Protecting Our Environment in a Virtual Age: How Wildlife Webcams Could Strengthen Enforcement of the Endangered Species Act

by Erin J. Coburn

Erin J. Coburn is an attorney in private practice focusing on environmental and land use issues.

Summary

With the introduction of wildlife webcams, anyone with an Internet connection can view real-time, live-video feed capturing a variety of species, including endangered species, in their natural habitats from a remote location. The U.S. Supreme Court held in *Lujan v. Defenders of Wildlife* that a potential citizen plaintiff must have plans to physically visit the species in its natural habitat in order to satisfy the injury-in-fact requirement. As a result of the development of wildlife webcam technology, and based on the neurological processes that stimulate aesthetic enjoyment of an object, the distinction between physically visiting a species and viewing it in real time from a remote location for purposes of standing makes little sense. Citizens who engage in aesthetic enjoyment of wildlife remotely via wildlife webcam should be able to satisfy the injury-in-fact prong of constitutional standing and should be able to bring suit under the ESA to protect the species that they view.

"The very essence of civil liberty certainly consists in the right of every individual to claim the protection of the laws, whenever he receives an injury. One of the first duties of government is to afford that protection."[1]

Ever since visiting the San Diego Zoo on a family vacation as a child, Susie has had an infatuation with polar bears. Though she lives in South Florida, each day during her lunch break from work, she logs onto her computer to watch polar bears in their natural habitat thousands of miles away.[2] Watching the polar bears has become therapeutic for Susie, and each day, she finds herself more and more fascinated with them. While she would love to plan a trip to physically visit them in their natural habitat, right now, Susie cannot afford a vacation and has no plans to leave South Florida. But what if someone did something to harm the polar bears? Shouldn't Susie, who has a genuine aesthetic interest in the species, be able to protect them, and her own interests as well?

The Endangered Species Act (ESA) of 1973[3] provides citizens with the ability to sue to protect endangered species. However, in order to bring suit, a citizen must also be able to satisfy the elements of constitutional standing: injury-in-fact; causation; and redressability.[4] While the U.S. Supreme Court has recognized aesthetic interest in an endangered species as a cognizable interest for purposes of standing, the Court has also held that in order to protect such a species, a potential plaintiff must have visited the species in its natural habitat and must have concrete plans to do so again in the future.[5]

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1. Marbury v. Madison, 1 Cranch 137, 163 (1803). Justice Harry Blackmun cites this line to support his view that the majority is engaged in a "slash-and-burn expedition through the law of environmental standing" in his dissent in *Lujan v. Defenders of Wildlife*. 504 U.S. 555, 606, 22 ELR 20913 (1992) [hereinafter *Lujan II*].
2. To watch polar bears in their natural habitat, see National Geographic, *Polar Bear Cam*, http://animals.nationalgeographic.com/animals/polar-bear-cam/ (last visited Sept. 26, 2013). National Geographic, along with Explore.org, Polar Bear International, and Frontiers North, set up a live camera on the Tundra Buggy, which travels through Churchill, Manitoba, Canada. *Id.*
3. *See* 16 U.S.C. §§1531-1544, ELR Stat. ESA §§2-18 (§1540(g)(1) allowing "any person" to "commence a civil suit on his own behalf"). For an in-depth explanation of the citizen suit provision, see *infra* nn.27-31 and accompanying text.
4. *Lujan II*, 505 U.S. at 560-61.
5. *Id.* at 564-67; *see also* Martin A. McCrory, *Standing in the Ever-Changing Stream: The Clean Water Act, Article III Standing, and Post-Compliance Adjudication*, 20 Stan. Envtl. L.J. 73, 104 (2001) (stating that for environmental plaintiffs to establish standing, they must assert "when they last enjoyed nature and swear to the exact date when they would enjoy it again").

Advances in Internet technology are making our global society seemingly smaller and more interconnected than ever before, and humans are not the only ones who are impacted. When it comes to wildlife, never before have we lived in an age where so many species in so many places are accessible to Internet users. Wildlife webcams, like the polar bear cam that Susie watches on a daily basis, are being used to monitor animals in their natural habitats and to broadcast them over the Internet in real time. As the class of individuals with access to aesthetic enjoyment of wildlife increases, so does the class of individuals who could potentially be injured by the disappearance of wildlife due to extinction. This Article argues that, despite current environmental standing jurisprudence to the contrary, viewers of wildlife webcams should have standing to sue under the ESA to protect the species that they view. Susie should be able to protect the polar bears that are of such therapeutic value to her, despite the fact that she cannot visit them in their natural habitat.

Part I provides an overview of the ESA, highlighting the important provisions and the general purpose of the Act. Part II recounts the jurisprudential history of constitutional standing doctrine and describes the doctrine in its current state. Part III applies constitutional standing to the ESA and discusses relevant case law. Part IV discusses the development of wildlife webcams and how viewers are utilizing the technology. Part V argues that, despite the holding in *Lujan II*, wildlife webcam viewers are adequately injured by the loss of the species that they view to establish injury-in-fact sufficient for constitutional standing. Based on the neurological processes that stimulate aesthetic enjoyment, the manner in which lower courts have interpreted the requirements of *Lujan II*, and the public policy that both the ESA and constitutional standing doctrine were designed to promote, a distinction in the law for purposes of standing under the ESA between visiting a species in person and viewing it remotely in real time makes little sense. Part VI discusses possible challenges to this central thesis, mainly that it will open up the floodgates for environmental plaintiffs. Part VII provides a conclusion.

I. ESA

In 1973, the U.S. Congress passed the ESA "to provide for conservation, protection, and propagation of endangered species of fish and wildlife."[6] This legislation flowed from congressional findings that economic growth and development in the United States was occurring without any efforts toward conservation, and that as a result, species of fish, wildlife, and plants were rapidly disappearing.[7] These species are of multi-faceted value to society, with many of them performing biological services vital to human existence.[8] In an Environmental Message delivered on February 8, 1972, President Richard M. Nixon indicated that existing law did not provide the management tools necessary to act preemptively in saving endangered species.[9] Congress determined that in order for the new legislation to be effective, four requirements must be met: (1) the Secretary must have sufficient discretion in listing and delisting endangered and threatened species; (2) protection for endangered and threatened animals must be provided throughout the nation; (3) statutory restrictions on the authorization of monies for habitat acquisition must be lifted; (4) state agencies must develop efficient management plans.[10] Accordingly, the Act was designed to meet these four requirements.[11]

The ESA provides a means for conservation of individual endangered and threatened species, as well as for conservation of the ecosystems on which they depend.[12] "Conservation," as defined by the Act, is "the use of all methods and procedures which are necessary to bring any endangered species or threatened species to the point at which the measures provided pursuant to this chapter are no longer necessary."[13] The Secretary of Commerce and the Secretary of the Interior are charged with listing endangered and threatened species based on a set of factors and using the best scientific and commercial data available.[14] "Endangered species" are those "in danger of extinction throughout all or a significant portion of its range"[15] and "threatened species" are simply those at likely risk of becoming endangered in the foreseeable future.[16] The creation of these two levels of protection allows the regulatory mechanisms provided for by the ESA to be tailored to the individual needs of each species, and also gives the Secretary the ability to forecast and make predictions based on population trends so that a species can be regulated before it becomes truly endangered.[17] The two-tiered listing sys-

6. S. Rep. No. 93-307 at 1 (July 6, 1973) (available in WL at S. Rep. No. 93-307). Congress intended for its species conservation goal to be accomplished through federal action and through the establishment of state conservation programs. *Id.*
7. ESA §1531(a)(1). Congress also found that many other species of fish, wildlife, and plants were depleted to the point of being threatened with extinction. *Id.* at §1531(a)(2).
8. S. Rep. No. 93-307 at 1. Congress found that fish, wildlife, and plant species hold aesthetic, ecological, educational, historical, recreational, and scientific value. ESA §1531(a)(3). Additionally, biological diversity is necessary and holds special scientific value. S. Rep. No. 93-307 at 1.
9. S. Rep. No. 93-307 at 2.
10. S. Rep. No. 93-307 at 3. These requirements were deduced from testimony given at various hearings where the legislation was discussed. *Id.*
11. *Id.*
12. ESA §1531(b). This is reflected in the concept of "critical habitat," defined in §1532(5) as "the specific areas within the geographical area occupied by the species . . . on which are found those physical or biological features (I) essential to the conservation of the species and (II) which may require special management of protection." *Id.* at §1532(5).
13. *Id.* at §1523(3). Conservation includes "activities associated with scientific resources management such as research, census, law enforcement, habitat acquisition and maintenance, propagation, live trapping, and transplantation." *Id.*
14. *Id.* at §1533. Factors to be considered in listing an endangered or threatened species include: "(A) the present or threatened destruction, modification, or curtailment or its habitat or range; (B) overutilization for commercial, scientific, or educational purposes; (C) disease or predation; (D) the inadequacy of existing regulatory mechanisms; or (E) other natural or manmade factors effecting its continued existence." *Id.*
15. *Id.* at §1523(6).
16. *Id.* at §1523(20). Threatened species can be likely to become extinct "throughout all or a significant part of [their] range." *Id.*
17. S. Rep. No. 93-307 at 3.

tem speaks directly to the concerns expressed by President Nixon in his Environmental Message, as well as to the first of the four requirements set forth by Congress in determining how to make the ESA effective.

Once a species is listed as endangered or threatened, it enjoys certain protections from both government and private action. Congress directed that all federal departments and agencies endeavor to conserve endangered and threatened species and to use their authorities in a manner consistent with this goal.[18] Based on this policy, all federal agencies must consult with the Secretary of the Interior or the Secretary of Commerce in actions they authorize, fund, or carry out to ensure that such action is "not likely to jeopardize the continued existence of any endangered species or threatened species."[19] They must also ensure that the action will not cause destruction or modification of the critical habitat of the endangered or threatened species.[20] After consultation, the Secretary will issue a Biological Opinion detailing his judgment as to how the agency action affects the species, a basis for this judgment, and reasonable alternatives that can be taken to avoid jeopardizing the continued livelihood of the species.[21]

In addition to the restrictions placed on federal agencies, the Act also mandates that "any person subject to the jurisdiction of the United States" is prohibited from taking any endangered species within the United States without a permit from the Secretary.[22] The act defines "take" broadly so as to include "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in any such conduct."[23] A take does not have to be intentional or direct and can include actions that significantly modify or destroy an endangered species' habitat where the modification or destruction causes actual death or injury.[24] Although taking an endangered species is prohibited by the Act, the Secretary can issue permits for incidental takes where a conservation plan is submitted, and the take will not reduce the likelihood that the species will survive and recover in the wild.[25]

While the Act provides mechanisms for the Attorney General to pursue both civil and criminal penalties for violations of its provisions,[26] enforcement is accomplished in large part through citizen suits. The Act permits that "any person may commence a civil suit on his own behalf."[27] Allowing citizens to bring suit to enforce the Act furthers Congress' requirement for effective legislation that protection for endangered and threatened species be provided throughout the nation. Citizens can bring suit to enjoin violations of the Act, to compel the Secretary to apply the prohibitions on taking, or against the Secretary where there is an alleged failure to perform a nondiscretionary duty or act.[28] Sixty days prior to bringing suit, a citizen must give notice of the violation to the Secretary and the alleged violator, in order to provide an opportunity for resolution of the violation.[29] A suit cannot be brought by a citizen if the Secretary has brought an action to impose a penalty or if the Attorney General has "commenced and is diligently prosecuting" an action to redress the violation.[30] Even though the citizen suit provision of the Act permits "any person"[31] to enforce its provisions, in order to bring suit, an individual or organization must have constitutional standing.

