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FROM SWAMP DRAINAGE TO WETLANDS REGULATION TO ECOLOGICAL NUISANCES TO ENVIRONMENTAL ETHICS

John Copeland Nagle[†]

Nuisance law has changed a lot from Horace Gay Wood to Anthony Palazzolo. The 1893 edition of Wood's treatise on nuisance law observed that "[w]here water lies upon the surface of the ground in wet, swampy places, and extends even over the lands of several proprietors, but has not taken to itself the qualities of a stream so as to become a water-course, any owner of such lands may, by drains or other artificial means, exhaust the water and redeem his land from its swampy condition."¹ By 2005, though, Palazzolo learned that the water spread across his neighbor's land—now revered as a "wetland"—would suffer from "increased nitrogen levels" if Palazzolo were allowed to develop his land.² That harm qualified as "a predictable (anticipatory) nuisance which would almost certainly result in an ecological disaster to the pond."³

J.B. Ruhl applauds this development.⁴ He sees a role for nuisance law in protecting ecological values that would supplement the extensive statutory schemes that have taken shape during the past forty years. Building upon his earlier work exploring how the law recognizes ecosystem services, Ruhl encourages the courts to

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¹ 1 H.G. WOOD, A PRACTICAL TREATISE ON THE LAW OF NUISANCES IN THEIR VARIOUS FORMS; INCLUDING REMEDIES THEREFOR AT LAW AND IN EQUITY 505 (3d ed. 1893).

² Palazzolo v. State, No. WM 88-0297, 2005 WL 1645974, at *5 (Super. Ct. R.I. July 5, 2005).

³ *Id.*

⁴ See J.B. Ruhl, *Making Nuisance Ecological*, 58 CASE W. RES. L. REV. 753 (2008) (symposium).

recognize interferences with ecosystem services as the kind of harms for which nuisance law provides a remedy.⁵

I applaud the recognition of ecological nuisances, too. In doing so, I begin where Ruhl left off. My earlier writing about nuisance law is the last source that Ruhl cites in his article.⁶ The thesis of my article was that nuisance law has long recognized harms that are not familiar to those who read casebooks that describe nuisances as involving “polluting smokestacks, corroded tanks leaking hazardous wastes into the groundwater, barking dogs, noisy trains, and smelly hog farms. . . .”⁷ My paradigm case, *Mark v. State Dep’t of Fish & Wildlife*,⁸ was a 1999 decision holding that an unfamiliar complaint—the use of neighboring property as a nude beach—nonetheless resulted in harms that are familiar to nuisance law, such as fear of harassment, offense at exposure to public nudity and sexual activity, and the diminished value of property.⁹ Like moral nuisances, ecological nuisances recognize that the requisite substantial interference with the use and enjoyment of land can be achieved by surprising means.

In this essay, I use the example of wetlands to illustrate ecological nuisances. Wetlands are an especially appropriate example because they are featured in many recent environmental disputes, and because the societal understanding of wetlands has changed so dramatically during the past century. On the other hand, a theory of ecological nuisances is not limited to wetlands. Ecosystems of all types provide services, and the interference with those services could constitute a nuisance.

This essay shows how ecological nuisances should be accepted under longstanding principles of nuisance law. Ruhl makes the same point, but he approaches the issue from a somewhat different perspective. Ruhl focuses on the traditional role of nuisance in protecting economic interests and argues that ecosystem services fits within that economic model. I want to add to Ruhl’s claims by showing how our evolving understanding of wetlands should yield a similar evolution in the protections afforded landowners by nuisance law. Part I describes the swamps that were the bane of societal—

⁵ See *id.* at 777 (explaining that “what I have in mind looks and feels like a rather conventional nuisance action, the only novel feature being that the plaintiff is linking damage to ecological resources on defendant’s property with injury to use and enjoyment of plaintiff’s property.”).

⁶ See *id.* at 785 n.109 (citing John Copeland Nagle, *Moral Nuisances*, 50 EMORY L.J. 265 (2001)).

⁷ Nagle, *supra* note 6, at 265.

⁸ 974 P.2d 716 (Or. Ct. App. 1999).

⁹ See *id.* at 718.

including judicial—thought during the late nineteenth century period when Wood wrote his famous nuisance law treatise. Part II reviews Ruhl's argument for nuisance law's recognition of the ecosystem services provided by wetlands. Part III considers how theories of environmental ethics can aid an evaluation of ecological nuisances and other legal regulation of wetlands.

I. WOOD'S SWAMPS

Horace G. Wood practiced law, served as a county solicitor, and was elected to two terms in the Vermont state legislature until an illness forced him to move to New York City and take up treatise writing.¹⁰ Besides his treatise on nuisance law, he wrote treatises on such diverse topics as employment law, fire insurance, and the statute of frauds.¹¹ Those treatises have been superseded by developments in those areas of the law, but the two volumes that he wrote about nuisance law remain the leading scholarly treatise exclusively devoted to the subject.

Wood's "Nuisance Law" treatise covers all sorts of things. Besides introductory chapters on the nature of private and public nuisances, the two volumes include chapters on nuisances arising from party walls, highway obstructions, noxious vapors, noisome smells, vibrations, and dangerous animals. Water occupies a surprisingly large portion of the treatise. More than a quarter of the treatise's chapters and pages discuss nuisances related to water, such as pollution, interferences with the flow of water, and the right to use water. Tellingly for wetlands, Wood begins his discussion of nuisances involving water by observing that water "is the property of him who owns the land" so long as "it remains in the earth

¹⁰ See Obituary, *Horace G. Wood, Esq.*, Peterboro' (N.H.) Transcript, Jan. 12, 1893, at 2.

¹¹ See H. G. WOOD, A TREATISE ON THE LAW OF LANDLORD AND TENANT: WITH COPIOUS NOTES AND REFERENCES (2d ed. 1888); H. G. WOOD, A TREATISE ON THE LAW OF RAIL-ROADS (1885); H. G. WOOD, A TREATISE ON THE STATUTE OF FRAUDS (8 vols.) (1884); H. G. WOOD, A TREATISE ON THE LIMITATION OF ACTIONS AT LAW AND IN EQUITY (8 vols.) (1883); HORACE G. WOOD, A TREATISE ON THE LEGAL REMEDIES OF MANDAMUS AND PROHIBITION, HABEAS CORPUS, CERTIORARI, AND QUO WARRANTO (1880); H. G. WOOD, A TREATISE ON THE LAW OF FIRE INSURANCE: ADAPTED TO THE PRESENT STATE OF THE LAW, ENGLISH AND AMERICAN (8 vols.) (Albany, John D. Parsons, Jr. 1878); HORACE G. WOOD, A TREATISE ON THE LAW OF MASTER AND SERVANT (8 vols.) (1877). His obituary described Wood's treatises as "the standard authority throughout the courts of the United States." Obituary, *supra* note 10, at 2. The continued value of Wood's treatises is demonstrated by numerous judicial citations to them. See, e.g., *Bailey v. United States*, 78 Fed. Cl. 239, 262 (2007) (citing Wood's railroads treatise); *City of Chicago v. Baretta U.S.A. Corp.*, 821 N.E.2d 1099, 1110 (Ill. 2004) (citing Wood's nuisance law treatise); *Brown v. Sabre, Inc.*, 173 S.W.3d 581, 584 (Tex. Ct. App. 2005) (citing Wood's master and servant treatise).

intermingled with the soil itself, or while it lies there, or even when upon the surface in a state of inertia. . . ."¹²

Wood's treatise contains a two paragraph section specifically on "[s]wamps, and wet, springy places."¹³ I have quoted part of it at the beginning of this article, but it is helpful to consider the entirety of Wood's teaching on the application of nuisance law to swamps:

Where water lies upon the surface of the ground in wet, swampy places, and extends even over the lands of several proprietors, but has not taken to itself the qualities of a stream so as to become a water-course, any owner of such lands may, by drains or other artificial means, exhaust the water and redeem his land from its swampy condition.

The owner of land has an unrestricted right to drain it for agricultural purposes when the water which it is sought to get rid of is mere surface water, and has no definite source or channel; and even though a lower proprietor is thereby deprived of water which had previously been accustomed to come to him, he has no cause of action for the diversion. Neither does the fact that the land drained is wet and springy, so that in most seasons the water rises to the surface and flows off upon the land of another, thus supplying him with water for domestic or manufacturing purposes, make any change in the right or liability of the owner of the upper estate, if the water assumes no definite channel, but spreads itself over the surface of the soil and squanders itself there.¹⁴

Wood cited seven cases in support of his assertions about how nuisance law viewed swamps. In 1870, the New Hampshire Supreme Court articulated a reasonableness test for the use of water in swamps, but it refused to afford one landowner the right to insist upon the continued flow of water that the neighboring landowners diverted. A contrary rule, worried the court, would "prevent the beneficial enjoyment and improvement of one's own land," and prevent swamps from being "drained or reclaimed."¹⁵ The Rhode Island Supreme Court reached a similar conclusion in another case involving the defendant's interference with water that had once flowed to the plaintiff's neighboring land. The court explained that "in the eye of

¹² 1 WOOD, *supra* note 1, at 410–11.

