

**Habitat Status: Endangered – Reconsidering “Critical Habitat” and the
“Unoccupied Areas” Provision of the Endangered Species Act**

Course: Exploring Principles of Earth Jurisprudence

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Introduction

It only takes one nation with influence like the United States to start a legal movement that will protect ecosystems and habitats for the sake of the ecosystem and habitat itself. Most laws today are anthropocentric in design, which leaves plants and animals without a voice of their own. Humans are just one small piece of the universe puzzle, yet we act with power of dictation and destruction. We must recognize that “the universe is a unity, an interacting and genetically related community of beings bound together in an inseparable relationship in space and time.”¹ Earth has a very distinct unity where each being is profoundly implicated in the existence and functioning of every other being, whether it be human, non-human animal, plant, or mineral.² Humans have the unique ability to create laws and also exploit the Earth in ways in which no other being can. This lone fact impresses upon them the duty of being stalwarts of the Earth and to live in a way that does not threaten the existence of other species of plants and animals.

The United States’ legal system supports exploitation of the natural world by a relentless industrial economy where it should be protecting species and their habitats from destruction.³ The United States was a leader when the world shifted to an industrial way of life and is one of the greatest contributors to its continuing destructive path. The industrial process thrives on non-sustainable use of the Earth and is so destructive throughout the natural world that humans become *the* reason why many life forms continue to go extinct.⁴ These life forms are critical to humans’ continued existence as we are just a small part of a living universe. Biologists have warned us that humans are extinguishing living species at a rate unequalled since the last great

¹ THOMAS BERRY, *EVENING THOUGHTS: REFLECTING ON EARTH AS SACRED COMMUNITY* 145 (Mary Evelyn Tucker ed., Sierra Club with The University of California Press 2006).

² *See id.*

³ *See id.* at 107.

⁴ *See id.*

extinction 65 million years ago,⁵ and one of the leading causes for this mass extinction is habitat destruction.⁶

The United States legal system must undergo a significant Earth jurisprudential change, because industrial processes depend directly on the legal systems that authorize them.⁷ Since the United States helped lead the charge in the industrial revolution and still has much influence economically and politically worldwide, it makes sense for this country's legal system to pioneer changes in the way legislation operates. Congress enacted the Endangered Species Act ("ESA" or "Act") in 1973 in an effort to conserve and protect endangered species and their habitat.⁸ However, the federal judiciary has consistently undermined the Act and regulations of the Environmental Protection Agency, which has prohibited the Act from operating even remotely close to its full potential. The first step that the United States' legal system must take to shift to an Earth-centered operation is to utilize the laws we already have to achieve maximum conservation and protection of the existing species we have left. This comment discusses how the ESA is the most comparable legislation that the United States has to true Earth Jurisprudential law. Once the Act is implemented and enforced according to its initial design, the next step is to re-evaluate the way in which we use the Act to achieve greater ecosystem preservation so the environment thrives. This comment will evaluate a new way of utilizing the "critical habitat" designation under the Act and explore ways to maximize its use.

⁵ See *id.*; Union of Concerned Scientists, *1992 World Scientists' Warning to Humanity* (1992), available at <http://www.ucsusa.org/about/1992-world-scientists.html>.

⁶ See Niles Eldredge, *The Sixth Extinction*, ACTION BIOSCIENCE, June 2001, <http://www.actionbioscience.org/newfrontiers/eldredge2.html>. We are living during a period of the greatest extinction since the mass extinction of dinosaurs sixty five million years ago. See *id.* Earth has seen five mass extinctions in its 3.5 billion year evolution, when nearly all species were wiped out. See *id.* The present extinction is often called the *Sixth Extinction*. See *id.* It is unique to the other periods of mass extinction because a single species is causing the entire extinction. See *id.* Unfortunately, that species is us, *homo sapiens*. Scientists estimate that half of Earth's flora and fauna could be extinct within one hundred years.

⁷ See BERRY, *supra* note 1, at 108.

⁸ See generally Endangered Species Act, 16 U.S.C. § 1531 (1988).

Earth Jurisprudence

The existing legal system in the United States has failed to prevent harms to the environment including loss of biodiversity, ecosystems, and critical habitats. The current legal structure is extremely anthropocentric and treats the Earth as a “resource” to be exploited rather than what it really is, the organism that sustains all life forms.⁹ In *The Great Work*, Thomas Berry examined the legal relationship between the human community and the Earth.¹⁰ This new way of thinking is known as ‘Earth Jurisprudence,’ and can be defined as “the philosophy of laws and regulations that gives formal recognition to the reciprocal relationship between humans and the rest of nature.”¹¹

In *The Great Work*, Berry noted that American jurisprudence is centered on personal human rights and how the natural world may be possessed and used by humans.¹² Under this legal system and industrial way of life, the natural world has no inherent rights to existence, habitat, or freedom to fulfill its role in communal existence.¹³ However, the rights of the natural world must be recognized and given legal status to secure a sustainable future.¹⁴ The argument underlying Earth Jurisprudence is that “nature itself can enhance human freedom and well-being if the reciprocal nature of the relationship is fully recognized and allowed to be effective.”¹⁵ Nature deserves and demands to be valued for its own inherent worth, not merely because it is of

⁹ See BEGONIA FILGUEIRA & IAN MASON, WILD LAW: IS THERE ANY EVIDENCE OF EARTH JURISPRUDENCE IN EXISTING LAW AND PRACTICE? 3 (UK Environmental Law Association and the Gaia Foundation 2009).

¹⁰ See THOMAS BERRY, THE GREAT WORK: OUR WAY INTO THE FUTURE (Bell Tower 1999).