II. Constitutional Standing

Constitutional standing focuses on whether the plaintiff is the proper party to bring a legal action.[32] The doctrine does not appear in the U.S. Constitution, but rather is read in as a part of Article III's limitation of the judicial power to the resolution of cases and controversies.[33] The case or

18. ESA §1531(c)(1).
19. *Id.* at §1536(a)(2). Agencies are compelled to use the best available scientific and commercial data in fulfilling this requirement. *Id.*
20. *Id.* The Secretary, in consultation with affected states where appropriate, determines the critical habitat of an endangered or threatened species. *Id.*
21. *Id.* at §1536(b)(3)(A). The Secretary is only required to provide a "summary of the information on which the opinion is based." *Id.*
22. *Id.* at §1538(a)(1)(B). The Act prohibits importation and exportation of any endangered species into or from the United States. *Id.* at §1538(a)(1)(A). It also makes unlawful the possession, transportation, or sale of any such species. *Id.* at §1538(a)(1)(D)-(F).
23. *Id.* at §1523(19).
24. 50 C.F.R. §17.3 (20011). Actual injury to the endangered species includes impairment of essential behavioral patterns, such as breeding, feeding, and sheltering. *Id.*
25. ESA §1539(a). In order to obtain an incidental take permit, the applicant must submit a conservation plan specifying the likely impact of the take, the steps the applicant will complete to mitigate the impact and how those steps will be funded, what alternatives the applicant considered and reasons why those alternatives were not chosen, and any other measures the Secretary requires. *Id.* at §1539(a)(2)(A)(i)-(iv). Permit applications must undergo public comment before a final decision is issued. *Id.* at §1539(a)(2)(B).
26. *Id.* at §1540(a)-(b). The Secretary can assess a civil penalty of no more than $25,000 per violation against any person for a knowing violation of the Act or of a regulation promulgated pursuant to the Act. *Id.* at §1540(a)(1).
27. *Id.* at §1540(g)(1). "Any person" is defined as any "individual, corporation, partnership, trust, association, or any other private entity." *Id.* at §1532(13). In *Bennett v. Spear*, Justice Antonin Scalia called the "any person" language an "authorization of remarkable breadth." 520 U.S. 154, 164, 27 ELR 20824 (1997).
28. *Id.* at §1540(g)(1)(A)-(C). The various violations of the Act that can be enjoined using the citizen suit provision are listed in 50 C.F.R. §402.01 (2011).
29. ESA §1540(g)(2)(A)(i). The 60-day period is waived in cases of "emergency posing a significant risk to the well-being of any species of fish or wildlife or plants." *Id.* at §1504(g)(2)(C). In *Hallstrom v. Tillamook County*, the Court found that the 60-day notice requirement of the Resource Conservation and Recovery Act (RCRA), 42 U.S.C. §§6901-6992k, ELR Stat. RCRA §§1001-11011, was a "mandatory condition[ ] precedent," and that failure to comply would result in dismissal. 493 U.S. 20, 31, 20 ELR 20193 (1989). This holding has similarly been applied to ESA cases. *See Save the Yaak Comm. v. Block*, 840 F.2d 714, 721, 18 ELR 20608 (9th Cir. 1988) (applying the holding from *Hallstrom* in the ESA context).
30. *Id.* at §1540(g)(2)(A)(ii)-(iii). This diligent prosecution bar to citizen suit claims has not garnered significant attention, as it has rarely been an issue in ESA cases. Patrick Parenteau, *Citizen Suits Under the Endangered Species Act: Survival of the Fittest*, 10 Widener L. Rev. 321, 327 (2004).
31. ESA §1540(g)(1).
32. Charles A. Shanor, American Constitutional Law: Structure and Reconstruction 88 (4th ed., Thomson Reuters 2009).
33. Charles H. Koch Jr. et al., Administrative Law: Cases and Materials 488 (6th ed., LEXIS/NEXIS 2010). Article III, §2 of the Constitution provides:

> The judicial Power shall extend to all Cases, in Law and Equity, arising under this Constitution, the Laws of the United States, and Treaties made, or which shall be made, under their Authority; to all Cases affecting Ambassadors, other public Ministers and Consuls; to all Cases of admiralty and maritime Jurisdiction; to Controversies to which the United States shall be a Party; to Controversies

controversy language present in Article III restricts jurisdiction of the federal courts as a function of the separation of powers.[34] The doctrine keeps in check the number of cases that can be heard in federal court, and separates out those that would be better dealt with through legislative or executive action.[35]

A. *History of the Doctrine*

Although standing may have entered our legal system as early as 1921,[36] it appeared for the first time as an explicit means of sorting which claims fall within the federal court's Article III power in the 1939 case of *Coleman v. Miller*.[37] Early on, the types of claims that fell within the federal court's power under Article III were very limited.[38] Typically, standing was only recognized when the right adjudicated was "closely related to a narrow group of common law injuries: contracts, torts, and property."[39] During the New Deal era of the 1930s and 1940s, the Court began to move away from this private law model, which had only allowed adjudication of individual, common-law rights.[40] The facilitation of President Franklin D. Roosevelt's new reforms required that the court grant standing to administrative agencies, thereby expanding the class of potential plaintiffs with the right to sue.[41] Subsequently, in 1946, Congress passed the Administrative Procedure Act, which in part allowed citizens to sue those same agencies created by New Deal legislation.[42]

The doctrine of standing was further expanded during the Civil Rights era in an attempt to grant citizens the ability to protect themselves against their government.[43] In the 1968 case of *Flast v. Cohen*,[44] the Court granted standing to a taxpayer to challenge federal funding of religious schools.[45] The Court stated that the central issue in deciding if plaintiffs have standing is resolved if the case can be presented in an adversarial context.[46] The Court continued to liberalize the old private law model when in 1972 it declared in *Sierra Club v. Morton*[47] that although a plaintiff must show some injury to have standing, an economic injury is not necessary.[48] The Court recognized as sufficient the recreational and aesthetic injury that the Sierra Club would likely suffer.[49]

Perhaps, standing reached the peak of its breadth in 1973, in *United States v. Students Challenging Regulatory Procedures (SCRAP)*.[50] In *SCRAP*, the Court recognized standing for a student group seeking to challenge new freight rates on the basis that the rates would make recycling economically unattractive, which would in turn harm recreational and aesthetic interests by resulting in more trash discarded in areas used by its members.[51] *SCRAP* created an era where personal harms were no longer necessary, and general grievances against government and corporate action were adequate to support Article III standing.[52] However, this era would not last; beginning in the late 1980s, Justice Antonin Scalia led the Supreme

between two or more States; between a State and Citizens of another State; between Citizens of different States; between Citizens of the same State claiming Lands under Grants of different States, and between a State, or the Citizens thereof, and foreign States, Citizens or Subjects.

U.S. Const. art. III, §2.

34. *See Marbury*, 1 Cranch at 173-76 (holding that the legislature cannot extend the judiciary's original jurisdiction beyond what is enumerated in Article III). The Court in *Marbury* found unconstitutional a provision of the Judiciary Act of 1789 allowing the judiciary to exercise original jurisdiction over writs of mandamus. *Id.* at 173, 180. The provision amounted to the legislature granting the court original jurisdiction beyond the limitations set forth in Article III. *Id.* at 174.
35. Heather Elliott, *The Functions of Standing*, 61 Stan. L. Rev. 459, 459 (2008) (citing "avoiding questions better answered by the political branches" as one of the "separation-of-powers functions" of constitutional standing).
36. Daniel E. Ho & Erica L. Gross, *Did Liberal Justices Invent the Standing Doctrine? An Empirical Study of the Evolution of Standing, 1921-2006*, 62 Stan. L. Rev. 591, 621 (2010). Two cases, *Fairchild v. Hughes* (1922) and *Frothingham v. Mellon* (1923), are often credited as being the starting point for standing in our legal system. *Id.*; Richard J. Pierce Jr., *Is Standing Law or Politics?*, 77 N.C. L. Rev. 1741, 1768 (1999); Raoul Burger, *Standing to Sue in Public Actions: Is It a Constitutional Requirement?*, 78 Yale L.J. 816, 818-19 (1969).
37. *See* 307 U.S. 433, 464-68 (1934) (Frankfurter, J., concurring) (declaring that the Court's denial of standing was routed in the text of Article III). Justice Felix Frankfurter stated that an issue can only be adjudicated where there is a claimant before the Court with an "individualized stake" in the dispute. *Id.* at 467.
38. *See* Laveta Casdorph, *The Constitution and Reconstitution of the Standing Doctrine*, 30 St. Mary's L.J. 471, 488 (1999) (discussing the restriction of standing guidelines to those of the private law model). Plaintiffs were denied standing absent a "legal right," which generally arose only out of property, contract, or tort. *Id.*
39. McCrory, *supra* note 5, at 87.
40. Casdorph, *supra* note 38, at 488-89. It was at this point that the previous unanimity of the Court on standing issues began to collapse, and a divide between liberal and conservative Justices over the purpose and function of standing began to form. Ho & Gross, *supra* note 36, at 596.
41. McCrory, *supra* note 5, at 87. Some scholars have suggested that standing was created by the progressives of the Court for the purpose of insulating administrative agencies from judicial review. *See generally* Ho & Ross, *supra* note 36 (detailing and analyzing the merits of the insulation theory by means of an empirical study).
42. Administrative Procedure Act, 5 U.S.C. §702 (2006). The Act grants the "right of review" to "a person suffering legal wrong because of agency action, or adversely affected or aggrieved by agency action within the meaning of a relevant statute." *Id.* The Act also allows the United States to be named as a defendant and to have a judgment entered against it, thereby overcoming immunity granted by the Eleventh Amendment. *Id.*; U.S. Const. amend. XI.
43. Casdorph, *supra* note 38, at 490. A shift in ideological values led both the public and the courts to believe that government agencies could not be trusted to adequately protect the public interest. *Id.*
44. 392 U.S. 83 (1968).
45. *See* 392 U.S. 83, 103 (1968) (holding that taxpayers had established a "logical link between that status and the type of legislation enactment attacked" and "a nexus between that status and the precise nature of the constitutional infringement alleged," and therefore had standing).
46. *Id.* at 105-06.
47. 405 U.S. 727, 2 ELR 20192 (1972).
48. 405 U.S. at 733-34, 738.
49. *Id.* at 734-35. The Court found that the Sierra Club would likely suffer an injury to its recreational and aesthetic interests as a result of environmental impacts of a proposed ski resort project located in a quasi-wilderness area. *Id.* The proposed project was a $35-million complex that would accommodate 14,000 visitors each day. *Id.* at 729. The Sierra Club sued as a "membership corporation with 'a special interest in the conservation and the sound maintenance of the national parks, game refuges[,] and forests of the country.'" *Id.* at 730.
50. 412 U.S. 669, 3 ELR 20536 (1973).
51. *Id.* at 685. The new freight rates made it cheaper to ship newly mined metal than to ship scrap metal, thereby creating a disincentive to use recycled materials. *Id.* at 675-76.
52. Michael S. Greve, *The Private Enforcement of Environmental Law*, 65 Tul. L. Rev. 339, 340 (1990).