¹³ *Id.* at 505.

¹⁴ *Id.* (internal citations omitted).

¹⁵ *Swett v. Cutts*, 50 N.H. 439, 445 (1870).

the law, as well as of common sense," the water from a swamp is "a part of the soil with which it intermingles, to be there used by the owner of the soil, if to his advantage, or to be got rid of in any mode he pleases, if to his detriment."¹⁶ The New York courts shared the same concerns. According to an 1870 decision, "[e]very person has the unquestionable right to drain the surface water from his own land, to render it more wholesome, useful or productive, or even to gratify his taste or will; and if another is inconvenienced, or incidentally injured thereby, he cannot complain."¹⁷ "I know of no principle," wrote another New York judge, "which will prevent the owner of land from filling up the wet and marshy places on his own soil, for its amelioration and his own advantage, because his neighbor's land is so situated to be incommoded by it."¹⁸ The last case that Wood cited, decided in the English Exchequer Chamber in 1869, upheld a landowner's "draining off the water for the purpose of the improvement of his land."¹⁹

The courts continued to follow that rule in the years after Wood published his treatise. In 1901, the North Carolina Supreme Court refused to adopt a rule that "would prevent the drainage of large bodies of swamp lands of great natural fertility and capable of the highest degree of improvement, but now worse than useless. They will eventually be needed to support an ever-increasing population, and to shut them up indefinitely as the mere homes of disease is repugnant to the highest principles of public policy and of private right."²⁰ Later in the twentieth century, the same court affirmed that draining a wetland did not constitute a nuisance at common law. "Historically," the court explained, "the State promoted dredge and fill activity . . . for the State generally considered such marsh areas agricultural wasteland teeming with malarial mosquitoes."²¹

Most famously, the United States Supreme Court said that "[i]f there is any fact which may be supposed to be known by everybody, and therefore by courts, it is that swamps and stagnant waters are the cause of malarial and malignant fevers, and that the police power is

¹⁶ *Buffum v. Harris*, 5 R.I. 243, 253 (1858).

¹⁷ *Waffle v. N.Y. Central R.R. Co.*, 58 Barb. 413, 422 (N.Y.S.C. 1870).

¹⁸ *Goodale v. Tuttle*, 29 N.Y. 459, 467 (1864). The other New York cases cited by Wood were *Curtiss v. Ayrault*, 47 N.Y. 73 (1871) and *Cott v. Lewiston R. Co.*, 36 N.Y. 217 (1867).

¹⁹ *Popplewell v. Hodgkinson*, (1869) 20 L.T.N.S. 578, 579 (Exch.) (Eng.).

²⁰ *Mizell v. McGowan*, 39 S.E. 729, 729 (N.C. 1901). See also *Gray v. Reclamation Dist.*, 163 P. 1024, 1032 (Cal. 1917) (describing the state's draining of swamp lands as an exercise of the police power for "the abatement of a nuisance in aid of navigation and in reclamation of vast tracts of state land."). But see *Brown v. Campbell*, 21 Haw. 314, (1912) (observing in a swamp drainage case that "[l]and in an insanitary condition or otherwise deleterious to the public health through natural causes not contributed to by man was not a nuisance at common law.").

²¹ *State ex rel. Rhodes v. Simpson*, 385 S.E.2d 329, 332-33 (N.C. 1989).

never more legitimately exercised than in removing such nuisances.”²² That statement, from the Court’s 1900 decision in *Leovy v. United States*, is frequently quoted today to show the old view of swamps.²³ But *Leovy* wasn’t a nuisance case. Robert Leovy was a Louisiana parish official who followed a local directive to build a dam across a crevasse, and his work earned him a federal criminal prosecution for violating the Rivers and Harbors Act of 1892. The Supreme Court reversed Leovy’s conviction because the trial judge’s instructions failed to require the jury to find that the crevasse was navigable water.²⁴ In doing so, the Court not only disparaged swamps as nuisances generally, but it also emphasized that damming of the crevasse dramatically increased the value of the land. Justice Shiras noted that the contested water resulted from the seasonal overflow of the Mississippi River, and “by this and similar breaks through the banks of the river large tracts of land were rendered worthless. . . .”²⁵ He concluded that “the reclamation of swamp and overflowed lands was not only not forbidden, but was recognized as the duty of the State, in consideration of the grant of the public lands” by Congress in the first Swamp Act of 1849.²⁶

Leovy, in other words, sustained the legislature’s decision to drain swamps, which was the congressional policy beginning in the middle of the nineteenth century. The Swamp Act passed by Congress in 1849 authorized the transfer of “the whole of those swamp and overflowed lands, which may be or are found unfit for cultivation” in Louisiana to the state.²⁷ More swamp acts soon followed.²⁸ The purposes of such laws were to reclaim “worthless” swamplands for cultivation, to eliminate “notoriously malarial” lands and thus achieve “great sanitary improvement,” and to increase the value of adjacent

²² *Leovy v. United States*, 177 U.S. 621, 636 (1900).

²³ See, e.g., Robert V. Percival, “Greening” the Constitution—Harmonizing Environmental and Constitutional Values, 32 ENVTL. L. 809, 817 n.28 (2002) (quoting *Leovy*); Jonathan H. Adler, *Wetlands, Waterfowl, and the Menace of Mr. Wilson: Commerce Clause Jurisprudence and the Limits of Federal Wetland Regulation*, 29 ENVTL. L. 1, 19 n. 142 (1999) (same); Michael M. Berger & Gideon Kanner, *The Need for Takings Law Reform: A View from the Trenches—A Response to Taking Stock of the Takings Debate*, 38 SANTA CLARA L. REV. 837, 846 n. 45 (1998) (same); Dennis J. Priolo, *Section 404 of the Clean Water Act: The Case for Expansion of Federal Jurisdiction Over Isolated Wetlands*, 30 LAND & WATER L. REV. 91, 92 n. 2 (1995) (same); Stephen Jay Stokes, *The Limit of Government’s Regulatory Authority Over Non-Adjacent Wetlands: Hoffman Homes, Inc. v. EPA*, 15 ENERGY L.J. 137, 137 n.5 (1994) (same).

²⁴ *Leovy*, 177 U.S. at 626.

²⁵ *Id.* at 627.

²⁶ *Id.* at 636.

²⁷ 9 Stat. 352, 352, § 1 (Mar 2, 1849).

²⁸ See Act of Sept. 28, 1850, ch. 86, § 8, 9 Stat. 521, 522 (granting swamp lands to all other states); Act of Mar. 12, 1860, ch. 8, § 12 Stat. 3 (granting swamp lands to the new states of Minnesota and Oregon).

government property.²⁹ In each instance, Congress expected that the states would invest the proceeds from the sale of the land to private parties in the “reclamation” of the lands for productive purposes. That was the idea. Actually, the administration of the Swamp Acts was rife with fraud. As Benjamin Horace Hibbard explained, “[n]o better bait was ever thrown to speculators than the swamp lands of the various states.”³⁰ Besides outright fraud, states quickly adopted a generous view of “swamp” lands that “embraced the finest and most available agricultural lands in a locality.”³¹ The federal government thus disposed of over 80,000,000 acres of public lands to the states. In turn, the states gave the land to their counties and to railroads, or they sold them to private speculators qua settlers. The final irony, as Hibbard reports, is that “[t]he original purpose of the grant was to enable the states to reclaim their wet lands by the construction of levees and drains. . . . However, no stipulation was made whereby this form of improvement became a necessary condition for the acquisition of titles by the states.”³² In other words, little swampland was actually reclaimed pursuant to the Swamp Acts.

Swamp drainage occurred in earnest once the states enacted their own drainage statutes. By 1915, 36 states had enacted laws to facilitate the drainage of swamps and other watery lands.³³ Ben Whipple Palmer identified even more reasons for such state laws than Hibbard listed for the federal Swamp Acts, citing increased agricultural yields, improved public highways, more business for transportation companies and for nearby towns, and “improvement in

²⁹ See BENJAMIN HORACE HIBBARD, A HISTORY OF THE PUBLIC LAND POLICIES 270 (1924). Hibbard’s chapter on the Swamp Acts is by far the most helpful in understanding how the federal government facilitated the draining of swamps, which is somewhat surprising for a professor of agricultural economics whose other books bore titles such as “Markets and Prices of Wisconsin Cheese.” See also Henry E. Erdman, *A Pioneer in Marketing . . . Benjamin Horace Hibbard*, J. MARKETING, Oct. 1959, at 77 (describing the life, career, and achievements of Benjamin Horace Hibbard). Another excellent source is BEN PALMER, SWAMP LAND DRAINAGE WITH SPECIAL REFERENCE TO MINNESOTA (1915), which despite its narrow title discusses the federal Swamp Acts and provides a thorough summary of the state drainage laws that I will discuss below. Palmer, like Professor Hibbard, pursued an eclectic writing agenda, authoring a biography of Chief Justices Marshall and Taney, treatises on courtroom strategy and condemnation law, and a book of sonnets. See *Strangers to Us All: Lawyers and Poetry*, <http://myweb.wvnet.edu/~jelkins/lp-2001/palmer.html> (last visited Feb. 7, 2008).

