 50 C.F.R. pt. 17).

110. Press Release, USFWS, Fall Whooping Crane Migration Begins Soon; Numbers Approach Record High Levels (Sept. 28, 1998) (documenting use of ultra-light aircraft).

111. Proposal to Designate the Whooping Cranes of the Rocky Mountains as Experimental Nonessential and to Remove Whooping Crane Critical Habitat Designations From Four Locations, 61 Fed. Reg. 4394, 4395 (Feb. 6, 1996) (to be codified at 50 C.F.R. pt. 17).

112. *Endangered Species Act Amendments of 1982: Hearings on S. 2309 Before the Subcomm. on Env't'l Pollution of the Comm. on Env't & Pub. Works*, 97th Cong. 87-88 (1982) (statement of William Huey, Secretary, New Mexico Department of Natural Resources).

their foster parents when they return north as sub-adults. When the sub-adult whoopers again migrate south the following year they do not winter with their sandhill crane families. In fact, there have been 15-20 of the experimental whoopers spread around New Mexico the past three winters from Albuquerque to the Mexican border. Federal and state agents attempt to monitor the whereabouts of the whoopers and, at times, have gone to considerable lengths to prevent harassment of these birds. In the past few years there have been calls to close the Rio Grande Valley in New Mexico to waterfowl hunting because of the presence of the experimental whoopers.¹¹³

Daniel Botkin and Reed Noss would not have been surprised. Even Michael Crichton's fictional Ian Malcolm could say, "I told you so." The reintroduced cranes had done the unexpected. The foster parent program had not adequately considered the consequences if the reintroduced whooping cranes departed from the migratory patterns of their foster parents and began wandering across southern New Mexico. New Mexico Fish and Game officials, apparently, had reason to be upset about the resources they had expended and the administrative headaches the birds had caused.

However, rather than taking the experience as a lesson in the dynamics of nature, all involved chose to blame the Endangered Species Act. The statutory protections, not the birds' behavior, were to blame. Accordingly, New Mexico Fish and Game took aim at the protections. This, among other things, inspired them to push for experimental population legislation.

New Mexico Fish and Game was not the only group upset about the wandering New Mexico whooping cranes. In testimony before the House Subcommittee on Fisheries and Wildlife Conservation and the Environment of the House Committee on Merchant Marine and Fisheries, a statement from the Edison Electric Institute related the trouble the cranes had caused the power industry:

The whooping cranes to which we refer summer in Idaho, winter in New Mexico and migrate seasonally between these locations. . . [T]heir presence has already required a utility to adjust the location of a planned power line right-of-way. Other companies have been required to analyze the potential impact of their activities on this population. Thus, their presence has become a major

113. *Id.* at 88.

concern to those citing transmission lines from Idaho to New Mexico.¹¹⁴

In May 1978, to add insult to injury, the whooping crane foster parent program led USFWS to designate critical habitat for whooping cranes on four national wildlife refuges in the Rocky Mountain region. One, Bosque del Apache, was in New Mexico.¹¹⁵

The designation applied what was then an incompletely formed notion of what critical habitat meant under the Endangered Species Act. As enacted in 1973, section 7 of the Endangered Species Act mandated that federal agency actions not destroy or modify the habitat of endangered or threatened species determined by the Secretary to be "critical."¹¹⁶ As enacted, however, the Endangered Species Act did not provide any mechanism or criteria for determining what constituted a listed species' "critical habitat." In 1975, in a "Notice on Critical Habitat," the agencies responsible for administering the Act, USFWS and NMFS¹¹⁷ enumerated specific criteria relevant for determining what should be conserved as critical habitat.¹¹⁸ However, it was not until January 1978 that USFWS and NMFS promulgated regulations defining "critical habitat."¹¹⁹ In December 1975, USFWS published the initial proposal for designation of critical habitat for whooping cranes.¹²⁰ The initial pro-

114. *Id.* at 281 (statement of Edison Electric Institute).

115. On May 15, 1978, whooping crane critical habitat was designated in four areas to benefit the whooping cranes being reintroduced into the Rocky Mountains. Bosque del Apache in New Mexico, Monte Vista and Alamosa in Colorado, and Grays Lake in Idaho. Deterioration of Critical Habitat for the Whooping Crane, 43 Fed. Reg. 20,938, 20,939 (May 15, 1978) (to be codified at 50 C.F.R. pt. 17).

116. Endangered Species Act, Pub. L. 93-205, 87 Stat. 884 § 7 (codified as amended at 16 U.S.C. § 1536(a) (1994)).

117. The Endangered Species Act delegates joint administrative authority to the Secretary of the Interior and the Secretary of Commerce who, in turn, have delegated their authority to the Director of the USFWS and the Director of NMFS. Together, the USFWS and NMFS have promulgated regulations under the Endangered Species Act which are located at 50 C.F.R. pts. 401-403, 424, 450-453 (1999) (referred to as the "joint regulations").

118. These included "(1) Space for normal growth, movements, or territorial behavior; (2) Nutritional requirements such as food, water, minerals; (3) Sites for breeding, reproduction or rearing of offspring; (4) Cover or shelter; or (5) Other biological, physical, or behavioral requirements." Notice on Critical Habitat Areas, 40 Fed. Reg. 17,764 (Apr. 15, 1975).

119. Joint Regulations, 43 Fed. Reg. 870 (Jan. 4, 1975) (to be codified at 50 C.F.R. pt. 17). "[A]ny air, land or water area . . . and constituent elements thereof, the loss of which would appreciably decrease the likelihood of the survival and recovery of a listed species or a distinct population segment of its population." *Id.* at 874-75.

120. Proposed Determination of Critical Habitat for Snail Darter, American Crocodile, Whooping Crane, California Condor, Indiana Bat and Florida Manatee, 40 Fed.

posal appeared only two years after passage of the Endangered Species Act and only months after the first notice defining critical habitat. USFWS published the final rule designating critical habitat for the whooping crane in May 1978, months after the promulgation of the first regulation defining critical habitat.

The summary of comments published with the final rule designating habitat conveys a sense of confusion about the significance of critical habitat:

There is a widespread and erroneous belief that a Critical Habitat designation is something akin to the establishment of a wilderness area or wildlife refuge and automatically closes an area to most human uses. Actually, a Critical Habitat designation applies only to Federal agencies, and is essentially an official notification to those agencies that their responsibilities pursuant to section 7 of the Act are applicable in a certain area.¹²¹

USFWS's correct and proper attempt to reduce the panic associated with critical habitat designation by linking the duties associated with critical habitat to section 7 might have been more comforting if the nature of the duties associated with section 7 had been less controversial. Unfortunately, at that moment, the U.S. Supreme Court was preparing to release its opinion in *Tennessee Valley Authority v. Hill*.¹²²

The shifting landscape of critical habitat did not soothe state wildlife agencies in considering the potential effect of reintroducing protected species populations in their jurisdictions. This may explain both the negative focus on critical habitat during consideration of section 10(j) and the flat prohibition against the designation of critical habitat for experimental populations under section 10(j).

Reg. 58,308 (Dec. 16, 1975) (to be codified at 50 C.F.R. pt. 17).

121. Determination of Critical Habitat for the Whooping Crane, 43 Fed. Reg. 20,938, 20,939-40 (Mar. 9, 1978) (to be codified at 50 C.F.R. pt. 17).

122. 419 F. Supp. 753 (E.D. Tenn. 1976), *rev'd*, 549 F.2d 1064 (6th Cir. 1977), *aff'd*, 437 U.S. 153 (1978). Enforcement of the Endangered Species Act delayed completion of a federal dam project on the Little Tennessee River. *Id.* at 158. Completion of the dam eradicated the only known population of snail darters. Nonetheless, the dam was finally completed and the fish population eradicated after congressional action exempted the project from the Endangered Species Act. *See* Act of Sept. 25, 1979 (making appropriations for energy and water development), Pub. L. No. 96-69, 93 Stat. 437, 449-50 (1979). *Tennessee Valley Authority v. Hill* catapulted the Endangered Species Act into national prominence and led to the complete revision of section 7, the provision of the law protecting critical habitat.

Difficulties with whooping crane reintroduction and its contribution to the passage of section 10(j) may have had another subtler effect on the development of reintroduction law. For some legislators, at least, the whooping crane became the paradigmatic reintroduction species: the species they thought about when they endeavored to comprehend the impact of reintroduction legislation.

In February 1982, Senator Chaffee sponsored a Senate bill—S. 2309—to add an experimental population provision to the Endangered Species Act. The bill owes much to the New Mexico draft legislation offered for discussion at the September 1981 IAFWA annual meeting. Like the New Mexico draft, it relaxed protections for reintroduced populations and flatly prohibited the designation of critical habitat. Like the New Mexico draft, it required that experimental populations be geographically distinct from existing wild populations.

The bill, however, contained one twist in this second definition that the New Mexico draft lacked:

[The experimental population] is wholly separate geographically from non-experimental populations of the species: *provided, however,* that a population transported and released outside of the current range of the species . . . that is not wholly separate geographically from nonexperiment populations shall be treated as an experimental population in those areas where, and at times when, it is wholly separate geographically from nonexperimental populations¹²³

For what species does this notion of on-again, off-again experimental status make sense? It does not make sense for species with short lives and high reproduction rates—insects or mice, for example. With these species any co-mingling would make it impossible to tell the member of the experimental population from the members of the naturally occurring population. It does not make sense for non-migratory species—wolves or ferrets, for example. Once two such populations have become united they are unlikely to separate. It does not make sense for solitary species or species that congregate only in mating pairs—peregrine falcons, for example. For these species the idea of separate and united populations is almost meaningless. It does make sense for a social, migratory species with long lives and low birth rates—for example, whooping cranes.

123. S. 2309, 97th Cong. § 2(b) (1982).

E. Putting the Pieces Together

During the months between the oversight hearings in December 1981 and the introduction of Chaffee's bill in March 1982, discussions between the IAFWA, Senate staffers, and the environmental community transformed the New Mexico language into something much more like the final version of section 10(j).

One draft, dated February 12, 1982, contained almost all the elements of the final law with the exception that threatened status would have been applied to only non-essential "experimental populations." The draft also included a broad, more explicit escape hatch from experimental status. The draft defined an "experimental population" as:

[A]ny population . . . of an endangered or threatened species, including offspring arising solely from such population, that (A) any person authorized by the Act has transported and released outside the current range of the species to further its conservation pursuant to the Act and (B) except as provided in the next sentence, is wholly separate geographically from populations of the species that do not meet the criteria set forth in provision (A) of this subsection. A population that would qualify as an experimental population but for the requirement of (B) above may be treated as an experimental population in those areas where, or at those times when, it is wholly separate geographically from populations that do not meet the criteria set forth in provision (A)¹²⁴

Under this "ABABA" formulation, experimental population status was more plainly a temporary expedient, applying only to populations that remained "wholly separate" and in those rare occasions when an experimental population separated itself—as whooping cranes might. Although the definition did not deal explicitly with what happens when an experimental population is not "wholly separate," the formulation effectively placed the status of population in the power of the animals themselves. It is reasonable to assume that an experimental population which is not "wholly separate geographically" from other wild populations would shed its experimental status and gain the full protection of the Act. The formulation in the March 1982 Chaffee bill, discussed above, is not substantively different. However, by restructuring the language to place the "wholly separate" requirement first, Chaffee's bill

124. Proposed Endangered Species Act Amendment on Experimental Populations (Feb. 12, 1982). Provided by Michael Bean of the Environmental Defense Fund (Aug. 5, 1999) (on file with author).

suggested that total separation was the norm and, thereby, masked the problem.

I suspect that, at this point, the drafting of the statutory language had passed out of the hands of state and federal fish and wildlife officials, concerned primarily with management, and into the hands of members of Congress and the environmental community, concerned primarily with protection. For wildlife managers, experimental population designation is a useful tool to encourage reintroduction. Freedom to designate experimental populations in any reasonable manner enhanced the value of the tool, even if the reintroduced population could only be distinguished from others of its kind by daubs of paint on fur or lines drawn on a map (as authorized in the New Mexico draft amendment).

For environmentalists, experimental population is a dangerous concept because it relaxes the protections available to significant portions of an otherwise protected species. The “wholly separate geographically” requirement limits the power of wildlife managers to use section 10(j) to reduce protections afforded otherwise protected wild species members. The “wholly separate geographically” requirement is one way to limit the power of section 10(j) to reduce protections afforded to species members.

On February 22 and March 8, 1982, the Subcommittee on Fisheries and Wildlife Conservation and the Environment of the House Committee on Merchant Marine and Fisheries held hearings on Endangered Species Reauthorization and Oversight. Once again William Huey testified on behalf of New Mexico and IAFWA. However, he now offered a proposed amendment on experimental populations incorporating the ABABA approach to defining experimental populations.¹²⁵ Michael Bean testified on behalf of the Environmental Defense Fund, and although he questioned the need for experimental population legislation, he also offered draft legislation incorporating the ABABA definition.¹²⁶

The bill that finally emerged from the House Committee on May 17, 1982—House Bill 6133—contained a more ambiguous definition of experimental population:

[T]he term “experimental population” means any population authorized by the Secretary for release under paragraph (2) [requiring that release be “outside the current range of the species” and

125. *Fisheries and Wildlife Conservation Hearings*, *supra* note 84, at 9.

126. *See id.* at 168.

“will further the conservation of such species”], but only when, and at such times as, the population is wholly separate geographically from non-experimental populations of the same species.¹²⁷

This formulation does not contradict the ABABA approach. Indeed, the “but only when” language suggests that the experimental designation will evaporate when the population intermingles with others.

What may turn out to be the most significant piece of legislative history to accompany section 10(j), House Report 567,¹²⁸ accompanied the Committee bill. House Report 567 reaffirmed the limited scope of the “experimental population” designation and came as close as Congress would ever come to addressing the problem of population overlap:

Paragraph (1) of subsection 10(j) defines the term experimental “population” The Committee carefully considered how to treat introduced populations that overlap, in whole or in part, with natural populations of the same species. To protect natural populations and to avoid potentially complicated problems of law enforcement, the definition is limited to those introduced populations that are wholly separate geographically from nonexperimental populations of the same species. Thus, for example, in the case of the introduction of individuals of a listed fish species into a portion of a stream where the same species already occurs, the introduced specimens would not be treated as an “experimental population” separate from the non-introduced specimens If an introduced population overlaps with natural populations of the same species during a portion of the year, but is wholly separate at other times, the introduced population is to be treated as an experimental population at such times as it is wholly separate. *The Committee intends, however, that such a population be treated as experimental only when the times of geographic separation are reasonably predictable and not when separation occurs as a result of random and unpredictable events.*¹²⁹

The meaning of this passage in House Report 567 has been a point of significant contention in the Yellowstone wolf litigation, discussed later.¹³⁰ It appears clear, as to “populations” at least, that experimental

127. H.R. REP. NO. 97-567, at 58 (1982).

128. *Id.*, reprinted in 1982 U.S.C.C.A.N. 2807.

129. *Id.* at 58-59, reprinted in 1982 U.S.C.C.A.N. 2807, 2833 (emphasis added).

130. See *infra* Part V.

population status was and remains contingent on complete geographical separation. Here the “whooping crane paradigm” masks Congress’ meaning by leading it to focus on the relative oddity of experimental populations which will be geographically separate at “reasonably predictable” times. Congress dealt with the more likely case of gradual population intermingling only by implication.

Three weeks following the publication of House Report 567, on June 8, 1982, the full House considered and passed House Bill 6133, without any further modification to section 10(j).¹³¹ The next morning, the Senate considered both Senate Bill 2309 and House Bill 6133. At the end of the day, the Senate indefinitely postponed further consideration of Senate Bill 2309 and considered passage of House Bill 6133 with amendments.¹³² The Senate passed House Bill 6133 as amended.¹³³ The House promptly rejected the Senate’s amendments to House Bill 6133.¹³⁴

Nearly three months later, on September 17, 1982, an amended House Bill 6133 emerged from the Conference Committee¹³⁵ accompanied by the Joint Explanatory Statement of the Committee of Conference (the House Conference Report).¹³⁶ The language of House Report 567, complete with references to “potentially complicated problems of law enforcement” and concern about “reasonably predictable” “geographic separation,” appears almost verbatim in the House Conference Report published on September 17.¹³⁷ On September 20, 1982, the Senate considered the amended bill and adopted it by voice vote.¹³⁸ Ten days later, the House considered and approved the bill.¹³⁹ President Reagan signed House Bill 6133 into law, Public Law 97-304, on October 13, 1982.