Court in reigning in liberalized standing, arguing that it was an unconstitutional expansion of judicial power.[53]

B. *Current State of the Doctrine*

As a result of a division amongst the Justices on the purpose of the doctrine, the law of constitutional standing is "an incoherent, politicized mess."[54] Beginning with *Lujan v. National Wildlife Federation*,[55] the Court started to dismantle the liberalized standing exemplified in *SCRAP*. In *Lujan I*, the National Wildlife Federation (NWF) sued the Secretary of the Interior challenging the return of government lands to the public domain, arguing that it would open the lands for mining and destroy their natural beauty.[56] The NWF argued that the actions of the Secretary violated both the Federal Land Policy and Management Act (FLPMA)[57] and the National Environmental Policy Act (NEPA).[58] The Court denied standing, stating that NWF's alleged injury amounted to a "generalized allegation concerning the use and enjoyment of unspecified portions of an immense tract of land"[59] and that such broad programmatic challenges would not be accepted.[60] While the Court did not overrule *SCRAP*, it did explicitly note that *Lujan I* was procedurally distinct, and that the expansive and liberalized view of standing exemplified in *SCRAP* had "never since been emulated by this Court."[61]

After *Lujan I*, environmental citizen suits required a showing of a specific locality where the alleged harm occurred, proximity to that harm, and use of that locality in order to establish standing under Article III.[62] Yet, the Court would restrict standing doctrine even further just two years later in the case of *Lujan v. Defenders of Wildlife* (*Lujan II).* In *Lujan II*, an environmental group, Defenders of Wildlife, sued to challenge a regulation promulgated pursuant to the ESA, which would limit the consultation requirement to agency action taken within the United States and on the high seas.[63] Defenders of Wildlife submitted affidavits of its members stating that they had visited and observed endangered species in foreign countries at proposed project construction sites and that they hoped to be able to do so again in the future.[64] They alleged that the new regulation would injure their aesthetic interests in observing the endangered species in the future.[65] While the Court recognized that "the desire to . . . observe an animal species, even for purely aesthetic purposes, is undeniably a cognizable interest for purposes of standing,"[66] it denied standing because plaintiffs failed to show that their injury was imminent.[67] Plaintiffs had no concrete plans to visit the sites where they hoped to see the endangered species in the immediate future.[68] The Court similarly rejected both the "ecosystem nexus" and "animal nexus" theories presented by plaintiff.[69] After *Lujan II*, it became clear that in order to have standing, plaintiffs must have both a temporal and geographic relationship to the alleged harm.[70] For environmental plaintiffs, this means describing "when they last enjoyed nature and swear[ing] to the exact date when they would enjoy it again."[71]

More importantly, *Lujan II* gave rise to the elements that are presently used to answer the standing question. In order to have constitutional standing, a plaintiff must establish injury-in-fact, causation, and redressability.[72] The injury-in-fact must be "an invasion of a legally protected interest which is (a) concrete and particularized, and (b) actual or imminent, not conjectural or hypothetical."[73] In order to establish causation, the injury must be fairly traceable to the defendant's action rather than the result of an independent third-party action.[74] It must be shown that there is a substantial likelihood that the defendant caused the harm.[75] Redressability requires

53. McCrory, *supra* note 5, at 96.
54. Koch et al., *supra* note 33, at 488.
55. 497 U.S. 871, 20 ELR 20962 (1990) [hereinafter *Lujan I*].
56. 497 U.S. 879.
57. 43 U.S.C. §§1701-1785, ELR Stat. FLPMA §§102-603. *Id.* FLPMA governs the management of public lands. For an overview, see U.S. Dept. of the Int., Bureau of Land Mgt. and Office of the Sol., *The Federal Land Policy and Management Act of 1976*, as amended (Oct. 2001), *available at* http://www.blm.gov/flpma/FLPMA.pdf.
58. 42 U.S.C. §§4321-4370(h), ELR Stat. NEPA §§2-209. NEPA imposes procedural requirements on federal agencies to consider the environmental impacts of their actions. 42 U.S.C. §4332 (2006).
59. McCrory, *supra* note 5, at 100.
60. *Lujan I*, 497 U.S. at 888-89.
61. *Id.* at 889. The Court in *SCRAP* dealt with a Rule 12(b) motion to dismiss, while *Lujan I* involved a Rule 56 motion, thereby making it procedurally distinct. *Id.*
62. McCrory, *supra* note 5, at 101.
63. The consultation requirement of the ESA requires federal agencies to consult with the Secretary to ensure that their actions do not jeopardize the survival of an endangered species. ESA §1536(a)(2).
64. *Lujan II*, 505 U.S. at 563. Defenders of Wildlife submitted affidavits of Joyce Kelly and Amy Skilbred. *Id.* Ms. Kelly stated that she had visited the Nile crocodile in Egypt and hoped to return to observe it again in the future, and alleged that the American role in the Aswan High Dam Project would harm her ability to do so. *Id.* Ms. Skilbred stated that she traveled to Sri Lanka and observed the habitat of the Asian elephant and intended to go back in the future to spot both the elephant and the leopard, and alleged that the American-funded Mahaweli Project would harm her ability to do so. *Id.*
65. *Id.*
66. *Id.* at 562-63.
67. *Id.* at 563-64. "'Past exposure to illegal conduct does not in itself show a present case or controversy regarding injunctive relief . . . if unaccompanied by any continuing, present adverse effects.'" *Id.* at 564 (quoting O'Shea v. Littleton, 414 U.S. 488, 495-96 (1974)).
68. *Id.* at 563-64. Ms. Skilbred did not have concrete plans to return to Sri Lanka since there was a civil war going on at the time of the lawsuit. *Id.* at 564.
69. *Id.* at 565-67. The ecosystem nexus theory presents the idea that "any person who uses *any part* of a 'contiguous ecosystem' adversely affected by a funded activity has standing even if the activity is located a great distance away." *Id.* at 565. The animal nexus theory gives standing to anyone anywhere with an interest in studying or observing endangered animals. *Id.* at 566.
70. *Id.* at 564-67; *see also* McCrory, *supra* note 5, at 104 (discussing the geographic and temporal prongs of the standing analysis).
71. McCrory, *supra* note 5, at 104.
72. *Lujan II*, 504 U.S. at 560-61.
73. *Id.* at 560 (quoting Los Angeles v. Lyons, 461 U.S. 95, 102 (1983)) (internal quotations omitted).
74. *Id.* at 560-61 (quoting Simon v. E. Ky. Welfare Rights Org., 426 U.S. 26, 41-42 (1976)).
75. Friends of the Earth v. Gaston Copper Recycling Corp., 179 F.3d 107, 115, 29 ELR 21213 (4th Cir. 1999) (holding that the "fairly traceable" requirement does not require the plaintiff to show causation with scientific certainty). In Clean Water Act (CWA, 33 U.S.C. §§1251-1387, ELR Stat. FWPCA §§101-607) cases, "substantial likelihood" means that plaintiff must show that defendant discharged a pollutant in violation of its permit,

that it be likely, not merely speculative, that a favorable decision from the court will redress the plaintiff's injury.[76] For example, in *Lujan II*, plaintiffs' injuries were not redressable because a favorable decision from the Court, merely requiring consultation with the Secretary before passing the complained of regulation, would only speculatively redress plaintiff's injured interest in viewing the endangered species.[77] The agency could still choose to pass its regulation, despite consultation, thereby failing to alleviate injury to the plaintiffs.

The elements formally presented in *Lujan II* were the culmination of many years of decisions attempting to determine exactly which limits the case or controversy requirement imposed on the power of the federal courts.[78] In *Warth v. Seldin*,[79] the Court stated that "[i]n essence the question of standing is whether the litigant is entitled to have the court decide the merits of the dispute or of the particular issues," and that the concern was "about the proper—and properly limited—role of the courts in a democratic society."[80] Thus, standing was designed to embrace several restrictions that the federal courts placed upon themselves in order to maintain separation of powers, such as: "the general prohibition on a litigant's raising another person's legal rights, [and] the rule barring adjudication of generalized grievances more appropriately addressed in the representative branches."[81] At its core, this means that in order to maintain separation of powers, a federal court can exercise jurisdiction over cases in which the plaintiff alleges some actual or threatened injury to his personal interests that is traceable to the defendant's conduct and likely to be redressed by a favorable decision from the court.[82] According to the Court in *Allen v. Wright*,[83] the components of standing are "concededly not susceptible of precise definition."[84] The Court cautioned against defining the elements of standing for fear of making their application a "mechanical exercise" when in reality it requires "careful judicial examination of a complaint's allegations to ascertain whether the particular plaintiff is entitled to an adjudication of the particular claims asserted."[85] *Lujan II* brings these cases together to boldly and definitively state the elements of standing that must be met by a potential plaintiff in order to obtain access to the adjudicatory process.[86]

Lujan II incorporated another important standing concept: associational standing. Defenders of Wildlife brought suit on behalf of its members, Ms. Joyce Kelly and Ms. Amy Skilbred.[87] This exhibits the doctrine of associational standing, namely that an organization can bring suit on behalf of its members. Though not directly discussed by the Court in *Lujan II*, associational standing involves the constitutional standing analysis with a slight twist. In order to bring suit on behalf of its members, an organization must satisfy three elements.[88] First, its members must have standing to sue in their own right.[89] Second, the interests that the organization seeks to protect by bringing suit must be germane to the organization's purpose.[90] Third, neither the claim asserted nor the relief requested by the organization can require the participation of the individual members of the organization in the lawsuit.[91]