¹¹ FILGUEIRA & MASON, *supra* note 9, at 3.

¹² See BERRY, *supra* note 10, at 61.

¹³ See *id.*

¹⁴ See *id.*

¹⁵ FILGUEIRA & MASON, *supra* note 9, at 3.

valuable use to humans.¹⁶ Laws based on Earth Jurisprudence have been coined as “Wild Law,” because they derive from the laws of nature.¹⁷

Existence of “Wild Law”

In 2009, the UK Environmental Law Association (“UKELA”) published the results of its study exploring the extent to which Wild Law already exists in jurisdictions worldwide.¹⁸ The paper assessed the effectiveness of Earth Jurisprudence in practical law and policy formation.¹⁹ For the purposes of the paper Wild Law included the practical measures of formal law, constitutions, and regulations that effectuated Earth Jurisprudence principles.²⁰

The researchers established three principal indicators, with sub-indicators, which were used to give numerical scores to the different laws in multiple countries.²¹ The first indicator was ‘Earth Centered Governance.’²² This essentially gave laws a higher value if they were less anthropocentric.²³ Modern jurisprudence mostly creates laws entirely for the benefit of humans rather than for the benefit of the natural object or animal itself. This indicator values governance that gives respect to the intrinsic value of Earth and all its members/components, when the dominant rationale of the legal measure is environmental protection, and when the governance is informed by the laws of nature.²⁴ The second indicator was ‘Mutually Enhancing Relations to promote the well-being of the whole Earth Community.’²⁵ This indicator values laws that recognize human presence as being as much a part of nature as all other natural entities, and also those which realize that humans have a proper role to fulfill in the evolution of the Earth

¹⁶ *Id.* at 4.

¹⁷ *Id.* at 3.

¹⁸ *See id.* at 2.

¹⁹ *See id.*

²⁰ FILGUEIRA & MASON, *supra* note 9, at 5.

²¹ *See id.*

²² *See id.*

²³ *See id.*

²⁴ *See id.*

²⁵ *See id.*

Community.²⁶ Humans are expected to enhance the evolutionary Earth Community and be enhanced by it so that the overall well being of the Earth benefits.²⁷ This indicator requires humans to minimize their activity and engage sympathetically in the natural processes so that they can benefit from the Earth while contributing to the well being of the Earth Community.²⁸

The final indicator, ‘Community Ecological Governance,’ is “the practical expression of the intimate relationship between the human and natural worlds by which the human presence regulates its conduct so as not to cause irreparable damage to the environment and its ecosystems.”²⁹ This indicator involves the integration of nature’s voice and listening to what it wants from the laws affecting its natural processes.³⁰ One way of achieving this is talking to the people that live within these ecosystems, such as indigenous people, to find out what laws would benefit the unique qualities of that particular ecosystem.³¹

The researchers who studied United States laws included the ESA in their analysis. It may be important to look at a brief history of the ESA before analyzing the results from the UKELA study.

The Endangered Species Act

In the United States, wildlife protection laws were governed by the states until the early 1900’s when many highly visible American species became extinct or on the verge of extinction.³² The federal government initially enacted wildlife legislation in order to manage

²⁶ FILGUEIRA & MASON, *supra* note 9, at 5.

²⁷ *See id.*

²⁸ *See id.* at 6.

²⁹ *Id.*

³⁰ *See id.* at 6.

³¹ *See id.*

³² *See* Frederico Cheever, *An Introduction to the Prohibition Against Takings in Section 9 of the Endangered Species Act of 1973: Learning to Live with a Powerful Species Preservation Law*, 62 U. COLO. L. REV. 109, 122 (1991). These species included the Great Auk, American Buffalo, and Eastern Panther, all of which were unique to North America. *See id.* The decline of these species was obvious and disconcerting to many Americans. *See id.*

migrating species and animals that were taken in and out of states' jurisdictions.³³ Even though these initial federal statutes pre-empted state statutes, there was a growing concern about the number of species being driven towards extinction.³⁴ By the 1960's, statutes were enacted to recognize and protect endangered species.³⁵ In 1973, Congress substantially strengthened prior wildlife legislation when it enacted the ESA.³⁶ With the enactment of the ESA, Congress declared:

- (1) various species of fish, wildlife, and plants in the United States have been rendered extinct as a consequence of economic growth and development untempered by adequate concern and conservation;
- (2) other species of fish, wildlife, and plants have been so depleted in numbers that they are in danger of or threatened with extinction;
- (3) these species of fish, wildlife, and plants are of esthetic, ecological, educational, historical, recreational, and scientific value to the Nation and its people³⁷

The Act's purpose is to provide direct protection through international treaties, conventions, and implementation of conservation programs for threatened and endangered species by conserving and protecting the ecosystems they depend on for survival.³⁸ In order to meet these objectives,

³³ *See id.* Early wildlife laws were enacted to help save animals from extinction. *See id.* The prior wildlife legislation was the Lacey Act written in 1900, which allowed the federal government to enforce state wildlife laws by prohibiting interstate commerce when species were "taken" in violation of state laws. *See id.* *See* The Lacey Act, 16 U.S.C. §§ 701, 1540, 3371–78 (1988); 18 U.S.C. § 42 (1988). "Taking is a traditional term in the vocabulary of wildlife law, and its roots stretch back into the recesses of the English common law." Cheever, *supra* note 32, at 122. The ESA defines a "take" as "actions to harm, harass, pursue, hunt, shoot, wound, trap, capture, collect, or kill a species." *Id.* at 122. "Takes" also include actions that "significantly modify habitat in a manner that would lead to the injury or death of a listed species." *Id.* at 122. The prohibition covers federal and non-federal parties. National Wildlife Federation, *The Endangered Species Act: A Safety Net for Wildlife*, Feb. 1, 2006, <http://www.nwf.org/wildlife/pdfs/esasafetynet.pdf> [hereinafter NWF Safety Net].