The legislative history of section 10(j) sets up a troublesome dynamic. While each experimental population must begin its existence as wholly separate from naturally occurring populations, Congress intended the experimental population status to end when that experimental population began to intermingle significantly with wild populations. At the same time Congress sought to create “flexibility” in application of the

131. 128 CONG. REC. 12,954-62 (1982).

132. *Id.* at 13,176-85.

133. *Id.*

134. *Id.* at 14,953.

135. *Id.* at 24,148-58.

136. H.R. CONF. REP. NO. 97-835 (1982), *reprinted in* 1982 U.S.C.C.A.N. 2860.

137. *Compare* H.R. CONF. REP. NO. 97-567, at 58-59 (1982), *reprinted in* 1982 U.S.C.C.A.N. 2807, 2833, *with* H.R. CONF. REP. NO. 97-835 at 33 (1982), *reprinted in* 1982 U.S.C.C.A.N. 2860, 2874.

138. 128 CONG. REC. 24,187-88 (1982).

139. *Id.* at 26,187-89.

Endangered Species Act to entice state wildlife agencies and private landowners to accept reintroduction.¹⁴⁰ Yet, the reintroduction "deal" section 10(j) authorizes can last only so long as the reintroduced population behaves itself and stays within the previously unoccupied habitat in which it was placed.

IV. SECTION 10(J) AT THE AGENCY LEVEL

The text of section 10(j) and its legislative history provided ample room for USFWS to develop its own "experimental population" reintroduction goals and procedures. However, the statute did influence the agency rulemaking process. The language and legislative history concerning the meaning of "wholly separate geographically" appeared to limit the agency's ability to insure that its reintroduction rules would be durable. As discussed above, section 10(j)'s goal of mollifying reintroduction opponents required durable rules.

Initially, USFWS responded to this problem by zealously endorsing the statutory language and legislative history, embracing the notion of population separation as a legal "requirement" and undertaking active population segregation. However, over time, as USFWS began contemplating more complex reintroductions with greater chances of population overlap, it began adopting a more flexible approach to the notion of geographical separation. This eventually evolved into what I call "species zoning."

A. 1984: The Initial Rulemaking

In January 1984, fourteen months after President Reagan signed section 10(j) into law, USFWS published its proposed general rule for species reintroduction under section 10(j).¹⁴¹ The proposed rule outlined what would become the administrative norm in compliance with section 10(j). That norm is a rulemaking process addressing both the finding required by section 10(j)(2)(A)(that the "release" will "further the con-

140. As the otherwise famous House Report 97-567 put it:

Another shortcoming of the Act is its tendency to discourage voluntary introduction of species in areas of their historic range. . . . In order to mitigate fears expressed by industry that such experimental populations would halt development projects, the Committee defined what an experimental population is and how it shall be treated under the Act. Clarification of legal responsibilities incumbent with these populations will, it is hoped, encourage private parties to host experimental populations on their land.

H.R. REP. NO. 97-567, at 17 (1982), *reprinted in* 1982 U.S.C.C.A.N. 2807, 2817.

141. Endangered and Threatened Wildlife; Experimental Populations, 49 Fed. reg. 1166 (Jan. 9, 1984) (to be codified at 50 C.F.R. pt. 17).

servation of the species”) and the relaxation of the taking prohibition the section 10(j)’s automatic “threatened” designation afforded.¹⁴²

The preamble to the proposed rule set out both the usual justifications for section 10(j), “significant local opposition” encountered in earlier “translocation” efforts, and the remedy embodied in 10(j), “new administrative flexibility for selectively applying the prohibitions of the [Endangered Species] Act.”¹⁴³

At the same time, the proposed rule contained a definition of “experimental population” more detailed than the statute’s. This definition was consistent with the legislative history requiring complete geographic isolation for maintenance of experimental population status and, perhaps, went a few steps further than Congress had gone:

The term “experimental population” means an introduced and/or designated population (including any offspring arising solely therefrom) . . . and is wholly separate geographically from non-experimental populations of the same species during specific periods of time. *Where part of an experimental population overlaps with natural populations of the same species during a portion of the year, but is wholly separate at other times, specimens of the experimental population will not be recognized as such while in the area of overlap. That is, experimental status will only be recognized outside the areas of overlap.*¹⁴⁴

In case this language was insufficient to highlight the wholly separate geographically requirement, the regulatory definition then catalogues a series of variations on the same theme: “Thus such a population shall be treated as experimental only when the times of geographic separation are reasonably predictable e.g., fixed migration patterns, natural or man-made barriers. *A population is not experimental if total separation will occur solely as a result of random and unpredictable events.*”¹⁴⁵

This definition, which appears unchanged in the final regulation,¹⁴⁶ places enormous significance on the presence or absence of “overlap” but fails to define overlap. By incorporating this language,

142. For an able discussion of the regulations governing reintroduction, see Wolok, *supra* note 28, at 10,018.

143. Endangered and Threatened Wildlife; Experimental Populations, 49 Fed. Reg. at 1166.

144. *Id.* at 1168 (emphasis added).

145. *Id.* (emphasis added).

146. See 50 C.F.R. § 17.80(a) (1999).

USFWS was faithful to Congress' intent. However, by doing so it made the job of promulgating experimental population rules and managing experimental populations harder.

In comments responding to the proposed rule, the Marine Mammal Commission (MMC) and Western Oil and Gas Association (WOGA) questioned the ambiguity in the meaning of "overlap":

WOGA and MMC have commented on the restrictive nature of the definition of "experimental population" used in the proposed regulation They state that those situations which result in *excessive* overlap of experimental and nonexperimental species or, in situations which may exist after the expansion of the first generation of introduced species, are not adequately addressed in the regulation as presently stated.¹⁴⁷

The phrase "excessive overlap" suggests that WOGA and MMC would define "overlap" as a relative rather than absolute term. Their suggested approach to the ambiguity goes further: "Their suggestion is to reword the definition to identify an 'experimental population area' as an area within which all individuals will be considered experimental and outside of which they will be considered nonexperimental."¹⁴⁸ This modest and prophetic proposal would have effectively jettisoned the statutory and regulatory focus on species populations in favor of a "species zoning" regime.¹⁴⁹ The USFWS response to this comment reveals even more:

147. Endangered and Threatened Wildlife and Plants; Experimental Populations, 49 Fed. Reg. 33,885, 33,889 (Aug. 27, 1984) (to be codified at 50 C.F.R. pt. 17) (emphasis added).

148. *Id.*

149. As discussed below, a similar regime applied to distinct population segments of a species listed independently of the species as a whole. A species in the biological sense is not necessarily the same as a species defined by the Endangered Species Act. A species according to the Act "includes any subspecies of fish or wildlife or plants, and any distinct population segment of any species of vertebrate fish or wildlife which interbreeds when mature." 16 U.S.C. § 1532(16) (1994). This means that USFWS/NMFS may list "distinct population segments" of vertebrate species. The most prominent examples of these population listings are grizzly bears in the continental United States, see *infra*, notes 300-12 and accompanying text, and gray wolves in the continental United States, see *infra*, notes 244-81 and accompanying text. The USFWS and NMFS have adopted a policy to clarify their interpretation of the phrase "distinct population segment of any species of vertebrate fish or wildlife" for the purposes of listing and "delisting" species under the Endangered Species Act. Policy Regarding the Recognition of Distinct Vertebrate Populations under the Endangered Species Act, 61 Fed. Reg. 4722 (Feb. 7, 1996).

The Service supports this concept but believes that if the present definition is carefully examined, it will be shown that the criterion for an experimental population area is being met in the current definition *without it being expressly stated*. An “experimental” designation, . . . requires that there be included within the regulation establishing an experimental population a description of the area in which the species will be found and where it will be identified as experimental. This establishes, in effect, an experimental population area. . . . Boundaries will be identified and the population within these boundaries will be experimental.¹⁵⁰

But what if species members do not stay where they are placed? USFWS responded: “Should individuals move *outside* this area and commingle with nonexperimental individuals of the same species, the experimental designation will no longer apply outside the boundaries of the experimental zone.”¹⁵¹ But what if nonexperimental individuals move inside the experimental area? What if members of experimental and nonexperimental populations intermingle repeatedly? When does interaction between two populations become “excessive” overlap or just plain overlap? On these points, the agency response provided no guidance. While USFWS was willing to contemplate something like species zoning from its first rulemaking, subsequent actions suggest it was unwilling to embrace the concept wholeheartedly until much later.

A very different “solution” to the overlap problem appears as an aside elsewhere in the rule’s preamble: “The special rule for each experimental population would be developed on a case-by-case basis. It is expected that some regulations to designate an experimental population *may also authorize special activities designed to contain the population within the original boundaries set out in the regulation.*”¹⁵² While USFWS flirted with species zoning as suggested by WOGA and MMC, “containment” would dominate for some time to come.

B. 1986: The Sea Otter Rulemaking

During the initial Senate oversight hearings in December 1981, when consideration of experimental population legislation first emerged into public view, “Friends of the Sea Otter” submitted a position paper. The paper endorsed one species reintroduction.

150. Endangered and Threatened Wildlife; Experimental Populations, 49 Fed. Reg. at 33,889 (emphasis added).

151. *Id.* (emphasis added).

152. *Id.* at 1166 (emphasis added).

We strongly support management plans to establish two or more successful reserve breeding populations of southern sea otters in sites elsewhere within their former U.S. range. Such manipulation now appears necessary in order to preserve the California sea otter—virtually its entire population is encompassed by proposed [Outer Continental Shelf Oil and Gas Leases] and almost the entire breeding stock . . . lies in a vulnerable position between two major oil tanker ports¹⁵³

Preceding this endorsement of reintroduction, Friends of the Sea Otter provided a prophetic caveat:

We believe it would be most beneficial for the southern sea otter and for the marine ecosystems in which it plays a significant role for the California otter population to continue to distribute itself wherever its natural movements will take it. *We firmly object to management of southern sea otters by range restriction*¹⁵⁴

The reintroduction of southern sea otters would quickly become a test of unpredictable nature, of section 10(j), and of "range restriction."

In 1977, USFWS listed the southern sea otter, *Enhydra lutris nereis*, as a threatened species for the purposes of the Endangered Species Act.¹⁵⁵ The sea otter, unlike most marine mammals, does not have blubber to provide insulation from the chilling effect of the ocean. It compensates with an extremely dense coat of fur. The quality of its fur proved its undoing. Fur hunters reduced the otter population to near extinction during the nineteenth century.¹⁵⁶ The sea otter population rebounded significantly after federal and state bans on hunting in 1911 and 1913. As of 1986, 1,300 to 1,400 animals lived off the coast of northern California between Ano Nuevo north of Santa Cruz and the Santa Maria River, near San Luis Obispo.¹⁵⁷ However, its small population and range made the otter vulnerable to oil spills.¹⁵⁸ Again, fur is the problem. The otter's dense fur loses its insulating quality if matted by oil. Without insulation the animal dies from hypothermia.¹⁵⁹

153. BETTY S. DAVIS, FRIENDS OF THE SEA OTTER: POSITION PAPER ON MANAGEMENT PERSPECTIVES 1 (1981).

154. *Id.* (emphasis added).

155. Determination that the Southern Sea Otter is a Threatened Species, 42 Fed. Reg. 2968 (1977) (to be codified at 50 C.F.R. pt. 17).

156. Proposed Establishment of an Experimental Population of Southern Sea Otters, 51 Fed. Reg. 29,362 (Aug. 15, 1986) (to be codified at 50 C.F.R. pt. 17).

157. *Id.*

158. *Id.*

159. *Id.*

In 1981, before passage of section 10(j), USFWS contracted to map the location and compile data for potential translocation zones along the Pacific Coast of Washington, Oregon, and California.¹⁶⁰ USFWS chose four coastal zones as sites for potentially successful otter translocations.¹⁶¹ The four proposed coastal sites were located in northern Washington, southern Oregon, northern California, and San Nicolas Island off the coast of southern California.¹⁶² Isolated San Nicolas Island became the preferred translocation site.¹⁶³

In June 1984, two months before publication of USFWS's final general reintroduction rule, USFWS published a notice of preparation of an Environmental Impact Statement (EIS) for the translocation of the southern sea otter.¹⁶⁴ The articulated purpose of the proposed translocation was to promote the recovery of the otter by expanding its population and range and reducing the threat of the destruction of the species by a catastrophic oil spill.¹⁶⁵

On August 15, 1986, USFWS completed a Draft Environmental Impact Statement (DEIS) for the proposed translocation of an experimental sea otter population to San Nicholas Island.¹⁶⁶ On the same day, USFWS published a proposed rule for the reintroduction of the southern sea otter under section 10(j) of the Endangered Species Act.¹⁶⁷

From its inception, Congress constrained the sea otter relocation proposal through action independent of section 10(j). What would become Public Law 99-625 in November 1986 already figured prominently

160. *Id.*

161. *Id.*

162. *Id.*

163. *Id.*

164. Preparation of an Environmental Impact Statement on Proposal to Translocate Southern Sea Otters, 49 Fed. Reg. 26,313 (June 27, 1984).

165. *Id.* at 26,314.

166. Proposed Establishment of an Experimental Population of Southern Sea Otters, 51 Fed. Reg. at 29,362.

167. USFWS explained that there were two purposes behind the proposed translocation:

(1) to implement a primary recovery action for a federally listed threatened species; and,

(2) to obtain data for assessing translocation and containment techniques, population dynamics, the ecological relationships of sea otters and the near shore community, and the effects on the donor population of the removal of individual otters for translocation.

Id.

in the August 1986 proposed rule. USFWS assumed that House Bill 1027 would become law. They were right.

House Bill 1027/Public Law 99-625 not only required that the reintroduced sea otter population be "wholly separate geographically," but also required that the reintroduced population be actively isolated from the existing non-experimental population. The law required the agency to designate a "translocation zone" into which captured sea otters would be released and a "management zone" that:

- (A) surrounds the translocation zone; and
- (B) does not include the existing range of the parent population or adjacent range where expansion is necessary for the recovery of the species.

The purpose of the management zone is to . . . facilitate . . . the containment of the experimental population . . . and . . . to prevent to the maximum extent feasible, conflict with other fishery resources . . . Any sea otter found within the management zone shall be treated as a member of the experimental population. The Service shall use all feasible non-lethal means and measures to capture any sea otter found within the management zone and return it to either the translocation zone or to the range of the parent population.¹⁶⁸

Fate had burdened the southern sea otter with more than just its fur. Sea otters also have an appetite for the shellfish prized by California's fishing industry. Congress designed the forced isolation of the San Nicholas Island population to keep sea otters out of southern California waters.

USFWS asserted that the good quality of otter habitat around San Nicholas Island and the island's geographic isolation would make the problem of migration "negligible" until the island zone reached its carrying capacity.¹⁶⁹ However, just in case, USFWS undertook to make every effort to apprehend escaping otters:

A "hot line" number would be established and publicized so that individuals who observe otters in the management zone could

168. Act of Nov. 7, 1986, Pub. L. No. 93-625, 100 Stat. 3500 § (b)(4).

169. Because it is an island with abundant prey in surrounding waters and is separated from other shallow water areas where food is available by long distances of deep open ocean, dispersal away from San Nicolas Island is expected to be negligible prior to attainment of carrying capacity. Proposed Establishment of an Experimental Population of Southern Sea Otters, 51 Fed. Reg. 29,362, 29,366 (Aug. 15, 1986) (to be codified at 50 C.F.R. pt. 17).

report the number and location of sea otters observed. . . . If repeated and verified sightings of one or more sea otters [were] made over a period of a week or more at any location within the management zone where they could impact fisheries, establish a breeding colony *or be in danger themselves from incompatible activities*, field crews [would] be mobilized as soon as weather and sea conditions permit to capture and remove the otter(s) from the zone.¹⁷⁰

Otters would be contained for their own good.

