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Protecting Wetland Animals Through Human Self-Interest

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I. INTRODUCTION

The greatest harm to wetland animals comes from the depletion and conversion of their natural habitats.[1] The best way we can protect wetland animals is by protecting their environment. Many people are [appear to be?] not interested in conservation but all people are interested in self-preservation. By harnessing our self-interest we can protect the wetlands, protect the wetland ecosystem, and protect the wetland animals. The wetlands provide humans with billions of dollars in goods and services annually, but they are disappearing at an alarming rate. If we can identify programs that work and utilize them, we can preserve one of our greatest resources. While we protect our resources, we can also protect wildlife spanning across six different animal classes.[2]

[Need transition—"To provide such protection"?] Part II of this paper will provide a brief history of the challenges facing wetland animals. Part III will outline current wetland protections. Part IV will list issues with the current regulatory scheme, identify regulations that work, and provide suggestions for a successful overall scheme. Part V will [conclude by briefly stating] my findings. [Due to practical considerations?] This paper will focus on regulation and reform in the

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[1] *See World Wildlife Federation, About Our Earth, http://wwf.panda.org/about_our_earth/about_freshwater/intro/threats/ (last visited Jun. 29, 2017) [hereinafter WWF].*

[2] *United States Department of Agriculture, https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs143_010045.pdf (last visited June 29, 2017) (Amphibians, birds, fish, insects, mammals, and reptiles all live and or breed in the wetlands)[hereinafter USDA].*

United States. The proposed solutions will be tailored to the United States but perhaps a similar solution can be applied to the wetlands around the world.

II. BACKGROUND

Wetlands are areas where water covers the soil or is present at or near the surface year-round or during some parts of the year.[3] Wetlands are found on every continent except Antarctica.[4] Wetlands may be fresh or salt water.[5] Wetlands can be divided into tidal and nontidal wetlands: tidal wetlands are found on the coasts of land, and nontidal wetlands are found inland, around streams, rivers, lakes, or ponds.[6] Nontidal wetlands consist of marshes, meadows, swamps, and wooded swamps.[7] Many nontidal wetlands are seasonal, whereas most tidal wetlands are found year-round.[8]

Wetlands are the most biologically diverse ecosystems on Earth.[9] Birds, fish, mammals, insects, amphibians, and reptiles all rely on America's wetlands to live or breed.[10] Wetland plants provide food for many types of insects, who [which] provide food for fish, amphibians, and reptiles.[11] Many species of fish are born in wetlands because of the protection the thick

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[3] Environmental Protection Agency, What Are Wetlands, https://www.epa.gov/wetlands/what-wetland (last visited Jun. 27, 2017)[hereinafter EPA]. [Only title should be in italics]
[4] Id.
[5] USDA, https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs143_010045.pdf (last visited Jun. 29, 2017). [Only title should be in italics]
[6] Id.
[7] Id.
[8] Id.
[9] EPA, https://www.epa.gov/wetlands/why-are-wetlands-important (last visited Jun. 27, 2017).
[10] Id.
[11] http://techalive.mtu.edu/meec/module12/Biologicalfunctionsofwetlands.htm (last visited Jun. 30, 2017). [What is this site? Who affirms that it is credible—not just because its on internet]

plants offer from animals higher on the food chain.[12] Amphibians and reptiles also use wetlands for protection while they lay their eggs and feed.[13] Migratory birds nest, raise their young, and feed in the wetlands.[14] Other migratory birds use the wetlands as a resting and feeding stop on their journey south for the winter.[15] One-third of all species of birds, 190 species of amphibians, and all of America's wild ducks and geese need wetlands to survive. American wetlands are home to endangered species like the whooping crane, bald eagle, red wolf, and fatmucket mussel.[16]

Wetlands generate various goods.[17] They provide food for humans like [such as] cranberries, fish, and rice.[18] Medicines are created from the bark, leaves, and fruit of wetland plants.[19] Wetland peat is used for fuel and gardens.[20] Most shellfish come from wetlands.[21] Wetland grasses and reeds are used to make mats, baskets, and for housing.[22] Wetland fuelwood is used for cooking, roofing, textiles, paper, and for construction.[23] Tannins and dyes from the wetlands are used to treat leather.[24]

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[12] *EPA, https://www.epa.gov/wetlands/why-are-wetlands-important (last visited Jun 29, 2017).*
[13] *http://techalive.mtu.edu/meec/module12/Biologicalfunctionsofwetlands.htm (last visited Jun. 30, 2017).*
[14] *Id.*
[15] *Id.*
[16] *USDA,https://www.nrcs.usda.gov/wps/portal/nrcs/detail/?cid=nrcs143_023509 (last visited Jul. 1, 2017) (A fatmucket mussel is a freshwater mussel found mostly in the wetlands of Montana now). GOOD explanation*
[17] *WWF, http://wwf.panda.org/about_our_earth/about_freshwater/intro/value/ (last visited Jun. 29, 2017).*
[18] *Id.*
[19] *Id.*
[20] *Id.*
[21] *EPA, Why Are Wetlands Important?, https://www.epa.gov/wetlands/why-are-wetlands-important (last visited Jul. 1, 2017).*
[22] *Id.*
[23] *Id.*
[24] *Id.*

Wetlands not only provide valuable goods, but [also] provide important services as well.[25] These natural ecosystem services benefit all Americans and include maintaining and improving water quality, absorbing runoff from excess storm water, reducing damages from floods, replenishing the supply of drinking water, buffering damage from storm surges along coastlines, and maintaining healthy and abundant fish and wildlife populations.[26]

Wetlands act as giant sponges, soaking up rainfall and slowly releasing it over time.[27] This provides a natural filter for our water.[28] Plants and soil can [then] convert nitrogen from water into harmless nitrogen gas.[29] They also remove pollutants like phosphorous, heavy metals, and other harmful toxins from the sediment, even turning the nitrogen and heavy metals into useful peat.[30] Wetlands act as sewage treatment facilities by absorbing chemicals, filtering pollutants and sediments, breaking down solids, and neutralizing harmful bacteria.[31]

The ability to soak up water and release it over time also provides valuable flood control.[32] Peatlands and wet grasslands alongside river basins can control water flow into streams and rivers.[33] Tidal wetlands like reefs, mangroves, and saltmarshes defend against natural