³⁰ HIBBARD, *supra* note 29, at 280.

³¹ *Id.* at 279. See also LOUIS BERGAU, SWAMP LAND LAWS: WITH THE INSTRUCTIONS, OPINIONS AND DECISIONS OF THE SECRETARY OF THE INTERIOR, AND THE COMMISSIONER OF THE GENERAL LAND OFFICE AND THE SUPREME COURT OF THE UNITED STATES (1876) (summarizing some of the disputes regarding state selections of swamp land).

³² HIBBARD, *supra* note 29, at 285.

³³ See PALMER, *supra* note 29, at 32. See also, e.g., Chicago, Burlington & Quincy R.R. Co. v. Illinois ex rel. Grimwood, 200 U.S. 561, 563 (1906) (quoting the Farm Drainage Act of Illinois); *Almand v. Bd. of Drainage Commissioners*, 94 S.E. 1028, 1029–30 (Ga. 1918) (quoting Georgia’s drainage law).

public health, due to the elimination of fever and disease breeding swamps and marshes.”³⁴ For example, Palmer explained that “[m]alarial diseases prevailed in Indiana and Illinois to an alarming extent prior to the construction of extensive drainage systems in those states.”³⁵

The Swamp Acts and their state counterparts reflected the prevailing nineteenth century view of swamps. Louis Brandeis and Charles Warren are best remembered for collaborating on a *Harvard Law Review* article identifying a right to privacy,³⁶ but one year earlier they wrote another article published in the *Harvard Law Review* that disparaged swamps as “a nuisance and a fit subject for drainage.”³⁷ David Miller’s study shows that swamps were characterized “as dark, dismal, and deceitful. . . .”³⁸ Swamps were “associated with disease and death” primarily because of the miasma theory of infectious diseases.³⁹ Swamps were also regarded as havens for escaped slaves, as described by Henry Wadsworth Longfellow’s poetry and as illustrated by Thomas Moran’s painting.⁴⁰ Harriet Beecher Stowe’s second novel, *Dred: A Tale of the Dismal Swamp*, considered the plight of an escaped slave living in “[t]he wild, dreary belt of swamp-land which girds in those states scathed by the fires of

³⁴ PALMER, *supra* note 29, at 1–2.

³⁵ *Id.* at 2–3. Palmer cited statistics indicating that the number of deaths from malaria in Illinois, Indiana, and Iowa dropped six-fold between 1870 and 1890, the period of extensive swamp drainage in those states. *Id.* at 3.

³⁶ See, e.g., *Bartnicki v. Vopper*, 532 U.S. 514, 537–40, 553 (2001) (Breyer, J., concurring) (citing Samuel D. Warren & Louis D. Brandeis, *The Right to Privacy*, 4 HARV. L. REV. 193 (1890)); *id.* at 553 (Rehnquist, C.J., dissenting) (same); *Griswold v. Connecticut*, 381 U.S. 479, 510 n.1 (1964) (Black, J., dissenting) (same).

³⁷ Samuel D. Warren & Louis D. Brandeis, *The Law of Ponds*, 3 HARV. L. REV. 1, 8 (1889). See also *id.* at 22 (noting that “[t]he swamp is, after all, but ‘watery’ land, in which the owner may have the usual right of digging and draining. . . .”).

³⁸ DAVID C. MILLER, *DARK EDEN: THE SWAMP IN NINETEENTH-CENTURY CULTURE* 51 (1989). For similar sentiments, see RODNEY JAMES GIBLETT, *POSTMODERN WETLANDS: CULTURE, HISTORY, ECOLOGY* xi (1996) (describing the view of wetlands as “places of darkness, disease and death, horror and the uncanny, melancholy and the monstrous”); THOMAS JEFFERSON, *NOTES ON THE STATE OF VIRGINIA* 100 (1832) (praising “a common ditch for the draining of lands”); Harold W. Hannah, *History and Scope of Illinois Drainage Law*, 1960 U. ILL. L.F. 189, 189 (quoting a 1941 government report stating that “[g]nats, flies, snakes, and wild animals infested the tall grasses and the dread black swamp fever was thought to steal out of these places at night to take toll of settlers and their families”).

³⁹ See GIBLETT, *supra* note 38, at 103.

⁴⁰ See MILLER, *supra* note 38, at 92 (quoting HENRY WADSWORTH LONGFELLOW, *THE SLAVE IN THE DISMAL SWAMP* (1855)); *id.* at Plate 4 (reproducing Moran’s 1865 painting “Slaves Escaping Through a Swamp”). More generally, “[t]he American swamp has served three different military and political functions over the course of its recent history: firstly, as the first refuge of runaway slaves seeking freedom; secondly, as last resort and base for the white revolutionary struggling to overthrow imperial government; and thirdly, as the last refuge of indigenes trying to hold onto their freedom and lands.” GIBLETT, *supra* note 38, at 214.

despotism[.]”⁴¹ an obvious reference to the southern states that she condemned in *Uncle Tom’s Cabin*.⁴² Even John Muir wrote upon his first visit to a Florida swamp that “[e]verything in earth and sky had an impression of strangeness[.]”⁴³ Earlier still, Miller reports that “the swamp provided the imagery of hell” for Christians ever since the Middle Ages.⁴⁴

The draining of swamps resulted in numerous cases in which landowners challenged the power of the government to mandate the draining of swamps. Most of these claims failed. According to a 1904 water law treatise:

The health, prosperity, and welfare of a community is largely dependent upon its freedom from stagnant bodies of standing water, and from a soil so saturated with water as to render it unprofitable for cultivation, and deleterious to the health of persons attempting to live upon it. The creation of conditions favorable to the maintenance of a large and prosperous population is an object to which a government may rightfully direct its attention. . . . Since the drainage of wet and malarious districts is necessary to the creation of conditions favorable to the maintenance of a dense population, such drainage is within the proper exercise of the police power of the state.⁴⁵

Alternatively, landowners sought compensation from the government for various harms associated with the draining of their lands. Those takings claims failed. The courts also upheld statutes requiring the adjacent property owners to pay the costs of draining the swamps because those owners would become the greatest beneficiaries of the reclaimed lands. According to the Wisconsin Supreme Court, “[t]o

⁴¹ HARRIET BEACHER STOWE, *DRED: A TALE OF THE DISMAL SWAMP* 274 (1856).

⁴² MILLER, *supra* note 38, at 56–57 (quoting Stowe). See also Alfred L. Brophy, *Humanity, Utility, and Logic in Southern Legal Thought: Harriet Beecher Stowe’s Vision in Dred: A Tale of the Great Dismal Swamp*, 78 B.U.L. Rev. 1113 (1998) (discussing Stowe’s depiction of Southern legal thinking in her writing).

⁴³ MILLER, *supra* note 38, at 141 (quoting JOHN MUIR, *A THOUSAND-MILE WALK TO THE GULF* 88 (1916)). For a more charitable view of Muir’s understanding of swamps, see GIBLETT, *supra* note 38, at 240–41.

⁴⁴ MILLER, *supra* note 38, at 47.

⁴⁵ 2 HENRY P. FARNHAM, *THE LAW OF WATERS AND WATER RIGHTS: INTERNATIONAL, NATIONAL, STATE, MUNICIPAL, AND INDIVIDUAL, INCLUDING IRRIGATION, DRAINAGE, AND MUNICIPAL WATER SUPPLY* 900 (1904). See also *Cubbins v. Mississippi River Comm’n*, 204 F. 299, 303 (E.D. Ark. 1913) (holding that “every sovereign state has the power to construct and maintain levees and provide for the drainage of swamps, when deemed necessary for the general welfare of its people for the protection of the health and property[.]” and noting that “[t]he right of the states bordering on the Mississippi river and its tributaries to construct and maintain levees along the banks of said river has been exercised from time immemorial. . . .”).

protect the public health and prevent public nuisances, this legislative interference with private property may be justified, and the assessment to cover the cost of such work may properly be made on the lands proportionably benefited and improved thereby.”⁴⁶

To summarize, the nineteenth century nuisance cases and other laws related to swamps teach the following:

1. The harms associated with swamps include (1) an impediment to higher use of the land for development, (2) unsightliness, and (3) the spread of malaria and other diseases, typically due to the presence of mosquitoes.
2. A landowner could not invoke nuisance law to object to the presence of a swamp on their neighbor's property.
3. Legislative enactments were the primary vehicle for remedying the harms associated with swamps.
4. The courts relied upon nuisance law to avoid the Fifth Amendment's duty to pay just compensation to landowners whose property was subjected to legislatively-mandated swamp drainage activities.