Going forward after *Lujan II*, courts have struggled with what to make of the three-pronged test for constitutional standing, particularly in the face of harm to aesthetic interests. In *Friends of the Earth v. Laidlaw*,[92] plaintiff environmental organization sued the defendant on behalf of its members for violating a national pollutant discharge elimination system (NPDES) permit that allowed it to discharge a specified amount of mercury into the North Tyger River.[93] To establish injury-in-fact, Friends of the Earth submitted affidavits from its members stating that

that the pollutant was discharged into a waterway in which plaintiffs have an interest that is or may be adversely affected, and that the pollutant that was discharged is known to cause or contribute to the type of injury the plaintiff alleges. *Id.*

76. *Lujan II*, 504 U.S. at 561 (quoting *Simon*, 426 U.S. at 38, 43).
77. *Id.* at 571. For an explanation of the consultation requirement, see *supra* Part I.
78. *E.g.*, Allen v. Wright, 468 U.S. 737 (1984); Warth v. Seldin, 422 U.S. 490 (1975); Valley Forge Christian College v. Americans United for Separation of Church and State, Inc., 454 U.S. 464 (1982).
79. 422 U.S. 490 (1975).
80. *Id.* at 498. *Warth* dealt with a lawsuit alleging that zoning and ordinances of the town of Penfield, New York, effectively excluded low-income individuals from living in the town. *Id.* at 493. The Court denied standing based on the fact that the plaintiffs had not themselves been personally excluded from residing in the town, but rather merely shared characteristics with a class of persons who had historically been denied access. *Id.* at 502.
81. Allen v. Wright, 468 U.S. at 751. This case involved a challenge alleging that the Internal Revenue Service (IRS) was not fulfilling "its obligation to deny tax-exempt status to racially discriminatory private schools," and that the result was interference with the opportunity for black children to receive an education from a desegregated public institution. *Id.* at 739-40. The Court found these injuries to be insufficient to confer standing because none of the plaintiffs were personally denied equal treatment as a result of the wrongful conduct of the IRS, and the right to have the IRS act in accordance with the law absent a personal injury was insufficient. *Id.* at 754-55.
82. *Id.* at 751; Gladstone Realtors v. Village, 441 U.S. 91, 99 (1979); *Simon*, 426 U.S. at 38. This "core component [is] derived directly from the Constitution." Allen v. Wright, 468 U.S. at 751.
83. 468 U.S. 737 (1984).
84. *Id.* at 751. Before *Lujan II*, various different terms were used to describe the restrictions placed on federal judicial power, including: "distinct and palpable," and "not abstract or conjectural or hypothetical." *Id.* (quoting *Warth*, 422 U.S. at 501; *Los Angeles*, 461 U.S. at 95; *O'Shea*, 414 U.S. at 494) (internal quotations omitted).
85. *Id.* The Court felt that the lack of definitions for the elements of standing was acceptable because the extensive body of case law on the topic provided sufficient direction so as to hardly leave the courts "at sea in applying the law of standing." *Id.*
86. For an explanation of the elements of constitutional standing as set forth in *Lujan II*, see *supra* note 75 and accompanying text.
87. *See id.* at 563 (introducing the affidavits of Ms. Kelly and Ms. Skilbred to establish injury to their individual interests).
88. Hunt v. Wash. Apple Advert. Comm'n, 432 U.S. 333, 343 (1977).
89. *Id.* "Standing to sue in their own right" essentially means that an individual member of the organization must be able to satisfy injury-in-fact, causation, and redressability.
90. *Id.* Thus, environmental groups are typically able to sue on behalf of their members under environmental statutes' citizen suit provisions.
91. *Id.* For example, a suit for money damages would require the participation of the individual member who was allegedly injured by the defendant's conduct.
92. 528 U.S. 167, 30 ELR 20246 (2000).
93. 528 U.S. at 177. Under the CWA, NPDES permits are required for the discharge of any pollutant into the navigable waters of the United States. 33 U.S.C. §1342(a)(1).

they had used the North Tyger River in the past and that if the pollution were stopped, they would use it again in the future.[94] Though plaintiff's members had no concrete plans to use the river in the future, statements that they would use the river if the pollution stopped did not amount to the "some day intentions" of the plaintiffs in *Lujan II*.[95] The Court found that the plaintiff's members' injury was sufficiently concrete and imminent to establish constitutional standing.[96] With this decision, it appears as though the Court has relaxed the specificity required to satisfy the temporal requirement of injury-in-fact—that the injury be actual or imminent.[97]

With its decision in *Ecological Rights Foundation v. Pacific Lumber Company*,[98] the U.S. Court of Appeals for the Ninth Circuit further whittled away at the strict injury-in-fact requirement presented in *Lujan II*. In *Ecological Rights Foundation*,[99] environmental groups brought action against a logging company for violations of the Clean Water Act (CWA).[100] The court interpreted the Supreme Court's holding in *Laidlaw* as saying that injury-in-fact is established in environmental cases if an individual (or organization on behalf of its members) adequately shows that she has an aesthetic or recreational interest in a particular place, animal, or plant species, and that the interest is impaired by defendant's conduct. According to the Ninth Circuit:

> Under Laidlaw, then, an individual can establish "injury in fact" by showing a connection to the area of concern sufficient to make credible the contention that the person's future life will be less enjoyable—that he or she really has or will suffer in his or her degree of aesthetic or recreational satisfaction—if the area in question remains or becomes environmentally degraded. Factors of residential contiguity and frequency of use may certainly be relevant to that determination, but are not to be evaluated in a one-size-fits-all, mechanistic manner.[101]

This analysis seems to suggest that while both temporal and geographic relationships to the harm are factors to consider, neither is dispositive alone.[102] Contrary to the holding in *Lujan II*, the plaintiff did not need concrete plans to visit and use the injured site again in the future.

III. Constitutional Standing Under the ESA

The citizen suit provision of the ESA allows "any person" to bring a civil suit on his own behalf to enjoin violations of the ESA, to compel the Secretary to apply the prohibitions set forth in the ESA, or against the Secretary where there is an alleged failure to perform a nondiscretionary duty.[103] Although *Lujan II* is still the governing precedent for the issue of application of constitutional standing to this citizen suit provision of the ESA, recent case law interpreting the decision in *Lujan II* has allowed for some flexibility in fulfilling the required elements. Under *Lujan II*, to show injury-in-fact, plaintiffs are required to have an aesthetic interest in observing an endangered species and have concrete plans to visit that species in the near future.[104] The plaintiff must have both a temporal and geographic connection to the species.[105]

In *Coho Salmon v. Pacific Lumber Company*,[106] environmental groups brought suit under the ESA in the Northern District of California to enjoin a logging company's timber harvesting, alleging that it resulted in the "take" of coho salmon.[107] In support of their claim, plaintiffs submitted affidavits of their members establishing that they were closely connected to and derived enjoyment from the watersheds that were affected by the timber harvesting, which in turn affected the coho salmon.[108] The members stated that they frequently hiked and spent time in the watersheds for the purpose of observing and enjoying coho salmon in the wild.[109] In response, the defendant argued that plaintiffs could not have standing under *Lujan II* since the logging operation was conducted on private lands, which the plaintiffs could not have access to, thereby making it impossible for them to visit the area where the alleged harm occurred.[110] The court held that even though the members could not use the land in question because it was private property, plaintiffs had standing to sue since they had enjoyed observing the salmon in the streams and rivers that flowed through or were adjacent to the boundaries of the land in question.[111] With its holding, the court weakened the strict geographic nexus required under *Lujan II*. Visiting and observing the watershed surrounding the area

94. *Laidlaw*, 528 U.S. at 182-83.
95. *Id.*; *see Lujan II*, 504 U.S. at 564 (discussing the inadequacy of "some day intentions" in establishing injury in fact).
96. *Laidlaw*, 504 U.S. at 182-83. The Court also discussed the idea that the type of harm that must be shown is harm to the plaintiff, not harm to the environment. *Id.* at 181.
97. McCrory, *supra* note 5, at 112 (discussing that the temporal nexus in *Laidlaw* was equally as absent as in *Lujan II*, where plaintiffs' injury was not sufficiently imminent to establish constitutional standing).
98. 230 F.3d 1141, 31 ELR 20246 (9th Cir. 2000).
99. 230 F.3d at 1144.
100. 33 U.S.C. §§1251-1387, ELR Stat. FWPCA §§101-607.
101. *Id.* at 1149. This holding was followed by the U.S. District Court for the District of Oregon in *Defenders of Wildlife v. Sec'y, U.S. Dep't of the Int.*, 354 F. Supp. 1156, 1163 (D. Or. 2005).
102. "The 'injury in fact' requirement in environmental cases is not, however, reducible to inflexible, judicially mandated time or distance guidelines, as *Laidlaw* makes clear." *Id.* at 1148.
103. ESA §1540(g).
104. McCrory, *supra* note 5, at 104.
105. *Lujan II*, 504 U.S. at 564-67; *see* McCrory, *supra* note 5, at 104 (providing an analysis of the geographic and temporal elements of standing).
106. 61 F. Supp. 2d 1001 (N.D. Cal. 1999).
107. 61 F. Supp. 2d at 1004. Plaintiffs alleged that the logging operation was causing sediment and silt to deposit in rivers and creeks where coho salmon reproduce, thereby degrading their habitat and interrupting their reproduction. *Id.* at 1005.
108. *Id.* at 1011-12.
109. *Id.* at 1012. Some of the members were fishermen who were no longer able to fish for coho salmon because of the fish's status under the ESA. *Id.* Others had collected data regarding habitat conditions in furtherance of their interest in the species. *Id.*
110. Defendants alleged that the injury was a "generalized injury relating to the overall coho salmon population." *Id.*
111. *Id.* While the plaintiffs could not trespass on the land to enjoy the salmon, observing them on the boundaries of the property and in waters that flowed through the property was sufficient. *Id.* The court provided no further explanation for its decision. *See generally id.* (providing no further explanation as to why physical presence on the land in question was not required).

where the alleged harm occurred was sufficient to establish a concrete and particularized, actual or imminent injury.