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[25] *EPA, https://www.epa.gov/wetlands/why-are-wetlands-important (last visited Jul. 1, 2017).*
[26] *Id.*
[27] *Dept. of Ecology, Wetland Functions, http://www.ecy.wa.gov/programs/sea/wetlands/functions.html (last visited Jun. 30, 2017).*
[28] *Id.*
[29] *EPA, https://www.epa.gov/wetlands/why-are-wetlands-important (last visited Jul 1, 2017).*
[30] *Dept. of Ecology, Wetland Functions, http://www.ecy.wa.gov/programs/sea/wetlands/functions.html (last visited Jun. 30, 2017).*
[31] *Id. See also WWF, http://wwf.panda.org/about_our_earth/about_freshwater/intro/value/ (last visited Jul. 1, 2017) (New York City intended to spend $3-8 billion on a new water treatment facility, but instead spent $1.5 billion purchasing the land around reservoirs in the upstate area. The purchased land purifies the water for free).*
[32] *Dept. of Ecology, Wetland Functions, http://www.ecy.wa.gov/programs/sea/wetlands/functions.html (last visited Jun. 30, 2017) (World Wildlife Federation is widely considered the leading organization in animal conservation).*
[33] *Id.*

disaster: the roots of the plants bind the shoreline together, allowing the coast to resist erosion caused by wind and waves.[34] They also provide a physical barrier that slows down storm surges and tidal waves, reducing their potential height and strength while limiting their destructive power.[35]

Wetlands provide extremely valuable recreational facilities.[36] They allow activities like boating, fishing, bird watching, swimming, snorkeling, and hunting.[37] Fishing, hunting, and wildlife viewing, alone, account for annual contributions of $91.9 billion in gear and travel related sales, $34.7 billion towards employment, and $12.1 billion in federal, state, and local taxes.[38] Sustainable fish and wildlife populations are necessary to support these industries.[39]

Currently, five percent of the surface area of the lower 48 states is made up of wetlands.[40] However, 116 million acres of wetlands has been lost through land use conversion since the American Revolution.[41] That is over fifty percent loss of the total wetlands in the lower 48 states.[42] Loss of wetlands in the U.S. since the 1950's has resulted in an economic loss of more than $81 billion in wetland related ecosystem services.[43] A report on the impact of wetland

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[34] *Id.*
[35] *Id.*
[36] *WWF, http://wwf.panda.org/about_our_earth/about_freshwater/intro/value/ (last visited Jul. 1, 2017).*
[37] *Id.*
[38] *Assoc. State Wetland Managers, State Wetland Programs, https://www.aswm.org/pdf_lib/aswm_priorities_for_state_wetland_programs_in_new_administration.pdf (last visited Jul. 1, 2017) (according to 2012 Outdoor Industry Association report) [hereinafter ASWM]. [These data should be more recent than 5 years ago]*
[39] *Id.*
[40] *ASWM,https://www.aswm.org/pdf_lib/aswm_priorities_for_state_wetland_programs_in_new_administration.pdf (last visited Jul. 1, 2017).*
[41] *Id.*
[42] *Id.*
[43] *Id.*

restoration on local economies found that every dollar spent on coastal wetland restoration returns $1.90 in economic activity.[44]

Historically, the wetlands suffered an extremely negative public perception which contributed in no small way to their destruction. The 1900 case of *Leovy v. United States* provides a clear picture of the viewpoint at that time.[45] When discussing wetlands the Supreme Court stated "swamps and stagnant waters are the cause of malarial and malignant fevers, and that the police power is never more legitimately exercised than in removing such nuisances."[46] The Court stated that conversion of the swamp land at issue to agricultural use would increase its value from $5,000 to $300,000.[47] Many farmers sought out wetlands for their nutrient rich soils.[48] From 1900 through 1990 conversion of wetlands to agricultural use was the primary cause of wetland loss.[49] Wetlands were also developed to create commercial and residential developments as developers sought out wetlands as a cheaper alternative to dry land.[50] Today, rural and urban development are the primary causes of wetland destruction.[51] Additionally, the introduction of invasive species, oil exploration, coal removal, and road construction projects have all contributed to the loss of wetlands.[52]

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[44] *Id. (as of 2013, most recent study). [What study? Who did it? How credible?]*
[45] *Leovy v. United States 177 U.S. 621, 636 (1900).*
[46] *Id. at 628.*
[47] *Id.*
[48] *United States Geological Survey, History,https://water.usgs.gov/nwsum/WSP2425/history.html (last visited Jul. 1, 2017).*
[49] *Id.*
[50] *Id.*
[51] *Dahl, Thomas, History of Wetlands in the Conterminous United States, https://water.usgs.gov/nwsum/WSP2425/history.html (last visited Jul. 1, 2017).*
[52] *Id.*

In recent years, wetlands have enjoyed a much more positive public perception.[53] The public is aware of the importance of wetlands as animal habitats.[54] Conservationists have championed their protection and restoration.[55] Scientific and media advancements have highlighted the benefits [that] wetlands provide.[56] These factors have all combined to encourage the federal government's policy of achieving "no net loss" of wetland acreage.[57] "No net loss" was a goal created by the National Wetlands Policy Forum in 1988.[58] President George H. W. Bush campaigned on the idea in 1988 and in 1989 made it an administrative goal. The basis of the "no net loss" policy is that wetland acreage loss must be prevented or restored. This goal is carried out through federal law and agency action.

III. CURRENT LAW

Several Federal Acts create the legal framework of wetland animal protection.

1. The Clean Water Act

The Clean Water Act (CWA) was enacted in 1972 as a measure "to restore and maintain the chemical, physical, and biological integrity of the nation's waters."[59] In order to accomplish this goal, Section 404 of the CWA requires "permits . . . for the discharge of dredged or fill material into the navigable waters of the United States.[60] The U.S. Army Corps of Engineers

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[53] *Id.*
[54] *Id.*
[55] *Id.*
[56] *Id.*
[57] *USDA, https://www.nrcs.usda.gov/wps/portal/nrcs/main/national/water/wetlands/ (last visited Jun. 30, 2017).*
[58] *Nat'l Wildlife Fed., Nowehere X Near No Net Loss, https://www.nwf.org/pdf/Wildlife/Nowhere_Near_No-Net-Loss.pdf (last visited Jul. 2, 2017).*
[59] *Clean Water Act, 33 U.S.C. § 1251(a).*
[60] *33 U.S.C. § 1344(a).*