The management zone USFWS proposed included:

[A]ll waters, islands, islets, and land areas seaward of mean high tide subject to the jurisdiction of the United States, including State tidelands, located south of Point Conception, California (34 degrees 26.9' N. Latitude), except for any area within the translocation zone. The management zone surrounds the translocation zone and begins approximately 50 miles to the south of the southern limit of the existing range of the parent population at the Santa Maria River.¹⁷¹

All of southern California was off limits.

While USFWS expressed confidence in this reintroduction project, as in *Jurassic Park*, indications of unconsidered complexities were already evident. Earlier attempts at reintroducing northern sea otters from Alaska along the coast of Oregon had been less than successful. "Monitoring studies noted a decline in number (although pupping had occurred) and a concurrent movement of at least some of the animals northward."¹⁷² Sea otters did not like to be moved.

On November 7, 1986, Congress passed Public Law 99-625, thereby mandating the "translocation zone/management zone" structure already adopted by USFWS in its proposed rule. On August 11, 1987, USFWS published its final rule for the sea otter reintroduction. The rule adopted the translocation zone/management zone structure presented in the proposed rule and dictated by Public Law 99-625. Responses to the comments accompanying the final rule revealed the perpetual nature of the regulatory structure Congress and USFWS had created:

170. *Id.* (emphasis added).

171. *Id.* at 29,368.

172. *Id.* at 29,375.

Comment 4: The translocation plan suggests that additional translocations may be needed to remove *excess otters* from the San Nicolas translocation or management zones or from the existing population for recovery purposes. The Service has not identified the locations of these additional translocation sites or under what circumstances additional translocations would be needed, nor has it evaluated the environmental and socioeconomic consequences of subsequent translocations.

Service Response: The translocation plan suggests that moving *excess otters* from the translocation or management zone to other unoccupied sites as the experimental population approaches carrying capacity would be one of several possible options to prevent significant dispersal from the zone, which could increase the problem of maintaining the management zone free of otters. Public Law 99-625 requires that otters removed from the management zone be placed either in the range of the existing population or into the translocation zone It is too speculative to consider at this time the sites that may be considered in the future because environmental and socioeconomic conditions may change significantly in the future.¹⁷³

The prospect of removing "excess otters" from the reintroduced population to avoid the otters' invasion of southern California waters gives a sense of the rigid structure Congress and the agency had created. Apparently, under no circumstances would the sea otters be allowed to find their own habitat, in the words of Friends of the Sea Otter, "to continue to distribute itself wherever its natural movements will take it."¹⁷⁴

Unfortunately, the problem of excess otters never arose on San Nicholas Island. The effort to translocate southern sea otters to San Nicolas Island was a failure.¹⁷⁵ USFWS could not control or predict the behavior of the translocated sea otters. By 1989, 103 sea otters had been removed from their homes and relocated to San Nicholas Island, but only seventeen remained there. Twenty had returned to the northern coast, the rest were presumed lost at sea trying to get home.¹⁷⁶ By March 1999,

173. Endangered and Threatened Wildlife and Plants, 52 Fed. Reg. 29,754, 29,756 (Aug. 11, 1987) (to be codified at 50 C.F.R. pt. 17) (emphasis added).

174. See *supra* note 153 and accompanying text.

175. Gary Polakovic & Hillary E. MacGregor, *California and the West Otters Stir Up a Maelstrom of Clashing Views on Wildlife: Migration into Southern California Sparks Demands for Their Removal from Shell Fishers, but U.S. Officials Say That Could Break Protection Law*, L.A. TIMES, Sept. 9, 1998, at A3.

176. Meg Sullivan, *Officials of Sea Otter Plan Hope to Continue Despite Failure So*

USFWS was "prepared to throw in the towel and admit that it has failed in its efforts to tell the southern sea otter where to go." A USFWS spokesperson admitted, "[o]tters move differently and behave differently than we thought they would."¹⁷⁷

In all fairness, the failure of the sea otter reintroduction is an extreme case. In addition, politics and fish were plainly more important than the possibility of overlap in support the strict population segregation regime. Nonetheless, as one of the earliest¹⁷⁸ authorized reintroductions, the San Nicholas Island reintroduction helped shape expectations for reintroductions to come. Constrained by Congress, USFWS had embraced the rhetoric of containment as an approach to experimental populations. In doing so, it all but promised results beyond its power to deliver and made predictions beyond the reasonable realm of its knowledge. While few reintroductions would suffer the confirmed disastrous results of the sea otter project, others would repeat its fundamental errors.

C. 1986-1991: *The Red Wolf Rulemakings*

The evolution of the section 10(j) reintroduction program continued in the late 1980s, with the reintroduction of the red wolf in North Carolina. The red wolf, *Canis rufus*, originally inhabited the southeastern United States from the Atlantic Coast westward to central Texas and Oklahoma, and from the Gulf of Mexico to central Missouri and southern Illinois. Historical evidence indicated the red wolf was once common in the extensive bottomland riverine habitats of the American southeast.¹⁷⁹ During the nineteenth and twentieth centuries, human pressure forced the red wolf into the lower Mississippi River valley. By the 1930s, only two populations remained, one in the Ozark Mountains of Arkansas and Oklahoma and the other in southern Louisiana and southeast Texas.¹⁸⁰ In 1975, USFWS captured the last red wolves remaining in the wild and began a captive breeding program.

Studies for reintroduction started almost immediately after the

Far, L.A. TIMES, July 20, 1989, at A3.

177. *U.S. May Halt Bid to Control Sea Otters' Movement*, SACRAMENTO BEE, Mar. 24, 1999, at A6.

178. For an earlier rule, *see* Determination of Experimental Population Status for an Introduced Population of Delmarva Fox Squirrel, 49 Fed. Reg. 35,951 (Sept. 13, 1984) (to be codified at 50 C.F.R. pt. 17).

179. Proposed Determination of Experimental Population Status for an Introduced Population of Red Wolves in North Carolina, 51 Fed. Reg. 26,564, 26,565 (July 24, 1986) (to be codified at 50 C.F.R. pt. 17).

180. *Id.*

capture of the last wolves. Experiments began in the late 1970s with releases on Bulls Island, a four-thousand-acre component of the Cape Romain National Wildlife Refuge near Charleston, South Carolina.¹⁸¹ In July 1986, USFWS proposed reintroducing the wolf to the Alligator National Wildlife Refuge in North Carolina. USFWS promulgated a final rule for reintroduction in November 1986.¹⁸² The wolves were duly released in 1987.

For our purposes, the first red wolf reintroduction is remarkable for the nature of the capture and control mechanisms employed by USFWS. In the absence of Congressional action like Public Law 99-625—excluding sea otters from southern California—and in the absence of another wild population with which the reintroduced red wolves could overlap, USFWS might have relaxed their strict containment policy and allowed the wolves to find their own best habitat. It did not. Like the otters before them, red wolves would be kept within the bounds of their reintroduction area or returned to captivity. In response to comments, the Service revealed:

The Service will make every effort to keep red wolves on the refuge, but if an animal leaves the refuge/bombing range area, the Service intends to recapture it and return it to captivity, utilizing the capture collar that each animal will wear upon release. Upon receiving a coded radio signal, this collar is activated, the wolf is sedated, and then the animal is located by radio transmitter signal. Should the capture collar fail, individual animals would be tracked by transmitter and darted utilizing a standard gas powered capture gun.¹⁸³

The wolves, although once common across the southeast, were supposed to stay put. In an odd juxtaposition of contingencies, the final rule authorizing takings of the wolf provided that “[a]ny animal which is sick, injured, or otherwise in need of special care, or which moves off *Federal lands*, will be immediately recaptured by the Service and given appropriate care.”¹⁸⁴ Addressing sickness and wandering in the same sentence reveals something of the agency’s thinking. The regulation is not clear about what constituted “appropriate care” for a wandering

181. *Id.*

182. Determination of Experimental Population Status for an Introduced Population of Red Wolves in North Carolina, 51 Fed. Reg. 41,790 (Nov. 19, 1986) (to be codified at 50 C.F.R. pt. 17).

183. *Id.* at 41,794.

184. Endangered and Threatened Wildlife and Plants, 50 C.F.R. § 17.84(c)(10) (1989) (emphasis added).

wolf.¹⁸⁵ In November 1986, USFWS shipped four pairs of adult red wolves to the Alligator River National Wildlife Refuge for acclimation. "Because of unexpected delays in development of the capture collar, wolves were not released until September 1987."¹⁸⁶ In September 1987, the USFWS released four pairs of captive red wolves into the Alligator River National Wildlife Refuge.¹⁸⁷

By summer 1991, four small, "carefully managed," wild populations of red wolves existed in the Alligator National Wildlife Refuge, on Bulls Island and on two other islands off Mississippi and Florida. According to USFWS, there were twenty-three animals in all. The vast majority of red wolves remained in captivity. In August 1991, USFWS proposed to reintroduce more wolves. This time wolves would be returned to Great Smokey Mountains National Park, in North Carolina and Tennessee.

Again, the reintroduced population would be closely monitored:

Released red wolves will be closely monitored via telemetry. It is hoped that the long acclimation period and presence of pups will prove to be effective in keeping the wolves within the boundaries of the Park. Private landowners adjacent to the Park will be requested to immediately report any observation of a red wolf off Park lands to the Park Superintendent. The Service, with Park Service assistance, will take appropriate actions to recapture and return the animal to the Park.¹⁸⁸

The Smokey Mountain population was "experimental" in a more complete sense. USFWS intended to release the wolves to gather data and then to recapture them. The "experiment" ended successfully with the recapture of the wolves in 1991.¹⁸⁹

185. The next sentence suggested that return to captivity might be a possibility. "Such an animal will be released back to the wild on the refuge as soon as possible, unless physical or *behavioral problems* make it necessary to return the animal to a captive breeding facility." *Id.* (emphasis added).

186. Proposed Determination of Experimental Population Status for an Introduced Population of Red Wolves in North Carolina and Tennessee, 56 Fed. Reg. 37,513, 37,514 (proposed Aug. 7, 1991) (to be codified at 50 C.F.R. pt. 17).

187. *Gibbs v. Babbitt*, 31 F. Supp. 2d 531, 532 (E.D. N.C. 1998).

188. Determination of Experimental Population Status for an Introduced Population of Red Wolves in North Carolina and Tennessee, 56 Fed. Reg. 56,325, 56,329 (Nov. 4, 1991) (to be codified at C.F.R. pt. 17).

189. USFWS, *Wildlife Fact Sheet*, at http://species.fws.gov/bio_rwol.html (last updated 1995).

Initially, the only concession USFWS made to the dynamics of nature was an amendment to the experimental population rule for the Alligator National Wildlife Refuge, incorporating Beaufort County, North Carolina, in the management area because “it now appears that there is some possibility that introduced wolves may wander” there.¹⁹⁰ The takings authorization accompanying the Great Smokey reintroduction included the same ferocious language about immediately recapturing any wolves that moved off federal lands.¹⁹¹

On March 3, 1997,¹⁹² North Carolina counties brought suit against USFWS on the alleging that the federal government had violated the Tenth Amendment to the United States Constitution by “exceed[ing] its constitutional power and privilege by prohibiting the take (sic) of red wolves on private land in Hyde County and Washington County.”¹⁹³ In fact, the lawsuit was a challenge to 50 C.F.R. section 17.84(c), the special taking rule for red wolves. The district court rejected plaintiffs’ commerce clause claim in a ruling on plaintiffs’ motion for summary judgment.¹⁹⁴ On June 6, 2000, the U. S. Court of Appeals for the Fourth Circuit affirmed.¹⁹⁵ The circuit court’s ruling indicated not only that reintroduction of red wolves had been a smashing economic success, leading many tourists to visit North Carolina for “howling events,”¹⁹⁶ but also that a large number had taken up residence on private land,¹⁹⁷ apparently with the blessing of USFWS. The wolves had wandered. Perhaps more surprising, USFWS thinking on wolf control had evolved since 1991. Current estimates of the wild red wolf population in North Carolina range from eighty-three wolves at the end of August 1999¹⁹⁸ to ninety-six wolves in the spring of 2000.¹⁹⁹

D. 1988-1998: Black-Footed Ferret Rulemakings

In 1988, the black-footed ferret, *Mustela nigripes*, the only ferret

190. Proposed Determination of Experimental Population Status for an Introduced Population of Red Wolves in North Carolina and Tennessee, 56 Fed. Reg. at 37,517; see also, 50 C.F.R. § 17.85(c)(9) (1999).

191. USFWS, *Wildlife Fact Sheet*, at http://species.fws.gov/bio_rwol.html.

192. *Gibbs v. Babbitt*, 31 F. Supp. 2d at 532.

193. *Id.* at 534.

194. *Id.* at 535-36.

195. *Gibbs v. Babbitt*, 214 F3d. 483 (4th Cir. 2000).

196. *Id.* at 493-94.

197. *Id.*

198. Red Wolves of Alligator River, *Red Wolves of Alligator River Frequently Asked Questions*, at <http://www.nczooredwolf.org/learn/faq.html> (last visited June 23, 2000).

199. *Wild Wolf Population in Northeastern North Carolina*, RED WOLF NEWS (USFWS) Jan.-March 2000.

species native to North America, was extinct in the wild. A specialized prairie dog predator,²⁰⁰ the species had apparently once been relatively common in the American West.²⁰¹ However, the ferrets' "nocturnal and secretive habits" have always made estimating ferret population and location difficult.²⁰² The black-footed ferret suffered a long, largely unnoticed, decline as prairie dogs were exterminated and prairie dog habitat plowed under. As their prey base disappeared, ferret populations became fragmented and began dying out for a variety of reasons not directly related to habitat destruction.²⁰³ In 1964, a wild population, discovered in Mellette County, South Dakota, became the subject of the first significant study of the species.²⁰⁴ That population disappeared by 1974. The last of nine captive ferrets died at the Patuxent Wildlife Research Center in 1978.²⁰⁵

In 1981, a dog killed an unusual animal on a ranch in Wyoming. The animal turned out to be a black-footed ferret.²⁰⁶ This led to discovery of a small wild population near Meeteetse, Wyoming. At its peak, in 1984, the Meeteetse population contained 130 individuals.²⁰⁷ However, this population also promptly died out. Its last eighteen members were

200. Establishment of a Nonessential Experimental Population of Black-Footed Ferrets in Southeastern Wyoming, 56 Fed. Reg. 41,473, 41,474 (Aug. 21, 1991) (to be codified at 50 C.F.R. pt. 17). The section notes:

Black-footed ferrets prey on prairie dogs primarily and use their burrows for shelter and denning. There are specimen records of black-footed ferrets from ranges of three species of prairie dogs: black-tailed prairie dogs, *Cynomys ludovicianus*, white-tailed prairie dogs, *Cynomys leucurus*, and Gunnison's prairie dogs, *Cynomys gunnisoni*.

Id.

201. The section further notes:

Though the black-footed ferret was found over a wide area historically, it is difficult to make a conclusive statement on its historical abundance due to its nocturnal and secretive habits. The black-footed ferret's historical range, based on specimens collected since its identification, includes 12 States (Arizona, Colorado, Kansas, Montana, Nebraska, New Mexico, North Dakota, Oklahoma, South Dakota, Texas, Utah, and Wyoming) and the Canadian Provinces of Alberta and Saskatchewan. There is prehistoric evidence of this ferret from Yukon Territory, Canada, to New Mexico and Texas (Anderson et al. 1986).

Id.

202. *Id.* at 41,474.