That same year, the U.S. District Court for the District of New Mexico further stretched the holding in *Lujan II* by eliminating the requirement of actually viewing the species in question all together. In *Southwest Center for Biological Diversity v. Clark*,[112] environmental groups brought an action under the ESA to force the Fish and Wildlife Service to designate critical habitat for spikedace and loach minnows.[113] Plaintiffs submitted an affidavit from member David Hogan stating that he spent time studying the biology, habitat requirements, and distribution of spikedace and loach minnows, that he visited the rivers and streams occupied by those species, and that he "derive[d] educational, scientific, moral, spiritual, aesthetic, and recreational enjoyment from the knowledge that loach minnows were present in a given stream."[114] Defendants' argument against standing was centered around the fact that several indistinguishable species of similar fish were present in the same waters and that plaintiffs did not allege that they observed spikedace or loach minnow in their natural habitat.[115] Furthermore, defendants argued,

> merely knowing or believing that the species still exist in the wild is not enough because that mere knowledge or belief is analogous to the circumstances present in *Defenders of Wildlife* where the Supreme Court held that the lack of specific plans to observe the endangered species is too speculative for Article III purposes.[116]

Despite this argument, the court held that plaintiffs were sufficiently injured to establish Article III standing even though they could not actually see or distinguish the fish species in which they were aesthetically interested.[117] The court made clear that just because a change in the environment is not perceptible to the naked eye does not mean that the change does not threaten individuals with personal harm that is both concrete and immediate.[118] This holding suggested a strong move away from the geographic nexus requirement by establishing that actual observation of a species in its natural habitat is not a necessary element of the standing analysis.

Recent case law has begun to chip away at the temporal requirement enumerated in *Lujan II* as well. In *American Society for the Prevention of Cruelty to Animals v. Ringling Bros.*,[119] a former barn helper and an animal rights organization sued the famous circus owners alleging that they utilized animal handling techniques that harmed the endangered Asian elephant in violation of the ESA.[120] The former barn helper, Thomas Rider, alleged that he had worked for the circus and as a result had formed a personal attachment to the animals before leaving his job due to the mistreatment he witnessed.[121] He further alleged that he wanted to visit the elephants again and would do so if they were relocated, but in their current condition, he would suffer an aesthetic injury from viewing them in a setting in which they were mistreated.[122] Despite the vagueness of the assertion that Rider would have liked to visit the elephants again, the U.S. Court of Appeals for the District of Columbia (D.C.) Circuit held that he had sufficiently established injury-in-fact.[123] The court held that a fair construction of Rider's assertion would include him visiting the circus as a member of the public, at a future show, and this was sufficient to satisfy the temporal element required by *Lujan II*.[124] The court's willingness to read a temporal nexus into the plaintiffs' allegations suggests that it is not as strict a requirement as originally held in *Lujan II*.

In *Defenders of Wildlife v. Norton*,[125] the D.C. Circuit again loosely interpreted the specificity with which the temporal nexus must be established. The plaintiffs in that case alleged that the Bureau of Reclamation's management of the Colorado River violated the ESA because of its detrimental impact on five different listed species.[126] Plaintiffs were able to adequately establish injury-in-fact based on the direct impact on their aesthetic, scientific, recreational, and economic interests in the affected species group.[127]

112. 90 F. Supp. 2d 1300, 30 ELR 20050 (D.N.M. 1999).
113. 90 F. Supp. 2d at 1301. The Fish and Wildlife Service had previously designated critical habitat for spikedace and loach minnows in both New Mexico and Arizona, but the designation was set aside in *New Mexico v. United States Fish and Wildlife Service* because the Secretary of the Interior had failed to comply with NEPA. 75 F.3d 1429 (10th Cir. 1996). Since the ESA requires the designation of critical habitat, the plaintiffs in this case sought to compel the defendants to designate one as soon as possible. *S.W. Ctr.*, 90 F. Supp. 2d at 1301.
114. *Id.* at 1307-08.
115. *Id.* at 1306. Defendants contended that in order to ascertain the presence of loach minnows versus other types of minnows in a given stream, the minnows would have to be netted and removed from the water, and then physically examined. *Id.*
116. *Id.*
117. *Id.* at 1309. The court stated, "[i]t is clear that the person who observes or works with a particular animal threatened by a federal decision is facing perceptible harm, since the very subject of his interest will no longer exist." *Id.*
118. *Id.* at 1307. "[Defendant] takes a legal standard intended to distinguish real from conjecture, and uses it, ironically, to deny what we know from common experience, that more than readily visible changes in our immediate environment can threaten us directly and concretely with an imminent and personal harm." *Id.*
119. 317 F.3d 334 (D.C. Cir. 2003).
120. 317 F.3d at 335.
121. *Id.* Rider specifically alleged that the elephants were beat with bull hooks, kept in chains for long periods, and forcibly removed from their mothers at young ages. *Id.* at 336. As a result, they exhibited a behavior typical of elephants under stress. *Id.*
122. *Id.* Rider wanted to visit the elephants so that he could "continue his personal relationship with them, and enjoy observing them." *Id.* at 337.
123. *Id.* The Court provided no explanation for its willingness to hypothesize as to how his injury would play out based on the vague assertions made. *See generally id.* (providing no explanation for the willingness to accept as sufficient an unspecific injury claim).
124. *Id.* at 336. The court also noted that although Rider would be a member of the public, his injury did not amount to a generalized grievance. *Id.* at 337. As a former barn helper, he would be better able to recognize the signs of mistreatment and would suffer injury separate from the general public in attendance. *Id.* Although he might not see distinct acts of animal abuse, this was not a bar to standing. *Id.*
125. 257 F. Supp. 2d 53 (D.C. Cir. 2003).
126. 257 F. Supp. 2d at 62. The five listed species that were impacted by the Bureau's management techniques were the Totoaba bass, Vaquita Harbor porpoise, southwestern willow flycatcher, Yuma clapper rail, and desert pupfish. *Id.*
127. *Id.* at 63. The defendants did not dispute that "reductions in the flow and changes in the water quality . . . [were] 'primary factors' contributing to declines" of the species of concern. *Id.* at 62.

Mexican plaintiff groups had lived in the affected region for decades or worked there on an ongoing basis, while American plaintiff groups had visited the area repeatedly and stated that they would be returning within a period of "months to a few years."[128] The court held that the injury was sufficiently concrete and particularized because the members had experienced with their own eyes the animals whose condition caused them aesthetic injury, thus satisfying the geographic nexus prong.[129] Though not an exact statement of when plaintiffs would visit the species again in the future, the estimation of "months to a few years" was sufficient to imply imminence and satisfy the temporal nexus required under *Lujan II*.[130]

Though *Lujan II* was firm in stating that a concrete and particularized, actual or imminent injury for purposes of Article III standing must establish both a geographic and a temporal nexus between the potential plaintiff and the alleged harm, subsequent ESA cases have stretched these requirements and interpreted them loosely. This leniency in interpretation under the ESA leaves the door open for application of constitutional standing to more modern issues, such as those posed by the advent of wildlife webcam technology.

IV. Wildlife Webcams

The invention of wildlife webcam technology is making our world smaller and more interconnected than ever before. Today, with just the click of a mouse, you can bring thousands of wildlife species onto your computer screen and observe them in their natural habitats in real time.[131] One website, Africam, streams live feed of a watering hole on the Elephant Plains in Africa.[132] Viewers can see elephants, lions, leopards, and other African wildlife roaming the plains, all from the comfort of their own homes.[133] Another site, sponsored by Greenpeace International, streams live feed from a camera attached to the ship *Esperanza*.[134] Viewers can expect to observe blue whale migration as the ship cruises through Arctic waters.[135] There is even one website, although it is unclear whether it was ever in operation, that would allow viewers to hunt live animals using their computer mouse as if it were a .22-caliber rifle.[136]

This technology is being used not only for scientific purposes, but for educational purposes and purely aesthetic purposes as well.[137] More importantly, the technology has been successful in that, by increasing access to a given species, interest in that species is increased as well, resulting in improved conservation efforts.[138] One organization, the Hancock Wildlife Foundation, is utilizing wildlife webcam technology to serve just that purpose.[139] David Hancock established the foundation in 2006 with the expressed purpose of "us[ing] the internet in general and live streaming wildlife video in particular to promote the conservation of wildlife and its habitats through science, education, and stewardship."[140] Hancock brought together a group of advisors, who later became the Board of Directors of the Foundation, to coordinate installment of various wildlife webcams and offer educational and recreational webcam-based opportunities.[141] The Foundation's website generated 55 million hits in its first month of operation, and over 500 million in its first year.[142] In Hancock's own words, "[the] first live cameras reached and taught more people in a [four-]month period than I had in all my years of lectures combined. This is the way of the future."[143]

David Hancock is correct—wildlife webcams are the way of the future. However, this reality does not come without issue, especially in the context of our legal system. As more and more individuals develop an aesthetic interest in wildlife species via live webcam streaming, should they be granted standing to sue to protect the species that they view? This Article argues that they should.

V. Impact of Wildlife Webcams on Standing Under the ESA

For the first time in years, Susie is not spending her lunch break watching her polar bears streamed live over the Inter-

128. *Id.* at 63.
129. *Id.* "They have experienced the effects of the Reclamation's operations in a 'personal and individual way by seeing with [their] own eyes the particular animals whose condition [and declining populations] caused [them] aesthetic injury.'" *Id.* (quoting Animal Leg. Def. Fund, Inc. v. Glickman, 154 F.3d 426, 432-38, 29 ELR 20202 (D.C. Cir. 1998)).
130. *Id.*
131. *E.g.*, Africam, http://www.africam.com/wildlife/ (last visited Sept. 26, 2013); BBC Nature, *Wildlife*, http://www.bbc.co.uk/nature/life/European_Badger (last visited Sept. 26, 2013); Greenpeace International, *Esperanza webcam*, http://www.greenpeace.org/international/en/multimedia/ship-webcams/Esperanza-Webcam/#tab=3&gvs= false (last visited Sept. 26, 2013).
132. Africam, *Elephant Plains*, http://www.africam.com/wildlife/elephant_plains_webcam (last visited Sept. 26, 2013). Comments on the Elephant Plains page indicate that viewers log in from all over the world. *Id.* One viewer shared that she watches the site regularly as a substitute for visiting a zoo, which she is unable to do due to disability. *Id.*
133. The site also has webcams located in Nkorho Pan and in Tembe. *Id.*
134. Greenpeace International, *supra* note 131.
135. The site has webcams located on two other ships: *Rainbow Warrior* and *Arctic Sunrise*. *Id.*
136. Jim Cummins, *Click—Bang! Online Hunting Faces Hurdles*, http://www.msnbc.msn.com/id/6568977/ns/nightly_news/t/click-bang-online-hunting-faces-hurdles/#.TpW2YnPaji8 (last visited Sept. 26, 2013).
137. E-mail from Richard Pitt, Web Master, Hancock Wildlife Foundation, to Erin Coburn, *Webcam Information Request* (Jan. 4, 2012, 12:54 p.m. EDT) (copy on file with author).
138. *Id.*
139. Hancock Wildlife Foundation, *Welcome to Hancock Wildlife Foundation*, http://www.hancockwildlife.org (last visited Sept. 26, 2013).
140. *Id.* Prior to establishing the Foundation, David Hancock lectured in the area of wildlife conservation for nearly 50 years. *Id.* He spent the majority of his career engaged in the study of West Coast and Arctic wildlife. Hancock Wildlife Foundation, *Biography of David Hancock*, http://www.hancockwildlife.org/staticpages/index.php/DavidHancockBiography (last visited Sept. 26, 2013).
141. Hancock Wildlife Foundation, *Aims and Objectives*, http://www.hancockwildlife.org/staticpages/index.php/20070814121612628 (last visited Sept. 26, 2013).
142. E-mail from David Hancock, Founder, Hancock Wildlife Foundation, to Erin Coburn, *Webcam Information Request* (Jan. 4, 2012, 8:13 p.m. EDT) (on file with author).
143. Hancock Wildlife Foundation, *supra* note 139. Hancock also indicated that the webcams could be used to enforce environmental laws in the future in areas "where law enforcement agents are few and far between or totally impractical." E-mail, *supra* note 142.

net via webcam. Instead, she is frantically researching the ESA to figure out what, if anything, she can do to help protect the species that she has grown to be connected to. This morning, one of Susie's co-workers sent her an article detailing a recently permitted offshore drilling operation in Alaska. Susie knows that this operation could detrimentally impact the habitat of her beloved polar bears, and in turn could result in their disappearance.