(Corps) and the U.S. Environmental Protection Agency (EPA) jointly administer this permit program. The Corps is the primary permit issuer but the EPA promulgates guidelines (404(b)(1) which the Corps must follow.[61] The EPA has the authority to veto any permit that has an "unreasonable adverse effect on water supplies, fish, wildlife, or recreation."[62] However, the EPA rarely uses this veto power.[63] Both Section 404(g) and section 404(e) allow section 404 permitting to be administered by the states.[64] States can opt to take over full administration of the entire permitting program under 404(g) or they may issue specific permits approved by the Corps under 404(e).[65] Only two states have assumed total responsibility under 404(g): Michigan and New Jersey.[66] [Why have only 2 states done so? This is important] States must have acceptable protection guidelines in order for the Corps to allow the state to provide permits under 404(e).[67] Under this section, the Corps allows the states to provide general permits, known as State Programmatic General Permits (SPGPs).[68] This prevents the Corps and the states from distributing duplicate permits.[69]

States also assume CWA responsibility under the section 401 water quality certification program.[70] Section 401(a) authorizes states to review section 404 permits and determine whether the proposed activity violates current state water quality regulations.[71] If state certification is

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[61] *40 C.F.R. § 230.1-.12 (2011).*
[62] *33 U.S.C. § 1344(b)-(c) (2006).*
[63] *St. Petersburg Times, Vanishing Wetlands, http://www.sptimes.com/2006/webspecials06/wetlands/ (last visited Jul. 1, 2017). [This info is 11 years old. How do we know that "the power" is now not more frequently used?]*
[64] *33 U.S.C. § 1344(e) (2006).*
[65] *Id.*
[66] *EPA, Wetlands, https://www.epa.gov/wetlands (last visited Jun. 29, 2017).*
[67] *33 U.S.C. § 1344(e) (2006).*
[68] *Id.*
[69] *Id.*
[70] *33 U.S.C. § 1341(a)(1) (2006).*
[71] *Id.*

denied, the section 404 permit will be denied, and if conditions are placed on the certification, those conditions must then be incorporated into the section 404 permit.[72]

Under 404(b)(1) Guidelines, no permit can be issued that "cause[s] or contribute[s] to the significant degradation" of U.S. waters.[73] Discharge of dredge or fill material into wetlands is prohibited if there is a practicable alternative that would have less impact.[74] Under these guidelines, if a proposed development can practicably be made on dry land, a section 404 permit will not be issued.[75] However, if the developer's negative impact on wetlands is unavoidable, compensatory mitigation is required to offset the harmful impacts on function and loss of aquatic resources.[76] Compensatory mitigation can be executed through restoration of a previously-existing wetland or other aquatic site, enhancement of an existing aquatic site's functions, establishment of a new aquatic site, or preservation of an existing aquatic site.[77]

Commercial developers, governments, and municipalities are all subject to compensatory mitigation. Most permits are conditioned with a mitigation requirement.[78] Surprisingly, the wetland mitigation concept is not found in the express language of the CWA. The EPA and Corps actually borrowed the concept from the mitigation requirements found in the National Environmental Policy Act and other federal laws.[79] After disputing the proper use of mitigation in section 404 permits, the EPA and Corps resolved this issue in a 1990 Memorandum of

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[72] Id. § 1341 (d).
[73] 40 C.F.R. § 230.10(c) (2011).
[74] 33 U.S.C. § 1344(b)(1).
[75] Id.
[76] Compensatory Mitigation for Losses of Aquatic Resources, 73 Fed. Reg. 19,594, 19,675 (Apr. 10, 2008) (codified at 40 C.F.R. 230).
[77] Id.
[78] Id.
[79] Mark S. Dennison, Denial of Wetland Permit as Basis for Landowner's Regulatory Taking Claim, in 58 AM. JUR. 3D PROOF OF FACTS 81, 118 n.3 (2009).

Agreement (MOA).[80] The MOA recognized wetland protection as a primary goal while requiring mitigation to follow a sequential order: [referred to as] avoid, minimize, and then mitigate.[81] All developers must avoid wetlands or wetland damage. If the project cannot avoid the wetlands or wetland damage, the developer must minimize the damage. If the damage cannot be avoided or minimized, the developer must mitigate the damage.[82]

In 2008 the Corps and EPA published joint regulations governing compensatory mitigation.[83] This rule outlined three types of acceptable mitigation: mitigation banking, in-lieu fee mitigation, and permittee-responsible mitigation.[84] The 2008 rule also served to address the issue of wetland benefits being moved from one area to another through mitigation. The 2008 rule states that mitigation must be located within the same watershed as the impact site and where it is most likely to successfully replace lost functions and services.[85] This language includes both function and ecosystem service, thereby preventing specific wetlands from losing their specific benefits.[86]

Although the Corps prefers that new developments avoid wetlands entirely, it is now routine for developers to mitigate wetland damages.[87] The Corps' regulations only require avoidance to the "extent practicable," which means they must examine the cost of avoidance and

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[80] EPA, Regulations, http://www.epa.gov/owow/wetlands/regs/mitigate.html (last visited Jun. 27, 2017).
[81] EPA, MOA, https://www.epa.gov/cwa-404/memorandum-agreement (last visited Jun. 27, 2017).
[82] Id.
[83] EPA, Compensatory Mitigation, https://www.epa.gov/cwa-404/compensatory-mitigation (last visited Jun. 27, 2017).
[84] Id.
[85] Id.
[86] EPA, Wetlands, http://www.epa.gov/owow/wetlands/regs/mitigate.html (last visited Jun. 27, 2017).
[87] Fred Bosselman, Swamp Swaps: The "Second Nature" of Wetlands, 39 ENVTL. L. 577, 582-83 (2009).

the purpose of the project before making a decision.[88] The Corps maintains substantial discretion in issuing individual permits. The test they perform is called the "public interest" test.[89] The Corps must prove that a permit is contrary to public interest in order for it to be denied.[90] The test contains several factors which the Corps must weigh, including public need, project alternatives, and detrimental effect.[91] The weight of each factor varies on a case-by-case basis which grants even more deference to the Corps.[92] Corps guidelines state that all projects must be assumed to be necessary to the marketplace which, in so doing, creates a presumption that the project is in the public interest.[93]

2. Endangered Species Act

The Endangered Species Act was enacted in 1973 in recognition of the U.S. Congress' findings that:

> (1) various species of fish, wildlife, and plants in the United States have been rendered extinct as a result of economic growth and development untempered by adequate concern and conservation; (2) other species of fish, wildlife, and plants have been so depleted in numbers that they are in danger or threatened with extinction; (3) these species of fish, wildlife, and plants are of aesthetic, ecological, educational, historical, recreational, and scientific value to the Nation and its people. [94]

