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BALANCING CURRENT AND FUTURE DEMANDS FOR COLORADO RIVER WATER WITH THE REQUIREMENTS OF THE ENDANGERED SPECIES ACT

ETHAN SHANER*

I. INTRODUCTION

The Colorado River has long been a centerpiece of human existence in the Southwest. From providing water essential to the irrigation of pioneer agriculture, to satiating the thirst of today's sprawling cities that dot the area, the water of the Colorado River allows the Southwest to thrive as the "fastest-growing region in the country."¹ With this growth, however, has come increasing alteration of the natural environment of the Southwest. In particular, the Colorado River has become the most dammed, diverted, and planned river in the nation in an effort to satisfy the water and energy needs of the burgeoning Southwest population.² In the process of meeting these needs, the riparian environment of the Colorado River has been transformed from a river system with widely varied flow rates that ranged anywhere from 400,000 cubic feet per second ("cfs") to 1000 cfs,³ to a series of dam-enclosed reservoirs, releases from which are controlled not by the melting snow or seasonal rains, but by the federal government.⁴

It has long been recognized that even slight alterations to a particular environment can have devastating effects on plants and animals dependent

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¹ Holly Doremus, *Water, Population Growth, and Endangered Species in the West*, 72 U. COLO. L. REV. 361, 363, 363 n.8 (2001) (citing PAMELA CASE & GREGORY ALWARD, PATTERNS OF DEMOGRAPHIC, ECONOMIC AND VALUE CHANGE IN THE WESTERN UNITED STATES: IMPLICATIONS FOR WATER USE AND MANAGEMENT 7 (1997)). "Between 1970 and 1995, the population of the West grew by about thirty-two percent, compared to a nineteen percent growth rate in the rest of the country." *Id.* at 363 n.8.

² Mary Christina Wood, *Reclaiming the Natural Rivers: The Endangered Species Act as Applied to Endangered River Ecosystems*, 40 ARIZ. L. REV. 197, 208-09 (1998).

³ Scott K. Miller, *Undamming Glen Canyon: Lunacy, Rationality, or Prophecy?*, 19 STAN. ENVTL. L.J. 121, 125 (2000).

⁴ See Wood, *supra* note 2, at 209.

on that environment.⁵ This notion has held true in the Colorado River environment as well, with the result being dramatic decreases in the populations of several species since the sanctioning of the first dams along the River.⁶ As a consequence of these population decreases, the federal government listed many of these species as endangered or threatened under the Endangered Species Act ("ESA").⁷ This listing, and the measures thereafter required by ESA to protect the listed species, resulted in an inevitable conflict between fulfilling the intentions of ESA and meeting the increasing water needs of the expanding human population in the Southwest. While the increase in population continues to require additional water diversions for municipal and agricultural purposes and increased use of dams to provide electrical power, conventional interpretations of ESA urge the opposite in order to maintain and restore riparian habitat and those endangered or threatened species accustomed to that environment.⁸

This Note examines the conflict between the needs of the human population in the Southwest and those of the endangered and threatened species of the Colorado River in several contexts. First, the Note will detail the plight of a few of the species that have been listed under ESA as a direct or indirect result of development of the Colorado River. Second, the Note examines current attempts to balance the requirements of ESA and the needs of the population of the Southwest, particularly through the efforts of the Lower Colorado River Multi Species Conservation Program. Finally, the Note will assess the current successes and frustrations of maintaining and rebuilding listed species populations in the Colorado River basin, as well as the prospects for the Program's future involvement.

⁵ See, e.g., *Southwest Ctr. for Biological Diversity v. United States Bureau of Reclamation*, 143 F.3d 515, 517 (9th Cir. 1998). For example, one endangered species native to the Colorado River, the Southwestern Willow Flycatcher ("Flycatcher"), has suffered a population reduction due to the loss of cottonwood-willow tree groves along the River. The Flycatcher nests in these types of trees in particular, and a simple reduction in their number has caused a corresponding reduction in Flycatcher nesting, the net result being a reduction in population. *Id.* at 517-19, 521-24.

⁶ James H. Bolin, Jr., *Of Razorbacks and Reservoirs: The Endangered Species Act's Protection of Endangered Colorado River Basin Fish*, 11 PACE ENVTL. L. REV. 35, 37 (1993).

⁷ 16 U.S.C. §§ 1531-1544 (2000); see Bolin, *supra* note 6, at 37 (discussing the listing of several species of endangered fish under ESA).

⁸ See 16 U.S.C. §1531 (b)(2000) (describing the conservation of habitat as one of the purposes of ESA).

II. THE COLORADO RIVER

The Colorado is neither the biggest nor the longest river in the American West, nor . . . is it the most scenic. Its impressiveness and importance have to do with other things. . . . Its drop of nearly thirteen thousand feet is unequalled in North America, and its constipation-relieving rapids, before dams tamed its flash floods, could have flipped a small freighter. The Colorado's modern notoriety, however, stems not from its wild rapids and plunging canyons but from the fact that it is the most legislated, most debated, and most litigated river in the entire world. It also has more people, more industry, and a more significant economy dependent on it than any comparable river in the world.⁹

A. *Characteristics of the Colorado River*

1. Generally

The Colorado River was once the lifeblood of one of the most unique ecosystems in the world. Seasonal precipitation and the spring snow melt led to highly variable, cyclic flow rates and sediment loads that formed a particularized riparian habitat. "Because of the seasonality of the flooding, several communities of plants and animals developed in response to high flows taking place from May to July and low flows occurring during the winter months."¹⁰ Extensive damming and water diversion projects, however, have substantially altered the appearance of the Colorado River, harnessing its legendary rapids with a series of reservoirs, canals, and pipelines.¹¹ Today, more than twenty-five million people in Arizona, California, and Nevada (known as the "Lower Division States")¹² rely on water from the Colorado River for power production as well as agricultural, municipal, recreational

⁹ MARC REISNER, *CADILLAC DESERT: THE AMERICAN WEST AND ITS DISAPPEARING WATER* 120 (1993).

¹⁰ SAIC/JONES & STOKES, *ADMINISTRATIVE DRAFT LOWER COLORADO RIVER MULTI-SPECIES CONSERVATION PROGRAM HABITAT CONSERVATION PLAN 3-2* (2003), available at <http://www.lcrmscp.org/files.html> (last visited Sept. 26, 2003).

¹¹ Wood, *supra* note 2, at 209.

¹² SAIC/JONES & STOKES, *supra* note 10, at 1-1 n.1.

and industrial operations.¹³ While the measures taken to fulfill all of these competing demands for the water of the Colorado River have allowed for the influx of a substantial human population in the Southwest, it has also resulted in the alteration of a riparian habitat formed over thousands of years.¹⁴

2. Demands for Colorado River Water

The lower Colorado River Basin, as is the case with the Southwestern United States generally, can be characterized as arid desert.¹⁵ Its watershed accumulates "less precipitation per kilometer than any other major watershed in the United States"¹⁶ In fact, "[m]uch of the West receives less than twenty inches of rainfall annually."¹⁷ Additionally, precipitation comes and goes seasonally, and often is not consistent with the region's growing season.¹⁸ In the late 1800s, as the Southwest was still being settled and Westerners began to discover the realities of farming in such an environment, irrigation began to take hold as the only feasible option for the survival of agriculture in the area.¹⁹ Irrigation, at least along the Colorado River, was complicated, however, by the sporadic nature of the river's flow. "Historically, the waters of the Colorado raged through the canyons in spring and fell to a trickle in summer and fall."²⁰ Such variable flows, especially when not consistent with the growing season, necessitated the massive dam-building projects that sprung up along the Colorado River during the mid-1900s to support any hope of irrigating more extensive agricultural development than simple family farms.²¹

The picture of today's Lower Division States is much different than when these damming projects were conceived. Agriculture has assumed a lesser role in the Western economy as the increase in population of Western

¹³ *Id.* at 1-1.

¹⁴ See Wood, *supra* note 2, at 208-09; Bolin, *supra* note 6, at 38-39.