Because Susie is so interested in polar bears, she also stays informed about their status as an endangered species. She knows that the Barack Obama Administration recently designated a large tract of land in Alaska and the surrounding bodies of water as critical habitat for the polar bear.[144] The newly permitted offshore drilling operation is set to be located within the area designated as critical habitat. Susie knows that this likely means that the agency that permitted the operation had to consult with the Secretary as to the impact on the polar bear population, but as far as she can tell, no such consultation was undertaken.[145] Additionally, Susie knows that if the operation will result in a taking of any endangered polar bears, the company must apply for a permit.[146] After a few minutes of research, Susie comes across the citizen suit provision. She learns that private citizens can bring lawsuits to enjoin both government agencies and individuals from violating the ESA. Thrilled with this new information, Susie vows to do whatever it takes to protect the polar bears that have provided her with so much enjoyment over the years from the possible harms of offshore drilling. She decides to sue the Secretary to enforce the Act's permit requirement. But can Susie bring this lawsuit? Assuming that the polar bears potentially harmed by the offshore drilling are the same polar bears that Susie watches via webcam each day, will she have standing to sue to protect them?

From *Lujan II*, at least one thing is clear: in order to have constitutional standing, a potential plaintiff must be able to establish an injury-in-fact that is both concrete and particularized and actual or imminent, causation, and redressability. The application of these elements to the facts of a given case has not always been consistent or clear. While traditionally, *Lujan II* held that injury-in-fact could only be established where a plaintiff had concrete plans to visit the endangered species it sought to protect, this should no longer be a necessary factor. Standing is in many ways a fluid doctrine that has adapted to reflect the needs of the legal system in any given era. As society enters the Internet age, where so many of our daily activities are accessible in a virtual environment, so too must our legal system adapt to fit the needs of our changing world.

In order to establish injury-in-fact, a plaintiff must suffer a harm that is both concrete and particularized, and actual or imminent. The Court in *Lujan II* recognized that aesthetic enjoyment is a cognizable interest for purposes of standing, and that an injury to this interest can constitute an injury-in-fact.[147] In Susie's case, the injury is the loss of aesthetic enjoyment gained by watching the polar bears via webcam. But is this aesthetic injury both concrete and particularized, and actual or imminent? Subpart A argues that a webcam viewer's injury fits under the current model as set forth in *Lujan II* because viewing a species via webcam is the same thing as viewing a species in person, at least for purposes of standing. Subpart B argues that, despite the webcam viewer's injury fitting under the traditional *Lujan II* model, lower courts are moving away from this model, and webcam viewers certainly have standing in light of this more recent, persuasive case law. Subpart C argues that granting standing to webcam viewers serves the underlying purposes of both the ESA and of constitutional standing doctrine.

A. Viewing a Species Via Webcam Is No Different Than Viewing a Species in Person, at Least for Purposes of Standing

If Susie lived in Alaska and physically visited the polar bears' habitat each day, there would be little question that she could bring suit to protect them from the impending harm that the offshore drilling operation will likely cause. Her injury would be concrete and particularized because of her special, aesthetic interest in viewing the polar bears. Her injury would be imminent because she would have concrete plans to visit the polar bears in their natural habitat in the immediate future. Causation would be satisfied because the likely harm to the polar bears would be a direct result of the environmental impacts of the offshore drilling operation. Her injury would be redressable because requiring the operation to obtain an incidental take permit would at a very minimum result in mitigation of the harm, and there is a chance that the permit could be denied all together. Essentially, her situation would mirror that of the plaintiffs in *Lujan II*, except she would be able to satisfy what the plaintiffs in *Lujan II* were lacking: she would have concrete plans to visit the species again in its natural habitat in the immediate future,[148] and her injury

144. *See* 50 C.F.R. Part 17 (2011) (designating 187,157 square miles located in Alaska and the adjacent territorial and U.S. waters as critical habitat for the polar bar populations in the United States). Designations of critical habitat are made for those portions of the geographic area occupied by the species that are deemed "essential to the conservation of the species" and "may require special management considerations or protection." ESA §1532(5)(A). Destruction of a species' critical habitat constitutes a taking. *See supra* Part I. (discussing the prohibition on "taking" a species listed under the Act).

145. *See* 16 U.S.C. at §1536(a) (outlining the requirement that the Secretary be consulted to ensure that a proposed action does not result in "destruction or adverse modification of habitat of [an endangered species] which is determined by the Secretary . . . to be critical"). For an explanation of the possible effects of critical habitat designation on offshore drilling, see Matthew Daly, *Obama Designates Polar Bear Protection Area in Alaska, Could Restrict Future Oil and Gas Drilling*, Nov. 24, 2010, http://www.huffingtonpost.com/2010/11/24/offshore-drilling-potenti_n_788212.html (last visited Sept. 26, 2013).

146. *See* 16 U.S.C. §1539 (detailing the requirement that parties apply for a permit in order to lawfully "take" any endangered species).

147. *See supra* Part II.B. (establishing that an injury to an aesthetic interest can confer standing where that injury is concrete and particularized, and actual or imminent).

148. In *Lujan II*, the plaintiffs' injury did not satisfy the injury-in-fact analysis not because it was not concrete and particularized, but because it was not sufficiently imminent due to a lack of plans to return to the site of the harm

would be redressable because it would require more than mere consultation with the Secretary administering the ESA.[149] The only factor that could possibly preclude Susie from having standing to sue to protect the polar bears is that, in reality, she views them in their natural habitat each day via webcam, and not by physically visiting them in their natural habitat.

Is there really a difference between physically viewing a species in person in its natural habitat and viewing a species in its natural habitat remotely via webcam? Studies on what has been termed "emotional vision" suggest that there is not.[150] In fact, in many ways, the eye functions exactly like a camera, like the webcam through which Susie views the polar bears each day.[151] The cornea, which is the outermost part of the eye, bends light rays, which are then focused onto the photoreceptor cells of the retina.[152] The retina initially processes the visual input, which at that point is inverted from both top to bottom and right to left.[153] From the retina, it travels to the optic nerve by way of the axons of ganglion cells.[154] It then leaves the optic nerve, crosses over the optic chiasm, goes through the optic tracts, and reaches the lateral geniculate nucleus (LGN).[155] This is the first point in the visual process at which coordination of vision from each of the two eyes begins.[156] From there, the input then continues on to the primary visual cortex of the brain, where further visual processing is performed.[157] The information passes through various areas in the visual cortex: V1 is responsible for interpreting visual space (form, color, orientation of objects); V2 is responsible for color perception; V3 and V4 are responsible for complex visual perception, including motion of objects, motion of self, spatial reasoning; and V5 is responsible for high-resolution vision, object recognition, and pattern recognition.[158] The visual process concludes with psychological and perceptual input from other areas of the brain, such as memory, prediction, and interpolation.[159]

According to studies conducted by The Mind Project, human vision creates the effect of seeing a flat, two-dimensional picture, and turning it into a three-dimensional landscape.[160] Our visual system not only interprets the world around us in three-dimensions, but also interprets photographs in a way that makes them appear as three-dimensional objects.[161] It is clear that the human brain can create a three-dimensional world using two-dimensional information, but what is unclear is the mechanism behind this transformation.[162]

Other studies have shown that an emotional processing center in the brain, the amygdala, responds to stimuli created by viewing two-dimensional photographs.[163] While typically we assume that the way in which we see the world is colored by our judgments, a study conducted by Dr. Ralph Adolphs suggests, "emotion can directly influence sensory processing."[164] Subjects of the study were shown photographs of faces with various expressions that either did or did not show strong emotion, while monitoring regions of the brain for activation.[165] The result was activity in the amygdala of the brain, thereby creating data that "support the idea that emotional significance indeed modulates visual regions of the brain."[166]

So, what does it all mean? Basically, as visual information comes through the eye and activates photoreceptor cells in the retina, the human visual system interprets information from two-dimensional objects as though they were three-dimensional. Additionally, two-dimensional

to view the species. *See supra* notes 68-69 and accompanying text (describing the lack of imminence in plaintiffs' injury in *Lujan II*).