II. RUHL'S WETLANDS

The swamps of the nineteenth century have been replaced by the wetlands of the twenty-first century. Wetlands are now regarded as “an ecological treasure.”⁴⁷ According to one wetlands treatise:

⁴⁶ *Donnelly v. Decker*, 17 N.W. 389, 393 (Wis. 1883). See also *Wurts v. Hoagland*, 114 U.S. 606 (1885) (holding that a statute providing for the drainage of land, at owners' expense, after notice and hearing, did not deprive the owners of property without due process nor violate equal protection under the Fourteenth Amendment); *Bowes v. City of Aberdeen*, 109 P. 369 (Wash. 1910) (holding that the state may, against the will of the landowner, fill in a low lot in order to achieve proper drainage for an area and may assess the cost to the properties that benefit from the action providing that public notice and hearing occurs); FARNHAM, *supra* note 45, at 903 (observing that “[t]he individual has no right to maintain a nuisance, and, as one of the public, he may be taxed for an improvement which is for the public welfare”); *id.* at 917 (concluding that “[o]ne man cannot be compelled to drain his land for the benefit of his neighbor, except where the lack of drainage constitutes a nuisance which may be abated under the general principles governing the abatement of nuisances”); 2 THOMAS COOLEY, *TAXATION* 1132 (3d ed. 1909) (discussing “drainage laws, which are enacted in order to relieve swamps, marshes, and other low lands of the excessive waters which detract from their value for occupation and cultivation, and perhaps render them worthless for use, and are likely at the same time to diffuse through the neighborhood a dangerous nuisance”) (*quoted in* *Cilley v. Sullivan*, 153 N.W. 773, 775 (Mich. 1915); David Schultz, *The Price is Right! Property Valuations for Temporary Takings*, 22 HAMLINE L. REV. 281, 295 n. 42 (1998) (citing cases upholding the mandatory draining of swamps without compensation).

⁴⁷ *Sabine River Auth. v. U.S. Dep't of Interior*, 951 F.2d 669, 672 (5th Cir. 1992).

Wetlands provide many services and commodities to humanity. At the population level, wetland-dependent fish, shellfish, fur animals, waterfowl, and timber provide important and valuable harvests and millions of days of recreational fishing and hunting. At the ecosystem level, wetlands moderate the effects of floods, improve water quality, and have aesthetic and heritage value. They also contribute to the stability of global levels of available nitrogen, atmospheric sulfur, carbon dioxide, and methane.⁴⁸

This understanding of the ecosystem services of wetlands is now the subject of extensive ecological research and policy development.⁴⁹

Ruhl is one of a number of legal scholars who have sought to integrate the scientific appreciation of ecosystem services into the law.⁵⁰ Much of his writing has sought to apply ecosystem services within existing statutory schemes, such as the Endangered Species Act or the wetlands protections of Section 404 of the Clean Water Act. But Ruhl has also addressed how ecosystem services can influence the common law. His latest article for this symposium illustrates how ecosystem services can yield ecological nuisances.⁵¹

*Palazzolo v. State*⁵² is Exhibit A for Ruhl's theory of ecological nuisances. *Palazzolo* is perhaps more famous as a takings case decided by the United States Supreme Court, which held that the state's denial of a permit to fill a wetland might qualify as a regulatory taking.⁵³ On remand, the state trial court held that filling in

⁴⁸ WILLIAM J. MITSCH & JAMES G. GOSSELINK, *WETLANDS* 571 (3d ed. 2000) (italics omitted).

⁴⁹ E.g., GRETCHEN C. DAILY & KATHERINE ELLISON, *THE NEW ECONOMY OF NATURE: THE QUEST TO MAKE CONSERVATION PROFITABLE* (2002); *NATURE'S SERVICES: SOCIETAL DEPENDENCE ON NATURAL ECOSYSTEMS* (Gretchen C. Daily, ed., 1997).

⁵⁰ E.g., J.B. RUHL, STEVEN E. KRAFT & CHRISTOPHER L. LANT, *THE LAW AND POLICY OF ECOSYSTEM SERVICES* (2007); Alexandra B. Klass, *Adverse Possession and Conservation: Expanding Traditional Notions of Use and Possession*, 77 U. COLO. L. REV. 283 (2006) (discussing how adverse possession laws protect conservation practices); J. B. Ruhl & James Salzman, *The Law and Policy Beginnings of Ecosystem Services*, 22 J. LAND USE & ENVTL. L. 157 (2007) (detailing the integration of ecosystem services in law and social policy); James Salzman, *A Field of Green? The Past and Future of Ecosystem Services*, 21 J. LAND USE & ENVTL. L. 133 (2006) (analyzing how we can use law to prevent deterioration of the ecosystem); James Salzman, *Symposium: The Ecosystem Approach: New Departures for Land and Water: Review Essay: Valuing Ecosystem Services*, 24 ECOLOGY L.Q. 887 (1997) (highlighting how ecosystem management has been incorporated into environmental law); Barton H. Thompson, Jr., *Markets for Nature*, 25 WM. & MARY ENVTL. L. & POL'Y REV. 261 (2001) (discussing the effects of policy and regulated markets on nature).

⁵¹ Ruhl, *supra* note 4. See also J.B. Ruhl, *Toward a Common Law of Ecosystem Services*, 18 ST. THOM. L. REV. 1 (2006).

⁵² No. WM 88-0297, 2005 WL 1645974 (R.I. Super. Ct., July 5, 2005).

⁵³ *Palazzolo v. Rhode Island*, 533 U.S. 606 (2001).

the wetland would constitute a public nuisance and thus come within one of the exceptions for regulatory takings. The court explained:

Palazzolo's proposed development has been shown to have significant and predictable negative effects on Winnapaug Pond and the adjacent salt water marsh. The State has presented evidence as to various effects that the development will have including increasing nitrogen levels in the pond, both by reason of the nitrogen produced by the attendant residential septic systems, and the reduced marsh area *which actually filters and cleans runoff*. This Court finds that the effects of increased nitrogen levels constitute a predictable (anticipatory) nuisance which would almost certainly result in an ecological disaster to the pond.⁵⁴

Ruhl sees *Palazzolo* as a "simple" and "straightforward" case: "Palazzolo owned the marsh; the marsh filtered and cleaned runoff into the pond; those services were positive externalities flowing off of Palazzolo's property; the public in general enjoyed the economic benefits of the service; Palazzolo therefore had no property right to fill the marsh."⁵⁵

Palazzolo is an important case because it shows how ecosystem services can be infused into nuisance law. Yet Ruhl admits that ecological nuisances are new to nuisance law. He even says that "one will search in vain for decisions prior to 2000 applying nuisance law in contexts anything like those addressed through statutory programs such as the Endangered Species Act and other ecosystem management statutes."⁵⁶ But there aren't too many decisions *since*

⁵⁴ *Palazzolo v. State*, 2005 WL 1645974, at *5 (emphasis added).

⁵⁵ Ruhl, *Making Nuisance Ecological*, *supra* note 4, at 763.

⁵⁶ Ruhl, *Making Nuisance Ecological*, *supra* note 4, at 756. Naturally, I read Ruhl's assertion as much as a challenge as fact. The best early case that I found that employs nuisance law in an ecological fashion is *Hampton v. N. C. Pulp Co.*, 27 S.E.2d 538 (N.C. 1943), where the court reversed the dismissal of a public nuisance complaint brought by a fishing business against a paper mill that was polluting the Roanoke River. The court extolled the laws protecting such fisheries:

The laws of our own State, and those of practically all the states in the Union where fishing is important, provide against pollution of the streams with matter deleterious to fish life, require channels to be kept open, or means to be provided by which migratory fish may ascend the streams. We do not think this is merely to prevent the common shame of the extinction of an interesting type of river fauna in our time, or for the sole benefit of the owners of exclusive fisheries. In fact, perhaps the largest beneficiaries of these laws are those engaged in the business of fishing in common fisheries. The great fisheries on the Columbia River and of Alaska so conducted are so extensive that their products are found at one time or another on every table in the country. Millions of salmon in the open seas near the mouths of these rivers, seeking

2000 either. Not only is *Palazzolo* Exhibit A for Ruhl's theory, it's his only exhibit. This is not to fault Ruhl, for his proposed application of the Restatement's understanding of nuisance law shows how easily ecological harms can constitute nuisances. The courts, however, have been slow to take those steps.