¹⁵ Doremus, *supra* note 1, at 362.

¹⁶ Bolin, *supra* note 6, at 40.

¹⁷ Doremus, *supra* note 1, at 362 (citation omitted).

¹⁸ *Id.*

¹⁹ 5 A. DAN TARLOCK, LAW OF WATER RIGHTS AND RESOURCES § 3, at 5-6 (1988).

²⁰ Doremus, *supra* note 1, at 372 (citation omitted).

²¹ Doremus, *supra* note 1, at 363 (explaining that "reclamation projects" supported irrigated agriculture in the "West's driest corners").

cities has drawn more industry to the area.²² But while damming and diversion of the Colorado River largely resulted from the pursuit of irrigation farming in an area otherwise inhospitable to such activities,²³ the water diversions continue even as agriculture becomes less and less integral to the lower division states' economy.²⁴ The simple explanation for the continued high levels of consumption of Colorado River water is the drastic increase in population in Western cities and the resultant demands for municipal and recreational water.²⁵ In reality, however, agricultural irrigation still requires massive amounts of Colorado River water, in addition to that needed to sustain the growing population.²⁶

With the increase in population in the West, most of which settles in the sprawling suburbs of urban centers, comes an increase in basic water needs fundamental to the functioning of municipalities, including heightened demand for power generated by the region's dams.²⁷ Moreover, other entities thirsty for water place additional demands on the scarcest commodity in the West. "[R]esidents of the West's expanding cities and suburbs demand large amounts of water, not just for their household needs but also to supply the industries at which they work, to support the recreational activities at which they play, and, in vast quantities, to keep their landscapes green and lush."²⁸

3. Adverse Effects of River Development on Native Species

For all its beneficial effects, damming the Colorado River and diverting much of its water has wreaked havoc on many species native to the Colorado River ecosystem.²⁹ In the lower Colorado River basin in particular, the populations of several species that long occupied extended stretches of the River basin have decreased to the point that they are now only found in small

²² See *id.* at 363-64.

²³ *Id.* at 363.

²⁴ *Id.* at 364.

²⁵ *Id.* at 363 n.9 (stating that eight of the ten fastest growing cities in the United States are located in the West).

²⁶ *Id.* at 366 (stating that "eighty percent of freshwater withdrawals in the western states" is for irrigated agriculture).

²⁷ See Robert Jerome Glennon & Peter W. Culp, *The Last Green Lagoon: How and Why the Bush Administration Should Save the Colorado River Delta*, 28 *ECOLOGY L.Q.* 903, 926-27 (2002).

²⁸ Doremus, *supra* note 1, at 365-66.

²⁹ See *infra* notes 39-46 and accompanying text.

groups in isolated portions of the River.³⁰ This depiction is especially true for four endangered fish indigenous to the Colorado River: the Colorado pikeminnow, the humpback chub, the bonytail, and the razorback sucker (collectively, the "big river fish").³¹ At one time, the big river fish were prevalent throughout the Colorado River system. None, however, were highly valued as commercial or sport fish and were referred to as "[t]rash' fish and . . . 'useless' species"³² Now, with their habitat drastically altered, these denigrated species have been almost completely eradicated from the Colorado River.

The Colorado squawfish [pikeminnow] has been totally extirpated from the Lower Basin, though populations persist in the Upper Basin. The bonytail . . . is now "very rare" throughout the basin. The humpback chub has only small populations in the Upper Basin. The razorback sucker has isolated populations consisting of a few adults, with little or [none of the] recruitment necessary for the survival of the species.³³

Several factors relating to the development of the Colorado River are to blame for the decline of the big river fish. Because of the seasonal flooding of the River, "communities of plants and animals developed in response to high flows [in the summer] . . . and low flows [in the winter]."³⁴ In particular,

[r]iparian communities along the river were constantly undergoing change in response to variable rates of aggradation [deposit of bed material] and degradation [removal of bed material] in the river channel and near stream areas. Floodplain communities developed in areas that were seasonally, or only intermittently, inundated. Marsh communities developed in areas of extended inundation.³⁵

³⁰ See Wood, *supra* note 2, at 240.

³¹ See *id.* at 205.

³² Bolin, *supra* note 6, at 37.

³³ Wood, *supra* note 2, at 240 (internal citations omitted).

³⁴ SAIC/JONES & STOKES, *supra* note 10, at 3-2.

³⁵ *Id.*

This periodic inundation provided valuable "food and nutrient exchange between river channels and shallow-water floodplain habitats."³⁶ Because the big river fish have inhabited the Colorado River for thousands of years, they have adapted to the individualized characteristics peculiar to that habitat, including flow rates, water temperature, water quantity, and sediment load.³⁷

Once the river was dammed, the hydrograph was permanently altered. Flow rates of the river have been nearly reversed, now peaking in the summer and winter due to electricity demands.³⁸ Moreover, water temperature and sediment load are both altered by running water through the generating facilities in a dam.³⁹ At the same time, the big river fish have lost customary spawning habitat and migration routes due to the flooding of river reaches, beach erosion and the actual building of dams along the river.⁴⁰ The loss of habitat restricts the movement of the species throughout a larger area of the river, and cuts off access to other populations of the species.⁴¹ This fragmentation of fish habitat has eliminated any hope of genetic interchange between some of the big river fish populations.⁴²

Another product of the influx of human population in the Southwest has been the deterioration of the water quality of the lower Colorado River stemming from irrigation return flows and the release of municipal and industrial effluents.⁴³ "Agricultural return flows have generally resulted in an increase in salinity in receiving water bodies [as a result] of salts leached from the irrigated soils. Irrigation return flows may also contain various residuals from fertilizers and pesticides."⁴⁴ Finally, albeit somewhat unrelated to river development, "non-native fishes that have been introduced . . . into the basin's waters . . . prey on the endangered river fish and compete with them for food and habitat."⁴⁵ The Colorado River environment to which the big

³⁶ 59 Fed. Reg. 13,374, 13,374 (Mar. 21, 1994).

³⁷ Bolin, *supra* note 6, at 38-39.

³⁸ *Id.* at 38.

³⁹ *Id.* at 38-39.

⁴⁰ *Id.*; see also A. Dan Tarlock, *Safeguarding International River Ecosystems in Times of Scarcity*, 3 U. DENV. WATER L. REV. 231, 266 (2000).

⁴¹ Eric L. Garner & Michelle Ouellette, *Future Shock? The Law of the Colorado River in the Twenty-First Century*, 27 ARIZ. ST. L.J. 469, 483 (1995).

⁴² *Id.*

⁴³ SAIC/JONES & STOKES, *supra* note 10, at 3-6.

⁴⁴ *Id.*

⁴⁵ Bolin, *supra* note 6, at 39.

river fish long adapted has been altered to the point that today it proves more hospitable to non-native species—to the detriment of the big river fish.⁴⁶

The big river fish are not the only species that have been disrupted by the habitat-altering effects of the development of the Colorado River. The habitat of the Southwestern Willow Flycatcher ("Flycatcher") has also been reduced by river development projects and its numbers have dwindled to the point that it is now listed as endangered.⁴⁷ "[T]he . . . [Flycatcher is] a migratory songbird which nests and breeds during spring and summer in dense [growths of] cottonwood-willow riparian habitat."⁴⁸ Although the Flycatcher has traditionally been found throughout the Southwestern United States, a significant portion of the Flycatcher's habitat is found along the Colorado River on the Lake Mead delta.⁴⁹ A prolonged drop in the water level of the delta during the late 1980s allowed for the growth of a particularly large patch of native willow habitat throughout which the Flycatcher began to nest.⁵⁰ The United States Bureau of Reclamation ("Reclamation") is responsible for water management in connection with Lake Mead, meaning that by controlling releases of water from within Lake Mead it correspondingly controls the water levels in the delta.⁵¹ Several years after the drop, normal rainfall and runoff conditions in the Colorado River Basin returned and began to refill the reservoir systems, and consequently, water levels began to rise again in Lake Mead.⁵² As water levels rose, the previously-created willow habitat in the Lake Mead delta became inundated, prompting the Flycatchers to abandon the habitat.⁵³ While the Lake Mead Flycatcher habitat example is dissimilar to that of the big river fish in that the habitat itself was created by the management of the Colorado River, it is nonetheless another example of a species whose original habitat has been diminished to the point that development along the river now threatens the species with extinction.