149. In *Lujan II*, the Court reasoned that the plaintiffs' injury was not redressable because a favorable decision from the Court would result in consultation with the Secretary, which did not provide any safeguards against the alleged harm. *See supra* note 77 and accompanying text (providing details about the insufficiency of the redressability element present in *Lujan II*).
150. *See* Ralph Adolphs, *Emotional Vision*, 7 Nature Neurosci. 1167 (Nov. 2004) (suggesting that viewing two-dimensional objects can create an emotional response).
151. Medscape, *Visual System Anatomy: Gross Anatomy*, http://emedicine.medscape.com/article/1948576-overview#a30 (last visited Sept. 26, 2013).
152. *Id.*
153. This means that the initial image projected onto the retina is both upside down and backwards. *Id.*
154. Medscape, *Visual System Anatomy: Overview*, http://emedicine.medscape.com /article/1948576-overview (last visited Sept. 26, 2013). Each optic nerve is made up of approximately one million ganglion cell axons and connects directly to the backside of the eye. Medscape, *supra* note 151.
155. Medscape, *supra* note 154. The optic chiasm is essentially where the optic nerves of the two eyes meet. *Id.* It is located on the backside of the base of the pituitary gland. Medscape, *supra* note 151. Subsequent to reaching the optic chiasm, information from the right visual field enters the left optic tract, and information from the left visual field enters the right optic tract. *Id.* Each of the optic tracts "terminates at the lateral geniculate nucleus (LGN), which is the visual part of the dorsal thalamus." *Id.*
156. *Id.* The LGN has six layers, with three receiving information from the right eye, and three receiving information from the left eye. *Id.* The information processed in each of the layers represents a specific portion of the visual field for that eye. *Id.* Four of the layers are responsible for color and fine detail, while the other two are responsible for processing motion. *Id.*
157. Medscape, *supra* note 154. "The topographic order of visual information and the final processing of the neural signals from the retina are maintained in the visual cortex." *Id.*
158. *Id.* V1 is located in the primary visual cortex and projects to other areas of the cerebral cortex where more complicated and complex visual processing takes place. *Id.*
159. *Id.* This input comes from non-visual areas of the brain and combines with the information from the visual areas of the brain to create the full experience that is vision. *Id.*
160. David L. Anderson, *Introduction to the Science of Vision*, http://www.mind.ilstu.edu/curriculum/vision_science_intro/vision_science_intro.php?modGUI=204&compGUI=1940&itemGUI=3375 (last visited Sept. 26, 2013). Funding for The Mind Project was provided in part by grants from the National Science Foundation. *Id.*
161. *Id.* When objects are projected onto the retina, more distant objects appear to be smaller in comparison to closer objects. The visual process interprets both objects as being the same size, with one located further back in the depth of three-dimensional space. *Id.*
162. *Id.* A variety of contested theories exist in the field of cognition and perception as to how vision accomplishes what has been termed the "inverse problem." The inverse problem is "[t]he problem of retrieving all of the visual information about the 3D environment (the distal stimulus) using only the more limited information contained in the 2D image (the proximal stimulus) projected on the retina of the eye." *Id.*
163. Adolphs, *supra* note 150.
164. *Id.* Adolphs' study combined brain lesions and imaging techniques to monitor emotional responses to photographic stimuli. *Id.*
165. *Id.* Two subject groups were used: those with normal brain activity, and those with amygdala damage. As predicted, amygdala damage resulted in "lower emotional modulation of the visual cortex" as a result of viewing the photographs. *Id.* While this evidence suggests the amygdala's role in emotional processing, a detailed analysis of the findings is beyond the scope of this Article.
166. *Id.*

photographs can trigger an emotional response and activate the emotional processing center of the brain. Therefore, if Susie's injury stems from aesthetic enjoyment of an endangered species, namely polar bears, the effect of that aesthetic enjoyment on neurological processes is no different whether she views them three-dimensionally, in person, or if she views them two-dimensionally, remotely via webcam. Essentially, Susie can actively practice her aesthetic enjoyment of the polar bears via webcam without any effect on the genuine quality of her aesthetic interest. The visual information collected from the polar bear webcam goes through the same process as visual information that would be collected if she were in Alaska viewing them in person, and the emotional center of her brain is still activated, triggering the effect of the aesthetic enjoyment. Therefore, viewing an endangered species via webcam instead of viewing the species in person should have no effect on the outcome of the standing analysis, and webcam viewers should be able to sue to protect the species they view, regardless of the medium through which they exercise their aesthetic enjoyment.

B. *Lower Courts Are Moving Away From a Strict Interpretation of Lujan II*

Although the webcam viewer's injury is no different than that of the aesthetically interested party who views the endangered species in person in its natural habitat, the lower courts have begun to interpret the elements of *Lujan II* in a way that would leave room for granting standing to webcam viewers, even if this were not the case. The concrete and particularized prong of injury-in-fact is satisfied where the potential plaintiff is directly affected by the complained of action, aside from her special interest in the species.[167] In *Norton*,[168] this meant that the medium through which plaintiffs exercised their enjoyment was by viewing the species with their own eyes. In *Coho Salmon*,[169] plaintiffs did not need to view the species in the exact area to be impacted by the complained-of action, and viewing the species in the areas surrounding the alleged impact was sufficient. In *Ecological Rights Foundation*,[170] the Ninth Circuit went so far as to say that interest in an animal species alone is enough.

Here, Susie's injury is concrete and particularized because, like the plaintiffs in *Norton*, she viewed the endangered species with her own eyes. While the plaintiffs in that case viewed the species from its natural habitat directly, Susie is viewing the polar bears remotely via webcam. But, as stated in *Coho Salmon*, Susie does not need to view the polar bears in the exact area where the harm will allegedly occur. Removal from the exact location of the harm, geographically, is acceptable. If the holding in *Ecological Rights Foundation* is followed, all Susie must do is have a stated interest in the polar bears. Her injury in that case is not reducible to requirements of distance. Therefore, since Susie viewed the polar bears, a species in which she has an established interest, with her own eyes albeit from a remote location, her injury is concrete and particularized.

In order to establish the actual or imminent prong of injury-in-fact, the alleged injury must be more than merely hypothetical.[171] Apparent from *Lujan II*, this means that the potential plaintiff must state the next time he or she will visit the species.[172] In *Norton*, an exact, concrete date was not necessary, but rather a general range of when the expected visit would occur was sufficient.[173] In *Ecological Rights Foundation*, the Ninth Circuit went even further in holding that injury-in-fact could not be reduced to temporal guidelines at all.[174] According to the Ninth Circuit, "[a] flexible approach is the only one consistent with the nature of the aesthetic and recreational interests that typically provide the basis for standing in environmental cases."[175] Other recent environmental standing cases are consistent with this interpretation.[176]

Susie's injury is sufficiently actual or imminent because she can state with some particularity when she will next "visit" the polar bears. While Susie's visit will be a virtual one rather than one in the flesh, this does not change the actual or imminent analysis. The purpose of this requirement is to make sure that the injury has occurred or will soon occur. For Susie, the injury will come to fruition the moment she logs in to view the webcam and is aware of the loss of enjoyment of viewing the polar bears. Like the plaintiffs in *Norton*, Susie can state within a period of "months to a few years" when that next log on will be.[177] Typically, she logs in each workday and could therefore state her next visit with even more precision that the plaintiffs in *Norton*. Therefore, since Susie has concrete plans to visit the polar bears again in the future, and can state those plans with some general particularity, her injury is also actual or imminent for purposes of standing.

While not the central focus of this Article, it is also important to note that Susie will additionally be able to establish the elements of causation and redressability.[178] For causation, Susie can satisfy the standing analysis by showing that the recently permitted offshore drilling operation will likely be detrimental to the species, thereby straining her ability to aesthetically enjoy the polar bears. Her injury is equally redressable since a favorable decision from the

167. *Lujan II*, 504 U.S. at 563 (quoting Sierra Club v. Morton, 405 U.S. 727, 735, 2 ELR 20192 (1972)).
168. 257 F. Supp. 2d at 63.
169. 61 F. Supp. 2d at 1004.
170. 230 F.3d at 1147.
171. *Lujan II*, 504 U.S. at 561 (quoting *Lyons*, 461 U.S. at 102).
172. *Id.* For a detailed explanation of the temporal nexus of injury in fact, see *supra* Part II.B.
173. 257 F. Supp. 2d at 63.
174. 230 F.3d at 1148.
175. *Id.* at 1150. "*Laidlaw* . . . does not prescribe any particular formula for establishing . . . [injury-in-fact]." *Id.*
176. *E.g.*, Central & S.W. Servs., Inc. v. U.S. EPA, 220 F.3d 683, 698-702, 31 ELR 20058 (5th Cir. 2000); Friends of the Earth v. Gaston Copper Recycling Corp., 204 F.3d 149, 156-60, 30 ELR 20369 (4th Cir. 2000); Am. Petroleum Inst. V. U.S. Envtl. Protec. Agency, 216 F.3d 50, 65, 30 ELR 20686 (D.C. Cir. 2000).
177. 257 F. Supp. 2d at 63.
178. For a more detailed explanation of these elements, see *supra* Part II.B.

court would likely result in the discovery that the operation must obtain a permit under the ESA. As discussed in *Lujan II*, it must be likely, not merely speculative, that a favorable decision from the court will redress the plaintiff's injury.[179] Subsequently, in *Massachusetts v. EPA*,[180] the Court held that an injury does not have to be reversed entirely, nor redressed immediately, in order to establish redressability for the purpose of standing.[181] In Susie's case, if the operation was forced to apply for ESA permits, it would also be forced to provide a plan to eliminate, or at least mitigate and compensate for the harms it might cause the polar bear species, and the Secretary would also have the option to deny the permit entirely.[182] Mitigation of the harm done to the polar bears, as required under the ESA as a condition for approval of a take permit, would redress the injury to Susie's aesthetic enjoyment by preserving the species that she enjoys, even though it might not entirely or immediately reverse the harm.

Having established all the elements of constitutional standing, Susie should be able to bring her lawsuit to protect the polar bears, despite having no plans to go to Alaska to visit them. Her daily devotion to viewing them remotely via webcam should be enough to establish that she will be truly, personally, directly, and immediately injured by the detrimental effects the offshore drilling operation will have on the species in that area. Though this may not be the most conventional way to establish injury-in-fact for purposes of standing, the elements cannot be reduced to strict guidelines of distance or time, especially in a virtual age where both boundaries can be transcended. In his dissent in *Lujan II*, Justice Harry Blackmun, joined by Justice Sandra Day O'Connor, seemed to join in this concern, stating, "[i]t cannot seriously be contended that a litigant's failure to use the precise or exact site where animals are slaughtered or where toxic waste is dumped into a river means he or she cannot show injury."[183] In Justice Blackmun's opinion, "[the plaintiffs] need only show that the action they challenge has injured them, without necessarily showing they happened to be physically near the location of the alleged wrong."[184] In a world that is rapidly shrinking as a result of advancing Internet technologies, this view is more important now than ever before.[185]

C. *Granting Standing to Webcam Viewers Serves the Underlying Purposes of the ESA and of Constitutional Standing Doctrine*

Not only does granting standing to webcam viewers fit into the current model for constitutional standing applied to the Internet age in which we live, but it also serves the underlying purposes of both the ESA and constitutional standing doctrine. According to the Congress that passed the ESA in 1973, the purpose of the Act was "to provide for conservation, protection and propagation of endangered species of fish and wildlife."[186] One of the requirements that the legislature identified as necessary to the Act's success was protection throughout the nation for species listed as endangered.[187] The citizen suit provision of the Act was just one tool that the legislature crafted to help fulfill this requirement. Citizen suit provisions effectively make average citizens "private attorneys general," responsible for enforcement of the mandates of the Act.[188] This is necessary to fulfilling the goal of conservation and preservation of endangered species because federal agencies do not have the resources to be everywhere at once to inspect for compliance with the Act.[189] Essentially then, we want citizens to be able to observe and monitor endangered species in order to protect them in areas where the government lacks capability to do so. Granting standing to webcam viewers will improve the diligence with which our endangered species are protected by increasing the range within which they are monitored, thereby supporting the goal of providing for their preservation, conservation, and propagation. When it comes to designing a statute, like the ESA, "the choice of remedy is Congress'[ ], and if Congress wishes to ensure that its laws are enforced by creating citizen suits, it is free to do so. For the Court to use standing to defeat that congressional purpose would be to exceed the bounds of the judicial power."[190]