The Secretaries of the U.S. Department of the Interior (DOI) and the U.S. Department of Commerce administer the ESA jointly through the U.S. Fish & Wildlife Service (FWS) and the

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[88] *40 C.F.R. § 230.91(c)(2).*
[89] *33 C.F.R. § 320.4(a) (2011).*
[90] *Id.*
[91] *Id.*
[92] *§ 320.4(a)(3).*
[93] *§ 320.4(q).*
[94] *16 U.S.C. § 1531(a)(1)-(3) (2007).*

National Marine Fisheries Service (NMFS). The FWS has jurisdiction over terrestrial species, non-marine aquatic species, and certain marine species, including sea turtles (while on land), manatees, and sea otters.[95] The NMFS has jurisdiction over marine species.[96]

Section 4 of the ESA allows animals to be listed as "threatened" or "endangered."[97] An "endangered species" refers to "any species which is in danger of extinction throughout all or a significant portion of its range."[98] A "threatened species" refers to "any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range."[99] The Secretary may list a species on his or her own or "an interested party" may submit a written petition to the Secretary to list a particular species.[100]

The Secretary of the agency with jurisdiction must determine the "critical habitat," which is defined as the "specific areas within the geographical area occupied by the species at the time it is listed . . . on which are found those physical or biological features essential to the conservation of the species and which may require special management considerations or protection."[101] At the time of listing, the Secretary must designate critical habitat to the "maximum extent prudent and determinable."[102] This designation must be based on "the best scientific data available and after taking into consideration the economic impact" of the designation.[103] Absent a determination by the agency that a broader geographic area needs to be

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[95] *Id.*
[96] *68 Fed. Reg. 13370, 13370-13418 (Mar. 19, 2003).*
[97] *16 U.S.C. § 1532(6); 50 C.F.R. § 424.02(e) (2009).*
[98] *Id.*
[99] *Id. § 424.02(m). [Again, only titles in footnotes are italicized. You should also explain what "range" means.]*
[100] *§ 1533(b)(3)(A).*
[101] *§ 1532(5)(A).*
[102] *§ 1533(a)(3)(A); 50 C.F.R. § 424.12(a).*
[103] *16 U.S.C. § 1533(b)(2).*

identified, critical habitat will only include specific areas occupied by the species at the time of listing[104] with features "essential" to the conservation of the species.[105] Once the agency designates critical habitat, it must demarcate the habitat on a map.[106]

The ESA requires the Secretary to develop and implement a "recovery plan" for each listed species.[107] The plan should contain a description of site-specific management actions to achieve the plan's goal for the conservation and survival of the species; objective measurable criteria that, when met, would result in a determination that the species be removed from the list; and estimates of the time required and the cost to carry out those measures needed to achieve the plan's goal and to achieve intermediate steps toward that goal.[108] Recovery plans are usually prepared by a recovery team that includes federal, state, and tribal representatives [only for tribal lands?], academic institutions, and private individuals and organizations.[109]

Section 7 of the ESA prohibits federal agencies from authorizing, funding, or otherwise carrying out any action that is likely to "jeopardize the continued existence" of an endangered or threatened species.[110] An action will cause "jeopardy" if it "reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species."[111]

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[104] *50 C.F.R. § 424.12(e).*
[105] *§ 424.12(e).*
[106] *§ 424.12(c).*
[107] *16 U.S.C. § 1533(f)(1).*
[108] *§ 1533(f)(1)(B)(i)-(iii).*
[109] *Tony A. Sullins, Endangered Species Act 5 n.4 (Am. Bar Ass'n, Basic Practice Series, 2001).*
[110] *16 U.S.C. § 1536(a)(2) (2007).*
[111] *50 C.F.R. § 402.02 (2009).*

The first step in the § 7 process is for the action agency (the agency authorizing the project) to determine if the proposed action "may affect" an endangered species.[112] If the action will not affect a listed species, no further action is required.[113] If, on the other hand, the action agency determines that the proposed action "may affect" a listed species or critical habitat, it may initiate "informal consultation" with the FWS or the NMFS, depending on which Service has jurisdiction over the species.[114] If the agency action determines during informal consultation that the project is not likely to adversely affect a species or critical habitat and the Service concurs, no further consultation is required.[115] If it is determined that the action is likely to adversely affect a listed species or critical habitat, formal consultation is required.[116]

Formal consultation is a more intensive review of the project's impacts and concludes with a "biological opinion"[117] setting forth the Secretary's opinion detailing how the agency action affects the species or its critical habitat.[118] Any biological opinion finding jeopardy or adverse modification of critical habitat must include "reasonable and prudent alternatives" to the proposed action.[119] Although a "jeopardy" finding is technically only guidance, an action agency that ignores such a finding risks future liability under §§ 7 and 9 of the Act.[120] If, after consultation, the Service concludes that the action will not jeopardize the species, then the Service will issue a "no jeopardy" opinion with an "incidental take statement," [break up long, complex sentences. "The statement must specify "the impact of such incidental taking on the

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[112] *Id.*
[113] *Newton County Wildlife Ass'n v. Rogers, 141 F.3d 803, 810, 28 ELR 21125 (8th Cir. 1998).*
[114] *50 C.F.R. § 402.13.*
[115] *Id.*
[116] *Id.*
[117] *§ 402.02.*
[118] *16 U.S.C. § 1536(b)(3)(A).*
[119] *§ 1536(b)(3)(A); 50 C.F.R. § 402.14(h)(3).*
[120] *Bennett v. Spear, 520 U.S. 154, 169, 27 ELR 20824 (1997).*

species,"[121] "those reasonable and prudent measures that the Secretary considers necessary or appropriate to minimize such impact," and the "terms and conditions" that must be complied with to implement the reasonable and prudent measures.[122] A taking that is in compliance with these terms and conditions shall not be considered a prohibited taking.[123]

Under section 9 of the ESA, it is unlawful for any person to "take" any endangered species within the United States or the territorial sea of the United States.[124] "Take" is defined very broadly [125] to mean "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct."[126] "Harm" includes "significant habitat modification or degradation where that action actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering."[127] Persons found liable of committing a "take" face criminal or civil penalties.[128]

[short transitional phrases smooth the writing. "In the next section of the ESA, Section 10, the Act"] authorizes otherwise prohibited taking of listed species "if such taking is incidental to, and not the purpose of the carrying out of an otherwise lawful activity."[129] These incidental take permits (ITPs) are not mandatory, but a party that engages in an activity without an ITP faces civil and criminal penalties if the activity takes a listed species.[130] To receive an ITP, an