⁴⁶ SAIC/JONES & STOKES, *supra* note 10, at 3-5.

⁴⁷ Southwest Ctr. for Biological Diversity v. United States Bureau of Reclamation, 143 F.3d 515, 517 (9th Cir. 1998).

⁴⁸ *Id.* at 517.

⁴⁹ *Id.*

⁵⁰ *Id.*

⁵¹ *Id.*

⁵² *Id.*

⁵³ Southwest Ctr. for Biological Diversity, 143 F.3d at 517.

The big river fish and the Flycatcher provide just two of the better known examples of the hundreds of species that have been threatened by development of the Colorado River. Indeed, in the Colorado River Basin “nearly two-thirds of the native fish are listed under the ESA, candidates for listing, or considered species of concern by the U.S. Fish and Wildlife Service”⁵⁴ ESA is the government’s response to the plight of species like the big river fish and the Flycatcher that are in danger of extinction. Congress passed ESA with three goals in mind: to prohibit any intentional harm to endangered species, to retard further habitat destruction, and to facilitate consultation with the federal government when actions may have the effect of jeopardizing an endangered species.⁵⁵

III. ENDANGERED SPECIES ACT

A. *General Provisions*

Originally enacted in 1973, the purpose of ESA is “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”⁵⁶ This goal of conservation entails not only protecting the living individuals of a designated species, but also using all necessary measures to achieve a population and habitat level at which listing of the species is no longer necessary.⁵⁷ The ESA listing of a species categorizes it as either threatened or endangered. Under ESA, a species is determined to be endangered if the species “is in danger of extinction throughout all or a significant portion of its range”⁵⁸ A threatened species is defined as “likely to become an endangered species within the foreseeable future”⁵⁹ To achieve the goal of the conservation of endangered and threatened species, ESA offers two distinct protections—a consultation requirement for federal agencies before they take action that may jeopardize an endangered or threatened species⁶⁰ and a prohibition

⁵⁴ Doremus, *supra* note 1, at 367.

⁵⁵ See 16 U.S.C. § 1531 (2000).

⁵⁶ 16 U.S.C. § 1531(b).

⁵⁷ 16 U.S.C. § 1532(3) (2000).

⁵⁸ 16 U.S.C. § 1532(6).

⁵⁹ 16 U.S.C. § 1532(20).

⁶⁰ 16 U.S.C. § 1536(a)(2) (2000).

against any person "taking" an endangered or threatened species.⁶¹ Before the specific protections can take effect, however, the United States Fish and Wildlife Service, which primarily administers the Act through a delegation from the Secretary of the Interior,⁶² must determine that a species is endangered or threatened, "solely on the basis of the best scientific and commercial data available"⁶³ Thus, considerations such as the possible adverse economic impacts of such a listing on the surrounding area are not to be a part of FWS's decision-making.⁶⁴

In addition to requiring that FWS list a species as threatened or endangered if the appropriate considerations are met, ESA compels FWS to concurrently designate, to the extent "prudent and determinable," the critical habitat of that species.⁶⁵ The critical habitat of a species is made up of "area[s] occupied by the species [that are] . . . essential to [its] conservation" and "may require special management considerations or protection"⁶⁶ In the language of ESA, critical habitat is designated with the goal of conservation of the species in mind.⁶⁷ Using ESA's definition of conservation, presumably the critical habitat is not just to be protected for the maintenance of the species, but also for its recovery.⁶⁸ "Critical habitat helps focus conservation activities by identifying areas that contain essential habitat features . . . regardless of whether or not the areas are currently occupied by the listed species."⁶⁹

Like the process for listing, the critical habitat designation is to be determined by the best scientific data available.⁷⁰ In designating critical habitat, however, FWS may "tak[e] into consideration the economic impact, and any other relevant impact," of designating the area as such.⁷¹ FWS also

⁶¹ 16 U.S.C. § 1538(a)(1)(B) (2000).

⁶² 35 Fed. Reg. 15,627, 15,627 (July 9, 1970); see Doremus, *supra* note 1, at 379.

⁶³ 16 U.S.C. § 1533(b)(1)(A) (2000).

⁶⁴ See 16 U.S.C. § 1533(b)(1)(A); see also Garner & Ouellette, *supra* note 41, at 482.

⁶⁵ 16 U.S.C. § 1533(a)(3).

⁶⁶ 16 U.S.C. § 1532(5)(A).

⁶⁷ Federico Cheever, *The Road to Recovery: A New Way of Thinking About the Endangered Species Act*, 23 *ECOLOGY L.Q.* 1, 57 (1996).

⁶⁸ See discussion *infra* of ESA's definition of "conservation" in Part III.B.

⁶⁹ Cheever, *supra* note 67, at 57-58 (quoting Determination of Critical Habitat for the Colorado River Endangered Fishes: Razorback Sucker, Colorado Squawfish, Humpback Chub, and Bonytail Chub, 59 Fed. Reg. 13,374, 13,377 (Mar. 24, 1994)).

⁷⁰ 16 U.S.C. § 1533(b)(2).

⁷¹ *Id.*

has the authority to refrain from designating any area as critical habitat for a listed species if it concludes that the benefits to the species of such a designation are outweighed by adverse economic impacts or other relevant considerations.⁷² A caveat to this authority is that FWS must determine that the exclusion of an area from the species' critical habitat will not result in the species' extinction.⁷³

While ESA requires that the critical habitat be designated at the time of listing the species, absent other circumstances, historically this requirement has rarely been fulfilled.⁷⁴ One reason suggested to explain the paucity of critical habitat designations has been that the authority of FWS to avoid designating areas as critical habitat has provided a loophole that can be exploited by special interests.⁷⁵ Although this is certainly one rationale, there are likely several reasons for the problems with critical habitat designations, including successful lobbying by special interests and, when that option fails, protracted litigation claiming that FWS has erred in not properly taking into account economic impacts.⁷⁶ Despite its sporadic history and apparent loopholes, however, the provision for critical habitat designation is an integral protection under ESA because of the inherent dependency of a species on the specific characteristics of the habitat in which it dwells.⁷⁷

Once FWS promulgates a final regulation designating a particular species as endangered or threatened under ESA, the particular protections, listed under Section 7 and Section 9 of ESA, become applicable.⁷⁸ Section 7 of ESA requires consultation with FWS to ensure that actions by any body

⁷² *Id.*

⁷³ 16 U.S.C. § 1533(b)(1)(B).

⁷⁴ Cheever, *supra* note 67, at 56-57 (stating that by 1991 only sixteen percent of listed species also had their habitat designated as critical habitat).

⁷⁵ See Sean O'Connor, Comment, *The Rio Grande Silvery Minnow and the Endangered Species Act*, 73 U. COLO. L. REV. 673, 694 (2002) (quoting the House Committee on Merchant and Marine Fisheries, which criticized the consideration of economic factors in determining critical habitat designations as "wholly inconsistent with the rest of the legislation . . . a loophole which could be readily abused by any Secretary of the Interior who is vulnerable to political pressure, or who is not sympathetic to the basic purposes of the . . . Act").

⁷⁶ See William Snape III et al., *Protecting Ecosystems Under the Endangered Species Act: The Sonoran Desert Example*, 41 WASHBURN L. J. 14, 16-18, 21 (2001).

⁷⁷ See 16 U.S.C. § 1532 (5) (2000) (defining critical habitat as "specific areas within the geographical area occupied by the species . . . on which are found . . . features . . . essential to the conservation of the species[.]")