A 2003 New Hampshire decision, *Cook v. Sullivan*, offers the best extant illustration of the primary use of nuisance law as informed by ecosystem services to protect a landowner's use of their land.⁵⁷ John and Diane Sullivan built a house on wetlands next to property owned by Janice Cook and her family. Cook complained that the Sullivan's house altered the hydrology so that there was now standing water on the Cook's land. Cook said that the water interfered with the use of their land by (1) forcing them to move their dog pens, (2) preventing them from hanging a clothesline, (3) preventing them from stacking firewood, (4) causing them difficulty in mowing their lawn, (5) producing "a strong, musty odor" when water collected under their chalet's foundation, (6) keeping them from storing things on their garage floor, and (7) preventing them from using their backyard for recreational activities.⁵⁸ The state supreme court agreed that the presence of the Sullivans' new home in the wetlands constituted a nuisance. The court even upheld the trial court's remedy of moving the house away from the wetland.

So far, there are not many cases like *Cook* or *Palazzolo*. A more prominent attempt to employ nuisance law to remedy the destruction of wetlands in the aftermath of Hurricane Katrina failed. *Barasich v. Columbia Gulf Transmission Company*⁵⁹ was a class action alleging that the oil industry was responsible for some of the injuries caused by Hurricane Katrina because the industry had damaged the marshes that protected New Orleans from hurricanes approaching from the Gulf of Mexico. This claim, too, contains features of a traditional nuisance case: the property losses and other injuries suffered by the plaintiffs easily fit within the scope of the harms recognized by nuisance law, and the defendants' actions allegedly resulted in a

through nostalgic instinct the sweeter waters in which they were hatched, have given rise to international difficulties and international treaties.

Id. at 546.

⁵⁷ *Cook v. Sullivan*, 829 A.2d 1059 (N.H. 2003). Christine Klein discusses *Cook* in her article. See Christine A. Klein, *The New Nuisance: An Antidote to Wetland Loss, Sprawl, and Global Warming*, 48 B. C. L. REV. 1155 (2007) (applying the "new nuisance" law established in the Supreme Court case *Lucas v. South Carolina Coastal*).

⁵⁸ *Cook*, 829 A.2d at 1067.

⁵⁹ 467 F. Supp. 2d 676 (E.D. La. 2006).

substantial interference in the plaintiffs' use and enjoyment of their land. The court, however, dismissed the claims because the defendants' activities occurred hundreds of miles away from the plaintiffs' land, and because the plaintiffs failed to demonstrate the kind of causal connection between the defendants' activities in the marshland and the injuries resulting from Hurricane Katrina that the law requires. The court suggested, though "perhaps a more focused, less ambitious lawsuit between parties who are proximate in time and space, with a less attenuated connection between the defendant's conduct and the plaintiff's loss" would constitute a nuisance.⁶⁰

Barasich illustrates the limits of an ecosystem services approach to nuisance law. That pleases James Hoffman, who rejects the notion of ecological nuisances for two general reasons.⁶¹ Hoffman objects that the push to recognize ecological nuisances is really a stalking horse to avoid the Fifth Amendment's just compensation requirements. Recall, for example, that the actual holding in *Palazzolo* only saved the government some money. The state had already employed its regulatory authority to block development on Palazzolo's wetlands, so nuisance law was not needed for that purpose. *Palazzolo* is a product of *Lucas*, which encouraged regulators to characterize their actions as within the scope of nuisance law and thus outside the scope of regulatory takings.⁶² Most environmental scholarship that has studied nuisance law since *Lucas* has sought to avoid such regulatory takings. This desire is understandable, especially because governments are unlikely to be as aggressive in regulating environmental amenities if they have to compensate private landowners for doing so. This desire is also ironic given the role that the view of swamps as nuisances played in avoiding demands for compensation for the draining of swamps a century ago.⁶³ But Ruhl denies that his understanding of ecological nuisances is motivated by takings clause jurisprudence.⁶⁴ Nor is it certain that the characterization of a land use prohibition as a nuisance will automatically exempt the action from regulatory takings scrutiny.

⁶⁰ *Id.* at 695.

⁶¹ James L. Huffman, *Beware of Greens in Praise of the Common Law* (2007) (unpublished manuscript, available at http://works.bepress.com/james_huffman/2) (arguing we should not resort to common law principles to protect ecosystem services).

⁶² See *Lucas v. S. C. Coastal Council*, 505 U.S. 1003 (1992).

⁶³ See *supra* at text accompanying notes 45 to 46.

⁶⁴ Ruhl, *Making Nuisance Ecological*, *supra* note 4, at 760 (explaining that "my interest in this regard is not motivated by any particular sense of how large or small the *Lucas* categorical takings universe should be"); *id.* at 763 (stating that "the law of ecosystem services in nuisance doctrine is unlikely to develop significantly in the context of government defense of regulatory takings claims—it will emerge only when private landowners and sovereigns start suing over the adverse effects of natural capital degradation").

Many public nuisances are prescribed by statute, and the Supreme Court has never considered whether such legislative prescriptions qualify as background principles that are exempt from takings law. The state court's opinion on remand in *Palazzolo*, therefore, may be right about nuisance law but wrong about takings.

These are important questions. My suggestion is that concerns about the proper scope of regulatory takings are not necessarily coupled with concerns about the proper scope of nuisance law, for nuisance law plays other roles in preserving ecosystems, as evidenced by *Cook v. Sullivan* above.

Huffman also objects to the evolution of ecological nuisances because they would empower courts to make environmental policy instead of the legislature.⁶⁵ The relative merits of environmental policy making by the judiciary, the legislature, and the executive branch remains a source of debate among environmental scholars, with Ruhl articulating a role for each institution as part of his vision of ecological nuisances. Huffman acknowledges that private nuisance law raises fewer concerns than public nuisance law because private nuisance law depends upon the harms suffered by discrete landowners while public nuisance law invites speculation into the nature of the rights of the general public. Private nuisance law fits Huffman's preference for the "demand side" model of the common law driven by litigants rather than lawmakers.⁶⁶

Huffman takes particular offense at Ruhl's suggestion that harms to ecosystem services could provide the requisite interference prescribed by nuisance law, public or private. "Harm suffered due to ecosystem services," writes Huffman, "has always been *damnum absque injuria*"—a loss that the law will not remedy.⁶⁷ Huffman is right that there have been few ecological nuisances cases, but that does not mean that all ecosystem harms are novel. To be sure, *Palazzolo* is the first case to hold that increased nitrogen levels can result in a nuisance, though the court's opinion failed to explain whether such changes also produced a more familiar harm. Moreover, consider *Cook v. Sullivan*, where the harms constituting the nuisance included a variety of prosaic interferences with the plaintiff's use and enjoyment of his land.⁶⁸ Huffman confuses the harms with what causes those harms. The "new knowledge" cited by Huffman may be used to demonstrate that quite traditional harms have occurred in a previously unproven way, rather than pushing the courts to expand

⁶⁵ Huffman, *supra* note 61, at 9, 14, 24.

⁶⁶ *See id.*, at 28.

⁶⁷ *Id.*

⁶⁸ *See supra* at text accompanying notes 56–57.

their view of what kinds of harms can produce a nuisance. Actually, the change in cognizable harms occurred a long time ago, when the courts stopped holding that the fears of swamps justified their drainage without compensation.

III. ENVIRONMENTAL ETHICS

Professor Ruhl is only the most recent scholar to call for the recognition of ecological nuisances. Indeed, other scholars have proposed a more sweeping revision of nuisance law than Ruhl describes in his article.⁶⁹ Those proposals often explicitly invoke theories of environmental ethics to justify their understanding of ecological nuisances. Ruhl declines to pursue those ideas in his article, wisely noting that he did not want to bite off more than he could chew at one time.⁷⁰ I am not so constrained. I would like to examine those proposals and the broader question of what environmental ethics could teach us about nuisance law, wetlands regulation, and environmental regulation generally.

Alyson Flournoy has written the most comprehensive overview of the relationship of environmental ethics to environmental law.⁷¹ She lists nuisance law's protection of human health, safety, and property as one of six "ethical impulses" that are embodied in environmental law.⁷² She sees this impulse as best explaining the statutory protection for wetlands provided by section 404 of the Clean Water Act.⁷³ Christine Klein's "new nuisance" is closest to what Ruhl proposes, though she emphasizes the role of nuisance law in avoiding takings claims.⁷⁴ She combines an expanded recognition of externalities with the research on ecosystem services to craft a theory of ecological nuisances that she applies to wetlands, sprawl, and global warming. Eric Freyfogle acknowledges the role of nuisance law in his broader argument for property laws that are more sensitive to ecological concerns. He observes that nuisance law both protects and limits property rights.⁷⁵ Freyfogle also calls upon the law to incorporate

⁶⁹ See Klein, *supra* note 57. See also Robert J. Goldstein, *Green Wood in the Bundle of Sticks: Fitting Environmental Ethics and Ecology into Real Property Law*, 25 B.C. ENVTL. AFF. L. REV. 347 (1998) (discussing how the law and the ecosystem should coincide); David S. Wilgus, Note, *The Nature of Nuisance: Judicial Environmental Ethics and Landowner Stewardship in the Age of Ecology*, 33 MCGEORGE L. REV. 99 (2002) (arguing property law should consider scientific discoveries and take on an environmental ethic).