203. See CLARK *surpa* note 15, at 75.

204. See *id.*

205. See *id.*

206. USFWS, *Wildlife Fact Sheet*, at species.fws.gov/bio_ferr.html (last visited Sept. 29, 1999).

207. *Id.*

taken into captivity in 1986 and 1987.²⁰⁸ In 1988, USFWS issued a revised recovery plan for the ferret calling for the reintroduction of at least ten self-sustaining populations. In 1991, the first release of ferrets took place in Wyoming.²⁰⁹

The 1991 rule authorizing reintroduction of ferrets near Shirley Basin in Wyoming continued the evolution begun in the earlier sea otter and red wolf rules. Once again, the ferrets would not be allowed to wander. Since, as far as anyone knew, there were no other ferret populations in the wild the chance of overlap with such a population was nonexistent or, at least, "extremely unlikely."²¹⁰ USFWS vested itself with the authority to return a straying ferret "back into the SB/MB Management Area, translocate it to another reintroduction site, or return it to captivity."²¹¹ USFWS would remove ferrets from private land at the owner's request.²¹²

On August 18, 1994, USFWS issued two new rules, one for reintroduction in the Conata Basin/Badlands of South Dakota²¹³ and one for reintroduction in north central Montana.²¹⁴ Again both populations would be contained.²¹⁵ Between 1994 and 1997 between forty and fifty ferrets per year were released in the South Dakota and Montana reintroduction areas.²¹⁶

208. Establishment of a Nonessential Experimental Population of Black-Footed Ferrets in Southeastern Wyoming, 56 Fed. Reg. 41,473, 41,474 (Aug. 21, 1991) (to be codified at 50 C.F.R. pt. 17).

209. CLARK, *supra* note 15, at 76.

210. Establishment of a Nonessential Experimental Population of Black-Footed Ferrets in Southeastern Wyoming, 56 Fed. Reg. at 41,477, explains:

Under section 10(j) of the Act, an experimental population must be wholly separate geographically from nonexperimental populations of the same species. Since the last known member of the original Meeteetse ferret population was captured for inclusion in the captive population in 1987, no other ferrets have been confirmed anywhere in the wild. There is a remote chance that ferrets may still exist in the wild. Thousands of hours of ferret survey work have been conducted in the general areas of the proposed of the proposed reintroduction and backup sites in Wyoming and no wild ferrets have been found. Based on these data, it is extremely unlikely that the reintroduced population will overlap with any wild population of the species.

Id.

211. *Id.* at 41,478.

212. *Id.*

213. Establishment of a Nonessential Experimental Population of Black-Footed Ferrets in Southwestern South Dakota, 59 Fed. Reg. 42,682 (Aug. 18, 1994) (to be codified at 50 C.F.R. pt. 17).

214. *Id.* at 42,696.

215. *Id.* at 42,692, 42,712.

216. USFWS, *Wildlife Fact Sheet*, at species.fws.gov/bio_ferr.html (last visited Sept.

In November 1995, USFWS published a proposed rule for release of a non-essential experimental population of black-footed ferrets in Aubrey Valley, Arizona.²¹⁷ Despite the absence of ferrets in Arizona in living memory, the agency took precautions against the possibility of overlap:

Under section 10(j) of the Act, an experimental population *must be* geographically separate from other nonexperimental populations of the same species. Since 1987, when the last members of the Meeteetse [Wyoming] population were captured for inclusion in the captive population, no ferrets have been reported from the wild. There is still the possibility that ferrets exist in the wild today. Extensive surveys for black-footed ferrets in the [Aubrey Valley] were conducted. In addition to these surveys, many hours were spent surveying prairie dog colonies at the proposed relocation site; no ferrets or sign have been observed. Therefore, the Service believes that the reintroduced population will not overlap with any wild ferrets.²¹⁸

The frank assertion that an experimental population *must be* geographically separate from other populations illustrates how the categories created in legislation had become an imperative for population segregation.

Indeed, the possibility of phantom wild ferrets, whose astronomically unlikely appearance might collapse the carefully considered regulatory edifice of ferret reintroduction, seemed to have become something of a preoccupation. In conformance with usual practice, all reintroduced ferrets would be marked. But what if a strange ferret turned up? "If any unmarked animals are found following the first release and prior to the first breeding season" USFWS would undertake "a concerted effort . . . to determine the source of such ferrets."²¹⁹ The preamble to the proposed rule admits that such a ferret would be treated as endangered but suggests that it might still be captured "for genetic testing" thereby removing the threat of overlap.

USFWS issued the most recent flurry of black-footed ferret reintroduction rules in 1997²²⁰ and 1998.²²¹ The rules authorize experimental

29, 1999).

217. Proposed Establishment of a Nonessential Experimental Population of Black-Footed Ferrets in Aubrey Valley, Arizona, 60 Fed. Reg. 57,387 (Nov. 15, 1995) (to be codified at 50 C.F.R. pt. 17).

218. *Id.* at 57,390 (emphasis added).

219. *Id.*

220. Proposed Establishment of a Nonessential Experimental Population of

populations of ferrets in northwestern Colorado and adjacent parts of Utah and conform to the established pattern. USFWS relaxed, slightly, its policy of population isolation, stating that “[i]f a ferret leaves the reintroduction area [but remains within the four-county reintroduction area] and takes up residence on private property,” the animal would not be removed “[i]f the landowner has no objection its presence on his/her property”²²²

Within the structural limits imposed by USFWS and section 10(j), the black-footed ferret reintroduction program appears to have been a success. In 1996, USFWS reported significant wild breeding of ferrets in both Montana and South Dakota.²²³ However, even the generally rosy press release admitted that the “Wyoming [reintroduction] effort has been seriously hindered by disease problems.”²²⁴ In the fall of 1998, “Peggy-Sue” and eighteen other ferrets were released into “the wild” in the form of a five-acre pen surrounded by “electric fence, barbed wire and anti-snake mesh and topped with anti-hawk webbing.”²²⁵ Once acclimated to the “wild,” these ferrets would be released to less controlled surrounding. The accompanying news story reported a total ferret population of over five hundred.

The well-controlled black-footed ferret reintroduction program does not raise the same questions as does a failure like sea otter reintroduction. Nonetheless, it raises questions. If and when USFWS establishes the ten populations required by the recovery plan, each in complete isolation from the others, will this be considered a reasonable basis for delisting? Do the “wholly separate geographically” populations apparently required by 10(j) approximate a healthy naturally occurring population?

E. 1996: The Mexican Wolf Rulemaking

The 1982 Mexican Wolf Recovery Plan offers a revealing admis-

Black-footed Ferrets in Northwestern Colorado and Northeastern Utah, 62 Fed. Reg. 23,202 (Apr. 29, 1997) (to be codified at 50 C.F.R. pt. 17).

221. Establishment of a Nonessential Experimental Population of Black-footed Ferrets in Northwestern Colorado and Northeastern Utah, 63 Fed. Reg. 52,824 (Oct. 1, 1998) (to be codified at 50 C.F.R. pt. 17).

222. *Id.* at 23,204.

223. Press Release, USFWS, More Endangered Black-Footed Ferrets Born in the Wild in Montana and South Dakota (Aug. 20, 1996).

224. *Id.*

225. Deborah Frazier, *Ferrets Undergo Survival Training Vanguard Prepares to Build Population of Animals in Colorado*, DENV. ROCKY MOUNTAIN NEWS, Nov. 13, 1998, at A7.

sion, under the heading "Prime Object of Recovery Plan." In light of "increasing human needs—whether real or perceived—for space and for renewable and nonrenewable resources present or producible in wolf habitat . . . the Mexican Wolf Recovery Team sees no possibility for complete delisting of the Mexican wolf." Accordingly, the team offered a modest "prime objective": "To conserve and insure the survival of *canis lupus baileyi* by maintaining a captive breeding program and re-establishing a viable self-sustaining [wild] population of at least 100 Mexican wolves" ²²⁶

Finalized less than a month before the passage of the 1982 amendments to the Endangered Species Act, the Mexican Wolf Recovery Plan anticipated the effect of the new section 10(j) without its cloaking rhetoric. ²²⁷ From the outset the plan's authors were willing to accept a wild population of Mexican wolves as a controlled adjunct to a captive population, without hope of actual recovery. It would be sixteen years before the reintroduction contemplated in the 1982 recovery plan would take place, but time did not change the object or scope of the plan.

The Mexican wolf once roamed over much of New Mexico, Arizona, Texas, and northern Mexico, mostly in or near forested, mountainous terrain. The wolves declined rapidly after European settlement began. Their reputation as livestock killers led to successful eradication efforts. ²²⁸ In 1982, Mexican wolves were considered extinct in the wild in the United States. While wolf sightings were occasionally reported, no sighting had been confirmed since 1970. ²²⁹ By 1996, when USFWS proposed a rule for their reintroduction, the high country of Arizona and New Mexico had been wolf free for most of a generation. The rarity of the wolf in the wild was matched only by the ubiquitousness of references to Aldo Leopold's passage about killing such a wolf and his subsequent regrets. ²³⁰ Captive breeding programs began in the 1970s with

226. USFWS, MEXICAN WOLF RECOVERY PLAN (1982) (emphasis added).

227. Doremus, *supra* note 24, at 58-62.

228. Proposed Establishment of a Nonessential Experimental Population of the Mexican Gray Wolf in Arizona and New Mexico, 61 Fed Reg. 19,237 (May 1, 1996) (to be codified at 50 C.F.R. pt. 17).

229. *Id.*

230. ALDO LEOPOLD, A SAND COUNTY ALMANAC AND SKETCHES HERE AND THERE, 129-32 (spec. commemorative ed. 1989). In a vivid essay describing the day he shot and watched a wolf die, Leopold shifts from a cavalier attitude toward killing wolves ("In those days we had never heard of passing up a chance to kill a wolf") to a deeper understanding of the interplay between species and the importance of the predator/prey balance in the wild.

three wild Mexican wolves caught in Mexico. In 1995, USFWS determined that two other captive wolf populations were pure Mexican wolves. By 1996, there were 139 Mexican wolves in captivity.²³¹

The 1996 rule proposed reintroduction in two areas—the Apache and Gila National Forests, straddling the Arizona-New Mexico border, and the White Sands Missile Range and adjoining areas in south-central New Mexico.²³²

In the issue of containment, USFWS's proposed rule authorized stringent controls. Not surprisingly a wandering wolf is likely to attract more notice than a wandering ferret or sea otter. At the same time, the proposed rule demonstrated evidence of a process of evolution. Although USFWS limited the actual reintroduction areas contemplated in the proposed rule to two isolated and remote regions of the southwest,²³³ the proposed rule also described a larger "Mexican Wolf Experimental Population Area." The boundaries of the Mexican Wolf Experimental Population Area were:

The portion of Arizona lying north of Interstate Highway 10 and south of Interstate Highway 40; the portion of New Mexico lying

the face of many a newly wolfless mountain, and seen the south-facing slopes wrinkle with a maze of deer trails. I have seen every edible bush and seedling browsed, first to anaemic desuetude, and then to death I now suspect that just as a deer herd lives in mortal fear of its wolves, so does a mountain live in mortal fear of its deer.

Id. at 130.

231. Proposed Establishment of a Nonessential Experimental Population of Mexican Gray Wolves in Ariz. and N.M., 61 Fed. Reg. at 19,238.

232. For a more detailed account of the mechanics of Mexican wolf reintroduction, see Joel Carson, Comment, *Reintroducing the Mexican Wolf: Will the Public Share the Costs, or Will the Burden Be Borne By a Few?* 38 NAT. RESOURCES J. 297 (1998) (advocating constitutional tort action on behalf of ranchers burdened by wolf reintroduction).

233. Proposed Establishment of a Nonessential Experimental Population of the Mexican Gray Wolf in New Mexico and Arizona, 61 Fed. Reg. at 19,242-43. The recovery area is defined as:

(i). The White Sands Wolf Recovery Area in south-central New Mexico, including all of the White Sands Missile Range, the White Sands National Monument, and the San Andres National Wildlife Refuge, and the area adjacent and to the west of the Missile Range bounded on the south by the southerly boundary of the USDA Jornada Experimental Range and the northern boundary of the New Mexico State University Animal Science Ranch; on the west by the New Mexico Principal Meridian; on the north by the Pedro Armendaris Grant boundary and the Sierra-Socorro County line; and on the east by the western boundary of the Missile Range

(ii). The Blue Range Wolf Recovery Area, including all of the Apache National Forest and all of the Gila National Forest in east-central Arizona and west-central New Mexico

Id.

north of Interstate Highway 10 in the west, north of the New Mexico-Texas boundary in the east, and south of Interstate Highway 40; and the portion of Texas lying north of United States Highway 62/180 and south of the Texas-New Mexico boundary.²³⁴

This enormous swath of territory, including Phoenix, Las Cruces, and much of Albuquerque, was plainly not intended to be the home range of the Mexican wolf. Its purpose had to do with the strictures of section 10(j).

The purpose of the larger experimental population area designation is to distinguish the legal status of any wolf found there. After the first captive wolf release, *wolves found in the wild in the Mexican Wolf Experimental Population Area will be subject to management under this rule. . . .* If a wolf is found in the United States outside the boundaries of the Mexican Wolf Experimental Population Area (and not within any other wolf experimental population area) the Service will presume it to be of wild origin with full endangered status (or threatened in Minnesota) under the Act, unless evidence, such as a radio-collar or identification mark, establishes otherwise.²³⁵

By defining a “Mexican Wolf Experimental Population Area” that embraced all the territory into which reintroduced wolves could wander within the foreseeable future *and* almost all the territory in which remnant wild wolves might be found, USFWS mitigated its potential overlap problem. Any wolf found within the territory would be treated as an experimental wolf, whether it had been reintroduced or not. Any such wolf would be “captured” and “returned” to a reintroduction area or “put into the captive” breeding program.²³⁶ Because few, if any, remnant wild wolves existed, the problem was academic, but the solution presaged things to come.

USFWS published the final rule authorizing Mexican wolf reintroduction in January 1998.²³⁷ The final rule retained the structure set forth in the proposed rule, but provided some revealing insights. The rule stated that the purpose of the large Mexican Wolf Experimental

234. *Id.* at 19,243.

235. *Id.* (emphasis added).

236. *Id.*

237. Establishment of a Nonessential Experimental Population of the Mexican Gray Wolf in Arizona and New Mexico, 63 Fed. Reg. 1752 (Jan. 12, 1998) (to be codified at 50 C.F.R. pt. 17).

Population Area was “to establish that any member of the re-established Mexican wolf population found in this larger area is a member of the nonessential experimental population, and subject to the provisions of this rule”²³⁸ In effect, the Mexican wolf experimental population area was a catch basin for wandering wolves.

One comment to the proposed rule suggested that “[i]f wild wolves did naturally recolonize in the areas where reintroduced wolves were established, then a ‘sunset clause’ should take effect that results in the termination of the status of the reintroduced population as ‘nonessential experimental’ and results in all the wolves in the area having full-endangered status.”²³⁹ In fact, the legislative history of section 10(j) made it clear that such a sunset clause did, in fact, exist and that if wild wolves did “overlap” with the experimental wolves, the experimental wolves would not only lose their non-essential status, but also their experimental status.

In response, USFWS stated:

The Service disagrees. Based on the best available information, we have determined that no wild population of or individual Mexican wolves exist in the recovery areas or anywhere else prior to reintroduction. The Service believes that it would be unwise to allow for an automatic status change of all wolves in the area from experimental to endangered if non-reintroduced wolves suddenly appeared, which the Service considers to be an impossibility.²⁴⁰

The USFWS response is an evasion. The response takes issue with the wisdom of the “sunset clause,” not its existence. Only repeated references to the asserted impossibility of overlap allow USFWS to avoid admitting that the commentor is describing the law correctly. This passage also illustrates some USFWS hostility to what I will shortly propose.²⁴¹

Another commentor suggested a flexible approach, potentially allowing revision of reintroduction area boundaries to give the wolves some chance to select their own habitat: “For wolves that establish territories on public lands outside the designated recovery areas, the management approach should not be automatic removal; instead, consulta-

238. *Id.* at 1753.

239. *Id.* at 1757.