³⁴ *See* Cheever, *supra* note 32, at 122–24.

³⁵ *See* Pub. L. No. 89-669, 80 Stat. 926 (1966) (repealed 1973); Cheever, *supra* note 32, at 122–24. The Endangered Species Protection Act of 1966 was the first law written specifically to protect endangered species, but it did not provide programs or penalties that might burden state governments, the federal government, or individuals. *See* Cheever, *supra* note 32, at 123–24.

³⁶ *See* Kathleen Doyle Yaninek, *Turtle Excluder Device Regulations: Laws Sea Turtles Can Live With*, 21 N.C. CENT. L.J. 256, 264 (1995).

³⁷ Endangered Species Act, 16 U.S.C. §§ 1531(a)(1)–(3) (1988).

³⁸ *See* 16 U.S.C. § 1531(b). The Act lists the treaties, conventions, and programs as follows:

Congress implemented a system to identify threatened and endangered species and their critical habitats.³⁹ The ultimate aspiration is to prevent species from becoming extinct and aid in their recovery to viable levels.⁴⁰ The ESA imposes strict obligations on federal agencies and restrictions on any individual whose actions result in a direct or indirect taking of listed species.⁴¹

Specifically, ESA section four provides guidance for determining whether a species will be listed, if at all, as either endangered or threatened.⁴² To determine whether a species should be listed as endangered or threatened, the Act provides five factors to consider, but only one of the factors needs to be satisfied in order to list a species.⁴³ The Secretary of the Interior and the Secretary of Commerce are responsible for analyzing the factors and listing species as either endangered or threatened.⁴⁴

(4) the United States has pledged itself as a sovereign state in the international community to conserve to the extent practicable the various species of fish or wildlife and plants facing extinction, pursuant to--

- (A) migratory bird treaties with Canada and Mexico;
- (B) the Migratory and Endangered Bird Treaty with Japan;
- (C) the Convention on Nature Protection and Wildlife Preservation in the Western Hemisphere;
- (D) the International Convention for the Northwest Atlantic Fisheries;
- (E) the International Convention for the High Seas Fisheries of the North Pacific Ocean;
- (F) the Convention on International Trade in Endangered Species of Wild Fauna and Flora; and
- (G) other international agreements; and

(5) encouraging the States and other interested parties, through Federal financial assistance and a system of incentives, to develop and maintain conservation programs which meet national and international standards is a key to meeting the Nation's international commitments and to better safeguarding, for the benefit of all citizens, the Nation's heritage in fish, wildlife, and plants . . .

16 U.S.C. § 1531(a)(4)–(5). See Yaninek, *supra* note 36, at 264.

³⁹ See Yaninek, *supra* note 36, at 264.

⁴⁰ See *id.*

⁴¹ See James C. Kilbourne, *The Endangered Species Act Under the Microscope: A Close-up Look From a Litigator's Perspective*, 21 ENVTL. L. 499, 501 (1991); see also Endangered Species Act, 16 U.S.C. §§ 1533, 1536(a)(1) (1988) (setting forth obligations, duties, and restrictions on all persons who conduct activities that may harm listed species).

⁴² See 16 U.S.C. § 1533.

⁴³ See 16 U.S.C. § 1533(a)(1). The factors to be considered are:

- (A) the present or threatened destruction, modification, or curtailment of its habitat or range;
- (B) overutilization for commercial, recreational, scientific, or educational purposes;
- (C) disease or predation;
- (D) the inadequacy of existing regulatory mechanisms; or
- (E) other natural or manmade factors affecting its continued existence.

Id.

⁴⁴ See Yaninek, *supra* note 36, at 265 & n.88.

Therefore, under section four, the Secretaries⁴⁵ are to identify the habitat of all threatened or endangered species and take measures to protect that habitat when it is considered critical for the species' survival.⁴⁶ The Secretaries have the authority to list species that are both native and non-native to the United States; however, they may not designate critical habitat within foreign countries or other areas outside of the United States' jurisdiction.⁴⁷ The Secretaries must also develop recovery plans for the survival and conservation of any species listed according to the Act.⁴⁸ "Recovery plans provide objective, measurable criteria that, if satisfied, lead to recovery of [endangered and threatened] species."⁴⁹ The plans are often written by biologists and provide a blueprint for state and federal agencies to follow while trying to recover a species and its critical ecosystem.⁵⁰ As of 2003, 1263 native species were listed as endangered or threatened and seventy-nine percent of them had approved recovery plans.⁵¹ This is a great increase from 1993, when just fifty percent of species had approved recovery plans.⁵² It is difficult, if not impossible, to track how many conservation measures are actually being carried out because of deficient funding and enforcement.⁵³ Therefore, these plans receive very little attention from the United States Fish and Wildlife Service ("FWS") and National Marine Fisheries Service ("NMFS").⁵⁴

⁴⁵ See James N. Christman & Virginia S. Albrecht, *The Endangered Species Act*, FINDLAW, 1999, <http://library.findlaw.com/1999/Jan/1/241467.html#ref12>. "[I]n the Act, 'Secretary' refers to the Secretary of Commerce, acting through the NMFS for marine species . . . or to the Secretary of the Interior, acting through the [FWS] for other plants and animals. Also, the Secretary of Agriculture has some authority over the importing and exporting of plants." *Id.*

⁴⁶ See 16 U.S.C. § 1533(a)(3).