⁷⁰ See Ruhl, *Making Nuisance Ecological*, *supra* note 4, at 30–33.

⁷¹ Alyson C. Flournoy, *In Search of an Environmental Ethic*, 28 COLUM. J. ENVTL. L. 63 (2003).

⁷² *Id.* at 84–85.

⁷³ *Id.* at 107.

⁷⁴ Klein, *supra* note 57, at 1159–68.

⁷⁵ ERIC T. FREYFOGLE, *THE LAND WE SHARE: PRIVATE PROPERTY AND THE COMMON*

harms that are demonstrated by new scientific evidence, citing the example of a farmer draining “a river to grow crops that could be produced elsewhere with no ill effects.”⁷⁶ Robert Goldstein argues that environmental ethics should be employed to reconceive the common law of property, including nuisance law. He asserts that nuisance law should recognize that “[a]ctions that were once tolerable, such as the filling of a wetland, are now deemed intolerable.”⁷⁷ In a student note, David Wilgus built upon Goldstein’s article to develop a new theory of ecological nuisances. Wilgus argues that “when determining harm within the nuisance context, courts must be guided by principles of ecology with a sensitivity and emphasis upon the externalities foisted upon the biological and social community in which the landowner’s activity has its effects.”⁷⁸ He illustrates his idea by suggesting that someone who buys wetlands “would know courts would allow him to develop only to the extent that development is consistent with his duty of stewardship.”⁷⁹

Wilgus does not explain the precise contours of his asserted “duty of stewardship.” There are hints of what this duty could look like elsewhere in recent legal scholarship,⁸⁰ but some of the most intriguing explorations of the concept of stewardship appear in the theological literature that has blossomed during the past several decades. That writing could be an especially appropriate source in the context of nuisance law, which is the law’s institutionalization of the famous command to “love thy neighbor.”⁸¹

GOOD 17 (2003).

⁷⁶ ERIC T. FREYFOGLE, *BOUNDLESS PEOPLE, BOUNDLESS LANDS: ENVISIONING A NEW LAND ETHIC* 137 (1998).

⁷⁷ Goldstein, *supra* note 69, at 422.

⁷⁸ Wilgus, *supra* note 69, at 125.

⁷⁹ *Id.* at 126 (citing the facts in *Good v. United States*, 189 F.3d 1355 (Fed. Cir. 1999)).

⁸⁰ See Andrea Patten, Note, *Will Regulations Keep Tahoe Blue? Searching for Stewardship in Property Law and Regulatory Takings Analysis*, 27 T. JEFFERSON L. REV. 187, 197–99 (2005) (discussing how landowners must evaluate the impact of their actions on the environment). See also Craig Anthony (Tony) Arnold, *The Reconstitution of Property: Property as a Web of Interests*, 26 HARV. ENVTL. L. REV. 281, 305–06 (2002) (arguing that modern view that property is a bundle of rights is the wrong view to take in protecting the environment); Goldstein, *supra* note 69, at 352 (arguing that “[s]tewardship involves a responsibility to the land and an obligation to future generations to preserve the life-support systems that perpetuate life”).

⁸¹ The connection between the “love thy neighbor” command and nuisance law has been made in Mark B. Greenlee, *Echoes of the Love Command in the Halls of Justice*, 12 J. L. & RELIGION 255, 266–67 (1996) (detailing the law’s application of the love command); Anne C. Dowling, Note, *“Un-Locke-ing” a “Just Right” Environmental Regime: Overcoming the Three Bears of International Environmentalism—Sovereignty, Locke, and Compensation*, 26 WM. & MARY ENVTL. L. & POL’Y REV. 891, 918 (2002) (discussing the concept of sovereignty within international law and the theories of Locke). The “love thy neighbor” command has also been cited in other environmental contexts. See John Copeland Nagle, *The Evangelical Debate Over*

The Christian ideas of stewardship build upon the twenty-six references to "steward" or "stewardship" that are contained in the Bible.⁸² Despite this scriptural support, studies of the meaning of stewardship in the environmental context are of a relatively recent vintage. Two themes have emerged from these studies. First, God is the owner of creation. "The earth is the LORD'S," proclaimed David in the Psalms.⁸³ This ownership implies that all uses of the creation are accountable to the desires of the owner—God. Second, God entrusted humans with the responsibility to care for the creation. Stewardship is one way to envision that responsibility. The Christian environmental literature has expressed the job of a steward in numerous ways. A steward is "a sort of supervisor or foreman, who must make decisions, give orders, and take charge[.]"⁸⁴ or a steward "is God's deputy to oversee, direct, and care for the environment."⁸⁵ The common notion is that humans must actively work to manage God's creation, and that they are accountable to God for the work that they do.

This general idea of stewardship has given rise to diverse views of the requisite management responsibility. Consider three particularly thoughtful, though quite different, views of how to implement stewardship in the environmental context. According to E. Calvin Beisner, a theology professor at Knox College, the Bible teaches that people are creative producers and stewards.⁸⁶ Beisner asserts that humans have "subordinate ownership" of the earth, which balances the biblical teaching that the earth is the Lord's with the teaching that the Lord has given the earth to man.⁸⁷ Beisner holds a high view of humanity's place in the world, scolding environmentalists for their "decidedly low view of man."⁸⁸ Beisner emphasizes the productive abilities of humans, and rebukes those who see people primarily as

Climate Change, 5 U. ST. THOMAS L. J. 53 (2008).

⁸² DOUGLAS JOHN HALL, *THE STEWARD: A BIBLICAL SYMBOL COME OF AGE* 17 (3d. prtg. 1982). See also John Copeland Nagle, *Playing Noah*, 82 MINN. L. REV. 1171, 1226–29 (1998) (discussing the Christian idea of stewardship in the environmental context, although, much more has been written on the concept since).

⁸³ *Psalms* 24:1 (New International Version).

⁸⁴ HALL, *supra* note 82, at 17.

⁸⁵ HENLEE H. BARNETTE, *THE CHURCH AND THE ECOLOGICAL CRISIS* 81 (1972). For additional images, see ALISTER MCGRATH, *THE REENCHANTMENT OF NATURE: THE DENIAL OF RELIGION AND THE ECOLOGICAL CRISIS* xiv (2002) (describing humanity as a steward or a caretaker).

⁸⁶ E. CALVIN BEISNER, *WHERE GARDEN MEETS WILDERNESS: EVANGELICAL ENTRY INTO THE ENVIRONMENTAL DEBATE* 111 (1997).

⁸⁷ *Id.* at 11 (comparing *Psalms* 24:1, stating that "[t]he earth is the LORD'S," with *Psalms* 115:16, stating that the Lord has given earth to man).

⁸⁸ BEISNER, *supra* note 86, at 98.

polluters. Beisner then asserts that "much of. . . nature is not good and should be improved."⁸⁹ Combining these ideas, he questions—but does not say—how to balance the need to preserve ecosystem functions and the cultivation of farmland.⁹⁰ He favors the use of market systems as the best means of achieving human flourishing and of stewarding the natural creation. He also advises that "honest Christians will disagree on both the moral question of what constitutes injustice and the practical questions of which societal structures damage the ecosphere and why, and of how best to go about reforming those that do."⁹¹

Norman Wirzba criticizes the views represented by Beisner for using an economic agenda to define stewardship.⁹² Wirzba, a philosophy professor at Kentucky's Georgetown College, insists that stewardship is not radical enough to capture the totality of Christian teaching about creation. He prefers "the image of the servant of creation. . . ."⁹³ "Servants suspend their own desires," explains Wirzba, "not out of tyrannical pressure or the loss of self-worth, but so that the flourishing of others and the whole creation can occur. This is a unique capacity that is unparalleled in any other species."⁹⁴ Stated affirmatively, Wirzba encourages servants of creation to become "the patient and earnest students of creation" to make room for other creatures and for wildness, and to cultivate resources whose exploitation treads more gently upon the earth.⁹⁵

Hope College Professor Steven Bouma-Prediger has written the most comprehensive survey of the multiple perspectives represented by Christians who have studied environmental issues.⁹⁶ Bouma-Prediger reviews ten arguments for why we should care for the earth: our self-interest, the interests of future generations, joyful simplicity, ecojustice, the intrinsic value of the earth, the earth community's

⁸⁹ *Id.* at 12 (emphasis omitted).

