

COMMERCE IN THE COMMONS: A UNIFIED THEORY OF NATURAL CAPITAL REGULATION UNDER THE COMMERCE CLAUSE

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Scholars continue to debate the scope of Congress's Commerce Clause authority and whether fluctuations in the U.S. Supreme Court's Commerce Clause jurisprudence place federal environmental regulatory authority at risk. Yet when one analyzes major Commerce Clause cases involving resource regulation since the beginning of the modern regulatory state, a consistent theme emerges: both the Supreme Court and Circuit Courts of Appeals have consistently upheld federal authority to regulate depletable natural resources, the appropriation of which is non-excludable — key characteristics of a commons. Commerce Clause jurisprudence can be interpreted as treating appropriation of this natural capital, here described as “privatized commons resources,” as fundamentally meeting the third test for determining the validity of federal legislation under the Commerce Clause — the “substantial effects” test. Using commons analysis to meet the substantial effects test has the potential to provide a unified theory of federal environmental regulatory authority under the Commerce Clause, a clearer statement of the jurisprudential approach in environmental cases, and more certainty and effectiveness in environmental and natural resources legislation. Commons analysis also assists in answering persistent questions arising in Commerce Clause cases, including when the “aggregation principle” may be invoked to find substantial effects on interstate commerce, what the “object of regulation” is in environmental Commerce Clause cases, and what the proper scope of federal Commerce Clause authority is given constitutional federalism limitations.

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Simply closing the boundaries [of a resource system] is not enough. It is still possible for a limited number of appropriators to increase the quantity of resource units they harvest so that they . . . totally destroy the resource. Consequently, in addition to closing the boundaries, some rules limiting appropriation and/or mandating provision are needed.¹

- Elinor Ostrom

I. INTRODUCTION

The “tragedy of the commons”² is perhaps the primary theoretical driver behind government regulation of the environment, while the Commerce Clause is the primary tool used by the federal government to enact environmental and natural resource regulation. Even so, scholars have yet to apply a commons analysis to Commerce Clause jurisprudence. This is a significant oversight, especially given the persistent questions scholars have raised regarding what the “new federalism” introduced in *United States v. Lopez*³ and *United States v. Morrison*,⁴ as well as the subsequent rejection of federalism limits in *Gonzales v. Raich*,⁵ means for federal environmental legislation.⁶ These concerns justifiably result from the varied and often confused rationales provided by the U.S. Supreme Court in Commerce Clause cases, which have in turn resulted in confusion in the lower courts. Yet a

¹ ELINOR OSTROM, GOVERNING THE COMMONS: THE EVOLUTION OF INSTITUTIONS FOR COLLECTIVE ACTION 92 (1990) (citation omitted).

² Garrett Hardin’s essay of the same name, *Tragedy of the Commons*, 162 SCIENCE 1243 (1968), is one of the most cited policy articles of our time. KARLSON “CHARLIE” HARGROVES & MICHAEL H. SMITH, THE NATURAL ADVANTAGE OF NATIONS: BUSINESS OPPORTUNITIES, INNOVATION AND GOVERNANCE IN THE 21ST CENTURY 178 (2005).

³ 514 U.S. 549 (1995).

⁴ 529 U.S. 598 (2000).

⁵ 545 U.S. 1 (2005).

⁶ See *infra* note 45.

constant theme has emerged from Commerce Clause jurisprudence. Courts have consistently upheld federal authority to regulate depletable natural resources, the appropriation of which is non-excludable — key attributes of a commons. This Article describes this depletable “natural capital”⁷ as “privatized commons resources.”⁸ Traditional commons analysis provides a useful method for assessing how the distribution, appropriation, and consumption of these resources affect commercial and economic activity across state lines — i.e., “interstate commerce” — and for determining when federal environmental regulation is constitutional.

Drawing on insights from renowned commons scholar Elinor Ostrom⁹ and *Tragedy of the Commons* author Garrett Hardin, among others, this Article provides a new lens through which to view environmental and natural resources jurisprudence: a lens that introduces a clearer, more consistent approach for the treatment of resource regulation under the Commerce Clause. By applying principles arising out of Ostrom’s conception of commons resources, we can see that courts have consistently treated appropriation of privatized commons resources as meeting the “substantial effects test” for determining the validity of federal legislation under the Commerce Clause.¹⁰ Use of commons analysis to identify the boundaries of the substantial effects test (1) provides a long overdue, unified justification for federal environmental regulatory authority; (2) articulates a clearer statement of the jurisprudential approach in federal environmental cases; (3) allows uniform application

⁷ “Natural capital” includes “all the familiar resources used by humankind: water, minerals, oil, trees, fish, soil, air, et cetera. But it also encompasses living systems, which include grasslands, savannas, wetlands, estuaries, oceans, coral reefs, riparian corridors, tundras, and rainforests.” PAUL HAWKEN, AMORY LOVINS & L. HUNTER LOVINS, *NATURAL CAPITALISM: CREATING THE NEXT INDUSTRIAL REVOLUTION* 2 (1999).

The term “natural capital”. . . is based on a more functional definition of capital as ‘a stock that yields a flow of valuable goods or services into the future.’ . . . [A] stock or population of trees or fish provides a flow or annual yield of new trees or fish, a flow that can be sustainable year after year. The sustainable flow is ‘natural income’; the stock that yields the sustainable flow is ‘natural capital.’ Natural capital may also provide services such as recycling waste materials, or water catchment and erosion control, which are also counted as natural income. Since the flow of services from ecosystems requires that they function as whole systems, the structure and diversity of the system is an important component in natural capital.

Robert Costanza & Herman E. Daly, *Natural Capital and Sustainable Development*, 6 *CONSERVATION BIOLOGY* 37, 38 (1992). In addition, “natural capital” and “natural income” are “aggregates of natural resources in their separate stock and flow dimensions. . . .” *Id.*

⁸ This Article uses the term “privatized commons resources” to describe two categories of resources: (1) natural resources contained on land (wetlands, endangered species, or other resources that constitute natural capital) that are appropriated by economic development (retail, housing, industrial, agricultural, etc.) and (2) resources appropriated by individuals and tied to an interstate market (wheat, marijuana, or other resources that constitute natural capital commodities). This term is only a term of art meant to describe natural resources that, though privatized, take on the characteristics of commons resources, and to which commons analysis can be applied.

⁹ 2009 Nobel Prize recipient in Economic Sciences.

¹⁰ See *infra* Part V.A.

of judicial standards in lower courts currently divided over how to apply Commerce Clause analysis to federal statutes;¹¹ and (4) introduces more certainty and effectiveness into environmental and natural resources legislation. Commons analysis also assists in answering persistent questions arising in Commerce Clause cases, including when the “aggregation principle”¹² may be invoked to find substantial effects on interstate commerce; what the “object of regulation”¹³ is in environmental Commerce Clause cases; and what the proper scope of federal Commerce Clause authority is given constitutional federalism limitations.

In particular, using a commons analysis to describe the scope of the Commerce Clause provides a stronger protection of federalism principles than the comprehensive scheme approach arguably adopted by the *Raich* Court.¹⁴ *Lopez*, *Morrison*, and *Raich* were quite consistent in at least one aspect — they each upheld prior Commerce Clause cases finding that intrastate economic activities could be aggregated and regulated as substantially affecting interstate commerce.¹⁵ Though the Court’s broad definition of “economic” in *Raich* has been criticized as open-ended and incapable of providing any meaningful judicial defense of federalism principles,¹⁶ the requirement that the intrastate activity be economic in nature provides more robust federalism protections than the *Raich* Court’s supposed alternative “comprehensive scheme” holding.¹⁷ The former test is superior to the latter from a federalism perspective and commons analysis provides a meaningful method for determining when an intrastate activity is truly economic in nature, as privatized commons resources make up an inherently aggregated

¹¹ See *infra* note 264 and accompanying text.

¹² See *infra* note 168 and accompanying text.

¹³ Bradford Mank, *After Gonzales v. Raich: Is the Endangered Species Act Constitutional Under the Commerce Clause?* 78 U. COLO. L. REV. 375, 403 (2007) [hereinafter Mank, *After Gonzales v. Raich*].

¹⁴ *Gonzales v. Raich*, 545 U.S. 1, 22 (2005).

¹⁵ *United States v. Lopez*, 514 U.S. 449, 559–60 (1995); *United States v. Morrison*, 529 U.S. 598, 611 (2000); *Raich*, 545 U.S. at 9. In *Raich*, Justice Stevens, while attempting to present a coherent picture of Commerce Clause jurisprudence, stated “[o]ur case law firmly establishes Congress’ power to regulate purely local activities that are part of an economic ‘class of activities’ that have a substantial effect on interstate commerce.” 545 U.S. at 17.

¹⁶ See Jonathan H. Adler, *Is Morrison Dead? Assessing a Supreme Drug (Law) Overdose*, 9 LEWIS & CLARK L. REV. 751, 763–64 (2005); Ilya Somin, *A False Dawn for Federalism: Clear Statement Rules After Gonzales v. Raich*, 2006 CATO SUP. CT. REV. 113, 118 (2006). The *Raich* Court stated that:

Unlike those at issue in *Lopez* and *Morrison*, the activities regulated by the CSA are quintessentially economic. “Economics” refers to “the production, distribution, and consumption of commodities.” Webster’s Third New International Dictionary 720 (1966). The CSA is a statute that regulates the production, distribution, and consumption of commodities for which there is an established, and lucrative, interstate market. Prohibiting the intrastate possession or manufacture of an article of commerce is a rational (and commonly utilized) means of regulating commerce in that product.

Raich, 545 U.S. at 25–26.

¹⁷ See, e.g., *infra* note 290 and accompanying text.

economic system. As such, what is good for federalism in this regard is also — perhaps ironically — good for the environment, since commons analysis can provide both meaningful federalism protections and a clearer justification for federal environmental legislation under the Commerce Clause.

With state governments challenging the validity of the contentious 2010 health care bill as beyond Congress's commerce power,¹⁸ and with a diverse set of new justices added to the Supreme Court — from Justice Roberts and his arguably flippant opinion of the “hapless toad”¹⁹ to the presumably more environmentally friendly appointees of the Obama administration — the scope of the Commerce Clause will continue to be defined in the coming years. For a judicial system based upon establishing stability in the law, adherence to *stare decisis*, and steadfast submission to a document written over 200 years ago, jurisprudence and scholarship regarding the scope of federal environmental authority under the Commerce Clause have been anything but stable. This Article seeks to calm the waters by demonstrating that in the era of the modern regulatory state, courts have consistently upheld federal regulatory protection of privatized commons resources, and have, perhaps unknowingly, defined the scope of the Commerce Clause to include such resources as validly subject to federal regulation because of their substantial effect on interstate commerce.²⁰

This Article applies principles arising from the commons theoretical framework to Commerce Clause jurisprudence in order to formulate a new, unified test for determining the validity of federal environmental regulation under the Commerce Clause. Part II provides necessary background on the tragedy of the commons and the tensions in our governance system that give

¹⁸ As of January 18, 2011, twenty-seven states have challenged the health care bill in court, including Florida, Alabama, Colorado, Idaho, Louisiana, Michigan, Nebraska, Pennsylvania, South Carolina, South Dakota, Texas, Utah, Washington, Virginia, Arizona, Indiana, Mississippi, Nevada and North Dakota. National Conference of State Legislatures, *State Legislation and Actions Challenging Certain Health Reforms, 2010–11*, <http://www.ncsl.org/?tabid=18906> (last visited Feb. 14, 2011). Also, as of February 2011 “at least 40 state legislatures proposed legislation to limit, alter or oppose selected state or federal actions” under the bill, and “[i]n 30 of the states, the filed measures include a proposed constitutional amendment by ballot question In at least 16 states proposed bills aimed to amend state law, not the state constitution.” *Id.*

¹⁹ In *Rancho Viejo v. Norton*, 334 F.3d 1158 (D.C. Cir. 2003), plaintiff developers brought suit against the federal government for application of the Endangered Species Act (“ESA”), which halted construction of the development in order to protect the listed Arroyo Toad. A panel of the D.C. Circuit Court of Appeals upheld the application of the ESA. Then-Judge Roberts dissented in a denial of a rehearing en banc, arguing that the decision should be reconsidered in light of *Lopez* and *Morrison*. Roberts expressed doubt that the regulation of “a hapless toad, that, for reasons of its own, lives its entire life in California constitutes regulating ‘Commerce . . . among the several states.’” *Id.* at 1160 (quoting U.S. CONST. art. I, § 8, cl. 3).