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[121] *Id.*
[122] *16 U.S.C. § 1536(b)(4).*
[123] *§ 1536(o)(2).*
[124] *§ 1538(a)(1)(B).*
[125] *Babbitt v. Sweet Home Chapter, 515 U.S. 687, 704, 25 ELR 21194 (1995).*
[126] *16 U.S.C. § 1532(19).*
[127] *50 C.F.R. § 17.3 (2009).*
[128] *16 U.S.C. § 1540(a), (b). (civil penalties include fines ranging from $500 to $25,000, criminal penalties include misdemeanors).*
[129] *§ 1539(a)(1)(B).*
[130] *Defenders of Wildlife v. Bernal, 204 F.3d 920, 927, 30 ELR 20403 (9th Cir. 2000).(see note 128, supra).*

applicant must prepare a habitat conservation plan (HCP) that specifies how the applicant will conserve the affected species' habitat.[131] The scope of an HCP may be limited to a discrete action, such as the construction of a home, or it may be broader in nature, such as a county building permit program.[132]

[The following section of the Act,] Section 11, authorizes any person to commence a civil suit to enjoin any person, including federal and state government agencies, alleged to be in violation of any provision of the Act. [break up long sentences. "It also authorizes any person"] to compel the Secretary to enforce §§ 4(d) and 9 of the Act or enjoin the Secretary for failing to perform any nondiscretionary act or duty under § 4 of the Act.[133] A citizen suit may be brought 60 days after written notice has been given to the Secretary and to any alleged violator.[134] Prevailing parties are entitled to the recovery of attorney's fees.[135]

3. Food Security Act and Wetlands Reserve Management Act

The Food Security Act of 1985 provides several wetland conservation programs for farmlands, which illustrates Congress' recognition of the huge impact the agricultural industry has on wetlands. To discourage conversion of wetlands, the Act contains a "Wetlands Conservation Compliance" or a "Swampbuster" provision that forces farmers to mitigate harms to wetlands originating from certain agricultural activities.[136] If a farmer fails to comply, the Swampbuster provision provides a negative incentive by eliminating the farmer's eligibility for

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[131] *16 U.S.C. § 1539(a)(2)(A).*
[132] *Sullins, 7 (2001).*
[133] *16 U.S.C. § 1540(g)(1)(A)-(C).*
[134] *§ 1540(g)(2)(A)-(C).*
[135] *§ 1540(g)(4).*
[136] *ENVTL. LAW INST., BANKS AND FEES: THE STATUS OF OFF-SITE WETLAND MITIGATION IN THE UNITED STATES 15 (2002) [hereinafter BANKS].*

farm program benefits.[137] The U.S. Department of Agriculture through its Natural Resources Conservation Service (NRCS) monitors compliance and has discretion to allow the farmer to mitigate damages "by restoration, enhancement, or creation" of wetlands in order to remain in good standing.[138] The mitigation must replace all loss of functions and be located in the same watershed.[139] The Wetlands Reserve Program, created from the Farm Bill in 1990, offers a Swampbuster incentive.[140] While wetlands converted after 1985 are ineligible for program benefits,[141] wetlands converted before 1985 are provided with financial assistance as long as the farmer "retires eligible land from agriculture" and utilizes compensatory mitigation techniques such as restoration and preservation to further wetland protection.[142] The NRCS provides financial aid to landowners by purchasing conservation easements or by entering into restoration cost-share agreements for conserving wetlands.[143] The landowner and the NRCS [are required to?] work together to complete the activities required under the agreement.[144] Landowners can grant a permanent easement to receive all restoration costs from the government or enter into a restoration cost-share agreement to receive seventy-five percent of the restoration costs.[145]

4. National Environmental Policy Act

The National Environmental Policy Act (NEPA) is a [landmark?] statute that mandates procedural requirements before an agency can undertake a major federal action that will have a

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[137] *Id.*
[138] *Id.*
[139] *Id.*
[140] *16 U.S.C. § 3837 (2006).*
[141] *§ 3837(c).*
[142] *USDA, http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs143_008151.pdf (last visited Jun. 27, 2017).*
[143] *Fish & Wildlife Svc., http://www.fws.gov/policy/504fw3.pdf (last visited Jun. 29, 2017).*
[144] *Id. at 3.5.*
[145] *USDA, http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs143_008151.pdf (last visited Jun. 27, 2017).*

significant effect on the environment.[146] The Act has created a Council on Environmental Quality (CEQ) that oversees NEPA actions and adopts compliance guidelines.[147] The process requires an agency to conduct an environmental site assessment for actions determined to have a significant effect on the environment.[148] To avoid wasted efforts and resources, the agency can also conduct an environmental analysis (EA), which succinctly addresses whether an environmental impact statement (EIS) is necessary.[149] If the EA concludes with a "finding of no significant impact" or "FONSI," then the agency can bypass the EIS process.[150]

NEPA requirements are invoked [triggered?] by development projects and agricultural activities that require CWA Section 404 permits. Just as the CWA mandates alternatives to be considered, NEPA's EIS analysis requires an agency to consider the likelihood of impacts from alternative actions.[151] Per CEQ regulations, alternatives are viewed in light of the "underlying purpose and need" of the project and must include a no-action alternative, other reasonable alternatives, and additional mitigation measures.[152] Mitigation measures include "avoiding, minimizing, rectifying, reducing, eliminating, and compensating for adverse environmental effects."[153] Similar to the CWA, NEPA requires an agency to develop and describe alternatives to the proposed action; however, NEPA only mandates the process. The CWA, on the other hand, imposes a substantive requirement. [In footnote, the “substantive requirements should be

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[146] *National Environmental Policy Act of 1969, 42 U.S.C. §§ 4321-4347 (2006).*
[147] *42 U.S.C. § 4342.*
[148] *42 U.S.C. § 4332(c).*
[149] *40 C.F.R. § 1508.9 (2011).*
[150] *§ 1508.13.*
[151] *42 U.S.C. § 4332(c)(iii) (2006).*
[152] *40 C.F.R. §§ 1502.13-1508.14, 1508.25.*
[153] *40 C.F.R. § 1508.20.*

explained.] In many cases NEPA analysis will provide most of the information used in the CWA examination.[154]

5. Coastal Zone Management Act

The Coastal Zone Management Act was established in 1972. The CZMA requires each state to develop its own program for protection of its coastal waters and wetlands.[155] While states have primary authority under their own CZMA program, federal agencies maintain limited oversight, establish minimum standards, and provide funding for administration of the programs.[156] Before the Corps issues a section 404 permit, it generally requires a certification of CZMA compliance from the state in which the proposed activity will occur.[157]

IV. PROPOSED REFORMS

The federal regulations have been limited by court rulings. They must be administered and enforced by executive branch agencies which require [on-going] funding and administration support. The federal framework avoids preemption and actually puts most of the power in the hands of the states, [thus] providing an opportunity for states to protect their own wetlands. This section will outline the issues which make the federal framework less than desirable and then will identify state programs which would enhance wetland protection.