⁷⁸ See Doremus, *supra* note 1, at 380 (noting that "listed species" are protected by ESA).

of the federal government will not jeopardize a listed species, while section 9 prohibits the "taking" of a listed species.⁷⁹

B. *Section 7 Consultation Requirement*

Section 7 of ESA has two main sections, 7(a)(1) and 7(a)(2), that place obligations upon federal agencies.⁸⁰ Under section 7(a)(1), a federal agency, in consultation with FWS, "shall . . . carry[] out programs for the conservation of endangered . . . and threatened species"⁸¹ Under ESA, conservation denotes, "the use of all methods . . . necessary to bring any endangered species or threatened species to the point at which the measures provided . . . are no longer necessary."⁸² A plain meaning interpretation of section 7(a)(1) seemingly requires federal agencies to take action to ensure that a species is moving toward recovery and removal from ESA listing. This, however, has not been the case when FWS or the courts have been asked to interpret the requirements of the section. While a literal reading of section 7(a)(1) would compel agencies to take affirmative steps to conserve an endangered or threatened species, it has often been argued that Congress could not have intended such an unbounded obligation.⁸³ Indeed, FWS itself has maintained "that it lacks authority to 'mandate how or when other Federal agencies are to implement their responsibilities' under section 7(a)(1)."⁸⁴ Thus, despite the seemingly clear requirement put forth in section 7(a)(1), it is unclear to what extent that requirement can be enforced. What

⁷⁹ See 16 U.S.C. §§ 1536, 1538 (2000).

⁸⁰ 16 U.S.C. § 1536.

⁸¹ 16 U.S.C. § 1536(a)(1).

⁸² 16 U.S.C. § 1532(3).

⁸³ See Doremus, *supra* note 1, at 381.

Unlike the duty not to jeopardize, which requires only that agencies halt their activities short of causing extinction, a rigorous duty to support recovery would have no clear limit. Agencies could almost always do something more to help a listed species. The strong reading of section 7(a)(1), therefore, could force agencies to divert the bulk of their funding from their primary missions to advance the recovery of endangered species. Absent unmistakably clear direction from Congress, it is not surprising that neither the FWS nor the courts have adopted this interpretation.

Id.

⁸⁴ *Id.* at 380 n.113 (citing 51 Fed. Reg. 19,926, 19,934 (June 3, 1986) (codified at 50 C.F.R. pt. 402, revised as of Oct. 1, 2003)).

is clear, however, is that enforcement of its mandate will never approach the fullest extent of federal agencies' theoretical obligation.

Due in part to the questionable level of enforcement achievable under section 7(a)(1) of ESA, section 7(a)(2) serves as the more substantive obligation contained in section 7. Section 7(a)(2) requires that federal agencies, through consultation with FWS, "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 or result in the destruction or adverse modification of habitat of such species which is determined . . . to be critical"⁸⁵ Thus, any agency planning an action that "may affect listed species or critical habitat" must first consult with FWS to determine whether the action would be in violation of ESA.⁸⁶ Once consultation is complete, FWS will issue an opinion indicating what effects the agency's action will have either on the species or its critical habitat.⁸⁷ If FWS finds that the agency action will jeopardize the species or adversely modify its critical habitat, due either to the direct action of the agency or to an indirect result of that action, FWS will "suggest . . . reasonable and prudent alternatives" ("RPAs") that do not violate section 7(a)(2).⁸⁸ If FWS concludes that the agency action will have no adverse impact on the species or its critical habitat or if the agency agrees to implement suitable RPAs to avoid that impact, then the agency action may proceed.⁸⁹

Not all federal action is subject to section 7 requirements. For the consultation requirement to take effect, the action must be under the agency's "discretionary . . . involvement or control."⁹⁰ An agency can thus avoid section 7 consultation by characterizing its action as one that is required under law. For example, the delivery of water by a federal agency under a water contract to municipalities or agricultural interests is a federal action under section 7, as long as the contract allows the agency "some measure of control over" delivery.⁹¹ "[I]f the . . . agency has no discretion [in acting], .

⁸⁵ 16 U.S.C. § 1536(a)(2).

⁸⁶ 50 C.F.R. § 402.14(a) (1992).

⁸⁷ 16 U.S.C. § 1536(b)(3)(A).

⁸⁸ 16 U.S.C. § 1536(b)(3)(A).

⁸⁹ See 16 U.S.C. § 1536(b)(4).

⁹⁰ 50 C.F.R. 402.03 (1999).

⁹¹ Doremus, *supra* note 1, at 385 (quoting Klamath Water Users Prot. Ass'n v. Patterson, 204 F.3d 1206, 1213 (9th Cir. 1999)).

. . . [s]ection 7 becomes irrelevant”⁹² However, “[a]bsent statutory delivery guarantees . . . the needs of dwindling aquatic species will prevail over water delivery”⁹³

A telling example of just how far the government can go to enforce ESA against agency action came in the 1978 decision, *Tennessee Valley Authority v. Hill*.⁹⁴ In *TVA*, the Supreme Court held that the operation of Tellico Dam, already virtually complete at the time of the suit, would jeopardize the snail darter, a small fish with little commercial value.⁹⁵ The opinion remains a controversial example of how strictly ESA can be enforced.⁹⁶ It must be kept in mind, however, that the *TVA* decision preceded ESA’s amendments which included the consideration of economic factors in FWS’ designation of a species’ critical habitat.⁹⁷ Even with the inclusion of economic considerations, section 7 is considered to be “the heart of the ESA, and the source of most of its requirements.”⁹⁸

C. Section 9 “Taking” Prohibition

Section 9 of ESA prohibits any person from “taking” any endangered species.⁹⁹ Under ESA, take is defined as “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect”¹⁰⁰ FWS has promulgated regulations that further clarify the breadth of the take prohibition by defining harass as “an intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not

⁹² *Id.*

⁹³ *Id.*

⁹⁴ 437 U.S. 153 (1978).

⁹⁵ *Id.* at 157-58, 174.

⁹⁶ Bolin, *supra* note 6, at 43.

⁹⁷ O’Connor, *supra* note 75, at 692 (citing the ESA Amendments of 1978, Pub. L. No. 95-632, 92 Stat. 375166 (1978) (codified as amended in several sections throughout ESA)). The 1978 amendments came less than five months after the *TVA* decision, indicating that the economic loss that TVA faced in building a dam that will not be permitted to function was a strong catalyst in allowing FWS to consider economic effects of a designation of critical habitat.

⁹⁸ Bolin, *supra* note 6, at 45.

⁹⁹ 16 U.S.C. § 1538(a) (2000).

¹⁰⁰ 16 U.S.C. § 1532(19) (2000).

limited to, breeding, feeding, or sheltering,”¹⁰¹ and defining harm to “include significant habitat modification or degradation [that] actually kills or injures [listed] wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering.”¹⁰² Violations of the prohibitions in section 9 are punishable by both civil¹⁰³ and criminal penalties.¹⁰⁴

The 1995 decision in *Babbitt v. Sweet Home Chapter for a Great Oregon* challenged the FWS definition of harm.¹⁰⁵ In *Sweet Home*, a group representing the foresting industry argued that the term “harm” should not include such indirect action as habitat modification.¹⁰⁶ While the Court ruled that indirect actions against an endangered animal constitute harm as intended by Congress under ESA,¹⁰⁷ it also required that the indirect action “actually kill or injure” an individual of the endangered species.¹⁰⁸ This actuality requirement makes it much more difficult to show harm due to the evidentiary hurdles involved. “Although expert testimony concerning the effects of an action on a listed species can still be sufficient to prove harm without the production of an individual injured animal, courts may be looking a bit more skeptically at such expert opinions.”¹⁰⁹

An important exception to section 9, adopted in the 1982 amendments to ESA, authorizes FWS to issue incidental take permits to federal agencies.¹¹⁰ Incidental take permits allow an agency that intends to act in a way “not likely to jeopardize the continued existence of a species, to ‘take’ members of that species if the taking is not the purpose of the action . . .”¹¹¹ If FWS finds that the action neither jeopardizes the existence of the species nor is intended to “take” the species, it will issue the permit specifying, among other things, the impact of the taking and any reasonable and prudent

¹⁰¹ 50 C.F.R. § 17.3(c) (2003).