²⁰ For an environmental economics discussion on why environmental statutes should be understood as a response to market failures of various types generally (briefly introducing the commons concept as one such failure), and thus appropriately regulable under the Commerce Clause, see Mollie Lee, *Environmental Economics: A Market Failure Approach to the Commerce Clause*, 116 YALE L.J. 456 (2006). This Article does not address market failures globally, but instead focuses specifically on applying commons analysis to the Commerce Clause.

rise to environmental regulatory controversies. Part III describes how private property, though touted as a potential solution for commons problems, can nonetheless entrench commons tragedies when natural capital on private land is appropriated for economic development (through change in use of the land itself) or is subject to market forces (when commodity resources are cultivated from land). This Part primarily utilizes the lens of land development²¹ to demonstrate under what circumstances the regulatory object of federal environmental statutes passed pursuant to the Commerce Clause may be considered privatized commons resources. Part IV scales up the analysis from Part III to describe state governments as “rational herders” within the “pastoral commons” of the United States, and discusses how intrastate markets provide jurisprudential reasoning for a certain level of federal regulatory authority over the environment under the Commerce Clause. Part V discusses the Supreme Court’s Commerce Clause jurisprudence in the area of privatized commons resources, how the Court has consistently upheld federal regulation of such resources, and how commons analysis answers the “aggregation,” “object of the regulation,” and “scope of federal authority” questions arising in Commerce Clause cases. Part VI briefly concludes.

II. COMMONS AND THE COMMERCE CLAUSE – BACKGROUND AND CONTEXT

Garrett Hardin’s often-cited “tragedy of the commons” scenario describes herders entering a pasture open to all other herders, i.e., a “commons.”²² When considering the natural resource available to the group, each herder, being “rational,” attempts to maximize personal gain by undertaking a simple cost-benefit analysis. Each herder receives the entire positive benefit for every additional animal the herder brings onto the commons; the more animals a herder owns, the greater the overall economic value of that herder’s flock. However, the negative cost of overgrazing created by each additional animal is shared by *the entire group* of herders in the pasture. As such, the *individual* herder only suffers a fractional share of the overall negative cost that accrues to the group.²³ As a result, through a cost-benefit analysis, the herder determines that:

[T]he only sensible course for him to pursue is to add another animal to his herd. And another; and another But this is the conclusion reached by each and every rational herdsman sharing the commons. Therein is the tragedy. Each man is locked into a

²¹ This Article uses the term “development” (or “developer”) to include a variety of development activities that are economic in nature and driven by market forces, including, but not necessarily limited to, commercial, retail, housing, industrial, and agricultural development.

²² Garrett Hardin, *The Tragedy of the Commons*, 162 *SCIENCE* 1243, 1244 (1968).

²³ *Id.*

system that compels him to increase his herd without limit — in a world that is limited . . . Freedom in a commons brings ruin to all.²⁴

Freedom in a commons brings ruin to all because in a finite world of finite resources, unchecked consumption can ultimately lead to dire consequences for the society reliant on those resources. Hardin provides many modern examples of commons in which this tragedy has the potential to occur, such as national parks, grazing lands, fish stocks, pollution in the atmosphere, and even parking meters.²⁵ Hardin also highlights various solutions that might address the tragedy of the commons, including the creation of a private property rights system, implementation of “polluter pays” principles, and regulation.²⁶

In the United States, each of Hardin’s suggested solutions is used in some capacity to forestall identified “tragedies” of many kinds, particularly regarding the environment. Two of Hardin’s solutions, however, have come into sharp conflict with one another, as the modern federal regulatory state has increasingly clashed with private property rights, as well as with state regulatory authority. The primary constitutional provision under which the federal government regulates the environment is the Commerce Clause,²⁷ while the primary regulators of private property rights and land use are state and local governments.²⁸ The resulting conflict among private property owners, state governments, and the federal government is one of the most pronounced illustrations of federalism-based legal controversies. The existence of this controversy is perhaps best evidenced by numerous scholarly works and court opinions debating whether certain applications of environmental statutes — with arguably tenuous ties to interstate commerce — are, or will remain, constitutional under the Supreme Court’s modern Commerce Clause jurisprudence. Perhaps the most emblematic of all federal environmental statutes in this regard is the Endangered Species Act (“ESA”), the federal statute that most directly interferes with state control over private property and land use regulation. Private property owners have argued that wholly intrastate species that have little or no economic value are not properly regulable by the federal government under the Commerce Clause.²⁹

Even so, analysis of major Commerce Clause cases involving federal resource regulation since the beginning of the modern regulatory state, i.e., since *Wickard v. Filburn*,³⁰ demonstrates that courts have consistently upheld

²⁴ *Id.*

²⁵ *Id.* at 1245.

²⁶ *Id.*

²⁷ U.S. CONST. art. I, § 8, cl. 3.

²⁸ *See infra* Part IV.

²⁹ *See, e.g.*, *Rancho Viejo v. Norton*, 323 F.3d 1062 (D.C. Cir. 2003); *GDF Realty Investments, Ltd. v. Norton*, 326 F.3d 622 (5th Cir. 2003); *Nat’l Ass’n of Home Builders v. Babbitt*, 130 F.3d 1041 (D.C. Cir. 1997). Nearly half of all species listed as endangered or threatened under the ESA have habitats limited to one state. Mank, *After Gonzales v. Raich*, *supra* note 13, at 428.

³⁰ 317 U.S. 111 (1942).

federal authority to regulate a certain class of environmental resources, and specifically a modified form of commons resource, which this Article describes as privatized commons resources.³¹ From wheat,³² to minerals,³³ to marijuana,³⁴ to wetlands,³⁵ to endangered species,³⁶ courts have consistently validated federal regulatory authority over these depletable³⁷ natural resources, the appropriation of which is non-excludable — the key characteristics of a commons.³⁸ These privatized commons resources include two categories of resources: (1) natural resources contained on land (wetlands, endangered species, or other natural capital) that are appropriated by economic development (retail, housing, industrial, agricultural, etc.) and (2) resources appropriated by individuals and tied to an interstate market (wheat, marijuana, or other natural capital commodities).

The cases of *United States v. Lopez*³⁹ and *United States v. Morrison*⁴⁰ had been credited with ushering into the Supreme Court's Commerce Clause jurisprudence a new era of federalism-based protections — the “new federalism”⁴¹ — as they were the first cases since 1937 in which the Supreme Court struck down federal statutes as beyond the scope of the Commerce Clause.⁴² This theory was soon put to the test when, in *Gonzales v. Raich*,⁴³ the Court upheld a federal statute regulating wholly intrastate activities with an arguably tenuous connection to interstate commerce.⁴⁴ These cases have caused quite a stir amongst scholars, who have written a flurry of articles questioning their implications for environmental regulation. Scholars have expressed, at the least, criticism for the apparent lack of consistency in the Court's Commerce Clause jurisprudence, and at the most concern about

³¹ See *supra* note 8.

³² *Wickard*, 317 U.S. 111.

³³ *Hodel v. Va. Surface Mining & Reclamation Ass'n*, 452 U.S. 264 (1981); *Hodel v. Indiana*, 452 U.S. 314 (1981).

³⁴ *Gonzales v. Raich*, 545 U.S. 1 (2005).

³⁵ *United States v. Riverside Bayview Homes*, 474 U.S. 121 (1985).

³⁶ *Tenn. Valley Auth. v. Hill*, 437 U.S. 153 (1978); *Babbitt v. Sweet Home Chapter of Cmty. for a Great Or.*, 515 U.S. 687 (1995).

³⁷ The term “depletable” here is used in a temporal sense, in that at any chosen point in time when a commons resource is appropriated it is depletable, though the resource may indeed be replenished in the future. Professor Daniels has noted that the primary requirement for a resource to be considered a part of a commons is that “appropriation of the commons resource results in a diminishing stock of the resource base.” Brigham Daniels, *Governing the Presidential Nomination Commons*, 84 TUL. L. REV. 899, 908 (2010) [hereinafter Daniels, *Presidential Nomination*] (emphasis added). Stated differently, “[a] consumptive use does not necessarily permanently diminish the amount of a commons resource available, but it diminishes opportunities for rival users at least for a time.” *Id.* at 906.

³⁸ See, e.g., Brigham Daniels, *Emerging Commons and Tragic Institutions*, 37 ENVTL. L. 515, 523–24 (2007) [hereinafter Daniels, *Emerging Commons*]; see *infra* notes 54–57.

³⁹ 514 U.S. 549 (1995).

⁴⁰ 529 U.S. 598 (2000).

⁴¹ See Edward T. Swaine, *Does Federalism Constrain the Treaty Power?*, 103 COLUM. L. REV. 403, 408 (2003).

⁴² See, e.g., Randy E. Barnett, *The Original Meaning of the Commerce Clause*, 68 U. CHI. L. REV. 101, 101 (2001).

⁴³ 545 U.S. 1 (2005).

⁴⁴ *Id.* at 59 (Thomas, J., dissenting).

whether *Lopez* and *Morrison* placed environmental statutes in danger of being invalidated on the one hand or whether *Raich* magically erased those concerns in one fell swoop on the other.⁴⁵ Other scholars have claimed that in the instant that *Raich* came to the rescue of past and future environmental legislation it also crushed the hopes of federalists for a resurgence in “new federalism” jurisprudence.⁴⁶

The alarmism over both the potential evisceration of federal environmental statutes and the supposed death knell to judicial federalism protections in Commerce Clause cases⁴⁷ seems hyperbolic when one views Commerce Clause jurisprudence through the lens of the commons. Upon doing so, an argument emerges that courts have consistently treated privatized commons resources as meeting the substantial effects test for determining the validity of federal legislation under the Commerce Clause.⁴⁸ The “new federalism” cases of *Lopez* and *Morrison* did not involve the regula-

⁴⁵ See, e.g., Randy Barnett, *Foreword: Limiting Raich*, 9 LEWIS & CLARK L. REV. 743 (2005); Eric Brignac, *The Commerce Clause Justification of Federal Endangered Species Protection: Gibbs v. Babbitt*, 79 N.C. L. REV. 873, 883 (2001); Eric Claeys, *Raich and Judicial Conservatism at the Close of the Rehnquist Court*, 9 LEWIS & CLARK L. REV. 791 (2005); Christy H. Dral & Jerry J. Phillips, *Commerce by Another Name: The Impact of United States v. Lopez and United States v. Morrison*, 68 TENN. L. REV. 605 (2001); Dan Gildor, *Preserving the Priceless: A Constitutional Amendment to Empower Congress to Preserve, Protect, and Promote the Environment*, 32 ECOLOGY L.Q. 821 (2005); Christine A. Klein, *The Environmental Commerce Clause*, 27 HARV. ENVTL. L. REV. 1, 38 (2003); Mank, *After Gonzales v. Raich*, *supra* note 13; Bradford C. Mank, *Protecting Intrastate Threatened Species: Does the Endangered Species Act Encroach on Traditional State Authority and Exceed the Outer Limits of the Commerce Clause?*, 36 GA. L. REV. 723, 735–36 (2002); Bradford C. Mank, *The Murky Future of the Clean Water Act After SWANCC*, 30 ECOLOGY L.Q. 811, 844–46 (2003); Thomas W. Merrill, *Rescuing Federalism After Raich: The Case for Clear Statement Rules*, 9 LEWIS & CLARK L. REV. 823, 844 (2005); John Copeland Nagle, *The Commerce Clause Meets the Delhi Sands Flower-Loving Fly*, 97 MICH. L. REV. 174 (1998); Sarah D. Van Loh, *The Latest and Greatest Commerce Clause Challenges to the Endangered Species Act: Rancho Viejo and GDF Realty*, 31 ECOLOGY L.Q. 459 (2004); Lori J. Warner, *The Potential Impact of United States v. Lopez on Environmental Regulation*, 7 DUKE ENVTL. L. & POL'Y F. 321 (1997); Omar N. White, *The Endangered Species Act's Precarious Perch: A Constitutional Analysis Under the Commerce Clause and the Treaty Power*, 27 ECOLOGY L.Q. 215, 235 (2000); Ernest A. Young, *Just Blowing Smoke? Politics, Doctrine, and the Federalist Revival After Gonzales v. Raich*, 2005 SUP. CT. REV. 1.

⁴⁶ See, e.g., Adler, *supra* note 16, at 752–53; Michael C. Blumm & George A. Kimbrell, *Gonzalez v. Raich [sic], the “Comprehensive Scheme” Principle, and the Constitutionality of the Endangered Species Act*, 35 ENVTL. L. 491, 494–98 (2005) [hereinafter Blumm & Kimbrell, *Comprehensive Scheme*].

⁴⁷ One scholar has stated that “[j]ust as many scholars prematurely heralded *Lopez* as the beginning of a Commerce Clause revolution, others now may be too quick to characterize *Raich* as the end.” Robert J. Pushaw, Jr., *The Medical Marijuana Case: A Commerce Clause Counter-Revolution?*, 9 LEWIS & CLARK L. REV. 879, 884 (2005).