Granting standing to webcam viewers also furthers the underlying purpose of constitutional standing doctrine. As

179. *Lujan II*, 504 U.S. at 561 (quoting *Simon*, 426 U.S. at 38, 43).
180. 549 U.S. 497, 37 ELR 20075 (2007).
181. 549 U.S. at 525. In *Massachusetts*, plaintiffs sought to force EPA to regulate automobile emissions of carbon dioxide under the CAA, alleging loss of coastal land as a result of climate change as an injury. *Id.* at 510. Reduced emissions of carbon dioxide would delay the adverse impacts of climate change, thereby redressing plaintiffs' alleged injury. *Id.* at 515, 526. While Massachusetts' status as a sovereign is noteworthy, it does not affect the applicability of the holding to the webcam context since the Court noted that Massachusetts had "satisfied the most demanding standards of the adversarial process." *Id.* at 521.
182. *See supra* Part I. (describing the necessary requirements for obtaining incidental take permits).
183. *Lujan II*, 504 U.S. at 594 (Blackmun, J., dissenting).
184. *Id.* Justice Blackmun went on to say that he could not "join the Court in what amounts to a slash-and-burn expedition through the law of environmental standing." *Id.* at 606.
185. Regrettably, many areas of the law are hesitating at the threshold of the issue of adapting to accommodate for rapidly developing Internet technologies. One area that has at least contemplated such adaptation is tort law, specifically in claims for negligent infliction of emotional distress. In her article, *Cell-Shocked: Bystander Damages for Viewing an Event Electronically*, Linda C. Fowler concludes that, "since neither the statute nor the jurisprudence prohibits electronically viewing an event under the bystander mental anguish law, it could be permitted under certain narrow circumstances." Linda C. Fowler, *Cell-Shocked: Bystander Damages for Viewing an Event Electronically*, 58 La. B.J. 242, 244 (2011).
186. S. Rep. No. 93-307 at 1.
187. *Id.* at 2.
188. *See* Bennett v. Spear, 520 U.S. 154, 165, 27 ELR 20834 (1997) (explaining the concept of "private attorneys general" by way of a citizen suit provision). Notably, some view citizen suit provisions as Congress' way of forcing the judiciary to monitor executive action, resulting in the "overjudicialization of the processes of self-governance." Elliott, *supra* note 35, at 463.
189. McCrory, *supra* note 5, at 76. "[B]ecause of the legislators' fears that the states or the United States Environmental Protection Agency (EPA) would not adequately pursue environmental enforcement, Congress included citizen suit provisions in every major environmental statute." *Id.*
190. Elliot, *supra* note 35, at 496. Justice Blackmun agreed in his dissent in *Lujan II*, stating, "the principal effect of foreclosing judicial enforcement of such procedures is to transfer power into the hands of the Executive at the expense—not of the courts—but of Congress, from which that power originates and emanates." *Lujan II*, 504 U.S. at 602 (Blackmun, J., dissenting).

made clear by pre-*Lujan II* case law,[191] standing is derived from the separation of powers, and the case or controversy language of Article III limits the power of the judicial branch.[192] Standing is the method by which the courts determine whether a given dispute meets the Article III threshold. The focus of the doctrine is whether the plaintiff is the proper party to bring a given legal action.[193] In the case of a wildlife webcam viewer, the injury is the same as it would be for any viewer of wildlife—the genuine loss of aesthetic enjoyment resulting from an act that harms the endangered or threatened species being viewed. The mere fact that the enjoyment is remote via real-time Internet streaming does not change the genuine character of the injury, or the fact that the webcam viewer is the right person to bring the suit. Additionally, the "proper party" analysis is a moving target. Standing has evolved and adapted throughout history to fit the needs of the times.[194] As we continue forward into the digital age, standing must continue to serve the purpose of evaluating the proper party to bring a suit. In order to do this, it must accommodate the challenges brought to light by the development of technology, such as the challenge that is the underlying reason for this Article.

VI. Potential Issues

There are several popular arguments against giving standing to wildlife webcam viewers to protect the species they view. The first argument is that if all webcam viewers have standing, their injury starts to look more like a generalized grievance than a concrete and particularized injury, and general grievances are better suited for resolution by the legislative branch than by the judicial branch.[195] Despite this view, the Court held in *Massachusetts* that it does not matter how many people share an injury resulting from a challenged action, so long as the party bringing the suit has still been injured in a concrete and personal way.[196] Therefore, as long as the webcam viewer's injury is still sufficiently concrete and particularized, it does not matter how many other viewers watch that same webcam, nor how many of them have been equally injured. Injury-in-fact is defined based on whether the plaintiff has a personal stake in the matter, and a plaintiff can have a personal stake regardless of how many people share her injury.[197]

Another possible argument against giving standing to webcam viewers is the idea that it is simply not feasible because the court system does not have the resources to handle the large volume of possible plaintiffs that would be able to bring suit. Contrary to this argument, however, it is unlikely that the floodgates to the courthouse will be opened since not all webcam viewers will have the desire or the resources to bring a suit to protect the species they view. Additionally, most suits have traditionally and will likely continue to be brought by environmental organizations that are granted standing on behalf of their members.[198] Even if granting standing to webcam viewers does open the floodgates to plaintiffs bringing suit to protect endangered species, the courts will still have the resources to deal with such suits. Plaintiffs could ultimately be dealt with in a fashion similar to mass tort litigation, where many plaintiffs are grouped together in a single suit.[199] Therefore, it is unlikely that the volume of plaintiffs bringing suit to protect endangered species based on webcam technology will reach the point of overwhelming the court system, and even if the numbers do overwhelm the court system, it has a mechanism in place to handle the influx of plaintiffs.

Proponents of maintaining a restrictive model of standing might also argue that granting standing to webcam viewers would encourage environmentalists to set up cameras solely for the purpose of monitoring compliance with environmental protection statutes. While the grant of standing to webcam viewers might motivate environmentalists to set up more webcams, there are still two safeguards against this type of behavior in the context of the ESA. The first is that the citizen suit provision only allows private citizens to sue to protect the species that have been listed under the ESA as endangered species.[200] Environmentalists could not set up cameras to watch just any species of wildlife, as only listed endangered species would be protected under the provisions of the ESA. Additionally, the injury-in-fact analysis still requires a genuine aesthetic interest in the wildlife whose protection is sought.[201] Setting up a wildlife webcam is likely not enough to establish standing, but rather some individual citizen must invest time into viewing the species via webcam in order to develop that aesthetic interest and have a stake in the outcome of the action. Therefore, in the context of the ESA, fears that

191. For a review of where the *Lujan II* standing elements originated, see *supra* notes 79-87 and accompanying text.
192. *See supra* Part II.A. (discussing the constitutional basis for standing doctrine).
193. Shanor, *supra* note 32.
194. *See supra* Part II.A. (elaborating on the evolution of standing doctrine throughout history).
195. EPA advanced this argument in *Massachusetts* to challenge petitioners' standing. 549 U.S. at 518. In that context, EPA argued, "because greenhouse gas emissions inflict widespread harm, the doctrine of standing presents an insuperable jurisdictional obstacle." *Id.* The Court disagreed with EPA's argument, and found that petitioners did have standing to bring suit to compel EPA to regulate greenhouse gas emissions under the CAA. *Id.* at 526.
196. *Id.* "To deny standing to persons who are in fact injured simply because many others are also injured, would mean that the most injurious and widespread Government actions could be questioned by nobody." *Id.* at 526.
197. *Id.* at 517; Koch et al., *supra* note 33, at 506.
198. *E.g.*, Friends of the Earth v. Laidlaw, 120 S. Ct. 693, 30 ELR 20246 (2000); *Lujan II*, 504 U.S. 555; Sierra Club v. Morton, 405 U.S. 727, 2 ELR 20192 (1972); Defenders of Wildlife v. Norton, 257 F. Supp. 2d 53 (2003). For an explanation of how organizations are granted standing to sue on behalf of their members, see *supra* Part II.B.
199. *See* 7AA Fed. Prac. & Proc. Civ. §1783 (3d ed.) (explaining the process used in mass accident cases). For this to be feasible, the plaintiffs in any mass tort group would have to be viewers of the same webcam with the same resultant injury.
200. *See* ESA §1540(g) (allowing citizens to bring suit to enforce the provisions of the Act, which only apply to species that the Secretary has listed as endangered).
201. *See Lujan II*, 504 U.S. at 562-63 (establishing that aesthetic enjoyment is a cognizable interest for purposes of standing).

environmentalists will run wild and set up webcams to observe every nook and cranny of our natural environment are generally unfounded.

VII. Conclusion

As found by Congress in passing the ESA, biological diversity is of "esthetic, ecological, educational, historical, recreational, and scientific value to the Nation and its people."[202] Continuing to protect this biological diversity, and our natural environment more broadly, is the responsibility not only of our government, but also of our citizens. While standing is meant to ensure that the judiciary is limited to deciding cases or controversies, it is not meant to unnecessarily restrict potential plaintiffs who do have a personal stake in the outcome of an action.[203] It is not meant to be, as Justice Blackmun voiced in his dissent in *Lujan II*, a "slash-and-burn expedition" through the ability of environmentally concerned citizens to protect our natural world.[204]

As Susie sits at her desk, vowing to do whatever she can to protect the polar bears that she has watched via webcam each day for several years, the same polar bears that have provided her with therapy, stress relief, and an aesthetic release from her work day, it is difficult to deny that she has a personal stake in their continued existence. If the new offshore drilling operation harms those polar bears, Susie will be injured. Her injury will be no less severe, no less concrete, and no less particularized simply because she views the polar bears via webcam. Her injury is not hypothetical, but rather it is imminent, in that her enjoyment could be lost as soon as the polar bears are impacted, since she logs onto her computer to watch them each and every day. Susie is exactly the type of citizen that the legal system was meant to protect, not the type of citizen that standing was meant to filter out.

It is undeniable that our society is advancing into the world of technology at an unprecedented rate. In order to continue to serve us, our legal system must adapt to resolve the new challenges brought about by our ever-changing world. This means granting standing to viewers of wildlife webcams in actions to protect the endangered species that they view.

202. ESA §1531(a)(3).
203. Koch et al., *supra* note 33.
204. *Lujan II*, 504 U.S. at 606 (Blackmun, J., dissenting).