⁹⁰ *Id.* at 36.

⁹¹ *Id.* at 39.

⁹² NORMAN WIRZBA, *THE PARADISE OF GOD: RENEWING RELIGION IN AN ECOLOGICAL AGE* 130–32 (2003).

⁹³ *Id.* at 135.

⁹⁴ *Id.* at 140.

⁹⁵ *Id.* at 146. Wirzba, of course, is not the only writer to take issue with the idea of stewardship. See, e.g., JOHN HART, *SACRAMENTAL COMMONS: CHRISTIAN ECOLOGICAL ETHICS* 70, 119–21 (2006) (contrasting domination, dominion, stewardship, and relational models); John L. Paterson, *Conceptualizing Stewardship in Agriculture within the Christian Tradition*, 25 ENVTL. ETHICS 43, 44 (2003) (noting that "the ethic of stewardship has also been attacked in a number of circles, for its uncritical anthropocentrism, homocentrism, silences on issues of poverty and hunger, and its association with the conservative agrarian myth of the family farm").

⁹⁶ STEVEN BOUMA-PREDIGER, *FOR THE BEAUTY OF THE EARTH: A CHRISTIAN VISION FOR CREATION CARE* (2001).

interdependence, divine command, our creation in the image of God, and our grateful heart.⁹⁷ For Bouma-Prediger, gratitude “is the most compelling reason to care for the earth.”⁹⁸ He also lists a series of ecological virtues, matching respect and receptivity, self-restraint and frugality, humility and honesty, wisdom and hope, patience and serenity, benevolence and love, and justice and courage (along with a list of their corresponding vices).⁹⁹ Moving closer to the influences upon environmental law, Bouma-Prediger charts how Christian teaching can be found within theories of the rights of future generations, animal rights, biocentrism, the wilderness movement, the land ethic, and deep ecology.¹⁰⁰ Bouma-Prediger endorses the land ethic, which “captures much of the wisdom of Scripture, and is attuned to how the world works.”¹⁰¹ He would, however, add several features to the existing understanding of the land ethic. He would be sure that a land ethic also includes the water, he would protect “certain basic human rights,” and he concludes that “a hierarchy of values is necessary.”¹⁰²

The very richness and diversity of these perspectives—not to mention others that I do not have time to survey here—do not dictate a single way of integrating environmental ethics into law. They do not specifically address wetlands or nuisance law. Yet they may help environmental law to adopt a fuller appreciation of the role of wetlands both within the ecological community and human societies.

The Christian vision of stewardship suggests three types of harms to wetlands that may be within the cognizance of nuisance law. First, it affirms a responsibility to care for the ecosystems that God created. Indeed, the ethical arguments in these writings often simply mimic the language of ecosystem services. Here the religious argument offers another justification for recognizing the harms that Professor Ruhl documents so well in his article.

A second type of harm is aesthetic. Nuisance law struggled with aesthetic injuries for a long time, but the modern view accepts that interference with a landowner’s aesthetic interests can result in a nuisance. For example, in a recent case involving a nuisance created by the intentional placement of numerous unsightly objects next to the plaintiff’s beachfront property, the Massachusetts Supreme Judicial Court observed that that “aesthetic considerations” and

⁹⁷ *Id.* at 163–79.

⁹⁸ *Id.* at 178.

⁹⁹ *Id.* at 141–59.

¹⁰⁰ *Id.* at 127–32.

¹⁰¹ *Id.* at 131.

¹⁰² BOUMA-PREDIGER, *supra* note 96, at 133–34.

"incorporeal, value-based interferences" can give rise to a nuisance.¹⁰³ The court added that it should "interpret broadly one's right to use and enjoy his or her land."¹⁰⁴ The Christian environmental literature supports the importance of the aesthetic value of the natural environment. Professor Bouma-Prediger's book is entitled "For the Beauty of the Earth," and numerous other writers have emphasized that natural beauty is one of the leading values of the environment.¹⁰⁵ This is a much different perspective than the nineteenth century view of wetlands as unattractive and threatening, for it affirms the beauty in all that God created.

A third type of harm involves the interference with the sacred quality or spiritual values of particular lands. Wetlands may be sacred. For example, the bureau administering the Ramsar Convention—the international treaty protecting designated wetlands—has published a pamphlet on "Wetlands and spiritual life" that records that "people's belief systems have, from earliest times, commonly considered water and wetlands to be sacred[.]" and "this sacramental relationship between people and wetlands is still in evidence today in many parts of the world."¹⁰⁶ Likewise, the supporters of the Wilderness Act identified multiple spiritual values of wilderness during the lengthy debates preceding the congressional approval of that law in 1964.¹⁰⁷ An activity that compromises such values could qualify as an interference with the landowner's use and enjoyment of the land. There have not been any such nuisance cases, though there have been repeated disputes regarding the federal government's management of sacred sites on public lands.

These values add to the arsenal of interests that can be protected by nuisance law (and by environmental law more generally). A recognition of the many values of wetlands, though, does not really

¹⁰³ *Rattigan v. Wile*, 841 N.E.2d 680, 689–90 (Mass. 2006) (citing *Nagle*, *supra* note 6, at 276–99).

¹⁰⁴ *Id.* at 688.

¹⁰⁵ See BOUMA-PREDIGER, *supra* note 96. See also MCGRATH, *supra* note 85, at 16 (proclaiming that "[t]he beauty of the world . . . reflects the beauty of God"); J. MATTHEW SLEETH, SERVE GOD, SAVE THE PLANET 206 (2006) (quoting John Calvin's observation that "[i]n grasses, trees, and fruits, apart from their various uses, there is beauty of appearance and pleasantness of odor").

¹⁰⁶ THE RAMSAR BUREAU, WETLANDS AND SPIRITUAL LIFE 1 (2007), http://www.ramsar.org/info/cultural_heritage_e09.pdf. See also ARUN KUMAR ET AL., HANDBOOK ON INDIAN WETLAND BIRDS AND THEIR CONSERVATION 365–66 (2005) (describing sacred wetlands in India); Gonzalo Oviedo, Sally Jeanrenaud & Mercedes Otegui, *Protecting Sacred Natural Sites of Indigenous and Traditional Peoples: An IUCN Perspective* 10 (June 2005), <http://www.iucn.org/themes/spg/Files/sacred%20sites/protecting-sacred-natural-sites-indigenous.pdf> (describing sacred wetlands in West Africa).

¹⁰⁷ See John Copeland Nagle, *The Spiritual Value of Wilderness*, 36 ENVTL. L. 955, 978–87 (2005) (reviewing the congressional hearing testimony).

grapple with the practical question of when a wetland should be modified or destroyed. The writings discussed above could imply that a steward will not ever destroy a wetland, regardless of the nature of the wetland or the activity that would destroy it. In the law's vocabulary, they would regard the destruction of a wetland as a nuisance per se. So far, though, environmental law has been unwilling to prohibit all development in wetlands. Section 404 of the Clean Water Act prohibits the filling in of wetlands without a permit, but permits are nearly always forthcoming.¹⁰⁸ Perhaps landowners should be given greater incentives to preserve wetlands, or perhaps a more stringent regulation should be imposed. For purposes of nuisance law, what is needed is an environmental ethic that is capable of judging which activities are reasonable, and of distinguishing among developments and among wetlands.

That is where nuisance law turns to the other side of the balance. As Professor Ruhl explains, the Restatement test weighs the gravity of the harm suffered by the plaintiff against the utility of the defendant's conduct. The utility of the conduct, in turn, considers the social value of the conduct, its suitability for the location, and whether the harm may be prevented or avoided. So is the destruction of wetlands a socially valuable activity? We quickly say "no" today, but our ancestors had a much different response throughout the nineteenth century and well into the twentieth century. That is partly because we now appreciate the ecosystem services of wetlands, but it is also because we no longer feel threatened by them. In other parts of the world, though, some wetlands are still viewed as a threat to public health. Elizabeth Willott, a University of Arizona entomologist, insists that we must "address the reality that restoring or creating wetlands has a downside."¹⁰⁹ Willott recounts the history of the devastating effects of malaria spread by mosquitoes, and how swamp drainage policies responded to those concerns. For example, "[t]he swampy area south of Toledo, Ohio was considered almost uninhabitable due to disease, presumably malaria, until most of the swamp was drained between 1870 and 1920." Willott adds that wildlife species are threatened by diseases spread by mosquitoes, too. The challenge, she explains, is "to know how we can control mosquito populations when diseases spread by mosquitoes unduly

¹⁰⁸ 33 U.S.C. § 1344(a). See Allyson C. Flourmoy, *Section 404 at Thirty-Something: A Program in Search of a Policy*, 55 ALA. L. REV. 607, 644 (2004) (citing a study indicating that 99% of section 404 permits were granted between 1992 and 2001).