240. *Id.*

241. *See infra* Part VI.

tion should be entered into with the land managers The plan should also allow for changes to the recovery areas boundaries."²⁴² USFWS disagreed:

A limited and defined area is considered necessary to allow the wolf the highest degree of acceptance and recovery and to allow the Service and cooperating agencies to plan for wolf management. Allowing the recovery areas to expand out continually would defeat this purpose. However, if the Service determined it was necessary to survival and recovery of the reintroduced population, it is possible that after thorough evaluation the Service could recommend changes to the recovery area boundaries. These would have to be proposed as a revision to the final Mexican Wolf Experimental Population Rule²⁴³

Except in the most extreme cases, the policy favoring acceptance of the reintroduction would control over the policy allowing flexibility to let wolves find their own best habitat. The USFWS assertion that limiting wolf recovery areas would "allow the wolf the highest degree of acceptance" is plausible. The assertion that limiting the wolf habitat area would further the "highest degree of . . . recovery" is harder to accept. Once again, in the interests of reintroduction and its acceptance, USFWS had made itself guarantor against unpredictable nature. By doing so it creates the possibility of frustrating wolf recovery by isolating wolf populations.

Despite its continued reliance on containment, the Mexican wolf rulemaking includes some of the elements of the evolution toward "species zoning." Although USFWS would keep wolves under control if possible, the rule provided implicitly for what would happen if they did not. Wolves within the experimental population area would be "experimental wolves" unless someone could prove otherwise. Wolves outside the area (should any exist) would be treated as fully protected wild wolves. However, the rule that would force USFWS to rely primarily on a species zoning approach had already been issued.

F. 1994: Gray Wolves in Yellowstone and Idaho

As the red wolf once roamed the southeastern United States and the Mexican wolf once roamed the southwest and northern Mexico, so the gray wolf once roamed most of the rest of the continent. Like its

242. Establishment of a Nonessential Experimental Population of the Mexican Gray Wolf in Arizona and New Mexico, 63 Fed. Reg. at 1758.

243. *Id.*

cousin species, the gray wolf earned a reputation for preying on domestic livestock and was subjected to relentless eradication efforts. By the 1930s, the gray wolf had been extirpated in most of the lower forty-eight states. The federal government played a significant role in eradicating the wolf everywhere. In the early decades of the 20th century, the National Park Service took the lead in slaughtering the last wolves in Yellowstone National Park. By 1930, the wolf had disappeared from Yellowstone National Park.²⁴⁴

Three decades later "the gray wolf's role as an important and necessary part of natural ecosystems [was] better appreciated."²⁴⁵ In 1967, the "timber wolf" was listed as a protected subspecies, *Canis lupus*

244. Carl M. Cannon, *Wolf is at the Door: Good or Bad?*, CHI. TRIB., Feb. 6, 1993, at News 8. From 1865 to 1935, hunters, ranchers, bounty hunters, and even U.S. park rangers,

devised all manner of grisly schemes to eradicate the wolf population. They laced the prairie with strychnine-poisoned meat, caught wolves in steel traps and clubbed them to death, pulled them apart with ropes, shot them from airplanes, set packs of domestic hunting dogs on them and strangled pups in their dens.

Id. The tide appeared to change in the wolves' favor when Congress created the U.S. Biological Survey in 1885 to promote research for the protection of wildlife. However, in 1907, in response to complaints by farmers and ranchers, the Biological Survey published a study urging an "all-out national campaign to exterminate wolves." ALSTON CHASE, *PLAYING GOD IN YELLOWSTONE: THE DESTRUCTION OF AMERICA'S FIRST NATIONAL PARK*, 119-128, 120 (1986). The resulting effect on the wolf population was dramatic. In 1907 alone, Survey officers killed more than 1,800 wolves in national parks across the country. *Id.* at 121. The trend intensified when in 1914, Congress appointed the Biological Survey to be "chief predator-control agency," charging it with the task of "destroying wolves, prairie dogs, and other animals injurious to agriculture and animal husbandry." *Id.* at 122. With the passage of the National Park Service Act in 1916, the public was given the impression that wildlife in national park lands would be protected. Yet Park Service rangers were hired for the purpose of predator control on the basis that the Act authorized the "destruction of such animals and such plant life as may be detrimental to the use of said parks, monuments, or reservations." *Id.* In its first eight years, the Park Service and Biological Survey together killed at least 122 wolves in Yellowstone. Alston Chase sums up the dilemma: "Yet, because wholesale extermination of species was clearly against the intent of the law, the program had to be kept from the public. As so a pattern was set. Killing was to increase, but it would be done in the name of conservation." *Id.* at 123. Public awareness of what was happening gradually led to widespread opposition of the Service's predator-control policies and practices in the late 1920s. By then, however, the damage had been done and the wolf was extinct in Yellowstone by 1930. See generally MOLLIE YONEKO MATTESON, in *The Land of Absence*, PLACE OF THE WILD, 94, 97-99 (David Clarke Burks, ed. 1994); T.R. Reid, *A Wolf's Best Friend May Yet Turn Out to be Man*, WASH. POST, Aug. 23, 1989, at A03.

245. Proposed Establishment of a Nonessential Experimental Population of Gray Wolf in Yellowstone National Park in Wyoming, Idaho, and Montana, 59 Fed. Reg. 42,108, 42,109 (Aug. 16, 1994) (to be codified at 50 C.F.R. pt. 17).

lycaon, under the predecessor to the current Endangered Species Act.²⁴⁶ In 1973, the northern Rocky Mountain subspecies, as then understood, *Canis Lupus irremotus*, was also listed as endangered.²⁴⁷ In 1978, USFWS clarified the legal status of the gray wolf in North America by listing wolves in Minnesota as threatened and other members of the species south of Canada as endangered, without reference to subspecies.²⁴⁸

Gray wolves, unaware of the federal government's about-face regarding their legal status, were taking steps on their own to insure their survival in the lower forty-eight states. Outside northern Minnesota, so far as anyone knew, no gray wolf cub had been born in the lower forty-eight states since the 1930s. Then in 1986, a wolf den was discovered near the Canadian border in Glacier National Park. Since then, the wolf population in Glacier National Park and the surrounding northern Rocky Mountains has expanded steadily. In 1994, USFWS estimated there were sixty-five wolves living and breeding in northwestern Montana.

In 1987, USFWS issued the revised Rocky Mountain Gray Wolf Recovery Plan. The plan advocated gray wolf reintroduction in Yellowstone National Park. In November 1991, Congress directed USFWS, in consultation with the National Park Service and Forest Service, to prepare an Environmental Impact Statement (EIS) to consider a broad range of alternatives on wolf reintroduction in Yellowstone National Park and central Idaho.²⁴⁹ Federal lawmakers from the affected states were not happy about the idea of wolf reintroduction. They promptly passed a Congressional rider defunding wolf reintroduction efforts.²⁵⁰ In 1992, Defenders of Wildlife sued USFWS in an attempt to force wolf reintroduction pursuant to the Rocky Mountain Gray Wolf Recovery Plan and were informed by the U.S. District Court for the District of Columbia that "[t]he Recovery Plan itself has never been an action document."²⁵¹

246. Endangered Species, 32 Fed. Reg. 4001 (Mar. 10, 1967).

247. Amendments to Lists of Endangered Fish and Wildlife, 38 Fed. Reg. 14,678 (June 1, 1973) (to be codified at 50 C.F.R. pt. 17).

248. Reclassification of the Gray Wolf in the United States and Mexico, with Determination of Critical Habitat in Michigan and Minnesota, 43 Fed. Reg. 9607 (Mar. 9, 1978). At one time or another, twenty-four distinct subspecies of gray wolf have been recognized in North America. Recently, taxonomists have suggested that there are actually about five subspecies of gray wolf in North America. Proposed Establishment of a Nonessential Experimental Population of Gray Wolf in Yellowstone National Park in Wyoming, Idaho, and Montana, 59 Fed. Reg. at 42,109.

249. Proposed Establishment of a Nonessential Experimental Population of Gray Wolf in Yellowstone National Park in Wyoming, Idaho, and Montana, 59 Fed. Reg. at 42,109.

250. 1992 Appropriations Act, Pub. L. No. 102-154, 105 Stat. 990, 993-94 (1991).

251. *Defenders of Wildlife v. Lujan*, 792 F. Supp. 834 (D.D.C. 1992).

Despite defunding efforts, a final EIS emerged in May 1994. USFWS proposed to reintroduce a population of gray wolves (designated “nonessential experimental”) into Yellowstone National Park and central Idaho. The Secretary of the Interior signed the EIS Record of Decision on June 15, 1994. On August 16, USFWS published a proposed rule for reintroduction of gray wolves in Yellowstone National Park²⁵² and a proposed rule for reintroduction of gray wolves in central Idaho.²⁵³

Although the legal methodology of reintroduction had been established for almost a decade, this reintroduction would necessarily be different. Here the possibility of “overlap,” so remote in early cases, yet so carefully considered, was very real. In fact, eventual overlap was almost inevitable. How would an agency that had spent a good deal of time insuring the safety of its reintroduction rules against the extremely unlikely possibility of ferret or Mexican wolf “overlap” deal with the extremely likely possibility of gray wolf overlap?

Building on concepts applied more tentatively elsewhere, the USFWS devised a bold plan to deal with the probability of overlap. The agency wagered that wolf resourcefulness and wolf fecundity would overcome the difficulties created by section 10(j). USFWS hoped and still hopes²⁵⁴ that the Rocky Mountain wolf population will have recovered before the contradictions of experimental population law catch up with it. If USFWS succeeds, in a few years wolves will be numerous and unprotected, satisfying the demands of both environmentalists and local ranchers. If USFWS fails, wolves will still be scarce and, probably, fully protected, angering everyone. In the meantime, USFWS will rely on species zoning.

As with the Mexican wolf, the Yellowstone wolf rule and Idaho wolf rule created enormous “experimental population area[s].” The “Yellowstone zone” includes “[a] small portion of Idaho (east of Interstate 15) and Montana (east of Interstate 15 and south of the Missouri River from Great Falls, Montana to eastern Montana border) *and all of Wyoming.*”²⁵⁵ The experimental population area for Idaho wolves is rela-

252. Proposed Establishment of a Nonessential Experimental Population of Gray Wolf in Yellowstone National Park in Wyoming, Idaho, and Montana, 59 Fed. Reg. at 42,108.

253. *Id.* at 42,118.

254. Proposal To Reclassify and Remove the Gray Wolf From the List of Endangered and Threatened Wildlife in Portions of the Conterminous United States; Proposal To Establish Three Special Regulations for Threatened Gray Wolves, 65 Fed. Reg. 43,450 (July 13, 2000) (to be codified at 50 C.F.R. pt. 17).

255. Proposed Establishment of a Nonessential Experimental Population of Gray Wolf in Yellowstone National Park in Wyoming, Idaho, and Montana, 59 Fed. Reg.

tively modest, but contiguous: “that portion of Idaho west of Interstate 15 and south of Interstate 90, and that part of Montana south of Interstate 90, Highway 93 and 12 near Missoula, Montana, and west of Interstate 15.”²⁵⁶ As with the Mexican wolf rule, USFWS intended the “experimental population area” to create a presumption that all wolves in the continent-sized chunk of land between Cheyenne, Wyoming, and Boise, Idaho, are experimental wolves.

Predictably, the most interesting dimension of the “experimental population area” is its northern boundary—the border between “experimental Yellowstone wolves” and fully protected Montana wolves. The USFWS position in its proposed rule seems to shift as its justification develops. First USFWS asserts: “The Missouri River was chosen as the northern boundary because the record of wolf sightings and wolf mortalities indicated that, during the last several decades, wolves have occurred north, but not south of the river.”²⁵⁷

However, in the next sentence, USFWS modifies its position to take into account sightings of wolves south of the river:

The river may not act as a complete barrier to wolf movements, but current information indicates that, if wolves are found south of the river, they would *likely* be experimental wolves from the Yellowstone area. Wolves north of the river would *likely* be naturally dispersing wolves from northwestern Montana or Canada.²⁵⁸

In the next sentence, the Service retrenches again, this time relying on the all-important definition of “population” and its optimistic predictions about recovery:

The proposed experimental area does not currently support reproducing pairs of wolves nor is it likely to support 2 pairs of naturally dispersing wolves from northwestern Montana within the next 3 years, at which time the reintroduced population

42,108, 42,111 (Aug. 16, 1994) (to be codified at 50 C.F.R. pt. 17) (emphasis added).

256. Proposed Establishment of a Nonessential Experimental Population of Gray Wolves in Central Idaho and Southwestern Montana, 59 Fed. Reg. 60,271 (Nov. 22, 1994) (to be codified at 50 C.F.R. pt. 17).

257. Proposed Establishment of a Nonessential Experimental Population of Gray Wolf in Yellowstone National Park in Wyoming, Idaho, and Montana, 59 Fed. Reg. at 42,111.

258. *Id.* (emphasis added).

should be growing and potentially dispersing into Montana and central Idaho.²⁵⁹

Why do two "reproducing pairs" matter? What is so important about three years? Understanding the full import of this final statement requires two additional pieces of information.

First, both the proposed and final rules for the Yellowstone wolf reintroduction rely on a USFWS definition of "population" for purposes of interpreting that word in section 10(j). USFWS regulations contain a necessarily broad definition of population: "a potentially self-sustaining group" of "fish or wildlife . . . in common spatial arrangement that interbreed when mature."²⁶⁰ In 1994, in the Environmental Impact Statement for *The Reintroduction of Gray Wolves to Yellowstone National Park and Central Idaho*, USFWS defined a wolf "population" as "at least two breeding pairs of gray wolves that each successfully raise at least two young to December 31 of their birth year for 2 consecutive years."²⁶¹ Accordingly, lone wolves, unsuccessful wolf breeding, or even one happy wolf family would not constitute a "population." Therefore, some "overlap" between wandering Montana wolves and the experimental Yellowstone and Idaho populations would not, according to USFWS, violate the "wholly separate geographically" requirement of section 10(j).

Second, USFWS did not believe that it needed to keep the Montana wolves separate from the Yellowstone and Idaho wolves forever. USFWS believed that, within three years of successful reintroduction, the Rocky Mountain wolf population could be recovered and "delisted," removing almost all the protections of the Endangered Species Act from both the wild and experimental populations, thereby defusing the overlap problem created by section 10(j).

The 1987 Rocky Mountain Gray Wolf Recovery Plan had identified a very modest recovery goal: "10 breeding pairs of wolves, for 3 consecutive years, in each of 3 recovery areas (northwestern Montana, central Idaho and the Yellowstone area)" for a total of three hundred wolves.²⁶² At the time of the proposed Yellowstone and Idaho rule, there

259. *Id.*

260. 50 C.F.R. § 17.3 (1999).

261. THE REINTRODUCTION OF GRAY WOLVES TO YELLOWSTONE NATIONAL PARK AND CENTRAL IDAHO, ENVIRONMENTAL IMPACT STATEMENT 2-6 (U.S. Fish and Wildlife Serv., U.S. Dep't of the Interior eds., draft, July 1993).

262. Proposed Establishment of a Nonessential Experimental Population of Gray Wolf in Yellowstone National Park in Wyoming, Idaho, and Montana, 59 Fed. Reg. at

were already sixty-five wild wolves living in Montana. If the Idaho and Yellowstone populations grew at the rate of the Montana populations, "recovery" would be quick. USFWS maintained that "the experimental population rule would remain in effect until wolf recovery occurs or after a scientific review indicates that modifications in the experimental rule are necessary to achieve wolf recovery."²⁶³ USFWS specified that federal protection for the wolves would terminate only after "[a] minimum of 10 breeding pairs are documented for three consecutive years in each of the three recovery areas presented by the revised wolf recovery . . . providing that legal mechanisms are in place to conserve this population," and "gray wolves in Montana, Idaho, and Wyoming are delisted according to provisions of the Act."²⁶⁴

Despite these hurdles, USFWS was sufficiently sure of its wolves to estimate a deadline for delisting.