¹⁰² 50 C.F.R. § 17.3(c)(3).

¹⁰³ See 16 U.S.C. § 1540(a) (2000).

¹⁰⁴ See 16 U.S.C. § 1540(b).

¹⁰⁵ 515 U.S. 687 (1995).

¹⁰⁶ *Id.* at 693.

¹⁰⁷ *Id.* at 708.

¹⁰⁸ *Id.* at 709 (O’Connor, J., concurring).

¹⁰⁹ Doremus, *supra* note 1, at 390 (citing *Defenders of Wildlife v. Bernal*, 204 F.3d 920 (9th Cir. 2000); *Arizona Cattle Growers Ass’n v. United States Fish & Wildlife Serv.*, 63 F. Supp. 2d 1034 (D. Ariz. 1998)).

¹¹⁰ 16 U.S.C §§ 1536(b)(4), 1536(o)(2) (2000).

¹¹¹ Cheever, *supra* note 67, at 22; see also 50 C.F.R § 17.3 (1995).

measures required of the agency to minimize that impact.¹¹² This exception is of particular importance to projects designed to protect listed species in the Lower Colorado River basin. As measures are taken to create new habitat for listed species, the projects may involve incidental mortality of those species in handling and transporting individuals of the species.¹¹³

D. *Applicability of Section 7 and Section 9 to the Lower Colorado Basin Riparian Habitat*

In the case of the Colorado River, the actions of Reclamation, or any other federal agency for that matter, constitute federal actions.¹¹⁴ The applicability of section 7 to these actions is not in dispute because regulating shifts in water levels along the river will affect listed species and may affect critical habitat.¹¹⁵ While section 9 concerns the actions of "any person" taking an endangered animal,¹¹⁶ the endangered species that make their home along the Colorado River generally are not in danger of being "taken" by anyone other than government entities diverting water or municipal wastewater facilities polluting their habitat.¹¹⁷ These indirect activities, however, modify the habitats of the big river fish and other species causing actual and attributable death or injury, the trigger for section 9 protections as described in *Sweet Home*.¹¹⁸

The applicability of both section 7 and section 9 to management activities along the Colorado River has led to the listing of increasing numbers of species in the Colorado River Basin, and, though historically FWS has been slow in designating critical habitat for many of those species,

¹¹² 16 U.S.C. § 1536(b)(4)(1995).

¹¹³ SAIC/JONES & STOKES, *supra* note 10, at 1-4.

¹¹⁴ See 16 U.S.C. § 1536(a)(2) (2000) (requiring any agency action to conform to the requirements of section 7).

¹¹⁵ See 50 C.F.R. § 402.14(a) (1992); see also Part II.A.3, *infra* (discussing the effects of changing water levels on the Flycatcher).

¹¹⁶ 16 U.S.C. § 1538(a)(1)(B) (2000).

¹¹⁷ See Bolin, *supra* note 6, at 36-38 (stating that the big river fish are not sought after for sport fishing or commercial consumption; however, the big river fish do compete for habitat with more popular sport fish, which, on at least one occasion before the enactment of ESA, led state agencies interested in drawing sport fisherman to the area to poison several populations of the big river fish to improve the prospects of newly introduced sport fish); SAIC/JONES & STOKES, *supra* note 10, at 3-6.

¹¹⁸ *Sweet Home*, 515 U.S. at 709.

the process recently has accelerated.¹¹⁹ Consequently, both the federal government, through Reclamation, and the Lower Basin States are in danger of violating ESA with their current practice of operating the series of dams along the River and with future projections of diverting water beyond the amount necessary to sustain the habitat of the endangered and threatened species along the River.¹²⁰ In response to a flurry of both listings of species and designations of critical habitat in the mid-1990s, representatives of federal agencies, the Lower Basin States and several other interested parties agreed to convene in an attempt to reconcile the competing interests for Colorado River water.¹²¹

IV. THE LOWER COLORADO RIVER MULTI-SPECIES CONSERVATION PROGRAM ("LCR MSCP")

A. *Creation of LCR MSCP*

In 1994, several areas of the Lower Colorado River were designated as critical habitat for the big river fish.¹²² In 1995, the Flycatcher was listed as endangered under ESA.¹²³ In response, Reclamation, being the primary authority behind the management and allocation of Colorado River water, began formal consultation with FWS in 1996 in accordance with ESA requirements.¹²⁴ At the same time, various stakeholders in Colorado River water allocations became concerned with the future of power production and water diversions as a result of the spate of listings and designations of critical habitats along the River.¹²⁵ Accordingly, a number of entities, including several "U.S. Department of the Interior agencies; water, power, and wildlife resources agencies from [the Lower Division States]; Native American

¹¹⁹ Cheever, *supra* note 67, at 56 ("Long dormant, the critical habitat process has recently come to life.").

¹²⁰ See discussion *supra* Part II.A.2. (detailing expected population increases in the Southwest).

¹²¹ Michael D. White, *The Lower Colorado River Multi-Species Conservation Program*, at paras. 5-6, available at <http://www.sci.sdsu.edu/salton/LowerColoradoRiverMSCP.html> (last visited Feb. 13, 2004).

¹²² See *id.* at para. 2.

¹²³ SAIC/JONES & STOKES, *supra* note 10, at 1-2.

¹²⁴ White, *supra* note 121, at para. 4.

¹²⁵ *Id.* at para. 5.

tribes"; utility providers, and recreational and environmental interests, agreed to enter into a partnership known as LCR MSCP to develop a program geared toward long-term ESA compliance for the Lower Colorado River.¹²⁶

B. *Goals and Methodology*

The specified goals of LCR MSCP are to "conserve habitat and work toward the recovery of threatened and endangered species, as well as reduce the likelihood of additional species listings under the ESA," while continuing to "accommodate [current] water diversions and power production and optimize opportunities for future water and power development"¹²⁷ The program seeks to ensure long-term compliance with the ESA for a period of fifty years beginning in 2002.¹²⁸ The area targeted by the LCR MSCP encompasses the historic floodplain of the Colorado River.¹²⁹ "The historic floodplain [includes] . . . all lands that are or have been affected by the meandering or regulated flows of the Colorado River, which historically have been defined by the change in elevation that forms the adjoining uplands."¹³⁰ This area stretches from Lake Mead to the Mexican border.¹³¹

"The LCR MSCP has adopted a habitat-based approach to the conservation of covered species."¹³² Conservation measures implemented by LCR MSCP under this approach generally include the selection of potential conservation areas for the generalized benefit of the riparian habitat, and the development of species-specific conservation measures to be targeted at regenerating the populations of particularly troubled species.¹³³

Conservation area selection, design, and management addresses the broadest level of identifying sites for species and habitat protection and restoration, methods for conducting habitat restoration, and measures for managing habitats over the long term Covered species conservation

¹²⁶ SAIC/JONES & STOKES, *supra* note 10, at 1-2.

¹²⁷ *Id.* at 1-3.

¹²⁸ *Id.* at 1-9.

¹²⁹ *Id.* at 1-7.

¹³⁰ *Id.*

¹³¹ *Id.*

¹³² SAIC/JONES & STOKES, *supra* note 10, at 5-1.