⁴⁷ See Criteria for Designating Critical Habitat, 50 C.F.R. § 424.12(h) (1993).

⁴⁸ See 16 U.S.C. § 1533(f).

⁴⁹ NWF Safety Net, *supra* note 33.

⁵⁰ See *id.*

⁵¹ See *id.*

⁵² See Yaninek, *supra* note 36, at 266.

⁵³ See NWF Safety Net, *supra* note 33.

⁵⁴ See *id.* Once a species and its critical habitat are designated other sections of the ESA go into effect. See Yaninek, *supra* note 36, at 267. Section seven places an affirmative duty on federal agencies, with assistance from the Secretaries, to carry out conservation programs designed to conserve threatened and endangered species pursuant

ESA Results Under UKELA Study

Considering the history of the ESA and the purposes of its enactment, it is the best example of Wild Law in the United States and scored relatively high on Earth Centered Governance.⁵⁵ The Act is not Earth centered, but it is probably the closest of any U.S. law to achieving Earth Jurisprudence principles.⁵⁶ The Act's stated purposes advocate environmental protection rationales and focus on protecting non-humans and maintaining their natural habitat.⁵⁷ The Act was meant to protect and conserve endangered species for their own benefit and survival.⁵⁸ Nothing in the Act promoted protection of species for the benefit of humans. When

to section four. *See* Endangered Species Act, 16 U.S.C. § 1536(a)(1) (1988). Federal agencies must 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” 16 U.S.C. § 1536(a)(2). Also, they must make sure that any actions they take do not result in the destruction or adverse modification of any critical habitat, unless they are granted an exception. *See id.* “In fulfilling the requirements of this paragraph each agency shall use the best scientific and commercial data available.” *Id.* Section nine prohibits the taking of endangered species subject to a couple of exceptions. *See* Yaninek, *supra* note 36, at 267; James N. Christman & Virginia S. Albrecht, *The Endangered Species Act*, FINDLAW, 1999, <http://library.findlaw.com/1999/Jan/1/241467.html#ref12> (discussing the importance of sections seven and nine, and how they allow “incidental” takes, but only with a permit). The two exceptions were explained and detailed by Frederico Cheever:

In 1982, during the Endangered Species Act amendment and reauthorization process, Congress created two significant exceptions to the section 9 taking prohibition. First, sections 7(b)(4) and 7(o)(2) together authorize USFWS and NMFS to include “incidental take statements” as part of biological opinions rendered for federal agencies through the section 7 consultation process. These “statements” allow a federal agency or applicant, planning to engage in an action that is not likely to jeopardize the continued existence of a species, to take members of endangered species if the taking is not the purpose of the action and is, therefore, “incidental” to that action. Second, section 10(a) allows USFWS or NMFS to issue “incidental take permits” for non-federal actions that might otherwise violate the section 9 taking prohibition, if the incidental taking “will not appreciably reduce the likelihood of the survival and recovery of the species in the wild.” These exceptions to the taking prohibition were provided under explicitly limited conditions designed to prevent harm to the species as a whole.

Cheever, *supra* note 32, at 163. Section eleven authorizes the federal government to charge and enforce civil and criminal penalties against any person who violates the act. *See* 16 U.S.C. § 1540 (1988). Civil penalties consist of mostly fines and criminal penalties include fines, imprisonment, revocation or suspension of licenses and permits. *See id.* This section also allows citizen suits to enforce the ESA. *See* 16 U.S.C. § 1540(g)(1)(A), (C). Citizens may enjoin any person, the United States, and other government instrumentalities or agencies alleged to be in violation of the Act. *See id.* They may also bring suit “against the Secretary where there is alleged a failure of the Secretary to perform any act or duty under section 1533 of this title which is not discretionary with the Secretary.” *Id.*

⁵⁵ FILGUEIRA & MASON, *supra* note 9, at 36.

⁵⁶ *See id.* at 37.

⁵⁷ *See id.*

⁵⁸ *See* Endangered Species Act, 16 U.S.C. §1531(b) (“The purpose [is] to provide a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved [and] to provide . . . for the conservation of such endangered species . . .”).

the Act was first enacted in 1973 it was truly Earth centered,⁵⁹ but backlash ensued from private parties' suits challenging the Act. In response Congress adopted amendments to the Act and changes in the law allowing exceptions, which opened the door for abuse to occur. There are now categorical exclusions to actions that do not individually or cumulatively have a significant effect on the human environment.⁶⁰ The law also allows exemptions and waivers under certain conditions, including incidental take permits.⁶¹ These changes in the law have prohibited the Act from operating at its full Earth-centered potential.

The Act also scored positively under the Mutually Enhancing Relations and Community Ecological Governance indicators.⁶² The Act has been interpreted and implemented to facilitate interconnections, reciprocity, and inclusion of the entire Earth community in conflict resolution, restoration, and adaption, even though the Act does not specifically contain such provisions.⁶³ The Act has been used to stop, delay, and alter projects to make sure that wildlife is protected. For example, in *Tennessee Valley Authority v. Hill*, the Act was used successfully to halt construction of a dam to protect the snail darter.⁶⁴ In other situations, developers can only continue construction if they implement a "Habitat Conservation Plan."⁶⁵ These examples evidence American society's move towards accepting projects that are mutually enhancing.⁶⁶

Although the ESA did receive a positive score by UKELA, it is far from being Earth-centered and true Wild Law. Cormac Cullinan, in his book *Wild Law*, argues that contemporary societies must recognize that we are operating within a larger system and we need to pay

⁵⁹ See *Tenn. Valley Auth. v. Hill*, 437 U.S. 153, 194 (1978) (declaring, "Congress has spoken in the plainest of words, making it abundantly clear that the balance has been struck in favor of affording endangered species the highest of priorities, thereby adopting a policy which it described as 'institutionalized caution.'").