After the reintroduction of wolves has resulted in two packs raising 2 pups each for 2 consecutive years, the wolf population would be managed to grow naturally toward recovery levels. This reintroduction attempt is consistent with the recovery goals identified for this species by the 1987 recovery plan for the northern Rocky Mountain Wolf. It is estimated that this program, in conjunction with natural recovery in northwestern Montana and a similar reintroduction into central Idaho, would result in a viable recovered wolf population (ten breeding pairs in each of three recovery areas for three consecutive years) by about the year 2002.²⁶⁵

If the wild northern wolves and the experimental southern wolves would refrain from interbreeding too obviously until 2002, USFWS believed it would have an answer to the problem created by section 10(j). USFWS had adopted a reintroduction strategy based on "species zoning." The existence of the Montana wolves gave it little choice. The rules admitted there was little point to capturing wandering wolves²⁶⁶ and accepted that interbreeding between wild and experimental wolves might hasten re-

42,109.

263. *Id.* at 42,113.

264. *Id.* at 42,114.

265. *Id.* at 42,111.

266. Proposed Establishment of a Nonessential Experimental Population of Gray Wolves in Central Idaho and Southwestern Montana, 59 Fed. Reg. 60,269 (Nov. 22, 1994) (to be codified at 50 C.F.R. pt. 17) ("In general, attempts to locate and/or move lone wolves dispersing throughout central Idaho will not be done. However, wolves may be moved on a case-by-case basis, if necessary to enhance wolf recovery in the experimental area.").

covery by enhancing genetic diversity.²⁶⁷ However, USFWS seemed to have hoped that prompt delisting would save it from testing the validity of a pure species zoning approach.

On November 22, 1994, USFWS published both a final rule of reintroduction of wolves in Yellowstone and a final rule for reintroduction in central Idaho.²⁶⁸ The comments and responses that accompanied the final rule highlighted the boldness of USFWS's analysis. One comment to the Yellowstone rule suggested that delisting criteria "should be clearly identified."²⁶⁹ Certainly, one weakness of the USFWS approach is that it depended on the untried and undefined delisting process. Although the Endangered Species Act has always contemplated "delisting" recovered species, the process of delisting has never been completed for a species like the wolf. USFWS plan to delist not only required the wolves to cooperate on the ground, but also required the federal court's to accept uncritically the recovery goals set forth in the 1987 Rocky Mountain Gray Wolf Recovery Plan. This was the same plan that the U.S. District Court for the District of Columbia had found unenforceable in 1992.²⁷⁰

Another comment declared "[t]he experimental population rule improperly removes full endangered species protection and bestows experimental status on any naturally occurring wolves found inside the experimental population boundaries."²⁷¹ This comment called into question USFWS's use of the broad definition of "population" to escape the overlap problem. USFWS responded:

It is documented that individual wolves may disperse over 500 miles. However, for the past ten years, there has been no evi-

267. *Id.* at 60,271 ("It is possible, but not probable, that during the next 3 years wolves could move between recovery areas and enhance the genetic diversity between natural recovery areas and reintroduction sites. However, it is not anticipated that such exchange will significantly alter the recovery rate in the experimental population area.").

268. *Id.* at 60,266; Proposed Establishment of a Nonessential Experimental Population of Gray Wolf in Yellowstone National Park in Wyoming, Idaho, and Montana, 59 Fed. Reg. 60,252 (Nov. 22, 1994) (to be codified at 50 C.F.R. pt. 17).

269. Proposed Establishment of a Nonessential Experimental Population of Gray Wolf in Yellowstone National Park in Wyoming, Idaho, and Montana, 59 Fed. Reg. at 60,261.

270. *Defenders of Wildlife v. Lujan*, 792 F. Supp. 834 (D.D.C. 1992). See *supra* note 251 and accompanying text.

271. Proposed Establishment of a Nonessential Experimental Population of Gray Wolf in Yellowstone National Park in Wyoming, Idaho, and Montana, 59 Fed. Reg. at 60,261.

dence of naturally occurring wolves dispersing to and producing a viable wolf population in the central Idaho or Yellowstone areas. After the effective date of the experimental population rules, any such wolves and their offspring would be treated as experimental population animals. From a practical wildlife management perspective, the Service cannot be expected to determine if an individual wolf had naturally dispersed into the area or been reintroduced.²⁷²

A comment to the Idaho rule put the case more clearly:

The amendment to section 10(j) of the Act states that experimental populations may only be designated when there is geographical separation between the experimental population and other existing populations of the species. The occasional occurrence of lone wolves in the areas of central Idaho and the Park would prohibit the use of the experimental population designation since there would be no geographic separation between natural occurring and experimental wolves.²⁷³

USFWS responded: “[T]o date the only documented breeding groups of wolves are in northwestern Montana The Service finds that there is no geographic overlap between any Montana wolf population home range and the experimental area.”²⁷⁴ But USFWS went on to admit: “The northern boundary of the Idaho experimental population area was moved further south because, in 1990 and 1992, there were a few instances when an active breeding group of wolves from Montana were located south of the experimental boundary recommended in the proposed rule”²⁷⁵

Even before the rules had been published, unexpected facts had begun to overtake the administrative process. In September 1992, a moose hunter shot an animal that looked like a wolf in the Teton wilderness south of Yellowstone National Park.²⁷⁶ In March 1993, the government announced that the animal was indeed a wolf.²⁷⁷

272. *Id.*

273. Proposed Establishment of a Nonessential Experimental Population of Gray Wolves in Central Idaho and Southwestern Montana, 59 Fed. Reg. at 60,273-74 (1994).

274. *Id.* at 60,274.

275. *Id.*

276. See Tom Kenworthy, *Sightings Raise Possibility That Wolves Are Outrunning Red Tape*, WASH. POST, Oct. 18, 1992, at A3.

277. *World News Tonight* (ABC television broadcast, Mar. 19, 1993).

In 1995, USFWS released fourteen wolves in Yellowstone National Park and fifteen in central Idaho. In 1996, twenty wolves were reintroduced into Idaho and seventeen into Yellowstone.²⁷⁸ Despite some deaths, the wolves set out to meet USFWS expectations, surviving and breeding in their new homes. USFWS believed that seven wolf litters were born in the spring of 1996.²⁷⁹ By 1998, USFWS began officially considering delisting or down listing.²⁸⁰

However, despite a significant step toward species zoning, USFWS was far from giving up on containment. In early 1999, a lone female wolf left Idaho for Oregon, thereby leaving the experimental population area. USFWS and state game officials promptly captured the wolf and returned her to Idaho and "experimental status."²⁸¹

G. 1996: *The Condor Rulemaking*

In January 1996, USFWS issued a proposed rule for reintroduction of the California condor in northern Arizona.²⁸² California condors, *Gymnogyps californianus*, are the largest birds in North America. Enormous carrion-eating birds, awkward on the ground, but impressive in flight, condors were probably never very numerous. Archeological evidence suggests the species once ranged along the entire Pacific Coast from British Columbia to Mexico.²⁸³ The fossil record reveals that the species once ranged over much of the southern United States, south to Nuevo Leon, Mexico, and east to Florida.²⁸⁴ The bird disappeared from much of its range about ten thousand years ago.²⁸⁵ More recently, since the 1890s, scientists have considered condors to be on the decline. There were perhaps one hundred birds left in the wild in California in the 1940s.²⁸⁶ The bird was listed as an endangered species in 1967. Bird population kept dwindling until 1984-85. That winter, six of fifteen re-

278. Press Release, USFWS, Wolf Reintroduction Under Budget and Ahead of Schedule (July 15, 1996).

279. *Id.*

280. Press Release, USFWS, Gray Wolves Making Strong Comeback: U.S. Fish and Wildlife Service Taking a New Look at Their Status (June 29, 1998).

281. Press Release, USFWS, Wolf Returned to Idaho (Mar. 26, 1999).

282. Proposed Establishment of a Nonessential Experimental Population of California Condors in Northern Arizona, 61 Fed. Reg. 35 (Jan. 2, 1996) (to be codified at 50 C.F.R. pt. 17).

283. USFWS, *Wildlife Species Information, California Condor*, at http://species.fws.gov.bio_cond.html (last visited Dec. 14, 2000).

284. Proposed Establishment of a Nonessential Experimental Population of California Condors in Northern Arizona, 61 Fed. Reg. at 36.

285. *Id.*

286. USFWS, *Wildlife Species Information, California Condor*, at http://species.fws.gov.bio_cond.html.

remaining birds died.²⁸⁷ In 1986 and 1987 USFWS captured the last remaining birds in the wild. Before the trap shut on the last bird, USFWS had plans for reintroduction.²⁸⁸ Early reintroduction efforts took place in the traditional known habitat of the bird in California's Los Padres National Forest. USFWS opted not to invoke section 10(j) to authorize the reintroduction.²⁸⁹

Condor reintroduction has not been a smashing success. Mortality has been high in densely populated southern California. Ethylene glycol (antifreeze) and power lines killed birds and created doubts about the viability of the habitat. USFWS began considering condor release sites that might provide the birds with a larger chance of long-term survival. After an exhaustive selection process, USFWS picked a number of sites in northern Arizona.²⁹⁰

Obviously, the release of a large bird presented problems unlike those presented by otters, ferrets, or even wolves. Condors can fly very long distances. However, this did not prevent USFWS from endeavoring to actively control them in the reintroduction areas:

All California condors released to the wild will be equipped with two radio transmitters In addition, they will wear bold colored patagial markers on each wing with code numbers to facilitate visual identification. The movements and behavior of each condor will be monitored for at least the first two to three years of its life. Ground triangulation will be the primary means of radio tracking. Aerial tracking will be used to find lost birds or when more accurate locations are desired. Telemetry flights will be coordinated with the appropriate land management agencies.²⁹¹

USFWS would know where the birds went. But what of the possibility they would roost in unexpected places?

At first, in the proposed rule, USFWS took a surprisingly relaxed position. USFWS sensibly, but uncharacteristically, brushed off the notion of "overlap" between the non-10(j) California population and the new Arizona population. Admitting that "[u]nder section 10(j)(1) of the

287. *Id.*

288. Proposed Establishment of a Nonessential Experimental Population of California Condors in Northern Arizona, 61 Fed. Reg. at 36.

289. *Id.* at 37.

290. *Id.* at 38.

291. *Id.* at 41.

Act, an experimental population must be separate geographically from nonexperimental populations of the same species," USFWS pointed out that "[t]he last recorded sighting of a California condor in the area of the proposed experimental release occurred in 1924" and that the "13 endangered California condors . . . located in the wild back country of Santa Barbara County" were 450 miles west of the proposed Arizona release site and that "[t]he longest flight by these recently reintroduced condors has been approximately 40 km (25 mi), with typical daily flights from 8 km (5 mi) to 16 km (10 mi)."²⁹² This seemed a reasonable guarantee against overlap.

As with other recent rulemakings, the proposed condor rule designated a large "experimental population area."

The southern boundary is Interstate Highway 40 in Arizona from its junction with Highway 191 west across Arizona to Kingman; the western boundary starts at Kingman, goes northwest on Highway 93 to Interstate Highway 15, continues northeasterly on Interstate Highway 15 in Nevada, to Interstate Highway 70 in Utah; where the northern boundary starts and goes across Utah to Highway 191; where the eastern boundary starts and goes south through Utah until Highway 191 meets Interstate Highway 40 in Arizona.²⁹³

This embraced an enormous area of dry mountainous country in three states. Most of the Mojave Desert and the southern Sierra Nevada remained to keep the Arizona condors separate from their California cousins.

Most remarkably, the proposed rule recognized the possibility that condors might wander outside the area and that such wandering might be beneficial to the species:

In the event that a condor moves outside the experimental population area, three options will be considered—*leave the condor undisturbed and monitor it closely*, capture the condor and return it to the reintroduction area, or place it in a captive breeding facility. The fate of condors that move outside the experimental population area will be decided on a case by case basis.²⁹⁴

292. *Id.* at 42.

293. *Id.* at 44.

294. *Id.* (emphasis added).

While maintaining its authority to recapture wandering birds, USFWS also planned to grant itself authority to assess wandering condors' choice of habitat outside the experimental population area and, if the choice seemed good, leave the condor alone.

In October 1996, USFWS issued a final rule for reintroduction of California condors in northern Arizona.²⁹⁵ The experimental population area remained the same. The concern for overlap remained sensibly low. However, the language about "case by case" assessment of wandering condors had disappeared. In its place, USFWS asserted "[t]he Service has designated the experimental population area to accommodate the potential future movements of a wild population of condors. All released condors and their progeny are expected to remain in the experimental area due to the geographic extent of the designation."²⁹⁶ Jurassic Park rears its head again. Certainly the condors—like otters and whooping cranes before them—if they survived in their new habitat, would leave the experimental population area eventually. USFWS again employed a notion of static biology to avoid the politically charged question: What would happen when the condors did leave?

The condor reintroduction program has been a partial success. Significant populations now exist at a number of northern Arizona and California sites. However, the future still holds the usual challenges. In July 2000, at least five of twenty-one condors in Arizona died from lead poisoning after eating a "carcass that contained leadshot."²⁹⁷ Thirteen of the remaining sixteen condors have been recaptured and treated for lead poisoning and wildlife officials are now focusing "on the safety of the three surviving condors that have eluded capture."²⁹⁸

In May 1997, shortly after being released near the vermilion cliffs in northern Arizona, "Condor 19," a three and one-half year old captive-bred female made a 310 mile journey out of the experimental population area and up into western Wyoming. Condor 19 then returned to the vermilion cliffs and settled "experimental" status under section 10(j).²⁹⁹ The purpose of her trip remains a mystery to scientists. Although jurisprudence was unlikely to be her motive, her journey estab-

295. Proposed Establishment of a Nonessential Experimental Population of California Condors in Northern Arizona, 61 Fed. Reg. 54,044 (Oct. 16, 1996) (to be codified at 50 C.F.R. pt. 17).

296. *Id.* at 54,057.

297. *World News Tonight* (ABC television broadcast, July 17, 2000).

298. *Id.*

299. Jeffrey P. Cohn, *Saving the California Condor*, 49 *BIOSCIENCE* 864 (1999).

lished the inadequacy of the experimental population area and highlighted fundamental flaw in section 10(j).

H. 1997-2000: *The Bitterroot Grizzly Rule*

In July 1997, USFWS published a proposed rule for the reintroduction of grizzly bears, *Ursus arctos horribilis*, in central Idaho.³⁰⁰ On November 17, 2000, USFWS published a final rule.³⁰¹ Tens of thousands of grizzly bears once roamed North America. Today, only eight-hundred to one-thousand grizzly bears remain in a few isolated populations in Montana, Idaho, Wyoming, and Washington. They occupy perhaps two percent of their historic range in the lower forty-eight states.³⁰² The grizzly bear was listed as a threatened species in the lower forty-eight states under the Act in 1975.³⁰³ The saga of the grizzly bear in North America has been ably told, and the story of grizzly bear reintroduction has just begun. However, the grizzly bear reintroduction proposal and rule serve my purposes because they demonstrate USFWS's recent, unabashed adoption of species zoning.

The proposed reintroduction site for grizzly bears would be on national forest land in the Selway-Bitterroot and Frank Church-River of No Return Wilderness Areas.³⁰⁴ The grizzly bear rule contains a novel provision for a Citizen Management Committee to facilitate public participation in bear reintroduction and management.³⁰⁵ However, it also continues the evolution in rulemaking sketched above. The "Bitterroot Grizzly Bear Recovery Area" includes the Selway-Bitterroot Wilderness and the Frank Church-River of No Return Wilderness. As with earlier reintroduction rules, there would be a larger "experimental population area." This area would include most of east-central Idaho and part of western Montana:

300. Proposed Establishment of a Nonessential Experimental Population of Grizzly Bears in the Bitterroot Area of Idaho and Montana, 62 Fed. Reg. 35,762 (July 2, 1997) (to be codified at 50 C.F.R. pt. 17).

301. Establishment of a Nonessential Experimental Population of Grizzly Bears in the Bitterroot Area of Idaho and Montana, 65 Fed. Reg. 69,624 (2000).