¹³³ *Id.*

measures are specific measures for protecting and restoring populations and habitat of each covered species.¹³⁴

The basic protocol then for LCR MSCP is first to broadly designate areas (1) where it can take steps to preserve undamaged habitat in its present condition, (2) where currently damaged habitat shows potential for enhancement, or (3) where the local conditions prove to be conducive to creating new habitat, called habitat restoration under the LCR MSCP plan.¹³⁵ This is the broad goal of LCR MSCP in that maintenance of undamaged habitat, the enhancement of relatively intact habitat and the creation of new habitat are considered to be the remedial measures most likely to contribute to the recovery of a listed species.¹³⁶ Once the maximum amount of suitable habitat is restored and maintained, LCR MSCP can pursue the more narrow objective of determining what additional measures may be necessary for the conservation of individual species with needs not adequately addressed by habitat restoration alone.¹³⁷ Together, habitat restoration and the implementation of species-specific conservation measures serve as the backbone of LCR MSCP's long-term ESA compliance plan.¹³⁸

LCR MSCP proposes several ways of achieving these goals. For the protection of currently undamaged habitat, LCR MSCP often must convert unprotected land supporting existing habitat to protected status.¹³⁹ Garnering protected status for undamaged habitat will ensure that land will be maintained solely for the use of listed species without the threat of adverse human impacts.¹⁴⁰ Some proposed methods for acquiring land for protected status designation include, "fee title acquisition, conservation easement, lease agreement, [or] memorandum of agreement"¹⁴¹ A fee simple acquisition would allow for the longest tenure with "the highest up-front cost," while agreements, leases and easements would provide "the lowest tenure, but

¹³⁴ *Id.* at 4-1.

¹³⁵ *Id.*

¹³⁶ *See id.* (stating that habitat-based measures are to be taken first under the plan with species-specific measures to be implemented only when the restoration and protection of habitat is insufficient in itself to conserve the species).

¹³⁷ *Id.*

¹³⁸ *See* SAIC/JONES & STOKES, *supra* note 10, at 4-2

¹³⁹ *Id.*

¹⁴⁰ *Id.*

¹⁴¹ *Id.*

allow [for greater] flexibility and are less costly initially" (though possibly more expensive over the long term).¹⁴² While it may seem difficult to acquire the amount of land necessary to improve the habitats of the listed species, many of these scenarios involve obtaining rights to both land and water that might otherwise be used for agriculture.¹⁴³ With agriculture and ranching giving way to industry as the main component of the Southwest economy, many agricultural landowners may be more willing to part with their land or at least certain rights to their land than previously thought.¹⁴⁴

"Habitat enhancement . . . involve[s] the improvement of existing covered species habitat from low ecological function to high ecological function."¹⁴⁵ Because the areas proposed for enhancement are presumably already considered a fragile habitat, it is assumed under the plan that these areas are either currently protected, or will be in the future.¹⁴⁶ An example of a habitat enhancement measure in the case of the big river fish is the proposal to restore the connections from the floodplain of the Colorado River to ephemeral backwaters.¹⁴⁷ This would re-establish the nutrient exchange between the two areas that occurred under the flooding cycles of the River before the River's development.¹⁴⁸

For the creation of new habitat, LCR MSCP literally initiates "direct construction of habitat [or the establishment of ecological functions] that results in new habitat at sites that do not presently support habitat"¹⁴⁹ Sites at which new habitat is created are protected or will be protected under the plan.¹⁵⁰ When new habitat is created, it may be specifically tailored to a particular "covered species."¹⁵¹ For example, "[h]abitat requirements of the razorback sucker and bonytail chub . . . were used to establish a minimum

¹⁴² *Id.* at 4-13.

¹⁴³ Multi-Species Conservation Program (MSCP) for the Lower Colorado River, Arizona, Nevada, and California, 64 Fed. Reg. 27,000, 27,002 (May 18, 1999).

¹⁴⁴ See, e.g., Dan Gallagher, *Conservation Comes to West's Vanishing Range; Easements Can Keep the Land Rural and Help Cash-Strapped Farmers*, L.A. TIMES, June 22, 2003, at A36.

¹⁴⁵ SAIC/JONES & STOKES, *supra* note 10, at 4-3.

¹⁴⁶ See *id.*

¹⁴⁷ *Id.* at 5-10.

¹⁴⁸ See Multi-Species Conservation Program (MSCP) for the Lower Colorado River, Arizona, Nevada, and California, 64 Fed. Reg. at 27,001.

¹⁴⁹ SAIC/JONES & STOKES, *supra* note 10, at 5-5.

¹⁵⁰ *Id.* at 5-5.

¹⁵¹ *Id.* at 4-4.

size for restored backwaters, water depths, and water quality requirements."¹⁵²

In addition to revitalizing the habitats of listed species, LCR MSCP contemplates more targeted measures to address the needs of particular species. Species-specific conservation measures address the conservation needs of an individual species that are not adequately dealt with through habitat protection, restoration or creation.¹⁵³ Such measures will often be necessary to protect a species when very few individuals remain in their natural habitat.

Examples of population enhancement measures include collecting wild fish spawn, raising brood and young fish at hatcheries and rearing ponds, and releasing them into the river and backwaters, controlling piscivorous fish and nonnative amphibians in advance of releases into created/restored backwaters; placing nest boxes . . . to increase nesting success for cavity-nesting species; and controlling brown-headed cowbirds to reduce adverse effects of nest parasitism on covered species.¹⁵⁴

C. *Impact on Endangered Species*

For the great majority of species within the purview of LCR MSCP, the ultimate impact of the program on the species' recovery will not be known for several years due to habitat improvement timetables and breeding timelines.¹⁵⁵ Nevertheless, there has been some encouraging news for the big river fish and the Flycatcher. Once populations are rejuvenated, the big river fish have proven adaptable to a more simplified habitat structure without the seasonal variability in river processes that typified the undeveloped Colorado River.¹⁵⁶ Conflict with non-native species still presents a problem for the

¹⁵² *Id.*

¹⁵³ *See id.* at 5-1.

¹⁵⁴ *Id.* at 5-12.

¹⁵⁵ *See* SAIC/JONES & STOKES, *supra* note 10, at 4-5 to 4-17. The assumption is that conservation areas will achieve plan goals twenty years after conservation area implementation, including compliance monitoring throughout that period at five year intervals. *Id.* at 4-30.

¹⁵⁶ *Id.* at 4-20.

overall recovery of the big river fish, but loss of habitat is the force most commonly attributed to the decline in their numbers, and thus is the primary concern of LCR MSCP.¹⁵⁷

The implementation of habitat creation measures, including designing connected backwaters to provide the physical environmental conditions necessary to support the big river fish, has shown promise in restoring suitable habitat.¹⁵⁸ Species-specific conservation measures proposed by LCR MSCP "for augmenting river and reservoir populations," including establishing native fish refuges and rearing facilities that exclude non-native fish, have shown positive results as well.¹⁵⁹ Sub-adult river fish produced in these refuges are then "transferred to river, reservoir, and connected backwater areas and would help meet the augmentation goals for compliance and contribution to recovery."¹⁶⁰

Although there is less evidence of the impact of LCR MSCP activities on the resurgence of the Flycatcher,¹⁶¹ several measures have been proposed in an effort to maintain and/or restore Flycatcher habitats.¹⁶² These activities include maintaining water levels at a point that will not disturb the cottonwood-willow reaches that provide the greatest flycatcher nesting area, implementing fire protection measures, and controlling threats from adversarial species such as cowbirds.¹⁶³

D. *Criticism*

Despite the apparently beneficial measures that the LCR MSCP instituted thus far, it has not operated without criticism. Representatives from selected environmental and other public interests invited to participate in LCR MSCP have suggested that the program is irresponsible if it does not

¹⁵⁷ See Bolin, *supra* note 6, at 38-39.

¹⁵⁸ SAIC/JONES & STOKES, *supra* note 10, at 4-14.

¹⁵⁹ SAIC/JONES & STOKES, CONSERVATION PLAN FOR THE LOWER COLORADO RIVER MULTI-SPECIES CONSERVATION PROGRAM, SECOND ADMINISTRATIVE DRAFT, 4-21 (Jan. 25, 2002), available at <http://www.lcrmscp.org/> [hereinafter SECOND ADMINISTRATIVE DRAFT]; see also White, *supra* note 121, at para. 12.

¹⁶⁰ SECOND ADMINISTRATIVE DRAFT, *supra* note 159, at 4-21.

¹⁶¹ See *id.* at 3-24, 3-141 to 3-142.