⁶⁰ See 40 C.F.R. § 1508.4.

⁶¹ See 16 U.S.C. § 1539.

⁶² FILGUEIRA & MASON, *supra* note 9, at 37–38.

⁶³ See *id.* at 37.

⁶⁴ See *Tenn. Valley Auth. v. Hill*, 437 U.S. 153 (1978).

⁶⁵ See 16 U.S.C. 1539(a)(2)(A).

⁶⁶ FILGUEIRA & MASON, *supra* note 9, at 37.

attention to and respect the calls of nature.⁶⁷ Our governments must observe Earth Jurisprudential principles and understand humans' distinct role.⁶⁸ To transform our laws and governance we must adopt an Earth Jurisprudence philosophy, but this does not mean we must completely repeal all the laws we already have and start anew.⁶⁹ One way in which we can change our laws and governance is by altering our existing governance systems from within.⁷⁰ The prospect of the United States completely uprooting all of its current laws to supplant them with Wild Law is beyond impossible and impracticable. It would be much more prudent and wise of us to use our current laws and interpret them in ways that promote Earth Jurisprudence. There may be no better place to start than our most Earth centered law, the Endangered Species Act.

Critical Habitat

The Endangered Species Act attempts to reach two central purposes: “[T]o 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.”⁷¹ These purposes combine to create the ultimate goal of restoring endangered species populations so that they are no longer threatened with extinction. Once this is achieved the species will be delisted. However, a species will always be threatened with extinction if its habitat is not conserved and protected. This includes habitat currently occupied by the species, but also habitat that was once, and should still be, occupied by these species. To realize actual population restoration, these unoccupied areas must be conserved and protected with as much, if not more, rigor than the current occupied habitat.

⁶⁷ See CORMAC CULLINAN, WILD LAW 185 (Green Books 2003).

⁶⁸ See *id.*

⁶⁹ See *id.* at 189.

⁷⁰ See *id.*

⁷¹ 16 U.S.C. § 1531(b).

The ESA should be scrutinized in its entirety, looking for ways to improve how we use the Act and its content. This comment considers the “critical habitat” provision of the ESA, specifically the “unoccupied areas” clause, because the critical habitat provision is not being utilized up to its given potential. There are many reasons for this including lack of enforcement, lack of funds, and because there may be backlash from the public if the government and judicial rulings conflict with private interests. If backlash does occur then the legislature might scale back the reach of the Act. However, these reasons do not mean that the critical habitat provision cannot be utilized more effectively.

The ESA defines “critical habitat” for a threatened or endangered species as:

(i) [T]he specific areas within the geographical area occupied by the species, at the time it is listed . . . , on which are found those physical or biological features (I) essential to the conservation of the species and (II) which may require special management considerations or protection; and

(ii) specific areas outside the geographical area occupied by the species at the time it is listed . . . , upon determination by the Secretary that such areas are essential for the conservation of the species.⁷²

Part ii of the definition is often referred to as the “unoccupied areas” clause. When a species is designated as endangered or threatened, the Secretary must concurrently designate any habitat of such species that is considered to be critical habitat.⁷³ Critical habitat can, and should, include unoccupied areas. “If unoccupied habitat is not designated as critical, little if any consideration will be given to the effects of the project on the habitat.”⁷⁴ The destruction of unoccupied areas will likely impede recovery.⁷⁵

⁷² 16 U.S.C. § 1532(5)(A).

⁷³ See 16 U.S.C. § 1533(a)(3), (b)(1)&(2).

⁷⁴ David A. Paulson, *No Endangered Species Left Behind: Correcting the Inequity In Critical Habitat Designation for Pre-1978-Amendment Listed Species*, 25 Hawaii L. Rev. 525, 545–46 (2003).

⁷⁵ *Id.*

The Secretary is required to designate critical habitat on the basis of the best scientific and commercial data available, and must consider economic impact and any other relevant impacts.⁷⁶ The determination of critical habitat works as a balancing test utilizing the following three factors: (1) biological data about the species and its habitat, (2) an analysis of the economic impacts of the designation, and (3) consideration of other relevant impacts.⁷⁷ Many environmentalists and advocacy groups argue that the current critical habitat designation process is flawed.⁷⁸ Furthermore, there is a general consensus within the scientific community that the current critical habitat designation process needs improvement.⁷⁹ Amongst other criticisms, scientists believe that critical habitat should be designated after a recovery plan⁸⁰ has been implemented rather than when the species is listed.⁸¹

⁷⁶ *See id.*

⁷⁷ *See id.*

⁷⁸ *See generally* Ronny Millen & Christopher J. Burdett, *Critical Habitat in the Balance: Science, Economics, and Other Relevant Factors*, 7 MINN. J.L. SCI. & TECH 227, 230–68 (2005).

⁷⁹ *See id.* at 268.