⁴⁸ “Commons” here is defined narrowly. Certainly there may be commons that are outside the scope of economic activity and “commerce.” Natural capital, however, is perhaps the prototypical example of a commons resource, being the first category of commons identified, and invokes economic activity and economic analysis. The arguments put forth in this Article, therefore, are concerned only with this “baseline” of commons resources, meaning that though other commons resources may meet the substantial effects test under the Commerce Clause, and thus are regulable by the federal government under this analysis, *at the very least* certain environmental and natural resources meet that test.

tion of zero-sum⁴⁹ commons resources, but rather the regulation of non-zero-sum social constructs. The regulated activities in those cases — the carrying of guns near school zones and domestic violence — are socially constructed problems consisting of individualized decision-making exercised independently of the decisions of other individuals making the same choices. Such decisions do not constitute a commons, as these decisions are infinite within the social construct — thus the Court did not allow their “aggregation” for the purpose of determining substantial effects on interstate commerce. Commons problems, on the other hand, are best characterized as “naturally constructed” problems consisting of individualized decision-making that necessarily affects the consumptive activities of others as well as the total stock of the natural resource base — making aggregation under the substantial effects test quite appropriate. Furthermore, the statutes in *Lopez* and *Morrison* focused on public safety and security, which may best be characterized as “public goods” rather than a commons, since public safety is non-depletable and non-exclusive.⁵⁰ Therefore, the effects on interstate commerce are arguably more amorphous, and thus federalism protections more appropriate, in the context of the statutes at issue in *Lopez* and *Morrison*. In the context of natural resources and the environment, however, a commons analysis renders the substantial effects test more readily met.

Since individualized decisions regarding the use of commons resources necessarily affect the use decisions of other individuals, as well as the amount and value of resources available to others, regardless of the arbitrary geopolitical boundaries that may or may not divide them, it follows naturally that courts would more easily find that these activities transcend the geopolitical boundary and “commerce” thresholds that form the foundation for application of the Commerce Clause. Indeed, by widening the scale of our commons analysis we can see that the states themselves — through their primary control over land use regulation — may act as the rational herders that Hardin describes, and the “environment” stretching from coast to coast becomes the “pastoral commons” consumed in the aggregate by the states, largely with a view toward economic development.

Though the commons nature of commodities for which a consumptive interstate market is established may be more apparent — such as for wheat, minerals, and, after *Raich*, marijuana — commons principles are equally applicable to other privatized commons resources, such as wetlands and endangered species appropriated by economic development activities. The growing body of scholarship on ecosystem services, which demonstrates the

⁴⁹ “Zero-sum” here is used to mean “of, relating to, or being a situation . . . in which a gain for one side entails a corresponding loss for the other side.” WEBSTER’S NINTH NEW COLLEGIATE DICTIONARY 1371 (1989).

⁵⁰ See OSTROM, *supra* note 1, at 32 (stating that “one’s consumption of public security does not reduce the general level of security available in a community” and noting more generally that “propositions derived from a theory of public goods that are based on the non-subtractive attributes of those goods are *not* applicable to an analysis of *appropriation* and *use* of subtractable resource units”); Lee, *supra* note 20, at 479, 483, 487–88.

economic internalization of externalities long excluded from market-based decision-making regarding the management and use of natural resources, supports this assertion.⁵¹ When viewed through the lens of the commons, Commerce Clause jurisprudence can be characterized as judicial recognition and internalization of those externalities by acknowledging that the appropriation of privatized commons resources is an economic activity having a “substantial effect” on interstate commerce to the degree required to constitutionally allow federal action under the Commerce Clause. This proposition becomes clearer upon adjustment of the scale of analysis, as we come to understand how the private property rights system that supposedly fences in natural capital and commons resources to allow better management may function exactly like a commons, with all the attendant potential tragedies included.

III. THE TRAGEDY OF LANDED NATURAL CAPITAL AS PRIVATIZED COMMONS RESOURCES

Though Hardin’s influential work on the commons detailed a narrow set of resources considered commons in nature, with the associated tragedies of overuse and degradation, scholars have since expanded that set. The list now includes not only traditional natural resources, but also “new commons” in the form of medical care,⁵² parking spots, sidewalk vending, knowledge, government budgets, silence, email inboxes, and even presidential primaries.⁵³ Both traditional and new commons resources may be sub-

⁵¹ See James Salzman, *Integrating Ecosystem Services into Environmental Law*, in MANAGING HUMAN DOMINATED ECOSYSTEMS 77 (Victoria Hollowell ed., 2001); James Salzman, Barton H. Thompson, Jr. & Gretchen C. Daily, *Protecting Ecosystem Services: Science, Economics, and Law*, 20 STAN. ENVTL. L.J. 309 (2001); James Salzman, *Creating Markets for Ecosystem Services: Notes From the Field*, 80 N.Y.U. L. REV. 870 (2005); James Salzman, *A Field of Green? The Past and Future of Ecosystem Services*, 21 J. LAND USE & ENVTL. L. 133 (2006). Externalities adversely affect optimal market outcomes because they occur when some of the costs or benefits of an activity are not borne by the party engaging in the activity. See TOM TIETENBERG, ENVIRONMENTAL AND NATURAL RESOURCE ECONOMICS 46–49 (4th ed. 1996). “There is significant scientific evidence that many endangered or threatened species that possess little commercial value perform critical ‘ecosystem services’ such as decomposing organic matter, renewing soil, mitigating floods, purifying air and water, or partially stabilizing climatic variation.” Bradford Mank, *Can Congress Regulate Intrastate Endangered Species Under the Commerce Clause? The Split in the Circuits Over Whether the Regulated Activity Is Private Commercial Development or the Taking of Protected Species*, 69 BROOK. L. REV. 923, 989–90 (2004) [hereinafter Mank, *Split in the Circuits*] (citing John Charles Kunich, *Preserving the Womb of the Unknown Species with Hotspots Legislation*, 52 HASTINGS L.J. 1149, 1164–65 (2001)).

⁵² Michael Gochfeld, Joanna Burger, & Bernard D. Goldstein, *Medical Care as a Commons*, in PROTECTING THE COMMONS 253, 253 (Joanna Burger et al. eds., 2001).

⁵³ Daniels, *Presidential Nomination*, *supra* note 37, at 907. Professor Daniels has noted that:

New commons resources are *new* in one of two respects. First, they might be considered new in that, like an e-mail inbox, they are a fairly recent invention. Second, they might be familiar but only recently categorized as a commons resource, as in the case of silence or knowledge.

ject to one form of tragedy of the commons "solution" or another, such as property rights or regulation. Even so, these commons remain subject to potential tragedy because those "solutions" are imperfect. Ultimately, privatization of a commons, for example, may not remove all of the commons attributes that can lead to destruction of the resource. Such is the case with natural capital either removed from land by economic development activities or cultivated from land, even in the presence of a property rights system. The goal of this Part and Part IV is to demonstrate that once we consider privatized commons resources as a "new commons" we can begin to see how their regulation by the federal government may be found constitutional under the Commerce Clause's substantial effects test since they form an inherently aggregated economic system.

The most notable commons scholars of our time provide a consistent description of commons resources, and these are the parameters within which this Article argues privatized commons resources are included. Robert Keohane and Elinor Ostrom define commons resources as "depletable natural or human-made resources from which potential beneficiaries are difficult to exclude."⁵⁴ Oran Young similarly describes a commons resource as "a resource used by a group of appropriators that is both non-excludable and depletable."⁵⁵ Duncan Snidal asserts that commons analysis "focuses on the provision and appropriation of goods that are not joint in consumption (like private goods) but where exclusion is difficult (like public goods). Standard cases are natural resources, like forests or water, where the quantity available is less than the desired consumption of potential appropriators."⁵⁶ Steven Hackett and his coauthors maintain this consistent theme, arguing that commons resources are "natural or human-made resources in which (a) exclusion is non-trivial (but not necessarily impossible) and (b) yield is subtractable."⁵⁷

In sum, a commons consists of depletable resources where it is difficult to exclude appropriators seeking to consume those resources. As demonstrated below, the natural capital that exists on private lands is depletable and developers are very difficult to exclude from appropriating that natural capital, whether the developer is an individual property owner undertaking

Id. This Article argues that certain environmental resources over which the federal government claims Commerce Clause authority constitute yet another "new commons," in the form of "privatized commons resources."

⁵⁴ Robert O. Keohane & Elinor Ostrom, *Introduction to LOCAL COMMONS AND GLOBAL INTERDEPENDENCE* 1, 13 (Robert O. Keohane & Elinor Ostrom eds., 1995).

⁵⁵ Oran R. Young, *The Problem of Scale in Human/Environment Relationships*, in *LOCAL COMMONS AND GLOBAL INTERDEPENDENCE* 27, 29 (Robert O. Keohane & Elinor Ostrom eds., 1995).

⁵⁶ Duncan Snidal, *The Politics of Scope: Endogenous Actors, Heterogeneity and Institutions*, in *LOCAL COMMONS AND GLOBAL INTERDEPENDENCE* 47, 50 (Robert O. Keohane & Elinor Ostrom eds., 1995).

⁵⁷ Steven Hackett, Dean Dudley & James Walker, *Heterogeneities, Information and Conflict Resolution: Experimental Evidence on Sharing Contracts*, in *LOCAL COMMONS AND GLOBAL INTERDEPENDENCE* 93, 95 (Robert O. Keohane & Elinor Ostrom eds., 1995).

development activities or selling the property to another who is in the business of development. Similarly, resources extracted from land by individuals, such as agricultural products (wheat, marijuana), are depletable, and it is very difficult to exclude individuals from consuming and impacting markets related to those resources. Because the regulation of wetlands, endangered species, wheat, marijuana, minerals, and other resources is the focus of the foundational Commerce Clause cases relating to the environment, it is necessary to explore how these resources may be characterized as privatized commons resources.

A. *Adjusting the Scale of Analysis – Natural Capital on Private Property Subject to Economic Development or Markets Is a Commons*

It is unlikely that private property rights as a solution to commons problems is the *absolute* failure that some may claim.⁵⁸ The system of private property rights embedded in modern U.S. society can provide numerous environmental benefits, *if* those in control of the property act in an environmentally responsible manner. Numerous environmental non-governmental organizations (“NGOs”) and private individuals have used the vehicle of private property rights to purchase or receive donations of property for the sole purpose of conserving environmental amenities.⁵⁹ Others, through the vehicle of ecosystem services, have struck a balance between protecting the environment and facilitating economic revenues and progress. These parties

⁵⁸ See Amy Sinden, *The Tragedy of the Commons and the Myth of a Private Property Solution*, 78 U. COLO. L. REV. 533, 538 (2007) (“[A]ll this talk about private property and market regimes generating an alternative to government regulation of environmental problems is in fact nothing more than a mirage.”).

⁵⁹ See Bill Finch, *Deal Preserves More Forest Land*, MOBILE PRESS REGISTER, Mar. 29, 2006, at A1; Greg Fales, *IP Donates 2,650 Acres in Mississippi to the Conservation Fund*, PIMA’S PAPERMAKER, Apr. 1999, at 10. Professor Sinden does not find comfort in this potentiality, arguing that market availability for the protection of some land and resources does not mean that markets are the best or most efficient mechanisms for doing so. Sinden, *supra* note 58, at 598–99. Just because conservation is not at its maximum efficiency, however, does not mean that the private property rights system facilitating the choice and means of engaging in conservation is a failure. The question turns more on individual choice and cultural ethics — and as society moves toward a place closer to Leopold’s “land ethic,” with greater education and recognition of its dependency on the environment and natural resources, there is great potential to be tapped in the power of private conservation. See ALDO LEOPOLD, *A SAND COUNTY ALMANAC* 237–64 (Ballantine Books 1970) (1949). This trend toward a greater land ethic may already be taking place, as conservation efforts on private lands and incentives for undertaking such conservation activities have greatly increased this decade. See Press Release, Land Trust Alliance, *Private Land Conservation in U.S. Soars* (Nov. 30, 2006), <http://www.landtrustalliance.org/about-us/news/alliance-news/private-land-conservation-in-u.s.-soars> (last visited Feb. 8, 2010). Regardless, this Article is not arguing for private conservation as the *only* means of conservation, or that without some balance with government-imposed limits it would be successful. Private property rights can, however, be a powerful tool for conservation, especially in instilling in future generations the important concept of a *voluntary* land ethic. As we see quite often in the marketplace, including the marketplace of ideas, true *choice* can often lead to better results. See, e.g., John A. Baden, *Kelo’s Consequences for Conservation*, BOZEMAN DAILY CHRON., Aug. 16, 2005, available at http://www.bozemandailychronicle.com/opinions/article_07dd0217-3bda-5cec-a24a-9de1b421c178.html.

have captured the services provided by ecosystems within markets, and by doing so have gained economic return simply from protecting natural capital.⁶⁰

Ultimately, a judicially protected private property rights system is necessary if for no other reason than the following exercise in logic: the very same legal system that may protect one person's right to pave an asphalt parking lot over 100 acres of pristine forestland preserves another person's right to conserve the same 100 acres in perpetuity. Without a robust private property rights system, and with property rights existing only at the discretion of the government, serious environmental problems can arise. The foremost of these is that a democratically elected majority, unsympathetic to conservation interests and wishing to rejuvenate a suffering economy by investing in sprawling development, might vote to transfer 100 acres of pristine forest from the person wishing to conserve the forest to the person wishing to develop a "big box" retail store, or may vote to condemn property for a downtown redevelopment centered around a private pharmaceutical company, as in the recent U.S. Supreme Court case of *Kelo v. City of New London*.⁶¹

Hence it is clear that a system of private property rights can serve not only individual interests, but also important societal and environmental interests. This system only works properly as a solution to the tragedy of the commons, however, when it is driven by individuals who exercise environmental responsibility in the management of their private lands by not taking on the characteristics of rational herders, or, as this Article argues, "rational private property owners." The purpose of providing private property rights in commons resources is to turn rational individual decisions that lead to irrational collective harms into rational collective outcomes. Stated differently, the goal is to turn a prisoner's dilemma, whereby parties with access to a commons resource believe they are making a decision that is in their own "best" interest but that in fact results in a worse outcome for every party involved, into a Pareto-optimal outcome, whereby it would be impossible for a party to make himself better off without necessarily making another party worse off.⁶² Thus, in the herder's case, fencing off the pasture and dividing it

⁶⁰ See Alice Kenny, *Ecosystem Services in the New York City Watershed*, ECOSYSTEM MARKETPLACE (Feb. 10, 2006), http://ecosystemmarketplace.com/pages/article.news.php?component_id=4130&component_version_id=6440&language_id=12 (last visited Feb. 8, 2010); Bradley I. Raffle, *Carrots and Sticks: Incentivizing Private Land Conservation*, ECOSYSTEM MARKETPLACE (May 11, 2006), http://ecosystemmarketplace.com/pages/article.opinion.php?component_id=4349&component_version_id=6266&language_id=12 (last visited Feb. 8, 2010) (on file with the Harvard Law School Library).