Limits on Federal Framework

Limits of the Wetlands Reserve Management Act

[154] *40 C.F.R. § 230.10(a)(4) (2011).*
[155] *16 U.S.C. § 1452 (2006.*
[156] *Id.*
[157] *33 C.F.R. § 325.2 (b)(2)(ii) (2009).*

The Wetlands Reserve Management Act is limited by the requirement that eligible farmland be converted before 1985. Possible reform could eliminate that requirement. {why is this important? How much land is involved?] Therefore any land would be eligible for the incentives. Most land converted since 1985[has now?] would have been subject to the "avoid, minimize, mitigate" requirements of the CWA permitting program, minimizing harm. However, complete conversion back to wetlands would be more desirable. Incentives through the WRMA would encourage greater conversion back to wetlands.

Limits of NEPA

NEPA regulates the procedures of government agencies. The greatest contribution to wetland protection and restoration through NEPA are through the reports used by the Corps in permitting. Reform could make NEPA reports mandatory for all CWA licensing. [Should be more as to why this is important]

Limits of ESA

The federal ESA has limits. It works slowly through its own procedures. During its first twenty-one years, forty-two species went extinct during delays in the listing process.[158] The ESA is a measure to prevent extinction for those species facing extinction, but it was never intended to protect all species.[159] Unfortunately, when species are "threatened" or "endangered" it is often

[158] *Center for Biological Diversity, http://www.biologicaldiversity.org/swcbd/Programs/policy/esa/EESA.pdf. (last visited Jun. 27, 2017) [hereinafter CDB].*
[159] *CBD, http://www.serconline.org/esa/fact.html (last visited Jun27, 2017).*

too late, especially when the main culprit is their environment, impacted by years of development decisions.

A state ESA might be more efficient in its administration than the federal statute. However it would not do much to help wetland animals. [Should explain, under the US Constitution that states can provide greater protections through their "EPAs" than the federal EPA}The primary issue facing wetland animals are the damage and disappearance of their environments. The primary challenges to wetland environments are development and pollution. The best way to combat these issues are through pollution and development regulations which target the specific environments. If the Corps or states were to consider threatened or endangered species in their section 404 permitting process that might be helpful. I would change the standard of permit review if an endangered or threatened species resides in the area of proposed development. I would remove the presumption of "not against public policy" in these situations. I would also remove the options of minimization, or mitigation. If a developer wants to develop in an area that is critical to an endangered or threatened species, they [he or she] must avoid harm completely: either through no loss or developing elsewhere.

Limits of CWA

The CWA prohibits the discharge of dredge or fill material into navigable waters without a permit, defining navigable waters as "waters of the United States."[160] Both the Corps and the EPA interpret "waters of the United States" expansively to include tributaries of navigable waters, waters that were once or could be made navigable, and wetlands, including those

[160] *§§1344, 1362(7).*

separated from waters of the United States by a man-made dike.[161] Federal jurisdiction over wetlands and sporadic or ephemeral waters under the CWA has been the subject of a series of Supreme Court cases, culminating in the June 2006 decision in *Rapanos v. United States*, 126 S. Ct. 2208, 2215 (2006).[162] In 1985, the Court in *United States v. Riverside Bayview Homes*, *Inc.,* 474 U.S. 121, 139 (1985) unanimously held that the text, policies, and history of the CWA allowed the Corps to require permits for the discharge of fill material into wetlands adjacent to "waters of the United States."[163] In 2001, however, the Court in *Solid Waste Agency of N. Cook County v. U.S. Army Corps of Eng'rs,*, 531 U.S. 159 (2001). [should not have periods after date] held that the CWA did not extend federal jurisdiction to an isolated pond that provided a habitat for migratory birds.[164] Combined, these two decisions held that wetlands located directly adjacent to navigable waters fall clearly under the jurisdiction of the CWA, but an isolated pond, even one containing the presence of migratory birds, did not fall under CWA jurisdiction.

The Court's decisions in these cases left the extent of federal jurisdiction under the CWA unclear. The Court attempted to answer this question in Rapanos.[165] Thirty-four states and the District of Columbia agreed with the federal government's position in Rapanos, asking the Court to take a more expansive view of CWA jurisdiction by holding that the isolated wetlands at issue were covered under the CWA.[166] The consolidated cases provided the Court [with] an opportunity to rule on whether ephemeral and intermittent waters, as well as isolated wetlands, are subject to federal jurisdiction under the CWA.

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[161] 33 C.F.R. § 328.3(a) (2004).
[162] Jonathan Adler, Reckoning with Rapanos: Revisiting "Waters of the United States" and the Limits of Federal Wetland Regulation, 14 Mo. Envtl. L. & Pol'y Rev. 1 (2006).
[163] United States v. Riverside Bayview Homes, Inc., 474 U.S. 121, 139 (1985).
[164] Solid Waste Agency of N. Cook County v. U.S. Army Corps of Eng'rs, 531 U.S. 159 (2001).
[165] 126 S. Ct. 2208.
[166] Rapanos, 126 S. Ct. at 2214.