⁸⁰ The ESA requires recovery plans for listed species to be implemented in order to increase the population and conserve the listed species. *See* 16 U.S.C. § 1533. The Act provides the following for recovery plans:

(1) The Secretary shall develop and implement plans (hereinafter in this subsection referred to as "recovery plans") for the conservation and survival of endangered species and threatened species listed pursuant to this section, unless he finds that such a plan will not promote the conservation of the species. The Secretary, in developing and implementing recovery plans, shall, to the maximum extent practicable--

(A) give priority to those endangered species or threatened species, without regard to taxonomic classification, that are most likely to benefit from such plans, particularly those species that are, or may be, in conflict with construction or other development projects or other forms of economic activity;

(B) incorporate in each plan--

(i) a description of such site-specific management actions as may be necessary to achieve the plan's goal for the conservation and survival of the species;

(ii) objective, measurable criteria which, when met, would result in a determination, in accordance with the provisions of this section, that the species be removed from the list; and

(iii) estimates of the time required and the cost to carry out those measures needed to achieve the plan's goal and to achieve intermediate steps toward that goal.

(2) The Secretary, in developing and implementing recovery plans, may procure the services of appropriate public and private agencies and institutions, and other qualified persons. Recovery teams appointed pursuant to this subsection shall not be subject to the Federal Advisory Committee Act [5 USCS Appx.].

(3) The Secretary shall report every two years to the Committee on Environment and Public Works of the Senate and the Committee on Merchant Marine and Fisheries of the House of Representatives on the status of efforts to develop and implement recovery plans for all species listed pursuant to this section and on the status of all species for which such plans have been

The requirement to designate critical habitat concurrently with species listing creates an impractical deadline for the Fish and Wildlife Services, because most listed species are rare and research on their habitat is lacking.⁸² However, delaying the designation of critical habitat may result in the inability to provide for immediate emergency listing of species facing extinction.⁸³ The National Research Council recommended that delays in habitat designation and protection for threatened and endangered species be avoided by designating “survival habitat” at the time of listing.⁸⁴ Survival habitat would support either current species populations or populations that are necessary to ensure a short-term (twenty-five to fifty years) survival, whichever is greater.⁸⁵ Survival habitat designation would be revoked once critical habitat is designated and a recovery plan is set in motion.⁸⁶

Scientists and environmentalists believe that one of the major problems with the current designation process is the ignorance of unoccupied areas.⁸⁷ This provision of the ESA has been virtually untouched. Usually this is because unoccupied habitat is controversial in the political arena in which policy is created.⁸⁸ The Act requires the designation of critical habitat once a

developed.

(4) The Secretary shall, prior to final approval of a new or revised recovery plan, provide public notice and an opportunity for public review and comment on such plan. The Secretary shall consider all information presented during the public comment period prior to approval of the plan.

(5) Each Federal agency shall, prior to implementation of a new or revised recovery plan, consider all information presented during the public comment period under paragraph (4).

Id.

⁸¹ See Millen & Burdett, *supra* note 78, at 268.

⁸² See *id.*

⁸³ See *id.*

⁸⁴ See *id.*

⁸⁵ See *id.*

⁸⁶ See Millen & Burdett, *supra* note 78, at 268. “Economic concerns would remain one of the factors considered in the designation of critical habitat; however, unlike critical habitat designation, the NRC believes economic concerns would not be considered when designating survival habitat.” *Id.*

⁸⁷ See *id.* at 269.

⁸⁸ See Ronald Carroll et al., *Strengthening the Use of Science in Achieving the Goals of the Endangered Species Act: An Assessment by the Ecological Society of America*, 6 ECOLOGICAL APPLICATIONS 1 (1996), available at <http://www.esa.org/pao/policyStatements/Papers/StrentheningUSAGESA.php>.

species is listed, but it does not require designation of unoccupied areas.⁸⁹ The designation of unoccupied areas is left to the sole discretion of the Secretary.⁹⁰ Because the Secretary does not have to designate unoccupied areas, these critical habitats are exposed and vulnerable because the Secretary fears backlash from private landowners and state governmental entities. Politicians need to overcome these fears, because designation and preservation of critical habitat is one of the most vital aspects of the Act, as loss of habitats is the leading cause of extinction in the United States.⁹¹ Recovery of species and habitat is not a short process and can take many years.⁹² Therefore, the Secretary should designate survival habitat to stave off immediate threats, but the goal of the Act should be to preserve enough habitat so that the species can survive in the long term.⁹³

The long-term process must include unoccupied areas designations; otherwise populations will never be large enough and healthy enough to survive the onslaught of current and future threats and harms. Many species often get listed due to the reduction in the historic habitat range occupied by the species. The advent of landscape ecology focuses on the spatial dynamics of populations structures, which demonstrates that unoccupied areas are critical to the conservation of most endangered species.⁹⁴ “Spatially explicit population concepts such as metapopulations, source-sink population dynamics, and core-satellite populations structure provide theoretical justification for the protection of unoccupied habitat.”⁹⁵ These concepts are essentially a variation on a similar theme, which demonstrate that the demographic response of a species can “vary based on the spatial distribution or temporal variability in resource availability

⁸⁹ *See id.*

⁹⁰ *See* 16 U.S.C. § 1532(5)(A).

⁹¹ *See* Carroll, *supra* note 88.

⁹² *See id.*

⁹³ *See id.*

⁹⁴ *See* Millen & Burdett, *supra* note 78, at 269.