302. *Id.*

303. Amendment Listing the Grizzly Bear of the Conterminous 48 States as a Threatened Species, 40 Fed. Reg. 31,734 (July 28, 1975) (to be codified at 50 C.F.R. pt. 17).

304. Establishment of a Nonessential Experimental Population of Grizzly Bears in the Bitterroot Area of Idaho and Montana, 65 Fed. Reg. at 69,626.

305. See *id.* at 69,638-41 (to be codified at 50 C.F.R. pt. 17.84(l)(6)-(9)); see also Brenda Lindlief Hall, *Subdelegation of Authority Under the Endangered Species Act, Secretarial Authority to Subdelegate his Duties to a Citizen Management Committee as Proposed for the Selway-Bitterroot Wilderness Grizzly Bear Reintroduction*, 20 PUB. LAND & RESOURCES L. REV. 81 (1999).

The boundaries of the Experimental Population Area are delineated by U.S. 93 from its junction with the Bitterroot River near Missoula, Montana, to Challis, Idaho; Idaho 75 from Challis to Stanley, Idaho; Idaho 21 from Stanley to Lowman, Idaho; State Highway 17 from Lowman to Banks, Idaho; Idaho 55 from Banks to New Meadows, Idaho; U.S. 95 from New Meadows to Coeur d'Alene, Idaho; Interstate 90 from Coeur d'Alene, Idaho, to its junction with the Clark Fork River near St. Regis, Montana; the Clark Fork River from its junction with Interstate 90 near St. Regis to its confluence with the Bitterroot River near Missoula, Montana; and the Bitterroot River from its confluence with the Clark Fork River to its junction with U.S. Highway 93, near Missoula, Montana.³⁰⁶

In the grizzly bear reintroduction proposed rule and final rule, USFWS has gone farther than it had gone before in embracing species zoning and ignoring the section 10(j) "wholly separate geographically" requirement.

The Bitterroot Mountains harbored grizzly bears well into the mid-20th century. The last verified death of a grizzly bear in the Bitterroot Mountains occurred in 1932. The last tracks were observed in 1946. Occasional unverified reports persist.³⁰⁷ However, even in the absence of resident bears, the possibility of overlap with the Yellowstone and northern Rockies grizzly bear populations was undeniable, if not as inevitable as with the peripatetic and opportunistic wolf.

USFWS's solution was simple. Making the legally necessary assertion that "[t]here is no evidence of any grizzly bears in the Experimental Population Area, thus there is no evidence of an existing grizzly bear population in the Experimental Population Area,"³⁰⁸ USFWS de-

306. Establishment of a Nonessential Experimental Population of Grizzly Bears in the Bitterroot Area of Idaho and Montana, 65 Fed. Reg. at 69,637. This is a slight change from the area proposed in 1997:

[T]he area bounded by U.S. Highway 93 from Missoula, Montana, to Challis, Idaho; Idaho Highway 75 from Challis to Stanley, Idaho; Idaho Highway 21 from Stanley to Lowman, Idaho; Idaho Highway 17 from Lowman to Banks, Idaho; Idaho Highway 55 from Banks to New Meadows, Idaho; U.S. Highway 95 from New Meadows to Coeur d'Alene, Idaho; and Interstate 90 from Coeur d'Alene, Idaho, to Missoula, Montana.

Proposed Establishment of a Nonessential Experimental Population of Grizzly Bears in the Bitterroot Area of Idaho and Montana, 62 Fed. Reg. at 35,765-66.

307. Proposed Establishment of a Nonessential Experimental Population of Grizzly Bears in the Bitterroot Area of Idaho and Montana, 62 Fed. Reg. at 35,762.

308. Establishment of a Nonessential Experimental Population of Grizzly Bears in the

clares that “[g]rizzlies dispersing into areas outside of the experimental population area would receive all the protections of a threatened species under the Act”³⁰⁹ and that “[o]nce this special rule is in effect and grizzly bears have been released into the recovery area, any grizzly bears found within the experimental area, *including any bears that move in from outside the experimental area*, will be classified as part of the experimental population.”³¹⁰ The final rule provides: “After reintroduction, every grizzly bear found within the Experimental Population Area will be considered a member of the nonessential experimental population. . . . In the conterminous United States, a grizzly bear that is outside the Experimental Population Area identified in paragraph (l)(1) of this section will be considered as threatened.”³¹¹

This is species zoning in almost pure form. Whatever bears are found within the experimental population zone will be treated as experimental population bears and whatever bears are found outside the zone will be treated as wild, fully protected bears. While recovery is the goal of the proposed Bitterroot reintroduction, swift recovery was not presented as the implied solution to problems of overlap with wild populations, as it was with gray wolves. The grizzly bear rule represents the furthest point to date in a long evolution that began with the active containment of sea otters more than a decade earlier.

In addition, in what is perhaps an overabundance of caution, USFWS included an extremely narrow definition of grizzly bear “population.”³¹² Because the “wholly separate geographically” requirement

Bitterroot Area of Idaho and Montana, 65 Fed. Reg. at 69,627; *see also* Proposed Establishment of a Nonessential Experimental Population of Grizzly Bears in the Bitterroot Area of Idaho and Montana, 62 Fed. Reg. at 35,767 (“[t]he experimental population area currently does not support any grizzly bears”).

309. Proposed Establishment of a Nonessential Experimental Population of Grizzly Bears in the Bitterroot Area of Idaho and Montana, 62 Fed. Reg. 35,762 (July 2, 1997) (to be codified at 50 C.F.R. pt. 17).

310. *Id.* (emphasis added).

311. Establishment of a Nonessential Experimental Population of Grizzly Bears in the Bitterroot Area of Idaho and Montana, 65 Fed. Reg. at 69,637 (to be codified at pts. 17.84(l)(ii) & (iv)).

312. *Id.* provides the following:

A grizzly bear population is defined by verified evidence within the previous six years, consisting of photos within the area, verified tracks and/or sightings by reputable scientists or agency personnel, of at least two different female grizzly bears with young or one female seen with different litters in two different years in an area geographically distinct (separate) from other grizzly bear populations. Verifiable evidence of females with young, to be geographically distinct (separate), would have to occur greater than 10 miles.

Id. at 69,627.

applies to populations, a narrow definition of population is a useful precaution against overlap. To understand to what degree it will be a successful precaution, you must read the next section.

V. 1997-2000: REINTRODUCTION IN THE COURTS

In recent years, USFWS interpretation of the “wholly separate geographically” requirement in section 10(j) has been tested in the courts. To date, the litigation has been a resounding success for USFWS. It might appear that the courts have provided unequivocal authority for adoption of a pure “species zoning” approach, like the one proposed in the Idaho grizzly bear reintroduction rule. In fact, the litigation does suggest some legal limits to what section 10(j) might allow.

Although the purpose of section 10(j) was to reduce protection for species, creating regulatory “flexibility,” and reducing resistance to species reintroduction, it is not universally successful in doing so. Resistance to wolf reintroduction, in particular, has been fierce. Not long after USFWS promulgated its final rules for wolf reintroduction in Yellowstone and Idaho, the Wyoming Farm Bureau sued to stop the reintroduction.³¹³ Through procedural happenstance, the Farm Bureau found itself co-plaintiffs with a number of environmental groups, including the National Audubon Society, concerned about the possibility that the Yellowstone and Idaho reintroductions would reduce protections for wild wolves already present in the reintroduction areas. Other environmental groups, including the National Wildlife Federation and Defenders of Wildlife supported the reintroduction as parties in the case, while others, including the Environmental Defense Fund, supported the government as amici curiae.³¹⁴

The legal process in the Wyoming Farm Bureau case ran parallel to USFWS’s continued reintroduction efforts. By the time the U.S. District Court for the District of Wyoming issued its ruling in December 1997,³¹⁵ wolves had already been released in Yellowstone.³¹⁶

The Farm Bureau plaintiffs argued that the rules authorizing the reintroduction of wolves in Yellowstone and Idaho were invalid because the experimental wolf population overlapped with the existing Montana

313. *Wyo. Farm Bureau Fed’n v. Babbitt*, 987 F. Supp. 1349 (D. Wyo. 1997).

314. *Id.* E-mail from Michael Bean, Environmental Defense Fund (Sept. 8, 2000) (on file with author).

315. *Wyo. Farm Bureau Fed’n v. Babbitt*, 987 F. Supp. at 1349.

316. See Lacy Atkins, *The Wolves Are Back, Big Time*, HIGH COUNTRY NEWS, Feb. 6, 1995.

wolf population.³¹⁷ USFWS defended, arguing that the definition of "population" applied by USFWS in the wolf rulemaking prevented any wandering wolves in Yellowstone and Idaho from being a "population" for purposes of section 10(j) and thereby prevented population overlap.³¹⁸ In a carefully considered opinion, Judge Downes accepted the USFWS population definition, but rejected the conclusions USFWS drew from it.

Accepting that "that the term 'population' is not defined anywhere in the [Endangered Species Act]" and that "[n]either does the legislative history provide guidance on this precise issue,"³¹⁹ the court reasoned that "the FWS' definition of 'population' is based on a permissible construction of the [Endangered Species Act] § 10(j)."³²⁰ This did not, as USFWS hoped, end the court's analysis.

The court then turned its attention to the statutory phrase "wholly separate geographically." To divine its meaning, the court relied on the potent quotation from the 1982 House Report 567:

To protect natural populations and to avoid potentially complicated problems of law enforcement, the definition [of "experimental population"] is limited to those introduced populations that are wholly separate geographically from nonexperimental populations of the same species If an introduced population overlaps with natural populations of the same species during a portion of the year, but is wholly separate at other times, the introduced population is to be treated as an experimental population at such times as it is wholly separate. The Committee intends, however, that such a population be treated as experimental only when the times of geographic separation are reasonably predictable and not when separation occurs as a result of random and unpredictable events.³²¹

Based on the classic overlap formulation, the court reasoned that "[i]n the event that an experimental population overlaps, in whole or in part, with natural populations of the same species, the introduced specimens can no longer be treated as an 'experimental population.'" The court took the next necessary logical step, long avoided in USFWS documents,

317. 987 F. Supp. at 1372.

318. *Id.* at 1373.

319. *Id.* at 1371.

320. *Id.*

321. *Id.* at 1372-73.

“therefore, full ESA protections must be afforded to all members of the species in the area of overlap.”

The court concluded: “Hence, it is clear that Congress did not intend to allow an ‘experimental population’ to exist where it was not wholly separate geographically from any natural population, unless the times of geographic separation are ‘reasonably predictable and not . . . a result of random and unpredictable events.’”³²² The court specifically rejected USFWS sole reliance on the definition of “population”:

Erroneously focusing only on the definition of “population,” Defendants argue that no geographic overlap exists, given their conclusion that no “populations” of wolves exist in the experimental areas. However, Defendants’ own statements contained in the administrative record establish that members (or “part”) of the natural wolf populations in Montana and/or Canada exist, and will continue to exist, in the experimental population areas *[T]he mere fact that Defendants have drawn a line which purports to ensure “no geographic overlap” between the existing wolf population in Montana and either of the proposed experimental population areas is insufficient and contrary to law.*³²³

To buttress its argument, the court relied on the USFWS’s own 1984 regulation addressing the wholly separate population issue.³²⁴

The district court ruling threatened to set the legal evolution of USFWS reintroduction efforts back a decade, reversing the trend toward “species zoning.” However, it is important to emphasize that Judge Downes based the district court ruling on a sound reading of the section 10(j), its legislative history, and the general regulations promulgated under it.

First, Congress had undeniably intended that “experimental populations” be separate from wild populations. This does not mean that Congress intended that USFWS actively keep the populations separate, rather it suggests that Congress, applying the principles of my dated high school biology film, expected that they would simply stay separate, except in odd cases like whooping cranes.

322. *Id.* at 1373.

323. *Id.* (emphasis added).

324. *Id.* at 1373-74.

Second, the lever of the "population" definition can manipulate the "wholly separate geographically" requirement, but not eliminate it. It is hard to believe that experimental and non-experimental wolves—habitually inhabiting the same ground—can be treated as separate populations for purposes of the "potentially complicated problems of law enforcement" demonstrably in the minds of Congress.

Unfortunately, it was not Judge Downes' reasoning that drew attention to the district court opinion. It was his remedy: "ORDERED that by virtue of the plan being set aside, Defendants must remove reintroduced non-native wolves and their offspring from the Yellowstone and central Idaho experimental population areas" In the next paragraph, Judge Downes stayed his own ruling to let the federal circuit court sort out section 10(j).

Fifteen years had passed between the passage of section 10(j) and the U.S. District Court for the District of Wyoming's ruling. However, Judge Downes' ruling remained the only published authority on the subject for only four months. On April 28, 1998, the Ninth Circuit Court of Appeals affirmed Chad McKittrick's conviction for "taking" a wolf in violation of the Endangered Species Act.³²⁵

A federal jury had convicted McKittrick in Montana of "unlawfully taking wolf, possessing wolf, and transporting wolf."³²⁶ One of the wolves reintroduced into Yellowstone had wandered out of the reintroduction area and up the environs of Red Lodge, Montana, where it had a "fatal encounter" with Mr. McKittrick.³²⁷

Because the dead wolf was an "experimental population" wolf, McKittrick tried to use the requirements of section 10(j) as a shield against criminal liability. Among other things, McKittrick asserted that "the reintroduced wolves were not 'wholly separate geographically' from wolves already present in Yellowstone, and that the experimental population designation is therefore invalid." Citing House Report 567 and its "potentially complicated problems of law enforcement," McKittrick argued that the Endangered Species Act provided that a population could only qualify as a section 10(j) experimental population "when, and at such times as, the population is wholly separate geographically from nonexperimental populations of the same species."³²⁸ Following a rationally flawed, but tactically necessary argument, McKittrick then asserted

325. United States v. McKittrick, 142 F.3d 1170 (9th Cir. 1998).

326. *Id.*

327. *Id.* at 1172.

328. *Id.* at 1174.

that the apparent overlap between Montana and Yellowstone populations deprived the wolf in question of *any* protection.

The court pounced, pointing out that:

[B]ecause the wolves' ESA status depends in part on their location, a wolf that had been introduced into Yellowstone from Canada would either be classified as experimental or, if it lost experimental status because of overlap with natural populations, as endangered If the wolf McKittrick shot had been a member of the endangered species population protected under the Endangered Species Act, instead of the experimental population protected by regulation, McKittrick would simply have been charged with a violation of Endangered Species Act section 9(a)(1), subsections (B) (taking an endangered species) and (D) (possessing an endangered species), instead of (G) (violating regulations protecting endangered or threatened species).³²⁹

This would have been sufficient to dash McKittrick's hopes, but the court did not stop there:

We need not decide whether McKittrick should have been charged under a different subsection, however, because we hold that [US]FWS's regulations for the gray wolf experimental population meet the "wholly separate geographically" requirement. In its rulemaking process, [US]FWS specifically determined that "the experimental population area does not currently support any reproducing pairs of wolves" Although McKittrick points to sporadic sightings of isolated indigenous wolves in the release area, lone wolves, or "dispersers," do not constitute a population.³³⁰

The Ninth Circuit understood that its ruling contradicted Judge Downes' recent opinion across the border in Wyoming. Recognizing Judge Downes' willingness to accept the USFWS definition of population and relying on House Report 567, the Ninth Circuit argued:

The quoted section of the report . . . uses the word "population" or "populations" sixteen times . . . section 10(j) itself refers only to population We must defer to [US]FWS's reasonable interpretation of section 10(j). . . . [US]FWS has interpreted the

329. *Id.* at 1175.

330. *Id.*

“wholly separate geographically” requirement only to apply to populations; this interpretation is reasonable and we decline to disturb it.³³¹

For almost two years the *Wyoming Farm Bureau* and *McKittrick* opinions remained in conflict, the only judicial authority on the validity of the Yellowstone wolf reintroduction and powerfully persuasive authority as to any future reintroductions. Then in January 2000, the Tenth Circuit Court of Appeals reversed the Judge Downes’ *Wyoming Farm Bureau* opinion, resolving any conflict with the Ninth Circuit and considerably extending authority for species zoning. The Tenth Circuit relied not only on the USFWS definitions of population, but also on the general structure of the Endangered Species Act and its goal, recovery.