The Court, however, could not reach consensus in Rapanos, resulting in several different opinions and a lack of clarity as to the protections of the law.[167] Four Justices formed a plurality and held that only waters with "a relatively permanent flow" and wetlands that "are "adjacent' to these "waters' in the sense of possessing a continuous surface connection" would be subject to federal jurisdiction and CWA protection.[168] Justice Kennedy concurred, but offered his own standard: only those waters or wetlands that have a significant nexus to waters that were, are, or could be made navigable should be subject to federal jurisdiction and CWA protection.[169] A dissenting group of Justices argued that there was federal jurisdiction in the Rapanos cases.[170] The dissent in Rapanos, authored by Justice Stevens, deferred to the judgment of the EPA and the Corps.[171] Rather than creating new tests for CWA jurisdiction, such as the significant nexus test, Justice Stevens asserted that the Court should defer to the "regulatory standards that have been in place for over 30 years."[172] Chief Justice Roberts was a member of the four justice plurality but wrote a separate concurrence. He admonished the Corps and the EPA for failing to promulgate new regulations to guide decisions involving federal jurisdiction under the CWA since the SWANCC decision.[173]

[Of these various interpretations, it is submitted that?] The Court should defer to the agencies tasked with administering the Act's provisions. The agencies are the most knowledgeable of effects and possible effects of any decision. In these cases the EPA and Corps

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[167] *Rapanos, 126 S. Ct. at 2214.*
[168] *Id. at 2235.*
[169] *Id. at 2236 (Kennedy, J., concurring).*
[170] *Id. at 2265 (Stevens, J., dissenting).*
[171] *Id.*
[172] *Id. at 807.*
[173] *Rapanos, 126 S. Ct. at 2235-36 (Roberts, C.J., concurring).*

agreed, and deference should have been granted to them. Not only did the decisions in these cases limit the scope of protection, [however,] but they caused a great deal of confusion as well.

The Corps and EPA consequently [have continued to still issue} issued their guidance, but there is still confusion. The agencies have stated that they will use Justice Kennedy's significant nexus test on a case by case basis.[174] This[has] left many waters and wetlands potentially unregulated by the federal government. Further, the lack of a clear and articulated standard from the Court has left lower courts and federal agencies with the task of deciding federal jurisdiction over many wetlands and waters on ad-hoc basis, using either Justice Kennedy's significant nexus test or the plurality's permanent flow and surface connection test.[175] This left states that have relied on the CWA for protection unsure of which wetlands and waters the CWA still covers.

Another shortcoming of the CWA is that it does not specifically protect wetlands. Section 404 only regulates certain harms to wetlands, but not the wetlands themselves.[176] Under section 404 it is possible to develop on wetlands without a permit if there is no discharge.[177] There are ways in which a wetland can be degraded or destroyed without a discharge, such as draining or removing vegetation. These actions are not regulated by section 404.[178] This is a serious problem, because a great deal of wetland loss is attributed to these methods.[179] [good]

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[174] *United States Army Corps of Engineers, http://www.usace.army.mil/cw/cecwo/reg/cwa_guide/rapanos_guide_memo.pdf. (last visited Jun. 29, 2017).*
[175] *Adler, at 14-19.*
[176] *Alyson C. Flournoy, Section 404 at Thirty-Something: A Program in Search of a Policy, 55 ALA. L. REV. 607, 618 (2004).*
[177] *Id.*
[178] *Id.*
[179] *Id.*

Another possible drawback of the CWA is that [the enforcement] strength of the CWA is dependent on the sympathy of the president and goals of his or her administration. A good example of this point is the "Clean Water Rule." In 2015, the EPA decided to clearly define the "Waters of the United States" after years of confusion due to the lack of specificity in the text of the CWA and differing and confusing judicial decisions.[180] The Clean Water Rule defined the scope of the waters protected under the CWA. The rule expanded protection to all isolated wetlands, streams, and tributaries. This rule, however, is currently stayed nationwide, pending resolution of claims that it is "arbitrary, capricious, and contrary to law."[181] Additionally, one of the first actions as President taken by Donald Trump was his signing of an executive order directing the EPA and the Corps to reverse this ruling.[182] As part of the Executive Branch, the EPA's enforcement of the CWA is dependent on Presidential direction. Without strict enforcement even the strongest federal or state laws [state laws can still be in place and enforced] are ineffective. Under the current administration, enforcement, and thus the power of the CWA, is likely to be weakened. Since the CWA offers states the power to administer clean water and wetland protection they must take it. A good, clearly defined state law can protect all state waters including all types of wetlands.

Possible Solutions

State Wetland Protection

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[180] *EPA, Water of the United States Rule, https://www.epa.gov/wotus-rule (last visited Jul. 2, 2017).*
[181] *Catskill Mts. Chptr. of Trout Unlimited, Inc. v. United States EPA, 846 F.3d 492, 505 n.14 (2d Cir. 2017).*
[182] *Executive Order, available at https://www.whitehouse.gov/the-press-office/2017/02/28/presidential-executive-order-restoring-rule-law-federalism-and-economic (last visited Jul. 2, 2017).*

The [US Constitution, in conjunction with the] CWA framework allows the state government to regulate all waters within the state. A state may enact a statute that covers all bodies of water in the state. The state of Washington has done this through the State Water Pollution Control Act. This Act gives its Department of Ecology broad jurisdiction to control and prevent pollution in all surface and underground waters in the state, including wetlands.[183]

A state may also choose to regulate certain harmful activities. Virginia has done this by amending its Water Protection Permit Program to regulate activities such as excavation and fill activity in wetlands.[184] The amendments allow the Virginia Department of Environmental Quality to assert jurisdiction and regulate wetlands based on the types of activities taking place regardless of whether federal jurisdiction exists.[185]

[Moreover,?] A state may attempt to target only those areas not covered by the CWA, therefore saving resources on those areas falling under federal jurisdiction. For example, Wisconsin enacted legislation providing that the state would have jurisdiction over all nonfederal wetlands including isolated wetlands.[186] The state relies on the Corps to determine whether it has jurisdiction, but if the Corps makes no determination, the state will independently decide whether a wetland is federal or nonfederal.[187] [If non-federal it will proceed to impose its own tougher standards?] Ohio has a similar scheme but it does not rely on the Corps to determine jurisdiction. Ohio enacted legislation in 2001 to establish a state-permitting process for isolated

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[183] *Wash. Rev. Code § 90.48 (2007).*
[184] *Dept. Env. Protection, http://www.dep.virginia.gov/wetlands/wetlands.html (last visited Jun. 27, 2017).*
[185] *Va. Code Ann. § 62.1-44.5 (2004).*
[186] *Wis. Stat. § 281.36(1m)(a) (2005).*
[187] *Id.*

wetlands.[188] Indiana has also established independent state authority and jurisdiction over isolated wetlands.[189]

The ideal state statute would protect all state wetlands from all potentially harmful activities. [The best illustration is Minnesota's statute, which does both. Minnesota has been a leader in protecting their own wetlands. This state has adopted a "no loss/ net gain" goal. Its legislature passed the Wetlands Conservation Act in 1991:

> "The legislature finds that the wetlands of Minnesota provide public value by conserving surface waters, maintaining and improving water quality, preserving wildlife habitat, providing recreational opportunities, reducing runoff, providing for floodwater retention, reducing stream sedimentation, contributing to improved subsurface moisture, helping moderate climatic change, and enhancing the natural beauty of the landscape, and are important to comprehensive water management, and that it is in the public interest to: (1) achieve no net loss in the quantity, quality, and biological diversity of Minnesota's existing wetlands; (2) increase the quantity, quality, and biological diversity of Minnesota's wetlands by restoring or enhancing diminished or drained wetlands; (3) avoid direct or indirect impacts from activities that destroy or diminish the quantity, quality, and biological diversity of wetlands; and (4) replace wetland values where avoidance of activity is not feasible and prudent.[190]

This statute specifically targets wetlands, while generally covering [most recognizable?] potential harms. This strategy work has worked well. All wetlands are protected, even those that may not be covered by the CWA. The harms listed are so broad that Minnesota has greater

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[188] *Ohio Rev. Code Ann. § 6111.021 (2007).*
[189] *Ind. Code § 13-18-22 (2007).*
[190] *Minn. Stat. § 103(a).*

discretion in enforcement [than perhaps any other state?]. The statute clearly lists the environmental services that the state is attempting to protect. The Minnesota Board of Water and Soil (MBWS) provides oversight, training, and promulgates rules.[191] The Department of Natural Resources enforces the provisions of the Act.[192] That department has the ability to issue cease and desist orders, wetland restoration orders, or wetland replacement orders. Failure to comply results in a criminal misdemeanor.[193]

The MBWS also oversees the Reinvest in Minnesota (RIM) Reserve Program, which began in 1986. [194] The program protects and improves water quality, reduces soil erosion, and enhances fish and wildlife habitat. Landowners voluntarily sign up for a conservation easement and they receive a percentage of the assessed value of their land.[195] After land is enrolled, it is managed under a conservation plan, which generally includes wetland restoration for areas with drained wetlands, native grass plantings, and tree plantings.[196] This program is innovative [in that its?] participants can volunteer, creating a private and public sector partnership. Individuals are able to profit while protecting the environment.

Minnesota's protections have [proven?] quite successful. [As a comparison,?] Minnesota has ["only"] lost an estimated 43% of its original total wetlands, while Iowa, Minnesota's neighbor to the south, has lost an estimated 89% of its total wetlands.[197] Iowa, however, has no

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[191] *Id.*
[192] *Id.*
[193] *Id. § 103(g).*
[194] *Minn. Bd. of Water and Soil Res's, http://www.bwsr.state.mn.us/easements/rim/factsheet.html (last visited Jul. 2, 2017).*
[195] *Id.*
[196] *Id.*
[197] *ASWM, State Programs, https://www.aswm.org/wetland-programs/state-wetland-programs (last visited Jul. 2, 2017).*

state=wide wetland protection,[198] relying only on the federal framework. This stark difference demonstrates the impact of strong state regulations and programs.

Minnesota has developed a [comprehensive and effective?] way to track wetland loss or gain. The "wetland status and trends monitoring program" (WSTMP) began in 2006.[199] Aerial photographs are taken of 5,000 sample plots.[200] These images are then analyzed using Geographic Information System (GIS) technology.[201] GIS is a computer system which analyzes data in relation to its position on Earth's surface.[202] Some samples are collected annually and some every three years.[203] A report is compiled every six years.[204] The last report was published in 2011.[205] The next report will be published later this year. The 2011 report found that 2,080 acres of wetlands were gained.[206]

[The Minnesota approach has produced?] a very positive result. [Conversely,?] Because Iowa has no monitoring program, it is impossible to determine the exact loss or gain Iowa experienced during this period. The benefits of the monitoring program are twofold: Minnesota can see if current policies are working and formulate recommendations for future legislation. An inventory system must begin to learn what damage has occurred, what risks remain, and to examine possible solutions. The inventory system can track changes and inform decision makers.

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[198] *Id.*
[199] *Dept. Nat. Res., http://www.dnr.state.mn.us/eco/wetlands/wstm_prog.html (last visited Jul. 1, 2017) [hereinafter DNR].*
[200] *Id.*
[201] *Id.*
[202] *Nat'l Geo., https://www.nationalgeographic.org/encyclopedia/geographic-information-system-gis/ (last visited Jul. 1, 2017).*
[203] *DNR, http://files.dnr.state.mn.us/eco/wetlands/wstmp_trend_report_2006-2011.pdf (last visited Jul. 2, 2017).*
[204] *Id.*
[205] *DNR, http://www.dnr.state.mn.us/eco/wetlands/wstm_prog.html (last visited Jul. 2, 2017).*
[206] *DNR, http://files.dnr.state.mn.us/eco/wetlands/wstmp_trend_report_2006-2011.pdf (last visited Jul. 2, 2017).*

[In accordance with the Minnesota approach, it is asserted that?] Wetland animals would be best served by an overall policy that begins with a clearly written state statute. The statute should protect all state water bodies and clearly define the waters protected. The statute should identify wetlands specifically in the scope of protection. The ecosystem services that are meant to be protected should be outlined in detail. Any actions which impact these services should be regulated. [It is further asserted that] "Net gains" should be the overall goal--not just "no net loss"). The statute should [also] be combined with innovative programs that protect and restore wetlands while utilizing public and private resources. [In addition,?] Agencies and states should share information about what programs work and do not work. A state agency should monitor threatened and endangered species. There should be heightened regulations for areas where these animals live and breed. Ideally [such] protective statutory measures and programs would prevent any further wetland species from becoming threatened or endangered.

V. CONCLUSION

Because of the weakness of federal law and regualation regarding wetlands,?] State governments must take an active role in environmental policy. [Fortunately,?] The federal statutes permit and encourage this approach. States should [therefore] follow the path [pioneered by?] the state of Minnesota, creating a clear statute, specifically protecting all wetlands in the scope. The statute should emphasize the specific qualities it intends to protect. "Net gain" should be the overall goal. It should provide an effective inventory system to monitor acreage when [after?] the program begins, and then [measure?] any progress or loss. States must also create programs which allow private citizens to engage in conservation, providing benefits [incentives?]

to those that do. They should especially provide protection and recognition to endangered or threatened species. Finally, they should also share information [with neighboring states?].

[As this paper has demonstrated?] the wetlands provide an enormous value to all people throughout all of the fifty states. Thus, even if the federal government is unwilling or unable to protect these invaluable resources, the individual states--[by the taking of prudent steps to protect their own wetlands, can preserve them for the benefit of all of their residents.] As [an additional benefit, the states can also end up protecting much more substantially] the interests of their wetland animals as well.