⁹⁵ *Id.*

in a habitat patch.”⁹⁶ Patches that are too small or distributed too widely can negatively affect the recovery of a species population.⁹⁷ Similarly, temporal variability in the quality of resources occurs because patches of vegetation in habitats are consistently changing while it develops.⁹⁸ Threatened species are adapted to specific vegetation associations that must be continually renewed through natural or human induced changes.⁹⁹ “Because the demographic response of a population frequently depends on the spatial distribution and temporal variability of habitat patches, adequate planning and protection for current and future unoccupied habitat are crucial aspects of habitat conservation.”¹⁰⁰

Recovery Plans

Designating critical habitat is meaningless without designing recovery plans to reinvigorate and preserve the designated habitat. The Act states that the secretary must develop and implement recovery plans for the conservation and survival of listed species.¹⁰¹ Many different government entities must collaborate to ensure that recovery programs are successful.¹⁰² The goal of recovery plans is to ensure that the listed species become secure members of their ecosystems.¹⁰³ One of the many tools used to accomplish this goal is acquiring and restoring critical habitat.¹⁰⁴ Recovery involves eliminating threats to species and providing necessary natural elements to ensure their long-term success in the wild.¹⁰⁵ The plan itself is a non-

⁹⁶ *Id.*

⁹⁷ *See id.*

⁹⁸ *See id.*

⁹⁹ *See* Millen & Burdett, *supra* note 78, at 269.

¹⁰⁰ *Id.*

¹⁰¹ *See* 16 U.S.C. § 1533(f).

¹⁰² *See* U.S. Fish and Wildlife Service, *Endangered Species Recovery Program*, <http://www.fws.gov/endangered/factsheets/recovery.pdf> (last visited Apr. 4, 2010).

¹⁰³ *See id.*

¹⁰⁴ *See id.*

¹⁰⁵ *See id.*

regulatory document that applies to either one species or an ecosystem.¹⁰⁶ However, this limitation may hinder the long-term success of the habitat in which a species lives. Each species within an ecosystem or habitat is critical to that habitat's success. Once one species within a habitat is listed, a recovery plan should be made for all the species within that habitat, as they relate to the habitat. Usually, the government's involvement ends once a species is considered "recovered," but this limitation may lead to re-listing of a species or listing of another species in the same habitat.¹⁰⁷ Once a species is recovered a proactive approach should be continually exercised. Conservation efforts would be easier, more successful, and make more sense economically if species and their habitats are consistently cared for rather than only reacting to environmental harms when it may be too late.

"[B]y the time a species becomes eligible for listing, its habitat is often destroyed or badly degraded, the population is decimated, and its genetic diversity is seriously eroded."¹⁰⁸ Attempting to recover a species under these circumstances is a tremendous challenge and is often unsuccessful.¹⁰⁹ Furthermore, recovery plans often have weak goals. For instance, population goals are often no higher than existing population densities at the time a species is listed.¹¹⁰ Many experts say that recovery plans often "manage for extinction" rather than for survival and sustainability.¹¹¹

The goal of the Act is to infinitely preserve species by implementing long-term recovery goals. To achieve this goal, enough habitat must be designated and preserved to allow the species to survive in the long-term.¹¹² This involves using the unoccupied areas provision of the

¹⁰⁶ *See id.*

¹⁰⁷ *See id.*

¹⁰⁸ Carroll, *supra* note 88.

¹⁰⁹ *See id.*

¹¹⁰ *See id.*

¹¹¹ *See id.*

¹¹² *See id.*

Act to expand the critical habitat necessary for species recovery. The Act requires the Secretary to use the best scientific data available when designating critical habitat and developing recovery plans, but this requirement is almost exclusively ignored.¹¹³

The Ecological Society of America suggests the use of population viability analysis (“PVA”) when addressing quantitative issues involved with critical habitat designation. “The goal of PVA is to develop predictive measure of the relationship between the size of a population and its probability of extinction over a specified period of time.”¹¹⁴

PVA analysis usually combines data from field studies and simulation modeling of the possible impacts of various extinction factors.¹¹⁵ Viability can seldom be analyzed by focusing on a single area of habitat and the organisms that live in it.¹¹⁶ Most organisms live in a concentrated area of suitable habitat, but there is an exchange of individuals within a larger landscape.¹¹⁷ Because the overall population of species in various patches of habitat is linked by the movement of dispersing individuals, the fate of all populations is interconnected.¹¹⁸ The compilation of the species’ populations that are linked through migration is called a “metapopulation.”¹¹⁹ To ensure that a species will thrive in the long-term the entire metapopulation must receive the same protection under the Act. This involves designating unoccupied areas as well as occupied areas of critical habitat. Even if a species is not present in a certain patch of habitat it could eventually thrive there if it is afforded the same protections under the Act as the occupied areas.

¹¹³ *See id.* The current procedure used to develop recovery plans and designate critical habitat does not attempt to maximize utilization of modern science. *See id.*

¹¹⁴ Millen & Burdett, *supra* note 78, at 270.

¹¹⁵ *See* Carroll, *supra* note 88.

¹¹⁶ *See id.*

¹¹⁷ *See id.*

¹¹⁸ *See id.*

¹¹⁹ *See id.*

Metapopulations' long-term survival is strongly affected by the spatial and temporal distribution of suitable and unsuitable habitat patches.¹²⁰ Populations living in high quality habitats (also known as "source" habitats) tend to have greater birth rates than death rates.¹²¹ The excess individuals may migrate into lesser quality habitats ("sink" habitats) where birth rates tend to be less than death rates.¹²² Metapopulation viability relies on the existence and preservation of sufficient source habitats, but a large fraction of the individuals may live in sink habitats.¹²³ Recovery plans must identify source and sink habitats before determining what the critical habitat needs are for individual species.¹²⁴

The necessity of recovery plans was written into the Act because loss of habitat is by far the most significant cause of endangerment of species in the United States.¹²⁵ Habitats are lost to destruction, pollution, and conversion to other habitat types that are unsuitable for native species to live in.¹²⁶ Because of the great rate of habitat loss, critical habitat designations must include unoccupied areas.¹²⁷ As mentioned above, the Endangered Species Act has Earth Jurisprudential aspects because it was designed to protect species for their own sake. Furthermore, the Act clearly recognizes the need for preservation of the ecosystems and habitats upon which the listed

¹²⁰ *See id.*

¹²¹ *See Carroll, supra* note 88.