⁶¹ 545 U.S. 469 (2005). Scholars have noted this potentiality arising out of *Kelo*; for instance, Professors Somin and Adler argue that the *Kelo* decision "is bad for property owners and environmental protection alike." See Ilya Somin & Jonathan Adler, *The Green Costs of Kelo: Economic Development Takings and Environmental Protection*, 84 WASH. U. L. REV. 623, 623-28 (2006) (citations omitted). John A. Baden, founder and chairman of the Foundation for Research on Economics and the Environment, has made similar arguments. See Baden, *supra* note 59.

⁶² OSTROM, *supra* note 1, at 5.

into private property will theoretically cause each herder to prohibit the flock from consuming more grass than can sustain the herd and to add no more sheep than the pasture can sustain. Yet due to various failures in the market, such as imperfect information, “free-riders,” transaction costs, collective action problems, and other failures to internalize externalities, environmental destruction remains, even in the presence of our private property rights system.⁶³ In an effort to correct these market failures in the United States, government — and especially the federal government — has intervened by regulating the environment, setting the stage for conflicts between the various levels of government as well as between the government and private property owners.

Though scholarly literature has discussed market failures associated with private property rights as a solution to the commons,⁶⁴ scant attention has been given to the idea that natural capital subject to private property rights and to markets *is itself a commons*. When we view resources subject to private property rights as a commons we can better understand how the states themselves, as primary regulators of private property and land uses, become fifty rational herders appropriating natural capital from the land within their borders (or, stated differently, *facilitating* appropriation of natural capital through state land use law that promotes economic development activities). As argued in Part IV, below, we can then see that federal regulation of the environment provides a mechanism to “fence” the environment in order to prevent the destructive effects of states as herders. The federal government maintains this authority under the Constitution because of its commerce power to regulate economic activity each time a developer develops a parcel of land or an individual extracts and consumes natural resources subject to interstate markets — these activities having inherent effects on commerce in the commons of other states. In short, once we adjust our scale of analysis to see our private property rights system as entrenching a natural capital commons, we can gain a clearer picture of what does and what does not represent constitutionally valid federal regulation of the environment under the Commerce Clause.

Most commons research focuses on the difficulties in privatizing or otherwise managing “fugitive resources, such as groundwater, oil, and fish,” and “almost all [resource economists] share the presumption that the creation of private property rights to . . . land is an obvious solution to the problem of degradation.”⁶⁵ Yet, though privatization of the pastoral commons might provide adequate protection for the grass as long as it is managed by the herders and valued primarily as natural capital, what happens when other parties are introduced who value other resources, such as use of the land to

⁶³ See generally Sinden, *supra* note 58.

⁶⁴ See generally *id.*; ERIC T. FREYFOGLE, *THE LAND WE SHARE: PRIVATE PROPERTY AND THE COMMON GOOD* (2003); Robert C. Ellickson, *Property in Land*, 102 *YALE L.J.* 1315 (1993).

⁶⁵ OSTROM, *supra* note 1, at 60.

develop human-made capital?⁶⁶ For example, assume for a moment that after division of the property amongst the herders the rational herder is approached by the rational grocer, who wants to develop a market to sell various agricultural products for human consumption. The grocer offers the herder a nice sum of money for the land — an amount substantial enough for the herder to rationally retire. Market demand for grocery products is high, and in fact the country where the herders and grocers reside, the “Rational States of America,” has established that one of its primary metrics of economic growth is “new grocery starts.” Thus, the higher the number of new grocery starts, the stronger the economy. This in turn shapes various government policies aimed at promoting new grocery starts. In this way, we see that incentives are aligned for an increasing number of herders to sell their pasture lands, and the natural capital contained on those lands, to an increasing number of grocers. What becomes of the grass? Once the grocers obtain a private property interest in the pasture lands it remains exceedingly difficult to exclude their appropriation of depletable natural capital. In establishing their places of business the grocers rid the land of the grass, construct their markets and pave the property to allow parking for customers. In other words, the grocers completely replace natural capital with human-made capital. Should the national government enact an “Endangered Grass Act” to protect the resource? How would the grocers respond to such legislation?

Of course, this hypothetical is meant as a metaphor for the current state of affairs in the United States, where rapid development and sprawl threaten natural capital present on lands owned by rational private property owners seeking to maximize individual economic return from their property. New home starts are a leading indicator of the strength of the economy, as are various other consumer reports and indices — many of which are explicitly linked to land development facilitating greater consumptive capacity.⁶⁷ An astounding example of our reliance on consumption and development in determining the strength of national economies is evidenced in a recent study by researchers at Brown University, who have suggested a new means of determining the growth in gross domestic product (“GDP”) of the developing and developed world — from outer space.⁶⁸ These researchers have actually tracked, via satellite, changes in the intensity of artificial light over a country at night. They determined that increases in artificial light parallel increases in household incomes, thus signaling GDP growth. In a world where the clearing of natural capital from more and more land results in the generation of more and more electricity driven by the consumption of more and more fossil fuels, which in turn indicates a growing and strong econ-

⁶⁶ Human-made capital includes “factories, buildings, tools, and other physical artifacts usually associated with the term ‘capital.’” Costanza & Daly, *supra* note 7, at 38.

⁶⁷ Ryan Barnes, *Investopedia, Economic Indicators: Housing Starts*, <http://www.investopedia.com/university/releases/housingstarts.asp> (last visited Feb. 8, 2010) (on file with the Harvard Law School Library).

⁶⁸ *Measuring Growth from Outer Space*, THE ECONOMIST, Aug. 8, 2009, at 63.

omy, incentives are aligned to rush toward just the type of tragedy described by Hardin. Indeed, experts estimate that increasing populations in the United States alone will require the development of seventy million more housing units by 2040, and forty million of those will be built on *new* residential lots.⁶⁹

What of the other resources displaced by this development, consumption, and economic growth? What of biodiversity, wetlands, forests, and other resources on the land? In fact, should we go further back and ask how Hardin's rational herder came to have pasturelands in the first place? Perhaps a private property rights system was already in place and the rational herder simply bought the property from a rational forester, who had previously managed the land for forest products until a shift in the market simultaneously caused the forest products industry to move overseas and agricultural products like grass and sheep to become more valuable. Thus the rational herder came to own the property by paying the rational forester a nice sum — enough for the forester to rationally retire — and then converted the property from forest land to agricultural land with a plentitude of grass resources. Though grass resources remained, the trees were gone, and gone too were the services they provided and other resources present in the forest.⁷⁰ Though this example reflects the replacement of one type of natural capital with another, the diverse uses to which forested natural capital may be put arguably make it of far more natural resource value than grassland used almost exclusively for providing sustenance to an agricultural herd (which actually may be characterized as part natural, part human-made capital).

In this way, we can see that even though the forester's trees were fenced in and privatized, as was the subsequent herder's pasture, a "tragedy" is likely to occur at each step in the chain of ownership regarding various important natural resources — even in the presence of a private property rights system. This is due in large part to the aforementioned tension between the property rights system, state governments, and the federal system of environmental regulation seeking to protect against such tragedies. Though there is an important role for private property as one solution to the tragedy of the commons, an overly aggressive private property rights system — i.e., one that resists almost all forms of environmental regulation — does not positively address destruction of the commons, but instead facilitates it.⁷¹

⁶⁹ Arthur C. Nelson & Robert E. Lang, *The Next 100 Million*, *PLANNING MAGAZINE*, Jan. 2007, at 4.

⁷⁰ Such ecosystem services include managed forests' role in watershed protection, flood control, the safeguarding of habitat, biodiversity, genetic resources, and the preservation of cultural and recreational values. See Bastiaan Louman et al., *Forest Ecosystem Services: A Cornerstone for Human Well-Being*, in *ADAPTATION OF FORESTS AND PEOPLE TO CLIMATE CHANGE — A GLOBAL ASSESSMENT REPORT 14*, 17 (Risto Seppälä et al. eds., 2009), <http://www.iufro.org/science/gfep/embargoed-release/download-by-chapter/> (on file with the Harvard Law School Library).

⁷¹ Rasband et al. describe this problem in terms of a failure of privatization of property to lead to the most socially beneficial use of land. They state:

In today's contentious world of environmental protection versus private property rights, this tragedy reflects a modified version of Hardin's tragedy of the commons. Though the "commons" present in our private property system may not be readily apparent, by simply readjusting the scale at which one views the system and then applying commons analysis, it becomes more clear: each *individual herder* can be replaced by each *individual private landowner* who owns a segment of private property, and the *pastoral commons* can be replaced by the *network of individually owned private properties* which constitutes "the environment" (what this Article calls the "collective privatized environment"⁷²). When economic development activities or other markets implicate the appropriation of landed natural capital present within the collective privatized environment, these resources become privatized commons resources. This natural capital meets the definition of a commons resource because it is: (1) depletable and (2) it is extremely difficult, in the absence of government intervention, to exclude any one private property owner from appropriating the natural capital and replacing it with human-made capital or from appropriating it pursuant to an interstate market.

Applying commons analysis at this level, we see that it is often in the best interest of the individual private property owner to maximize the economic benefit received from his or her property, which may potentially entail selling 100 acres of pristine forest for retail development. The negative cost of losing 100 acres of pristine forest, however, accrues to the entire collective privatized environment, and necessarily affects surrounding property owners. Thus, the negative cost suffered by the individual property owner is only a fraction of the total negative environmental cost that accrues to the collective privatized environment. Therefore, with benefits far outweighing apparent costs, each individual private property owner may act to maximize the economic benefit provided by converting natural capital to human-made capital on his or her property. If enough private property owners act in such a manner, as do the herders in Hardin's example, then so much natural capital — i.e., 100-acre plots of forests — may be spent that it can have a devastating effect on the collective privatized environment.

Ostrom, the preeminent commons scholar of our time, noted this potential, though even she explicitly distinguished *landed* resources within her analysis. Ostrom noted that:

Perhaps the new owners of the commons wish to use it for mini-golf while the sheep starve. This may be economically efficient if it accurately reflects the land's most valuable use (as measured by willingness to pay). If the government wishes to ensure the important public goals of a secure food supply or supporting family farms, they will need to step in. Property rights advocates would approve of this course of action, so long as the government paid the property holders.

JAMES RASBAND, JAMES SALZMAN & MARK SQUILLACE, *NATURAL RESOURCES LAW AND POLICY* 71 (2d ed. 2009).

⁷² This phrase is another term of art meant to translate a commons analysis to privatized resources.

It is difficult to know exactly what analysts mean when they refer to the necessity of developing private rights to some [commons] resources *It is clear that when they refer to land, they mean to divide the land into separate parcels and assign individual rights to hold, use, and transfer these parcels as individual owners desire* In regard to *nonstationary* resources, [however,] such as water and fisheries, it is unclear what the establishment of private rights means In regard to a fugitive resource, a diversity of rights may be established giving individuals rights to use particular types of equipment, to use the resource system at a particular time and place, or to withdraw a particular quantity of resource units (if they can be found). *But even when particular rights are unitized, quantified, and salable, the resource system is still likely to be owned in common rather than individually.*⁷³

Ostrom's insight regarding nonstationary, fugitive resources is no less relevant to the private property system in land, which she distinguishes. Ostrom cites fishing grounds, groundwater basins, grazing areas, irrigation canals, bridges, parking garages, mainframe computers, streams, lakes, oceans, and other bodies of water as examples of "resource systems." The collective privatized environment is yet another resource system, comprised of natural capital subject to private property rights. Stated differently, the "resource units" making up the system — defined as "what individuals appropriate or use from resource systems"⁷⁴ — are the privatized commons resources on individual parcels of private property.