¹⁰⁹ Elizabeth Willott, *Restoring Nature, Without Mosquitoes?*, 12 RESTORATION ECOLOGY 147, 147 (2004).

threaten us or desired local species.”¹¹⁰ To do so, Willott calls for greater research into the problem and for continuous monitoring of restored wetlands.

This is not to say that wetlands are nuisances. To be sure, a number of early cases held that the maintenance of standing water where mosquitoes bred constituted a nuisance.¹¹¹ More recently, in the context of a very twenty-first century nuisance claim against gun manufacturers, the Massachusetts Supreme Judicial Court listed “the maintenance of a pond breeding malarial mosquitoes” as an example of a “traditional public nuisance [case].”¹¹² But not all wetlands are the source of mosquitoes, and there are other ways of controlling both mosquitoes and disease than draining wetlands. The availability of such alternatives to mosquito control is relevant under the Restatement’s conception of the utility of a defendant’s interference with a wetland. Further, even though wetlands are not themselves nuisances, nuisance law will consider the social value of eliminating a particular wetland that hosts mosquitoes that threaten public health.

So far, little of the legal scholarship that has worked to integrate environmental ethics into environmental law has grappled with such problems. The Christian environmental literature has been especially likely to struggle with the place of humans in the natural world. It is closely suited to nuisance law’s effort to identify the appropriate balance between competing claims of neighboring landowners. But any weight given to human interests in modifying wetlands elicits the most common complaint against Christian perspectives on the environment, to wit, that they are too anthropocentric. In his famous 1969 essay, Lynn White blamed Christianity for the emerging environmental crisis because it was “the most anthropocentric religion the world has seen.”¹¹³ The Christian environmental literature since then has acknowledged responsibility for prior destructive attitudes toward nature, while correcting White’s historical claim that such destruction was uniquely attributable to Christianity. This literature also engages the anthropocentric claim, with some Christian writers embracing it, others insisting that the proper understanding of Christian teaching is biocentric, and some preferring the label

¹¹⁰ *Id.* at 151.

¹¹¹ *E.g.*, *Birmingham Waterworks Co. v. Martini*, 56 So. 830 (Ala. Ct. App. 1911); *Towaliga Falls Power Co. v. Sims*, 65 S.E. 844 (Ga. Ct. App. 1909); *McFadden v. Missouri, K. & T. Ry. Co. of Texas*, 92 S.W. 989 (Tex. Ct. Civ. App. 1906).

¹¹² *Jupin v. Kask*, 849 N.E.2d 829, 843 (Mass. 2006) (quoting *Stop & Shop v. Fisher*, 444 N.E.2d 368 (Mass. 1983)).

¹¹³ Lynn White, Jr., *The Historical Roots of Our Ecologic Crisis*, 155 SCIENCE 1203, 1205 (1967).

theocentric.¹¹⁴ Whatever the appellation, these writers seek to navigate the claims of humans and the claims of the rest of God's creation.

These efforts are of particular value for nuisance law. Nuisance law is unabashedly anthropocentric: it cares about an individual's use and enjoyment of their land, but nuisance law accepts that moral or ethical beliefs can influence what constitutes such interference. So while nuisance law does not advance any substantive judgment regarding the propriety of someone frolicking naked on the beach, nuisance law does recognize that a sufficiently common moral objection to such conduct can interfere with the use and enjoyment of neighboring property. Or, to cite the other hypothetical examples that I offered in my earlier article, moral objections to drug dealing, prostitution, or hunting could yield a cognizable nuisance case in certain circumstances.¹¹⁵ Environmental ethics can inform nuisance law in the same way.

The other Restatement factor in judging the utility of destroying a wetland is the location of the defendant's activity. It may be tempting to say that no development is appropriate in wetlands given their many values, but a similar list of ecosystem services and other values can be produced for forest, estuaries, deserts, and every other type of ecosystem. Instead, remember that all wetlands are not created equal. Different wetlands in different locations provide different amounts of ecosystem services. As Professor Ruhl notes, "[e]cological economists have developed the concept of *critical natural capital* (also CNC) to identify ecological resources that provide important ecosystem services and which are least amenable to substitution."¹¹⁶ An activity that interferes with a wetland that possesses such CNC is least suited for that location.

The contrasting views of wetlands as contributors to public and ecological health, and wetlands as threats to public health, demands the kind of balancing for which nuisance law excels. A landowner should be able to demonstrate specific ecosystem services or other values that would be disrupted by the defendant's destruction of a

¹¹⁴ See, e.g., WIRZBA, *supra* note 92, at 133 ("Anthropocentrism, the refusal to understand ourselves as but one part of a larger created whole, is the central sin."); MCGRATH, *supra* note 85, at 54 (arguing that secular twentieth century culture, as rooted in the Enlightenment, is the most anthropocentric religion the world has ever seen). Discussions of anthropocentrism appear in much of the legal scholarship addressing environmental ethics, too. See FREYFOGLE, *supra* note 76, at 31; Flournoy, *supra* note 71, at 77; Erin Englebrecht, *Three Fallacies of the Contemporary Legal Concept of Environmental Injury: An Appeal to Enhance "One-Eyed Reason with a Normative Consciousness"*, 18 TUL. ENVTL. L.J. 1, 28–37.

¹¹⁵ See Nagle, *supra* note 6, at 316–19.

¹¹⁶ Ruhl, *supra* note 4, at 775.

wetland, and the defendant should be able to counter with any evidence that modification of the wetland is necessary for an important purpose such as public health. This kind of individualized assessment of environmental and property disputes is praised by Tony Arnold, who has observed that “[n]ot all parcels of land are the same and therefore should not necessarily come with uniform rights and duties.”¹¹⁷

Yet the individualized assessment provided by nuisance law is not a panacea for wetlands regulation. Ethical norms are more readily incorporated into statutory provisions that are crafted with particular goals in mind. Existing wetlands law, however, is not animated by clear ethical norms.¹¹⁸ The current debate over the future of wetlands law in the aftermath of the Supreme Court’s decision in *Rapanos*¹¹⁹ would benefit from a more direct discussion of what our society expects from wetlands and how it wants to treat them.

There is one more ethical principle that could aid that discussion. Humility is not often associated with governmental regulation, but each of the three writers whom I mentioned above noted the importance of humility in formulating and implementing environmental ethics. For Professor Beisner, humility should cause us to be cautious in managing ecosystems.¹²⁰ For Professor Wirzba, humility is one of the foremost virtues that come from caring for the earth.¹²¹ For Professor Bouma-Prediger, humility “is the proper estimation of one’s abilities or capacities. It is the fitting acknowledgment that we humans are earth creatures.”¹²² It means we should “[a]ct cautiously.”¹²³ Again, it is unclear precisely what that means when balancing the conflicting societal desires for wetlands, but it suggests that our new understanding of ecosystem services should be accompanied by an appreciation of other values, perhaps including some of the oft-discredited ideas of the nineteenth century.

¹¹⁷ Arnold, *supra* note 80, at 319. Arnold adds that “[p]roperty law must also consider the natural uses and functions of the particular land or natural resource, and maintain the integrity of the ecosystem that the land or resource serves.” *Id.* at 319–20.

¹¹⁸ See Flournoy, *supra* note 71, at 103 (concluding that CWA section 404 “presents a particularly difficult challenge for the scholar trying to unravel its ethical roots because of the extensive sources that comprise it”).

¹¹⁹ *Rapanos v. United States*, 547 U.S. 715 (2006).

¹²⁰ See BEISNER, *supra* note 86, at 28.

¹²¹ WIRZBA, *supra* note 92, at 31.

¹²² BOUMA-PREDIGER, *supra* note 96, at 147.

¹²³ *Id.* (emphasis omitted).

CONCLUSION

Eric Freyfogle has written that "Americans are much in need of a more poetic sense of the land, a sense of its organic wholeness and beauty; its inner motion and energy, its subtle music and spirituality. To tend the land wisely is not just to use it efficiently; it is to recognize the land's sacredness and show it due respect."¹²⁴ Freyfogle has also called for greater humility with respect to the land.¹²⁵ Nuisance law fits into that framework by honoring the expectations of neighboring landowners as they struggle to balance their new appreciation of the land with their desires to use the land. Ecological nuisances build upon the flexible history of nuisance law's response to such changes. Ecological nuisances should not be the law's only response to the study of ecosystem services, but they offer a valuable tool that is available to individual landowners as they continue to work out their own understanding of the ethical values of their land.

¹²⁴ Freyfogle, *supra* note 76, at 173.

¹²⁵ See *id.* at 35.