¹²² *See id.* Not all listed species are patchily distributed in a spatially structured mosaic. *See id.* "Some live in just a few continuous or in completely isolated habitats. Some have a 'core-satellite' structure in which one very large population (the core) determines the population in the small (satellite) populations." *Id.* Nonetheless, many species depend on source and sink habitats, so recovery plans, as well as plans for continued protection, must identify spatially distributed populations linked through migration and special protection of the most stable, high quality habitats. *See id.*

¹²³ *See id.*

¹²⁴ *See id.*

¹²⁵ *See id.*

¹²⁶ *See id.*

¹²⁷ *See Carroll, supra* note 88.

This is especially true in cases where the quality of critical habitat is dependent on land use in the surrounding area. . . . [T]he need for a larger scale of focus in the designation of critical habitat is most apparent for aquatic species. If the watershed that supplies river and lake ecosystems is degraded, the critical habitat needed by the endangered species may also be destroyed.

Id.

species depend. Species cannot recover and thrive if the habitats where they live are not afforded similar protections for the sake of the habitat itself. Critical habitat and unoccupied areas are essential to the success of recovery plans, and in most plans they are the most important elements for recovery.

One consequence of habitat loss is many species will be listed or considered candidate species due to the degradation of the same habitat. Managing recovery plans for multiple species within the same habitats will allow administrators of the plans to direct their attention to broader issues of habitat quality and quantity.¹²⁸ The Act should be utilized inclusively to provide preservation and protection to all species within a habitat and other natural elements as well. Everything, including the air, water, rocks, fish, birds, mammals, trees, and insects should all be treated as if they are endangered. The Act can, and should, be utilized in this way to protect the source and sink habitats and everything in between, so that every natural contributor to the greater habitat can fulfill its essential role and allow the goals of the Act to be realized.

As of 2003, approximately two hundred and fifty listed species lacked a long-term recovery plan.¹²⁹ Non-listed species are more likely to become threatened or endangered if their habitat is lost. These species would significantly benefit if they were located within the critical habitat of another species. By designating more critical habitat, including unoccupied areas, ecosystems will be increasingly protected and more species will benefit from a single species' designation. The habitat of nearby plants and animals will be conserved solely by preservation of the habitat of the one listed species.¹³⁰

These broader conservation goals can be achieved by implementing recovery plans and protection plans that include more habitats and added species for protection. This in turn will

¹²⁸ *See id.*

¹²⁹ Paulson, *supra* note 74, at 546.

¹³⁰ *Id.*

sustain the long-term success of all natural elements within that habitat. Habitat-based protection that combines the listing efforts for many species has the potential to eliminate unnecessary duplication of efforts.¹³¹ A proactive approach to recovery and protection plans would reduce the number of potential listed species within a particular habitat.¹³² Once a species is listed, all species within that habitat should be afforded the same protections as the listed species. These goals may be realized by protecting and recovering unoccupied areas (such as source and sink habitats) where these species live, lived, or could thrive if they live there in the future. By employing a habitat-based approach, the Endangered Species Act would not be needed as often to afford species protection. Furthermore, proactively indentifying habitats experiencing, or likely to experience, loss of species would allow federal agencies to implement preservation plans while more options are available than would be present after a species is listed or habitat is destroyed.

Conclusion

“Ecosystems are not closed systems; they are dependent on outside conditions.”¹³³ This is an important concept to grasp, and one which was recognized by the original drafters of the Act. Recovery plans and preservation plans must take into account all aspects of nature that affect and are affected by the loss of critical habitat. Everything in nature is interconnected and interdependent. All elements affect one another and humans have a responsibility to see to it that this interconnectedness is not lost through overconsumption and greed. “Every component of the Earth community, both living and nonliving, has three rights: the right to be, the right to habitat or a place to be, and the right to fulfill its role in the ever-renewing processes of the Earth

¹³¹ See Carroll, *supra* note 88.

¹³² See *id.*

¹³³ See *id.*

community.”¹³⁴ These rights cannot be realized and nature cannot flourish as it was intended if we do not help restore and preserve all habitats. Thomas Berry stated it best:

These rights as presented here are based on the intrinsic relations that the various components of Earth have to each other. The planet Earth is a single community bound together with interdependent relationships. No living being nourishes itself. Each component of the Earth community is immediately or mediately dependent on every other member of the community for the nourishment and assistance it needs for its own survival. This mutual nourishment, which includes the predator-prey relationship, is integral with the role that each component of the Earth has within the comprehensive community of existence.¹³⁵

The non-legal definition of habitat is “the place or environment where a plant or animal naturally or normally lives and grows.”¹³⁶ Accordingly, Earth itself is one large habitat that should be protected by our laws. To achieve such a lofty goal we must begin domestically by protecting the smaller habitats and ecosystems that our current laws allow us to protect. The ESA has the ability to become a truly “Wild” law without even changing its text. By utilizing the critical habitat provision, specifically the unoccupied areas clause, of the Endangered Species Act, we can begin to restore our planet to what it once was and should be.

¹³⁴ See BERRY, *supra* note 1, at 149.

¹³⁵ See *id.*

¹³⁶ See MERRIAM-WEBSTER’S COLLEGIATE DICTIONARY 559 (11th ed. 2008).