The process "of withdrawing resource units from a resource system" is called "appropriation," and parties who withdraw resource units are called "appropriators."⁷⁵ Ostrom gives numerous examples of appropriators, such as herders, fishers, irrigators, commuters, and "anyone else who appropriates resource units from some type of resource system."⁷⁶ Within the collective privatized environment, we can see that developers, for example, are appropriators in the business of appropriating natural capital, most often replacing it with human-made capital. Given that state governments are responsible for regulating land uses and development activities, as discussed

⁷³ OSTROM, *supra* note 1, at 13 (emphasis added). In discussing the value of leaving some resources as commons rather than privatizing them, such as roads and waterways, other scholars have briefly alluded to the relationship between our private property rights system and a commons. Carol Rose states:

Indeed a private property regime itself — whether governmental or customary — may be understood as a managed "commons" — a meta-property held in common by those who understand and follow its precepts. In a sense, a movement toward private property is a movement from a "commons" in a physical resource to a "commons" in the social structure of individualized resource management.

Carol Rose, *The Comedy of the Commons: Custom, Commerce, and Inherently Public Property*, 53 U. CHI. L. REV. 711, 746–47 (1986).

⁷⁴ OSTROM, *supra* note 1, at 30.

⁷⁵ *Id.*

⁷⁶ *Id.* at 31.

below, even state governments can be considered appropriators of the collective privatized environment, allowing — through their bodies of land use law — appropriation of natural capital for development. In short, though private property rights in land are “unitized, quantified, and salable,” as Ostrom noted regarding other natural resources, the collective privatized environment resource system is “owned in common” by the collection of rational private property owners in a given area.⁷⁷ Thus a commons exists *within* our private property rights system in land ownership, and one rational private property owner’s actions affect the value and amount of natural capital available to surrounding private property owners.

Though not referring specifically to privatized natural capital, Ostrom’s statement that “[s]imply closing the boundaries [of the resource system] is not enough”⁷⁸ rings just as true for the landed natural capital in our private property rights system. This is because “[i]t is still possible for a limited number of appropriators to increase the quantity of resource units they harvest so that they . . . totally destroy the resource. Consequently, in addition to closing the boundaries, some rules limiting appropriation and/or mandating provision are needed.”⁷⁹ Modern day developers are appropriating resource units of landed natural capital at an alarming rate, which presents a real danger to the resource system. An example is the plight of the modern “rational farmer” in California, and involves the domino effect created by one farmer selling the family farm to sprawling development interests. De-

⁷⁷ See OSTROM, *supra* note 1, at 13.

⁷⁸ *Id.* at 92.

⁷⁹ *Id.* (citation omitted). Similar to Ostrom’s distinction between land and commons resources, some scholars have suggested that Hardin’s commons analysis applies *only* to open-access regimes, which are characterized by an *absence* of property rights. See, e.g., Sinden, *supra* note 58, at 547 (describing Hardin’s tragedy of the commons as better conceptualized as “the tragedy of open-access”). It seems clear, however, that the question is merely one of scale. Each rational private property owner acts as a rational herder on the collective privatized environment, and the appropriation of natural capital is open to all other rational private property owners — so, under that conceptualization, our private property system is “open-access,” and the collective privatized environment is, to use Ostrom’s phrase, a “common-pool resource.” Each rational private property owner acts to achieve the full economic benefit from the property, such as by creating human-made capital in a market where development is a key indicator of economic growth. Each property owner, however, only suffers a fraction of the cost. They will not likely suffer the immediate consequences of replacing their privatized commons resources with development. Instead, that cost will be felt by future private property owners only after the collective privatized environment has become irreparably harmed. This occurs because of the two defining characteristics of a commons: (1) the use of a depletable resource is consumptive; and (2) it is difficult to exclude appropriators from accessing the resource. Daniels, *supra* note 37, at 906. Importantly, Daniels noted that:

A consumptive use does not necessarily permanently diminish the amount of a commons resource available, but it diminishes opportunities for rival users at least for a time. For example, a pedestrian on a sidewalk takes up space on the sidewalk only while using it; other resources like fisheries are renewable with time; still others like hard rock minerals are gone once consumed.

Id. Development is a consumptive activity, and through market forces that tie metrics of economic growth to development, it is extremely difficult to exclude appropriators from consuming natural capital and from replacing it with human-made capital.

velopers pay top dollar for such property, which often increases in value as development approaches farmland. Eventually, surrounding farmers also sell out because “selling all or a portion of a farm for development [is] the only economically sensible option”⁸⁰ As a result, “the U.S. is losing nearly twice as much farmland each year as it did in the early nineties . . . [and fifty] acres of farmland are converted to development every hour.”⁸¹ This basic premise is no less true for important natural resources like forests. Almost one million acres of forestland were lost to development annually from 1992 to 1997, a rate of nearly 115 acres per hour.⁸² An additional twenty-six million acres of forest could be lost by 2030.⁸³

Eventually, “use of the resource by one [developer] may have adverse consequences for others,” because when depletable natural capital is available to non-excludable developers to appropriate and replace with human-made capital “individual beneficiaries may not take into account these adverse consequences. Participants acting independently have incentives to overuse the resource and thus reduce the total returns.”⁸⁴ By recognizing that a private property rights system that takes on the characteristics of a commons drives this overuse, we undertake an important conceptual shift in the types of policy solutions proposed and can better understand both the drivers and constitutional bases for federal environmental regulatory action under the Commerce Clause.

B. *Adjusting the Scale of Analysis is Necessary to Craft Proper Solutions*

As noted above, scholars have highlighted numerous problems associated with private property rights as a solution to the tragedy of the commons.⁸⁵ Most of this work, however, has focused on a microeconomics critique of the failure of our private property rights system to adequately internalize externalities⁸⁶ — or, in other words, the failure of most private property owners to bear the complete costs and benefits associated with their

⁸⁰ Biodiversity Project, *Farmland Loss at a Glance*, in GETTING ON MESSAGE: MAKING THE BIODIVERSITY-SPRAWL CONNECTION, available at <http://www.comminit.com/en/node/265588/306>.

⁸¹ *Id.* (also noting that “[b]etween 1982 and 1992, 4.2 million acres of farmland were lost to development, [m]ore than 56 percent of our food comes from rapidly developing counties on the edge of urban centers, 32 percent of best quality farmland in highly productive farming regions of the U.S. has already been irretrievably lost to development,” and that “[c]urrently, 70 percent of prime farmland is threatened by sprawl — 234,500,000 acres nationwide”). See also Elizabeth Becker, *2 Farm Acres Lost per Minute, Study Says*, N.Y. TIMES, Oct. 4, 2002, at A22.

⁸² Jeffrey Kline, *Our National Concern About Forestland Development*, TIMBER WEST, May/June 2005, at 50, available at http://www.fs.fed.us/pnw/pubs/journals/pnw_2005_kline003.pdf.

⁸³ *Id.*

⁸⁴ Keohane & Ostrom, *supra* note 54, at 13.

⁸⁵ See, e.g., Sinden, *supra* note 58.

⁸⁶ HAL R. VARIAN, MICROECONOMIC ANALYSIS 432–39 (3d ed. 1992).

use of the property. Take, for example, a farmer seeking to maximize economic return from agricultural lands who uses large amounts of inorganic fertilizer, which is then deposited as run-off into nearby bodies of surface water. The ecology of the neighboring water bodies may be greatly altered, which has a negative effect on all those who rely on the water for consumption, fishing, or similar environmental values.⁸⁷ Thus, “the commons has been privatized, but tragedy persists [F]or an allocation of the commons into private property to effectuate a solution to the tragedy: there must be no remaining externalities or spillover effects — each private property owner must bear the full social costs and benefits of her actions.”⁸⁸

While important, this analysis of internalizing externalities is too narrow in focus, conceptually severs the commons from the private property system, and supposes that the latter has replaced the former. By focusing on case-by-case flaws (failure to internalize externalities on certain properties) in a system (private property rights) that has supposedly replaced the commons, policy-makers and academics propose solutions based upon a particular — and incomplete — conception of the problem. This approach takes us too far along the road to believing we have approached a solution to the problems presented by the commons, which it views as largely eliminated but for various remaining externalities yet to be internalized.

Another shortcoming of the narrowly focused “internalization of externalities” solution is that whether private property owners bear social costs and benefits is a determination made based on societal norms, which may indeed value use of a plot of land as a farm over a forest or as a Best Buy over a farm — resulting in a perceived internalization of all outstanding externalities. It is extremely difficult to force internalization of externalities upon property owners who are merely responding to society’s calculus of what constitutes a “social cost” or a “social benefit.” Society values a strong economy, which is currently tied to new housing starts and other consumption and development indicators.⁸⁹ As such, society will value the

⁸⁷ Sinden, *supra* note 58, at 557.

⁸⁸ *Id.* Other scholars have noted that taxes and financial payments provide a mechanism for the government to force internalization of externalities on private property. Rasband et al. state, in the context of commons resources, that:

[Taxes] may take the form of an entrance fee to graze on the commons. One might levy a tax, perhaps on the number of sheep or time spent grazing. Such market instruments are attractive because they lead to self-regulation of use. If the fees and taxes are set correctly, this instrument quite literally internalizes externalities and provides a direct incentive to modify behavior, aligning environmental and economic interests. People will find cheaper ways to conserve those scarce resources and less of the resource will be used over time.

RASBAND, ET AL., *supra* note 71, at 73. As discussed, however, as long as measures of economic growth are tied to consumptive development activities, it is difficult to imagine there not being *some* party willing and able to pay the tax, strip the land of valuable natural capital, and replace it with human-made capital. The government may refuse to set the tax high enough because of its focus on increasing economic growth, and society may value that type of economic growth through its consumptive activities — thus behavior may remain unchanged.

⁸⁹ See Barnes, *supra* note 67.

transfer of property from the forester to the farmer in a developing society transitioning to an agricultural economy,⁹⁰ and from the farmer to the commercial developer in a society transitioning from an agricultural economy to greater levels of industrialization.⁹¹ A commons analysis allows a sharper focus on the mechanism driving environmental damage to the collective privatized environment and brings scarcity and rivalry more clearly into the picture. This allows for the crafting of more precise policy responses to the commons problems we can see in our private property rights system. Without such responses, natural capital present in that system, and thus the collective privatized environment, will remain a commons with all the attendant management complexities.

One of the most important of these complexities, which scholars have failed to take into account, actually takes the form of one of the most fundamental private property rights — the right to alienate property. Though individual private property owners can certainly replace natural capital on their property with human-made capital or appropriate natural capital pursuant to an interstate market, a property owner being able to sell land to other developers effectively removes the “fences” from around the rational private property owner’s property and makes appropriator excludability even more difficult. The right to alienate provides yet another example of how the collective privatized environment operates no differently than a commons generally. In fact, we might say that the well-known property concept of the “rule of capture” applies to private parcels of property, as developers rush to purchase, develop, and remove valuable natural capital from land as quickly as possible. Paraphrasing Ostrom’s analysis regarding a more well-recognized commons resource, groundwater basins, we can see that since the rule of capture grants developers an exclusive right in the land, what a developer does not purchase today in a developing area will be purchased by rival developers tomorrow. The fear that developers cannot purchase, or capture, tomorrow what they do not purchase today undermines any countervailing motive to forego a current purchase for a future purchase.⁹² Thus we see that “[t]he two incentives reinforce one another to aggravate the intensity of the [development] race. Without a change of institutions, [developers] in such a situation acting independently will severely overexploit the resource. Overexploitation can lead to destruction of the resource itself.”⁹³ In short,

⁹⁰ Conversion of rainforests to agricultural farms in Brazil and Indonesia via the mechanism of slash-and-burn is one example. See Tomich et al., *Agricultural Development with Rainforest Conservation: Methods for Seeking Best Bet Alternatives to Slash-and-Burn, with Applications to Brazil and Indonesia*, 19 AGRIC. ECON. 159 (1998).

⁹¹ This valuation is evidenced by the rapid transition from farmland to development in the United States. See BIODIVERSITY PROJECT, *supra* note 80.

⁹² Ostrom, *supra* note 1, at 109 (citation omitted).