¹⁶² See *id.*

¹⁶³ Multi-Species Conservation Program (MSCP) for the Lower Colorado River, Arizona, Nevada, and California, 64 Fed. Reg. 27,000, 27,001 (May 18, 1999).

take into account issues affecting the delta of the Colorado River, located primarily in Mexico.¹⁶⁴ LCR MSCP did consider this issue; Reclamation, along with the environmental interests, supported a proposal for a committee to study conservation needs and opportunities in the Mexican stretch of the River.¹⁶⁵ The LCR MSCP steering committee, however, rejected the proposal as contrary to its intent to keep the scope of the project manageable.¹⁶⁶ By not examining the prospect of implementing conservation measures in the Mexican delta, critics argue that the LCR MSCP is, "a 'prime example of [the] failure to adhere to sound biological principles' because the plan severs the river from its delta."¹⁶⁷ The logic is that a failure to address the conservation of the entire river as one integrated system flies in the face of fundamental "principles of conservation biology, watershed planning, sustainable development, and international cooperation"¹⁶⁸

Moreover, environmental groups maintained that by not considering the state of the Mexican delta, LCR MSCP was not addressing "one of the most deplorable aspects of the river's decline: the reduction by U.S. water withdrawals of the delta's once-vast complex of marshes and bird-filled lagoons to a wasteland of salt flats."¹⁶⁹ Environmental groups argued that, while LCR MSCP may be maintaining and restoring listed species within the United States, the exclusion of endangered species in the Mexican delta from the purview of the program actually "hasten[s] the demise of several endangered species."¹⁷⁰ Their argument focuses on the fact that these species are listed as endangered, and are adversely (and directly) affected by actions of the federal government.¹⁷¹ The environmental groups' reasoning is that the

¹⁶⁴ See Snape et al., *supra* note 76, at 36-38. For more information on criticism of LCR MSCP for not considering the effects of water diversions on endangered species in Mexico, see Press Release, Defenders of Wildlife, International Coalition to Sue U.S. Government over Failure to Protect Colorado River Biodiversity (Dec. 15, 1999), available at <http://csf.colorado.edu/forums/elan/may99/msg01079.html>.

¹⁶⁵ Kara Gillon, *Watershed Down?: The Ups and Downs of Watershed Management in the Southwest*, 5 U. DENV. WATER L. REV. 395, 420 (2002).

¹⁶⁶ *Id.*

¹⁶⁷ Snape et al., *supra* note 76, at 38 (quoting DEFENDERS OF WILDLIFE, FRAYED SAFETY NETS: CONSERVATION PLANNING UNDER THE ENDANGERED SPECIES ACT 80 (1998)).

¹⁶⁸ Paul E. D'Amours, *The Colorado River Delta*, 2000 COLO. J. INT'L ENVTL. L. & POL'Y 183, 188 (2000).

¹⁶⁹ Comment, *Myopia on the Colorado*, ARIZ. DAILY STAR, Nov. 12, 1998, at 14A.

¹⁷⁰ Gillon, *supra* note 165, at 421.

¹⁷¹ *Id.*

species' location, a few miles outside the borders of the United States, should not absolve the government of its duties under ESA.¹⁷²

In 1998, when the steering committee declined to include Mexico in its consultation process and to acknowledge the special needs of the Mexican reaches of the Colorado River delta in its long-term planning, those parties representing environmental interests on LCR MSCP withdrew from the process.¹⁷³ In defense of its decision, LCR MSCP again maintained that in order to concentrate its efforts and funds on a more manageable project, the scope of the program must remain somewhat limited.¹⁷⁴

Once the environmental representatives withdrew, LCR MSCP received further criticism that environmental interests thereafter were not represented in the planning process and the lack of representation constituted a lack of proper public participation.¹⁷⁵ The lack of public participation, it is assumed, will render LCR MSCP void of safeguards against the federal and state agencies in LCR MSCP abandoning the ecosystem approach to conservation by taking the least demanding measures possible that would still avoid ESA violations.¹⁷⁶ In June 2000, several of these environmental groups, led by Defenders of Wildlife, sued the federal agencies involved with LCR MSCP, alleging that, by not considering the effects of the conservation program on endangered species inhabiting the delta, LCR MSCP was in violation of ESA.¹⁷⁷

E. *Future of LCR MSCP*

1. Responding to the Critics

LCR MSCP faces a very difficult situation in weighing the requirements of ESA against the duties of Reclamation, both discretionary and non-discretionary, to divert proper amounts of water to satisfy Southwestern cities, and to regulate proper levels of power production through dams along

¹⁷² *Id.*

¹⁷³ See Snape et al., *supra* note 76, at 36, n.149.

¹⁷⁴ Gillon, *supra* note 165, at 420.

¹⁷⁵ *Id.*; see Snape et al., *supra* note 76, at 37-38.

¹⁷⁶ See Tony Perry, *Suit Seeks to Save Colorado River Species, Habitat*, L.A. TIMES, June 29, 2000, at A3.

¹⁷⁷ D'Amours, *supra* note 168, at 188; see also *Defenders of Wildlife v. Norton*, 257 F. Supp. 2d 53, 57 (D.D.C. 2003).

the Colorado River.¹⁷⁸ With the Southwest threatening to continue its rapid growth in population over the next few decades,¹⁷⁹ the delicate balance between the water needs demanded by the human population and those essential to the continued existence of the scores of endangered species within the Colorado River ecosystem will become only more tenuous.¹⁸⁰

Much of the criticism leveled at LCR MSCP's approach to the conservation of endangered species along the Colorado Basin seems unwarranted. To address the needs of the Colorado River beyond the Mexican border would increase the level of resources necessary to administer the program.¹⁸¹ Including the Mexican delta area in the conservation plan would widen the coverage area by approximately 100 additional miles of riparian habitat and add several aquatic, riparian, and marine species.¹⁸² While it may be difficult to put a dollar figure on the additional resources necessary to address that sort of expansion of the project, it is unlikely in the current economic climate that a revival project in the Mexican delta will receive the requisite funding. With the federal government and several of the states currently running deficits, as opposed to the surpluses available when LCR MSCP was initiated, it may be difficult to obtain the necessary funding for the program as it stands, let alone any additional funding to deal with an expansion of the project into the Mexican delta.¹⁸³

Another complication implicit in the inclusion of the Mexican delta in the project is the applicability of the ESA to endangered species outside the United States. While much of the plight of the depleted Mexican delta is a

¹⁷⁸ Perry, *supra* note 176, at A33.

¹⁷⁹ Doremus, *supra* note 1, at 364, n.11 ("Population growth is forecast to continue at high levels in the West at least through 2025." (citing PAMELA CASE & GREGORY ALWARD, PATTERNS OF DEMOGRAPHIC, ECONOMIC AND VALUE CHANGE IN THE WESTERN UNITED STATES 28-30 (1997))).

¹⁸⁰ See *id.* at 363-64.

¹⁸¹ See Gillon, *supra* note 165, at 420 (listing the Steering Committee's reasoning for not including the Mexican delta in the conservation plan).

¹⁸² See Frank Clifford, *Plotting a Revival in a Delta Gone to Dust*, L.A. TIMES, Mar. 24, 1997, at A1, A20; see *A Resource for the Colorado River Delta: A Brief History*, available at http://ag.arizona.edu/colorado_river_delta/delta/intro.html (last updated Feb. 1, 2003).

¹⁸³ See, e.g. Jeffrey L. Rabin & Charles Ornstein, *The California Budget: Cuts Will Be Both Deep and Broad*, L.A. TIMES, Jan. 11, 2003, at A20 (stating that California is "facing the worst budget crisis in a decade"); Robbie Sherwood, *War Could Make Arizona Finances Even Worse*, ARIZ. REP., Mar. 19, 2003 (detailing budget problems in Arizona and California and noting that Arizona is running a \$1 billion deficit).

result of water diversions and agricultural drainage within the United States, and while the effects of actions in the United States on species in Mexico may be regulated by ESA,¹⁸⁴ the ESA would likely be inapplicable to actions that take place in Mexico.¹⁸⁵ So, although inclusion of Mexican officials in LCR MSCP may have resulted in an agreement on the part of Mexico to cooperate with the administration of the program on the Mexican delta,¹⁸⁶ it is unclear to what extent any measures initiated by LCR MSCP would be binding on Mexico. Without a clear indication of the applicability of ESA to endangered species in Mexico, the inclusion of Mexican officials and the Mexican delta in the planning of LCR MSCP could compromise the effectiveness of the program both legally and fiscally.