The Tenth Circuit flatly rejected the Wyoming Farm Bureau’s argument that the existence of “lone wolves” in the Yellowstone area invalidated USFWS’s section 10(j) reintroduction. The Wyoming Farm Bureau relied, once again, on House Report 567.

According to the Farm Bureaus, [House Report 567] “specifically prohibits the overlap of ‘individuals’ and/or ‘specimens’ of a species, not just the overlap of entire populations of a species,” and demonstrates Congress’s intent that an “experimental population” should exist “only when there is no possibility that members of the ‘experimental population’ could overlap with members of naturally occurring populations.”³³²

The court disagreed, relying on USFWS definitions of population:

The Department defines “population” as a potentially self-sustaining group “in common spatial arrangement,” . . . and thus determined a “geographic separation” is any area outside the area in which a particular population sustains itself These definitions preclude the possibility of population overlap as a result of the presence of individual dispersing wolves—by definition lone dispersers do not constitute a population *or even part of a population*, since they are not in “common spatial arrangement” sufficient to interbreed with other members of a population.³³³

331. *Id.*

332. *Wyo. Farm Bureau Fed’n v. Babbitt*, 199 F.3d 1224, 1233 (10th Cir. 2000).

333. *Id.* at 1234.

Here the court relied not on a specific wolf “population” definition, but instead on the extremely general regulatory definition. It used a very specific interpretation of “self-sustaining group” and “in common spatial arrangement,” not just to reduce the significance of non-breeding, non-resident species members, but to eliminate it. Lone wolves did not count at all.

The court used information provided by amicus curiae Environmental Defense Fund to assert the “well-established fact individual animals can and do lose Endangered Species Act protection simply by moving about the landscape.”³³⁴

The Court supported its ruling by arguing that it furthered the goal of species recovery:

The restrictive interpretation the Predator Project and Farm Bureaus advocate could actually undermine the Department’s ability to address biological reality . . . wolves can and do roam for hundreds of miles and cannot be precluded from intermingling with the released experimental population, and thus handicap its ability to effectuate species recovery To the contrary, Congress’ overriding goal in enacting the Endangered Species Act is to promote the protection and, ultimately, the recovery of endangered and threatened species While the protection of individual animals is one obvious means of achieving that goal, it is not the only means. It is not difficult to imagine that sound population management practices tailored to the biological circumstances of a particular species could facilitate a more effective and efficient species-wide recovery, even if the process renders some individual animals more vulnerable.³³⁵

The court’s observation suggests not only that narrow interpretations of “population” might frustrate recovery, but also that the word “population” in section 10(j) could support almost any definition of population arguably consistent with the broader goal of recovery. The Tenth Circuit reversed the 1997 district court order and remanded “with instructions to the district court to enter an order upholding the challenged wolf reintroduction rules.”³³⁶ The wolves would stay in Yellowstone after all.

334. *Id.* at 1235.

335. *Id.* at 1236.

336. *Id.*

VI. SPECIES ZONING AND BEYOND

A. *Lessons Learned*

The Ninth and Tenth Circuit opinions in *McKittrick* and *Wyoming Farm Bureau* enhance USFWS authority and support the evolution away from active population containment and toward species zoning. It seems reasonable to assume that future reintroduction rules will rely more and more on broad experimental population zones to differentiate reintroduced populations from nearby naturally occurring populations regardless of what individual animals might do or where they might go.

In some ways, this is a good thing. It ratifies the USFWS management evolution based on agency experience with reintroduction over more than a decade. It may create more freedom for reintroduced populations and relieve USFWS of the obligation to engage in some of the logical contortions the “wholly separate geographically” requirement has forced on it in years past. It may reduce costly human interference with necessary population dynamics that may frustrate recovery.

While USFWS employs active population management and containment for reasons unconnected with the possibility of population overlap, the rulings in *Wyoming Farm Bureau* and *McKittrick* should relieve some of that pressure for population segregation allowing, at least, the possibility that experimental populations will be somewhat wilder than they have been in the past. At another level, the rulings will allow a step away from a static notion of biology. USFWS will be more able to accept wandering cranes, wolves, condors, and otters and the other surprises that nature will provide without risking the durability of experimental population status and the goodwill of the humans Congress intended section 10(j) to mollify.

In another sense, however, the current version of species zoning is a lawyer’s solution to the Jurassic Park problem. We have learned that the “experimental” creatures will get out of their cages. Accordingly, in the future, we will define any creatures found outside a cage as non-experimental and any creature inside a cage as experiment. Species zoning, as currently practiced, avoids rather than resolves the underlying question raised by the section 10(j) mechanism.

Judge Downes’ straightforward logic in the *Wyoming Farm Bureau* district court opinion will emerge again. Why would Congress have used the phrase “wholly separate geographically” if it intended to authorize reintroduction of experimental populations that would eventually become geographically indistinguishable from existing wild

populations? How can USFWS employ a species zoning approach without robbing the “wholly separate geographically” requirement of all meaning?

Further, species zoning can be dangerous for protected species. If the courts uphold, without significant scrutiny, USFWS designations of all protected creatures within large experimental population zones as experimental creatures, then USFWS may be tempted to use ill-considered reintroductions and broad experimental zone designations to solve intractable problems involving existing species populations. These situations could become quite numerous and worse for species involved if USFWS had unbridled power to use reintroduction to relax species protection on entire landscapes. The “wholly separate geographically” requirement served as some check on this sort of manipulation. However, the results in the wolf cases have already significantly eroded its effectiveness.

B. One Solution

The justification for section 10(j) is simple: to relax protection for species members in order to reduce political opposition to reintroduction. In the words of Robert Jantzen, the justification is “to allow for greater management flexibility and to encourage participation by management-oriented wildlife agencies at both the State and Federal level.”³³⁷ In the words of John Chaffee, it is to avoid “discouraging people from taking a chance on the reintroduction of an experimental population of endangered species.”³³⁸ In the words of the USFWS legislative report, it is to provide “new administrative flexibility for selectively applying the prohibitions of the [Endangered Species] Act.”³³⁹

This is section 10(j)’s only purpose. The fact that USFWS has the authority to reintroduce protected species members without resorting to the section 10(j) process³⁴⁰ makes it clear that the provision has no “conservation” purpose beyond creating “flexibility” to mollify humans who might be burdened by the reintroduction of protected creatures.

Congress intended the “wholly separate geographically” requirement to counterbalance the power of section 10(j) to reduce protec-

337. See *Environmental Pollution Subcommittee Hearings*, *supra* note 82, at 81 (statement of Robert Jantzen, Director, USFWS).

338. See *id.* at 273 (statement of Senator John Chafee, Chairman of the Senate Comm. On Env’t and Pub. Works).

339. See *id.*

340. See *supra* notes 74-77 and accompanying text.

tions afforded threatened and endangered species by limiting that power to easily distinguishable "experimental populations." All the complexity discussed above, and much more, exists to maintain this balance.

If this balance can be maintained in some way that does not require wrestling with the thorny issues of what constitutes a "population" and when it is "wholly separate geographically," then we should seriously consider that alternative method.

It would be simple for Congress to modify the text of section 10(j) to authorize species zoning *as such* without reference to the pedigree of affected creatures. All they would have to do is delete the "wholly separate geographically" requirement. If the requirement were gone, USFWS could, through an administrative rulemaking process, simply draw a line on a map and reduce the protections for the species members within the line (in specific limited ways) as a way of facilitating reintroduction or *augmentation* of the species population. For example, USFWS could, without fear of legal challenge, decree that all grizzly bears found within the state of Idaho are "experimental population" bears, subject to reduced protections.

This would please local potential opponents of bear reintroduction by creating the greatest possible level of certainty about the status of any bear they might encounter. At any given moment, most people, even in the Bitterroot Mountains, know what state they are in and, therefore, would know whether the bear they encountered was an "experimental" Idaho bear or a fully protected Montana bear.

It would also please wildlife management agencies by allowing them to draw species management boundaries without worrying about the possible existence of wild populations of protected creatures. They could focus, instead, on things like administratively workable management zones and habitat quality.

Species zoning would not be inconsistent with practice under other provisions of the Endangered Species Act. Endangered Species Act section 4's "distinct population segment" designations already provide protections for creatures within a defined geographic area even when those creatures may regularly interact with members of their own species outside that area. Through use of distinct population segment designations, a form of "species zoning" has been applied to a broad range of species including grizzly bears and wolves for decades.³⁴¹

341. See Vertebrate Population Policy, 61 Fed. Reg. 4722 (Feb. 7, 1996) (articulating

The primary problem with simply discarding the “wholly separate geographically” requirement is that it ignores the danger Congress intended the “wholly separate geographically” requirement to address. It would remove the balance Congress intended the requirement to provide. Without the “wholly separate geographically” requirement, section 10(j) might be used primarily to relax protections for existing “non-experimental” populations of protected creatures within vast experimental population zones. This is a real problem. However, our growing respect for the surprises nature can provide suggests that the “wholly separate geographically” requirement or any similar requirement based on population segregation are troublesome and ineffective mechanisms for protecting against manipulation of protected status.

In place of species segregation, I suggest another mechanism that might provide the necessary balance in section 10(j). My solution is brutally simple: require regulatory time limits for all experimental population designations. As suggested in the comments to the proposed Mexican wolf-reintroduction rule, every species-zoning scheme could be subject to a statutory or regulatory “sunset provision.” So, for example, all the grizzly bears in Idaho could be designated “experimental population” bears for ten years. For a decade any bear found in the state would be subject to reduced protection under a rule authorized by section 10(j). At the end of ten years every bear in the state would be subject to full pro-

policy for designating distinct populations and including “discreteness” as only one of three factors to consider in designating the population as distinct). As the 10th Circuit noted:

As amici, Environmental Defense Fund and others aptly summarize:
The line dividing protected and unprotected . . . populations is sometimes an international boundary (e.g., grizzly bears, which south of the US-Canada border are threatened, but north of the border are unlisted . . . , a state boundary (e.g., brown pelicans, which west of the Mississippi-Alabama state line are listed as endangered, while east of that line are unlisted . . . , a county boundary (e.g., American alligators which were once listed as endangered everywhere other than in three Louisiana parishes . . . , a measure of latitude (e.g., bald eagles, which until 1978 were listed as endangered south of 40 degrees north latitude, while those to the north were unlisted . . . , a point on the coast (e.g., coho salmon, which, if they spawn south of Cape Henry Blanco in Oregon are threatened, but which, if they spawn north of the cape are unlisted . . . , a distance from the coastline (e.g., western snowy plovers, which are threatened within 50 miles of the Pacific coast, but unlisted beyond that distance . . . , or even a point on a river (e.g., least terns, which are endangered along the Mississippi River and its tributaries north of Baton Rouge, but south of Baton Rouge lack any . . . protection . . .). Indeed, the protection afforded the gray wolf itself depends on the geographic location (if an “endangered” wolf in Wisconsin crosses the border into Minnesota it becomes “threatened,” and therefore has fewer Endangered Species Act protections, 43 Fed.Reg. at 9611-12, codified at 50 C.F.R. § 17.11(h)(1997)).

Wyo. Farm Bureau Fed'n v. Babbitt, 199 F.3d 1224, 1235 & n. 4 (10th Cir. 2000).

tection. There is nothing magic about ten years. The period of reduced protection would be a subject open to discussion and, perhaps, negotiation as part of the rulemaking process.

Substituting a temporal limitation for a geographical one on the authority conferred by section 10(j) has the advantage of preventing experiments from becoming perpetual designations. The current species zoning regime and any other version without a "sunset provision" creates the risk of littering the landscape with zones subject to varied levels of protection which have long since ceased to serve any function other than confusing potential regulated parties. For example, in light of the Tenth Circuit's recent opinion in *Wyoming Farm Bureau*, it is reasonable to assume that, absent delisting, the Yellowstone wolf population will be subject to the limited protections of an experimental population long after it has begun to interact regularly with the fully protected Montana wolf population. Absent a meaningful "wholly separate geographically" requirement or a sunset provision, USFWS has very little incentive to alter that regulatory structure.

The obvious objection to this idea is that time limitations are too simple and too crude. The nature of protected status changes on January first of a given year without reference to the actual status of the protected population or the burdened human communities. How can imposing an arbitrary deadline to end experimental status serve the biological needs of the species or the needs of the ongoing human activities within the populations' habitat? When the clock runs out, nothing will change except the designation. Chaos will ensue.

USFWS has, indirectly, provided a solution to this problem in its attempt to use delisting to solve the problem created by section 10(j) in the gray wolf reintroduction. In the case of the gray wolf, USFWS hopes recovery will solve the problem section 10(j) creates. USFWS hopes the entire northern Rockies wolf population will have been delisted before USFWS needs to deal with the problems that will be created by the overlap of Montana and Yellowstone wolf populations. While USFWS hopes for gray wolf recovery may be optimistic, its approach offers a way out of the broader problem. Experimental population time deadlines could be set with projected recovery goals in mind, but in a way that committed the agency to full protection if those recovery goals were not met within the stated time. This would create an added incentive for recovery activities and an added purpose for their promise of eventual delisting. If the species were removed from the list of protected species before the experimental population sunset provision took effect, then the sunset provision would become moot. On the other hand, evidence that recovery

goals could not be achieved within the projected time would provide a strong argument for full protection of all populations, experimental or pre-existing. Failure to achieve recovery goals would suggest the existence of a very real threat of extinction. In some cases, of course, experimental status could be extended or reinitiated by rule. However, there would be no presumption in favor of perpetual experimental status.

This two-part proposal—doing away with the “wholly separate geographically” requirement and imposing time limits on all relaxations of protection associated with experimental populations—can be attacked as either insufficient to achieve section 10(j)’s goal of mollifying potential opponents of reintroduction, or as insufficient for carrying out the general goal of the Endangered Species Act, protecting and recovering listed species and the ecosystem of which they are part. In any specific case it might be either, both, or neither. However, adopting my proposal would force decisions about incentives for potential opponents of reintroduction and protection for reintroduced populations down to the rule-making level, where they can be made on a case-by-case basis. Abstract statutory requirements would ask no more than (a) that USFWS relax protections only in areas in which active recovery efforts are taking place, (b) that USFWS make a determination that the balance between those recovery efforts and relaxed protections worked toward the greater goal of recovery the species, and (c) that, absent recovery, USFWS commit itself to imposing full protection at some stated time in the future.

VII. CONCLUSION

There was another *Lost World* before Michael Crichton’s *Lost World*. In Arthur Conan Doyle’s 1912 pot-boiler,³⁴² the redoubtable Professor Challenger led his hearty band of imperial Englishmen into the Amazon jungle and up onto a high plateau—“the maple-white land”—on which dinosaurs still roamed. Despite their prevalence in adventure fiction, actual natural pockets of mesozoic flora and fauna are rare to non-existent. Even in the most isolated habitat, nature is disinclined to stand still. There is a lesson here. In the long run, we cannot hope to preserve species in zoos, virtual zoos, or unobtrusive remnant populations. We must recover them to allow them to play their role in the development of the planetary biota. Otherwise, we doom them to extinction, eventual extinction, or virtual extinction—ecological irrelevance.

Reintroduction can be a necessary and powerful tool in the re-

342. ARTHUR CONAN DOYLE, *THE LOST WORLD* (Dover Publications, 1998) (1912).

covery process, but only when it is employed with recovery in mind. The “wholly separate geographically” requirement in section 10(j) does not further recovery. In fact, it may frustrate recovery. By joining a legal distinction to a natural condition, it generates uncertainty. By encouraging wildlife agencies to prevent overlap it may limit necessary population interaction. The purpose of the “wholly separate geographically” requirement, limiting the power of section 10(j) to reduce protections, should not be discounted. However, that purpose can be served in other ways.