⁹³ *Id.* Under a traditional analysis of this problem one might argue that if the seller of the property and the buyer of the property actually had acted upon perfect information, including the full economic value of the ecosystem, then the market itself would resolve the problem and the property owner would either keep the property and internalize externalities or only sell the property to a subsequent owner who would also internalize externalities and thus protect the collective privatized environment. Given the practical realities of our market system, how-

development of resources on private property meets all of the definitions of commons resources described above. Developers are appropriators of a resource (natural capital on private land) that is depletable, and it is very difficult — if not impossible in the absence of government intervention — to exclude developers from appropriating this natural capital.⁹⁴

Regardless of whether a developer/appropriator of natural capital is a current owner of the property, or one to whom the property is sold, from the developer's perspective replacing natural capital with human-made capital *will* internalize all of the costs and benefits to that developer. As long as

ever, and our measures of economic growth, *see* Barnes, *supra* note 67, it is impracticable to assume this result and to rely on this explanation to provide an adequate solution, for the reasons argued in this section.

⁹⁴ Another complexity arises out of the "full information" externality and its relationship to the appropriation of privatized commons resources by individuals and developers. Sinden has argued that "information problems . . . cause market efficiency to diverge from real social welfare. If . . . market participants are ignorant of the valuable services that a given ecosystem provides, they may make choices in the market that lead to the ecosystem's degradation and thereby decrease real welfare." Sinden, *supra* note 58, at 594. Though full information is required to fully internalize externalities, a government regulator seeking to address externalities will rarely, if ever, have full information. More importantly, individuals who may have full information about, for example, the valuable services a given ecosystem provides, and who may be sympathetic to it, will often fail to act upon such information. In addition, temporal informational issues make it virtually impossible for individual private property owners to internalize externalities that will negatively affect only future generations. In other words, information problems are compounded by the temporal nature of monetary need and the prospect of economic return. As described by Ostrom:

Individuals attribute less value to benefits that they expect to receive in the distant future, and more value to those expected in the immediate future. In other words, individuals discount future benefits — how severely depends on several factors. Time horizons are affected by whether or not individuals expect that they or their children will be present to reap these benefits, as well as by opportunities they may have for more rapid returns in other settings.

OSTROM, *supra* note 1, at 34. Thus it is extremely difficult to determine the costs of appropriating privatized commons resources over temporal scales, and, as noted, even if full information is available, countervailing considerations may cause people to disregard such information. Consequently, a property owner who must place an ill spouse in a nursing home late in life, but who also cares greatly for the environment, may maximize economic return from their 100 acres of property by selling it to the highest bidder — even if it is sold to a developer set on completely consuming the resource. In other words, even though market failure scholarship bemoans the lack of full information by parties entering into transactions, other pressing life considerations complicate the ability of individuals to act upon full information, even if it is available (which it is often not).

Thus a person may understand and value fully the services and benefits provided by the ecosystem and may still appropriate the resource due to other considerations. This effect on the individual with a sick or dying spouse is consistent with Ostrom's finding that "[d]iscount rates are affected by the levels of physical and economic security faced by appropriators." *Id.* at 35. Appropriators who are uncertain of whether they will have enough economic resources to simply survive will discount future values heavily when compared to increasing the probability of surviving in the present. *Id.* For example, take the family farmer pressured to sell to developers, discussed above. If resources can be destroyed by the actions of others regardless of what the family farmer decides to do (such as other family farmers in the area selling their land), even farmers sensitive to the need for environmental protection will begin to heavily discount future benefits from the resource as compared to the economic benefits of sale in the present. *See id.*

economic growth is measured by development and consumption indices and society desires economic growth, development will continue to occur with developers bearing the full *societal* costs and benefits of their development — a distinct question from whether they will bear the *environmental* costs and benefits.

To see this, one needs only to assess how the property right is defined from the developer's perspective, or, rather, *what* property right the developer deems itself to have. A developer's sole purpose is to gain revenue and profit from its development, and people will likely still buy the homes, shoes, food, clothing, and electronics made available by development no matter how much damage is done to the collective privatized environment, largely because they do not see the damage in the aggregate. The developer will gain the full benefit of its activities, and its *true* cost will be merely *shifted* to another harm spread across the populace that is seemingly unrelated to the activity at hand. The true cost is not the same as the societal cost, since society values development as signaling a strong economy. In other words, society values a new housing development or Best Buy for the services they provide *and* for what they signify generally about the state of the economy. As a result, society engages in consumptive activities that may not result in apparent environmental harm at the site of the individual development in question. When aggregated with the effects of other developments across the country (the collective privatized environment), however, environmental harm is indeed occurring on a grand scale.⁹⁵ The populace as a whole may eventually suffer from the loss of biodiversity caused by the destruction of medicine-bearing plants or from the loss of clean water due to increased impervious parking lot surfaces and nitrogen run-off. Even if the populace is aware of these facts it is unlikely to stop purchasing new homes, food, shoes, clothing, and electronics — nor does society seem interested in shifting away from the use of these metrics to signify economic growth and prosperity. Thus, from the developer's perspective, it will never bear the burden of harm that results from its activity.⁹⁶

⁹⁵ Professor Karkkainen has provided a succinct summary of the driver for this behavior in the context of biodiversity protection:

Despite biodiversity's global benefits, many biodiversity-rich landowners, communities, and states will calculate that they will be better off externalizing the costs of biodiversity by letting local land conversion and development proceed apace, while leaving the costs of conservation to others. Indeed, states and communities with the largest inventories of undisturbed habitat and ecosystems are probably the least inclined to protect them for two reasons. First, from a local perspective, these lands may appear to be an *overabundant* resource. Second, these localities may be reluctant to protect these resources because they would carry a disproportionate share of the localized costs of conservation if they must forego development on a disproportionate percentage of their lands.

Bradley C. Karkkainen, *Biodiversity and Land*, 83 CORNELL L. REV. 1, 74–75 (1997) (citations omitted).

⁹⁶ Furthermore, no amount of information can force the internalization of that externality because of countervailing information from the current structure of economic markets — so a greater amount of information about the value of natural capital without an accompanying

In addition, as discussed in the next section, in many instances state governments do not appear willing to act upon information that externalities are not being internalized, as the “race-to-the-bottom” often causes them to vie for economic benefits by lowering environmental standards related to land use and consumptive development activities.

Ultimately, the complexities described above — by no means an exhaustive list — arise out of the commons nature of natural capital within our private property rights system, and are not just traditional environmental microeconomics problems. As long as private property owners and state governments remain “rational,” and as long as there is no coordinated government interaction within the collective privatized environment, these privatized commons resources are in danger of over-consumption with tragic consequences.

IV. DRIVER FOR FEDERAL ENVIRONMENTAL REGULATION — “RATIONAL STATE GOVERNMENTS” AS HERDERS ON THE NATIONAL COMMONS

Broadening the scale even further, the rational herder, grocer, farmer, forester, and private property owner can be replaced by the rational state government. Given current indicators of economic growth,⁹⁷ it is in each rational state government’s best interest to keep the collective privatized environment as open as possible to development interests. This approach results in individual governments maintaining lax land-use restrictions relative to rival governments to avoid losing development interests to neighboring states or local communities. This oft-discussed⁹⁸ race-to-the-bottom among states can stifle innovative land use measures that could assist in preserving finite natural capital increasingly under growth and population pressures.⁹⁹ Scholars have provided empirical data supporting the conclusion that the

change in economic structures will therefore fail to facilitate behavioral change. *See supra* discussion in note 94.

⁹⁷ *See supra* note 67 and accompanying text.

⁹⁸ *See* Van Loh, *supra* note 45; Richard L. Revesz, *Rehabilitating Interstate Competition: Rethinking the “Race-to-the-Bottom” Rationale for Federal Environmental Regulation*, 67 N.Y.U. L. Rev. 1210 (1992); Kirsten H. Engel, *State Environmental Standard-Setting: Is There a “Race” and Is It “To the Bottom”?*, 48 HASTINGS L.J. 271, 281–82 (1997); Neal D. Woods, *Interstate Competition and Environmental Regulation: A Test of the Race-to-the-Bottom Thesis*, 87 Soc. Sci. Q. 174 (2006).

⁹⁹ One scholar has aptly described the race-to-the-bottom as a form of the tragedy of the commons, noting:

Given the mobility of industry and commerce, any individual state or community may rationally decline unilaterally to adopt high environmental standards that entail substantial costs for industry and obstacles to economic development for fear that the resulting environmental gains will be more than offset by movement of capital to other areas with lower standards. If each locality reasons in the same way, all will adopt lower standards of environmental quality than they would prefer if there were some binding mechanism that enabled them simultaneously to enact higher standards, thus eliminating the threatened loss of industry or development. The costs and uncertainties of bargaining among many state or local government units render such a compact improbable.

regulatory decisions of regional “competitors” negatively impact the stringency of state environmental regulatory standards, as states “attempt to reduce the cost of doing business in the state in order to maintain current industrial production within the state and attract new production.”¹⁰⁰

Thus, the race-to-the-bottom constitutes recognition of the states as rational herders on the pastoral commons that is the collective privatized environment, and further demonstrates the commons attributes of natural capital on private lands. States compete with each other to maintain lax land use standards, rendering it exceedingly difficult to exclude developers from appropriating natural capital. In fact, lax state land use laws actually *promote* non-exclusivity, as their goal is to promote the creation of human-made capital, even if at the expense of depletable natural capital.¹⁰¹ So not only do commons tragedies exist, but states are also quite purposeful in promoting tragedies of natural capital commons.

These attributes of the collective privatized environment in turn result in consumptive development scars, present all across our modern landscape. Take, for example, the transition from the indoor mall of the 1980s and 1990s to the indoor/outdoor “town center” mall hybrids of the 2000s.¹⁰² Indoor malls are often larger than 2 million square feet.¹⁰³ This is 2 million square feet of human-made capital, the development of which likely appropriated a significant amount of natural capital. Yet, due to a shift in consumer preferences from indoor malls to big box retailers and the modern indoor/outdoor mall hybrids, indoor malls are quickly becoming “ghost towns” or “dead malls.”¹⁰⁴ Between 2007 and 2009, four hundred of the United States’s two thousand largest indoor malls closed.¹⁰⁵ The shift from indoor mall to modern retail centers results in two expansive developed parcels of land, one used for its original intended purpose while the other sits vacant.¹⁰⁶ The site of a dead mall “can rapidly turn into a wasteland of

Richard B. Stewart, *Pyramids of Sacrifice? Problems of Federalism in Mandating State Implementation of National Environmental Policy*, 86 *YALE L.J.* 1196, 1211–12 (1977) (footnote omitted).

¹⁰⁰ Woods, *supra* note 98, at 175.

¹⁰¹ See Stewart, *supra* note 99, at 1211–12.

¹⁰² See Kris Hudson and Vanessa O’Connell, *Recession Turns Malls Into Ghost Towns*, *WALL ST. J.*, May 22, 2009, at A1; Tony Dokoupil, *Is the Mall Dead?*, *NEWSWEEK*, November 12, 2008, available at <http://www.newsweek.com/2008/11/11/is-the-mall-dead.html>.

¹⁰³ *Largest Shopping Malls in the United States*, SHOPPING CENTER STUDIES AT EASTERN CONNECTICUT STATE UNIVERSITY, <http://nutmeg.easternct.edu/~pocock/MallsLarge.htm> (on file with the Harvard Law School Library).

¹⁰⁴ Hudson & O’Connell, *supra* note 102, at A1.

¹⁰⁵ *The vanishing shopping mall*, *THE WEEK*, March 26, 2009, http://theweek.com/article/index/94691/The_vanishing_shopping_mall. A website, deadmalls.com, chronicles the life (and death) stories of hundreds of “dead malls” across the country. [DEADMALLS.COM](http://deadmalls.com/index.html), <http://deadmalls.com/index.html> (last visited March 28, 2011) (on file with the Harvard Law School Library).

¹⁰⁶ See Chad Emerson, *Mall Farming*, . . . *LAND USE PROF BLOG: A MEMBER OF THE LAW PROFESSOR BLOGS NETWORK* (June 15, 2010), http://lawprofessors.typepad.com/land_use/2010/06/mall-farming.html (last visited March 8, 2011) (on file with the Harvard Law School Library).

overgrown weeds, cracked concrete, and stray animals, with looters picking sites clean of copper tubing, light fixtures, and anything else that can be sold for scrap.”¹⁰⁷ Not only do these vacant parcels remain unused as a land and economic resource, but they also remain stripped of the other natural resources that once existed on the property. States are complicit in allowing such duplicative and wasteful uses of developed land, encouraging the creation of new human capital at the expense of natural capital, even though pre-existing human capital could be used for the same economic purpose. The race between states either to encourage new development or to abdicate environmental or land use controls so as not to stifle development is the prototypical example of rational commons reasoning that “[w]hen an individual user of the commons resource unilaterally decides to cut back in the commons resource, the appropriator is only leaving more for others. Particularly in light of how the commons resource allocates benefits and costs, it does not make sense to cut back unilaterally.”¹⁰⁸

The above-described race-to-the-bottom among states largely drives federal environmental regulation. Indeed, Commerce Clause jurisprudence actually addresses this set of commons problems, and in the context of privatized commons resources. In the related 1981 cases of *Hodel v. Virginia Surface Mining & Reclamation Ass’n*¹⁰⁹ and *Hodel v. Indiana*,¹¹⁰ the U.S. Supreme Court upheld the Surface Mining Control and Reclamation Act of 1977 (“SMCRA”) “on the ground that the absence of federal legislation would likely lead to ruinous competition among states lowering state environmental standards in order to retain or attract business from other states.”¹¹¹ The Court held that provisions of SMCRA protecting disconnected intrastate farmlands were constitutional under the Commerce Clause because of the need to “ensure that production of coal for interstate commerce would not be at the expense of agriculture, the environment, or public health and safety, injury to any of which interests would have deleterious effects on interstate commerce.”¹¹² Perhaps most importantly, the Court noted that “[t]he prevention of this sort of destructive interstate competition is a traditional role for congressional action under the Commerce Clause.”¹¹³ Thus, states engage in rivalry over businesses appropriating the mineral resource — more for one state means less for another and therefore each fails to appropriately guide responsible extraction and management of the resource. Indeed, each state has an incentive to encourage the greatest amount of extraction possible from the collective privatized environment, just as

¹⁰⁷ *The vanishing shopping mall*, THE WEEK, March 26, 2009, http://theweek.com/article/index/94691/The_vanishing_shopping_mall.