It is also argued that by not addressing the needs of the Mexican delta, LCR MSCP is ignoring one of the worst environmental tragedies of the Colorado River: the reduction of the unique delta ecosystem to barely two percent of its former size.¹⁸⁷ While the critics are correct in asserting that the delta reduction was primarily caused by damming and diversions within the United States,¹⁸⁸ if the scope of LCR MSCP is extended to account for any adverse environmental effects of previous federal action, the project would become wholly unmanageable.

The environmental groups present a legitimate argument that the Mexican delta must be considered, as it is one of the most environmentally problematic areas of the Colorado River.¹⁸⁹ The consideration of this problem, however, may be better left for another day, or at least to another consortium of interested parties. LCR MSCP was convened for three main purposes.¹⁹⁰ One was to corral ESA problems in the Lower Colorado River

¹⁸⁴ See *Defenders of Wildlife v. Norton*, 257 F. Supp. 2d 53, 66 (D.D.C. 2003). The presumption against extraterritorial application of American statutes does not apply to federal agency actions within the United States that have extraterritorial effects. *Id.* at 66.

¹⁸⁵ *Id.*

¹⁸⁶ S. Joshua Newcom, Water Education Foundation, Colorado River Project, River Report, *Deciding about the Colorado River*, Spring 1999, available at <http://www.sci/sdsu.edu/salton/DecidingAboutCoR%20Delta.html> (last visited Oct. 28, 2003) (quoting Gerald Zimmerman, Executive Director of the Colorado River Board of California).

¹⁸⁷ Glennon & Culp, *supra* note 27, at 906 (stating that during the initial period of filling the reservoirs behind the many dams along the River, Colorado River delta wetlands once covering almost 1.8 million acres were reduced to 40,000 acres).

¹⁸⁸ Bolin, *supra* note 6, at 38.

¹⁸⁹ See Tarlock, *supra* note 40, at 268-69 (discussing the plight of the Colorado River Delta).

¹⁹⁰ SAIC/JONES & STOKES, *supra* note 10, at 1-3. For a more detailed discussion of LCR

and to promote recovery of endangered species living therein.¹⁹¹ Another was to maintain current water diversions and power production from the River.¹⁹² A third purpose was to "provide the basis for incidental take authorizations."¹⁹³ LCR MSCP was never convened to be an ESA task force at the exclusion of all else, despite what the environmental interests might argue. LCR MSCP was designed to address the rising conflict between the management and development of the Colorado River and the needs of endangered species inhabiting its floodplain.¹⁹⁴ Though few would question the need for action to attend to the ecological challenges faced by the Mexican delta, the proper way to address these issues is not to piggyback them onto another related program, the resources of which are already running thin.

Finally, the problem of a lack of public participation in LCR MSCP, following the withdrawal of the environmental representatives, can be easily addressed and remedied. The environmental representatives were not forced from the planning process.¹⁹⁵ After the LCR MSCP failed to adopt the environmentalists' proposal to include the delta in LCR MSCP's plan, they voluntarily abandoned their positions.¹⁹⁶ It does not make sense for the environmental interests to criticize LCR MSCP for under-representation when they chose not to be a part of the process. Presumably the environmental groups could return to the process if they so desired, and their presence would no doubt produce valuable contributions to the conservation attempts of LCR MSCP. Whether this happens or not simply depends on those representatives understanding LCR MSCP's purpose and realizing that the project as a whole may be compromised by asking it to do too much.

2. Can the Program be Successful?

The approach of the LCR MSCP appears to be a step in the right direction. The habitat-centered approach provides for both restored habitat and the creation of new habitat.¹⁹⁷ These options, when coupled with research

MSCP purposes, see *supra* Part IV.B.

¹⁹¹ SAIC/JONES & STOKES, *supra* note 10, at 1-3.

¹⁹² *Id.*

¹⁹³ *Id.*

¹⁹⁴ See *id.* at 1-2.

¹⁹⁵ See Snape et al., *supra* note 76, at 36, n.149.

¹⁹⁶ Gillon, *supra* note 165, at 420; see *supra* text accompanying note 173.

¹⁹⁷ SAIC/JONES & STOKES, *supra* note 10, at 5-3 to 5-4.

into what alterations in habitat particular endangered species can endure without threatening continued survival,¹⁹⁸ provide a basis for recovery efforts that put a minimum strain on current water allotments or power production. When supplemented by species-specific measures, the program appears to be an encouraging method of attaining compliance with ESA while still maintaining the water consumption needs of the growing Southwestern cities.

There will always be detractors from this type of project who argue that it does not go far enough in restoring the Colorado River to its original state. This argument, unfortunately, misses the point of ESA. The reality is that unless the bulk of the population of the Southwest relocates to other parts of the country, it is unlikely that the Colorado will ever recapture its legendary status as the most volatile river in the United States. The reason behind ESA, however, is not to restore the environment to its pre-development condition, but to restore endangered species to the point that listing is no longer necessary.¹⁹⁹ The means to achieving this end are not of consequence unless those means are in violation of some other provision of law.

Despite the promising ideas proffered by LCR MSCP in its conservation efforts along the Colorado River, there are still outstanding questions regarding its effectiveness that will be answered only by forces beyond its control. For example, what of the program's effectiveness if, as is expected, the population of the Southwest continues to grow at its current rapid pace?²⁰⁰ It seems that LCR MSCP is currently showing some signs of success in restoring endangered species populations while at the same time maintaining necessary water appropriations.²⁰¹ It remains to be seen, however, whether this success can be maintained if the exponential population growth that has characterized the Southwest continues.

Another question surrounding LCR MSCP's effectiveness is whether it can sustain its success in times of drought like that currently gripping the Southwest.²⁰² If the mountainous areas of the Southwest accumulate a below-

¹⁹⁸ See *id.* at 5-3.

¹⁹⁹ See 16 U.S.C. §§ 1531(b), 1532(3) (2000).

²⁰⁰ For further discussion on the expected numerical increase in population in the Southwest, particularly in relation to expected water needs, see Glennon & Culp, *supra* note 27, at 926.

²⁰¹ See *supra* Part IV.C.

²⁰² See National Climate Data Center, *Climate of 2003—July New Mexico Drought* (Aug. 14, 2003), available at <http://ncdc.noaa.gov/oa/climate/research/2003/jul/st029dv00pcp200307.html> (noting that the Southwest "has experienced severe drought for much of the last four years").

average snow pack over the winter, coupled with a lack of precipitation during the rainy season the water levels in reservoirs along the Colorado River will drop.²⁰³ In such a situation, it is foreseeable that cutbacks in water use will be necessary to maintain river levels required by ESA. If and when this occurs, it is unclear whether ESA will remain intact with respect to its application to the Colorado River projects, or whether political pressure on Congress by a population forced to cut back water usage will be enough to force alternative measures.²⁰⁴

V. CONCLUSION

Despite sustained criticism and funding difficulties, LCR MSCP continues its research into possible conservation techniques and restoration of habitat necessary to the protection and eventual de-listing of endangered and threatened species. These measures are in accordance with the purpose of the project: to bring the Lower Colorado River into long-term compliance with ESA. This narrow goal must be kept in mind when evaluating the effectiveness of the program. With respect to this goal, it appears that LCR MSCP is moving in the right direction.

²⁰³ Shaun McKinnon, *Southwest's Drought May Last for Years*, ARIZ. REP., Feb. 12, 2003, at B12.

²⁰⁴ See Glennon & Culp, *supra* note 27, at 961-62 (demonstrating ESA's vulnerability to political pressure).