¹⁰⁸ Daniels, *Presidential Nomination*, *supra* note 37, at 910.

¹⁰⁹ 452 U.S. 264 (1981).

¹¹⁰ 452 U.S. 314 (1981).

¹¹¹ Mank, *After Gonzales v. Raich*, *supra* note 13, at 390–91.

¹¹² *Hodel v. Indiana*, 452 U.S. at 327–29.

¹¹³ *Hodel v. Va. Surface Mining*, 452 U.S. at 282.

Hardin's herder ruinously extracts as much grass as possible for the benefit of the herd.

The *Hodel* cases' acknowledgment of the race-to-the bottom, ultimately grounded in commons reasoning, has jurisprudential implications for other important environmental legislation, such as the ESA. The case of *National Ass'n of Home Builders v. Babbitt* ("NAHB")¹¹⁴ involved a hospital development's "taking" of endangered species habitat. As a basis for upholding the ESA, scholars assert, the NAHB court invoked *Hodel v. Virginia Surface Mining*'s finding that Congress has Commerce Clause authority to regulate wholly intrastate activities in order to prevent destructive interstate competition.¹¹⁵ Judge Sentelle dissented, stating "[a]lthough [Judge Wald] asserts 'striking parallels' between [the *Hodel*] cases and the present one, I see no parallel at all. In [*Hodel*], Congress regulated arguably intrastate commercial activities, specifically mining and lumber production for interstate commerce."¹¹⁶ What is striking is Sentelle's failure to see the parallel — under a commons analysis "intrastate commercial" consumption and appropriation of minerals and lumber for "interstate commerce" is indistinguishable from "intrastate commercial" consumption and appropriation of endangered species, when the development impacting the endangered species would clearly be considered part of interstate commerce. The appropriation of privatized commons resources inextricably links the appropriator (here a developer) and the resource being appropriated (the land containing endangered species), incorporating each into the act of appropriation as one economic transaction.¹¹⁷ Timber companies appropriate temporally finite lumber resources, mining companies appropriate finite mineral resources, and developers ap-

¹¹⁴ 130 F.3d 1041 (D.C. Cir. 1997).

¹¹⁵ See Mank, *After Gonzales v. Raich*, *supra* note 13, at 441–42. Mank has argued that "[u]nder *Hodel*'s rationale, one could reasonably justify regulation of purely intrastate endangered species on the ground that states might fail to protect them because of economic competition." Mank, *Split in the Circuits*, *supra* note 51, at 948.

¹¹⁶ NAHB, 130 F.3d at 1066 (Sentelle, J., dissenting).

¹¹⁷ Elinor Ostrom has stated that the goal in addressing commons problems and the destruction of natural resources is to determine "how best to limit the use of natural resources so as to ensure their long-term economic viability." Ostrom, *supra* note 1, at 1 (emphasis added). She also noted that "[s]tandard analyses in modern resource economics conclude that where a number of users have access to a common-pool resource, the total of resource units withdrawn from the resource will be greater than the optimal economic level of withdrawal." *Id.* at 3 (emphasis added). Though appropriation from every commons may not be characterized as economic, this Article argues that appropriation of privatized commons resources from the collective privatized environment is economic in nature when appropriation occurs due to economic development of land, or in a way that has aggregated impacts on a national market for that resource (whether that market is legal or illegal, such as is the case with marijuana use). Outside the scope of this Article is whether the "lone hiker" in the woods, as described in *Rancho Viejo v. Norton*, 323 F.3d 1062, 1080 (D.C. Cir. 2003) (Ginsburg, J. concurring), engages in an economic activity when appropriating an endangered species. Though it may be unclear how *Rancho Viejo*'s lone hiker in the woods is different from *Raich*'s lone pot-smoker in the woods, this Article is concerned with resources directly appropriated into interstate markets or by land development activities.

propriate landed natural capital, including endangered species, water, forests, and other resources present on the land.

In this way, we again see that natural capital present within the private property rights system in the United States takes on the characteristics of a commons, with fifty rational state governments maintaining authority over, and vying for, resources of interest to the nation as a whole.¹¹⁸ The state boundaries are presumably the “fences” around each rational state government’s “property.” As discussed above, however, damage still accrues to the collective privatized environment when each government acts in its own best economic interest to the detriment of the collective privatized environment as a whole — such as by maintaining lax land use controls. Enter the Commerce Clause. This is the circumstance under which some scholars argue the Framers intended the Commerce Clause to apply — when states are unable to overcome collective action problems to adequately address an economic issue of national concern that could have negative interstate consequences without proper state coordination.¹¹⁹

The federal government has made numerous attempts to halt rational actors’ destruction of the collective privatized environment through passage of legislation under the Commerce Clause.¹²⁰ Take, for example, the case of a rational state that maintains more lax land use standards than a neighboring state in order to facilitate economic growth, leading to increased eradication of endangered species, wetland, or air quality resources within that state. The ESA, Clean Water Act (“CWA”), or Clean Air Act, respectively, enter to protect the collective privatized environment and the privatized commons resources present within it. Yet these acts have been met with varying levels of resistance. Congressional authority to regulate clean air, for instance, has met little resistance, as under Commerce Clause analysis air more clearly crosses the “fences” of state boundaries and more apparently affects a neighboring rational state’s economic interests (or, the neighboring state’s “commerce”).

¹¹⁸ Scholars have noted that states take on the characteristics of rational herders in other contexts. For example, Professor Daniels argues that the perpetual moving up of presidential primary dates by states constitutes a classic tragedy of the commons, resulting in damage to the electoral system. See generally Daniels, *Presidential Nominations*, *supra* note 37.

¹¹⁹ Professor Mank has asserted that “Congress may enact legislation under the Commerce Clause to prevent states from engaging in a ‘race-to-the-bottom’ to attract businesses because such competition would probably result in inappropriate intrastate environmental standards.” Mank, *After Gonzales v. Raich*, *supra* note 13, at 391. Mank, referencing Professor Engel, has also suggested that “the framers of the Constitution would have approved of congressional legislation — based on the Commerce Clause — designed to prevent harmful national competition that states are unable to regulate effectively.” *Id.* at 441 (referencing Engel, *supra* note 98, at 281–82). Mank also argues that “there is a significant risk that at least some states would race to the bottom to exploit timber or develop land and would destroy critical habitat currently protected by the ESA” *Id.* at 443.

¹²⁰ See, e.g., Clean Air Act, 42 U.S.C. §§ 7401–7671g (2006); Clean Water Act, 33 U.S.C. §§ 1251–1387 (2006); Resource Conservation and Recovery Act, 42 U.S.C. §§ 6901–6992k (2006); Comprehensive Environmental Response, Compensation, and Liability Act, 42 U.S.C. §§ 9601–9675 (2006); Endangered Species Act, 16 U.S.C. §§ 1531–1544 (2006).

Though water regulation causes slightly more Commerce Clause controversy, particularly in the land use context,¹²¹ water also typically ebbs and flows in discernable patterns across state boundaries, affecting the economy on large scales. In fact, the Court of Appeals for the District of Columbia Circuit has explicitly invoked a commons analysis when discussing the race-to-the-bottom among states in the context of water resources, stating:

[T]he primary purpose of the effluent limitations and guidelines [of the CWA] was to provide uniformity among the federal and state jurisdictions enforcing the [National Pollution Discharge Elimination System] program and prevent the “Tragedy of the Commons” that might result if jurisdictions can compete for industry and development by providing more liberal limitations than their neighboring states.¹²²

In the United States, however, private land use regulation has been a power traditionally reserved to state governments under the Constitution, to exercise as a “police power” for protection of the “general welfare.”¹²³ Certain powers available to the states are not available to the federal government under the Constitution — the Tenth Amendment reserves for the states all powers not delegated, and it may act as a limit on Congress’s regulatory authority, “particularly in ‘traditional areas of state and local authority,’ such as land use.”¹²⁴ Scholars have noted that “[t]he weight of legal and political opinion holds that this allocation of power in [the United States] leaves the states in charge of regulating how private land is used,”¹²⁵ and that “[l]and use law has always been a creature of state and local law.”¹²⁶ The landmark land use regulatory case of *Euclid v. Ambler Realty*¹²⁷ has been described as a “sweeping paean to the supremacy of state regulation over private property.”¹²⁸ Most importantly, the U.S. Supreme Court has recognized “the States’ traditional and primary power over land . . . use,”¹²⁹ and has said that “regulation of land use . . . is a *quintessential* state and local power.”¹³⁰

¹²¹ See *Solid Waste Agency of N. Cook Cnty. (“SWANCC”) v. U.S. Army Corps of Eng’rs*, 531 U.S. 159 (2001); *Rapanos v. United States*, 547 U.S. 715 (2006).

¹²² *Natural Res. Def. Council, Inc. v. Costle*, 568 F.2d 1369, 1378 (D.C. Cir. 1977) (footnote omitted).

¹²³ See generally *Mugler v. Kansas*, 123 U.S. 623 (1887).

¹²⁴ James R. May, *Constitutional Law and the Future of Natural Resource Protection*, in *THE EVOLUTION OF NATURAL RESOURCES LAW AND POLICY* 124, 132 (Lawrence J. MacDonnell & Sarah F. Bates eds., 2010).

¹²⁵ JOHN R. NOLON, PATRICIA E. SALKIN & MORTON GITELMAN, *LAND USE AND COMMUNITY DEVELOPMENT* 17 (2008).

¹²⁶ Marci A. Hamilton, *Federalism and the Public Good: The True Story Behind the Religious Land Use and Institutionalized Persons Act*, 78 *IND. L.J.* 311, 335 (2003).

¹²⁷ 272 U.S. 365 (1926).

¹²⁸ PAUL GOLDSTEIN & BARTON H. THOMPSON, JR., *PROPERTY LAW: OWNERSHIP, USE, AND CONSERVATION* 967 (2006).

¹²⁹ *SWACC v. U.S. Army Corps of Eng’rs*, 531 U.S. 159, 174 (2001); see also *Hess v. Port Auth. Trans-Hudson Corp.*, 513 U.S. 30, 44 (1994) (calling land use regulation “a function traditionally performed by local governments”).

¹³⁰ *Rapanos v. United States*, 547 U.S. 715, 738 (2006) (emphasis added).

Thus, the closer the nexus between federal regulation and private land use activities, the more resistance to the federal law. Such is the case with the ESA, which allows the federal government to prevent private landowners from undertaking activities on their property that negatively impact endangered species populations. This restriction may result in Fifth Amendment regulatory “takings” claims by landowners resisting limits on both the use of their property and the economic return that may be gained from their property.¹³¹ State governments may also bring Tenth Amendment claims that the federal government has exceeded its authority under the Constitution by treading on land use regulatory powers reserved to the states.¹³² Thus, the regulation of privatized commons resources in the land use context is subject to more resistance than the regulation of other resources, like air and water, that more clearly cross state boundaries. The ESA is perhaps the most emblematic representation of the former.¹³³ Such resistance would also likely occur if Congress decided in the future to enact “endangered ecosystem” legislation, as some have suggested,¹³⁴ or to regulate some other private land use activity that adversely affects privatized commons resources.

Given these circumstances, it is important to understand how a commons analysis informs our understanding of the complex relationship between private property owners, state governments, and the federal government, and how Commerce Clause authority for federal privatized commons resource regulation is an extension of that relationship. Ostrom’s commons analysis provides the necessary tools to describe the commons nature of the relationship among individuals, state governments, and the federal government in the context of federal environmental legislation. Ostrom

¹³¹ See *Penn. Coal Co. v. Mahon*, 260 U.S. 393, 415 (1922).

¹³² See *Missouri v. Holland*, 252 U.S. 416 (1919).

¹³³ Yet the ESA itself is a statute intended to prevent the fifty rational states as herders from destroying the biodiversity resource. In *Gibbs v. Babbitt*, the Fourth Circuit asserted that the uniform standards of the ESA enhance interstate commerce by avoiding conflicting state standards. *Id.* at 501–02, 214 F.3d 483 (4th Cir. 2000). States have traditionally failed to protect endangered or threatened species, and “[t]he failure of states to provide effective protection for these species and the advantages of uniform national legislation eventually resulted in Congress’s enactment of the ESA in 1973.” Mank, *After Gonzales v. Raich*, *supra* note 13, at 432–33. The federal government “needed to provide uniform standards for protecting all threatened and endangered species to prevent a race to the bottom by states that may be tempted to lower their standards to promote economic development.” *Id.* at 439. Indeed, “states are motivated to adopt lower standards of endangered species protection in order to attract development.” *Id.* at 442 n.332.

¹³⁴ Noss, et al. have noted that numerous scientists and conservationists have called for “endangered-ecosystems legislation (Noss and Harris 1986; Hunt 1989; Orians 1993; M. Liverman, unpublished draft legislation), endangered-habitat act (Ehrlich and Ehrlich 1986), native-ecosystems act (Noss 1991a, 1991c; Noss and Cooperrider 1994), sustainable-ecosystems legislation (Jontz 1993), or other legislation that focuses on ecosystem protection.” Reed F. Noss, Edward T. LaRoe III & J. Michael Scott, *Endangered Ecosystems of the United States: A Preliminary Assessment of Loss and Degradation*, U.S. Dept. of the Interior, National Biological Service (1995), available at <http://biology.usgs.gov/pubs/ecosys.htm> (last visited July 10, 2010) (on file with the Harvard Law School Library). Others have actually called for “a constitutional amendment to directly preserve, protect, and promote the environment” to avoid these questions altogether. See, e.g., Gildor, *supra* note 45, at 821.

calls those who arrange for the provision of a commons resource “providers,” and describes anyone who maintains and ensures the long-term viability of the resource system as a “producer.”¹³⁵ In this way, we see that individuals engaged in cultivating and appropriating resources subject to an interstate market (such as marijuana or wheat) are *providers* of a privatized commons resource, and the federal government is the *producer* in charge of ensuring the long-term viability of the resource system that supplies those markets. Similarly, in the context of the Commerce Clause, state governments may be characterized as *providers* of natural capital on private lands, as states maintain primary responsibility for regulating land uses related to development. The federal government then acts as the *producer* of the collective privatized environment as it attempts to use federal legislation such as the ESA to maintain and ensure the long-term viability of natural capital on lands primarily regulated by the states.¹³⁶ In addition, we can describe the relationship between state governments, as the facilitators of land use, and developers, who engage in land use activities, as one between “coappropriators.”¹³⁷ Coappropriators are “tied together in a lattice of interdependence” so long as they continue to share the collective privatized environment.¹³⁸

Ultimately, states, private individuals, and developers are coappropriators of the collective privatized environment and the privatized commons resources present within it. When coappropriators act in an uncoordinated manner, as do Hardin’s herders, they have the potential to destroy the collective privatized environment, as their lack of organization leads to poor management exacerbated by collective action problems.¹³⁹ Again, enter the Commerce Clause and federal environmental regulation passed pursuant to it — these constitute, respectively, an organizing constitutional provision and corresponding federal action meant to adequately manage the collective privatized environment in the absence of coordinated state action. Without such federal authority, states may remain rational herders appropriating privatized commons resources from the collective privatized environment with potentially tragic consequences.

¹³⁵ OSTROM, *supra* note 1, at 31.

¹³⁶ *Id.* Ostrom herself uses a relevant example: she describes a national government that establishes an irrigation system as a “provider” of the resource system. If we look at state governments as appropriators of the collective privatized environment — in the sense that through their land use laws they appropriate land to developers — then we see that “appropriators engage in a considerable amount of trial-and-error learning. Many actions are selected without full knowledge of their consequences.” *Id.* at 34. This is the very reason for the passage of statutes like the ESA. The fifty states are laboratories for law, and some run better trials and have fewer errors than others — thus the federal government seeks to regulate the environment in areas in desperate need of coordination in order to rectify individual appropriators’ (i.e., states’) errors in management.

¹³⁷ *Id.* at 38.

¹³⁸ *Id.*

¹³⁹ *Id.* at 39.

In the seminal Commerce Clause case, *Gibbons v. Odgen*,¹⁴⁰ Daniel Webster made the argument, which Justice Marshall accepted,¹⁴¹ that the purpose of the Commerce Clause is to protect the country from “the embarrassing and destructive consequences, resulting from the legislation of so many different States, and to place it under the protection of a uniform law.”¹⁴² This argument extends from that presented to the Constitutional Convention in the Virginia Resolution, which stated that Congress should be able to legislate “in those [cases] to which the States are separately incompetent.”¹⁴³ This Resolution ultimately led to the enumerated federal commerce power and was “accepted without discussion.”¹⁴⁴ Scholars have noted that “Marshall’s decisional words in *Gibbons* directly connect the concerns of the Virginia Resolution to the scope of the commerce power, and in so doing they state a faithful constitutional understanding of *both* the federal *and* state sides of the commerce power.”¹⁴⁵ Justice Marshall’s “decisional words” observed that:

The genius and character of the whole government seem to be, that its action is to be applied to all the external concerns of the nation, and to those internal concerns which affect the States generally; but not to those which are completely within a particular State, which do not affect other States, and with which it is not necessary to interfere, for the purpose of executing some of the general powers of the government. The completely internal commerce of a State, then, may be considered as reserved for the State itself.¹⁴⁶

Through the commons-based lens of the collective privatized environment, it is clear that appropriative consumption of privatized commons resources inherently affects the amount, type, quality, and value of natural capital in other states. This consumption affects entire schemes of intrastate economic regulation, from the various states’ chosen form of land use regulation (or lack thereof), to national markets, such as agricultural or illicit drug markets. As such, privatized commons resource appropriation can never be “completely internal”¹⁴⁷ to any one state. As demonstrated in the next Part, when viewed through the lens of the commons, both U.S. Supreme Court and lower court jurisprudence can be interpreted as incorporating Justice Marshall’s understanding of the commerce power into decisions

¹⁴⁰ 22 U.S. (9 Wheat.) 1 (1824).

¹⁴¹ See Douglas W. Kmiec, Gonzales v. Raich: Wickard v. Filburn *Displaced*, 2005 CATO SUP. CT. REV. 71, 96 (2005).

¹⁴² *Gibbons*, 22 U.S. (9 Wheat.) at 11 (syllabus).

¹⁴³ RECORDS OF THE DEBATES IN THE FEDERAL CONVENTION OF 1787 AS REPORTED BY JAMES MADISON 389 (Charles C. Tansill ed., Legal Classics Library 1989).

¹⁴⁴ Kmiec, *supra* note 141 (citing Robert L. Stern, *That Commerce Which Concerns More States Than One*, 47 HARV. L. REV. 1335, 1340 (1934) (emphasis omitted)).

¹⁴⁵ *Id.* at 97.

¹⁴⁶ *Gibbons*, 22 U.S. (9 Wheat.) at 195.

¹⁴⁷ *Id.*

involving the scope of federal environmental authority, consistently upholding federal privatized commons resource regulation.

V. COMMERCE CLAUSE JURISPRUDENCE VIEWED THROUGH THE LENS OF THE COMMONS

Applying commons analysis to Commerce Clause jurisprudence allows us to see that federal courts, through validation of federal environmental statutes under the Commerce Clause, have effectively recognized the commons nature of privatized commons resources. These courts, through the mechanism of the substantial effects test, have perhaps unintentionally turned the theoretical proposition presented in the previous sections into constitutional jurisprudential precedent.

Part V.A provides a brief background on various shifts in the Supreme Court's Commerce Clause jurisprudence over time and on the relevant Commerce Clause cases that have both provided justification for and created concerns over federal environmental regulatory authority. Part V.B discusses how a commons analysis applied to Commerce Clause jurisprudence helps answer three important questions that continually arise in Commerce Clause cases: the "aggregation," "object of regulation," and "scope of federal authority" questions. The first question regards the role of the aggregation principle and whether it should be applied to non-economic activities, or only to those classified as "economic." The second question concerns the controversy over what should be the "object of regulation" focused upon in Commerce Clause cases. For example, under the ESA, should the object of regulation be understood as the endangered species at issue (which may have no recognized economic value in and of itself), or the development impacting the species (which is more clearly linked to interstate commerce)? Circuit Courts of Appeals decisions are split on this question. The third question regards the "comprehensive scheme" analysis of *Raich*, which some scholars argue allows Congress to reach intrastate, *non-economic* activity, and whether it provides any meaningful federalism protections as required by the U.S. Constitution.¹⁴⁸ The answers to these questions provide a meaningful and unified commons-based rationale to apply in future Commerce Clause cases, providing a long-absent but much-needed clarifying set of principles to the confused mass of Commerce Clause precedent in the area of federal environmental regulation.

Each of the questions addressed in this part are particularly important because each relates to the problems presented by attempts to make an eco-

¹⁴⁸ See, e.g., ERWIN CHEMERINSKY, *CONSTITUTIONAL LAW PRINCIPLES AND POLICIES* 264 (3d ed. 2006) (stating that "a core principle of American constitutional law is that the federal government has limited powers with most governance left to the states. The Court's expansive approach to the [C]ommerce [C]ause puts virtually nothing beyond the reach of Congress").

conomic/non-economic distinction in Commerce Clause cases. This distinction is useful for Commerce Clause analysis because “when Congress reaches inside a state to regulate or prohibit wholly intrastate activities because of their effect on interstate commerce, requiring that these activities be economic in nature provides some assurance that doing so is a truly necessary means to effectuate the permissible end of regulating interstate commerce.”¹⁴⁹ *Lopez* and *Morrison* made “significant changes to the Court’s Commerce Clause jurisprudence,” since “both decisions emphasized that the Commerce Clause primarily concerns economic regulation and suggested that legislation regulating non-economic activities will receive less deferential review from the Court.”¹⁵⁰ Additionally, *Morrison* “explicitly limited Congress’s authority to aggregate non-economic, intrastate actions to demonstrate a substantial effect on interstate commerce.”¹⁵¹ However:

A fundamental problem with both the *Lopez* and *Morrison* decisions is that they failed to provide a workable test for distinguishing between economic and non-economic activities for the purpose of determining which intrastate activities may be aggregated to meet the Commerce Clause’s substantial effects test. The two decisions strongly imply that courts should aggregate only economic activities Yet, the two cases provide no workable standard for distinguishing between economic and non-economic activities¹⁵²

The economic/non-economic distinction in the “aggregation,” “object of regulation,” and “scope of federal authority” questions, however, can be answered with a commons analysis, which provides the “workable standard” currently absent from Commerce Clause jurisprudence. Since privatized commons resources are here defined to be those resources appropriated by economic development of land, or otherwise appropriated by individuals as a component part of a larger interstate market, they will always be economic in nature. In turn, their designation as economic allows aggregation, permits application of the substantial effects test to the “object of regulation” that is the *act* of appropriation, and preserves federalism limitations on the ability of the federal government to regulate non-commons, non-economic activity under the Commerce Clause.

A. *The Commerce Clause – A Brief Introduction to Relevant Cases*

Article I, Section 8 of the U.S. Constitution contains the Commerce Clause, which gives Congress the power to “regulate Commerce . . . among

¹⁴⁹ Barnett, *supra* note 45, at 748.

¹⁵⁰ Mank, *After Gonzales v. Raich*, *supra* note 13, at 399–400.

¹⁵¹ *Id.* at 400.

¹⁵² *Id.* at 400–01 (footnotes omitted).

the several States.”¹⁵³ In the area of environmental protection, the commerce power is the most important of all of Congress’s powers, as nearly all federal environmental laws are adopted by Congress under Commerce Clause authority.¹⁵⁴

Judicial interpretation of the scope of the Commerce Clause has gone through numerous shifts over the past 200 years. From the early nineteenth century until the 1890s, a “nationalist perspective” guided the U.S. Supreme Court in Commerce Clause jurisprudence.¹⁵⁵ The Court defined Commerce Clause power broadly and rejected the idea that its exercise violated federalism principles.¹⁵⁶ From the 1890s until 1937, the Court shifted to a “federalist perspective,”¹⁵⁷ narrowly defining the commerce power and accepting the concept that some statutes violated principles of federalism by intruding on areas of state governmental authority.¹⁵⁸ From 1937 until 1995, the Court shifted back to a nationalist perspective, again broadly construing the Commerce Clause.¹⁵⁹ As previously noted, during this period not one federal law was struck down as exceeding Congress’s commerce authority.¹⁶⁰ During this era, the Court construed the Commerce Clause broadly to include any intrastate activity that had a substantial relation to interstate commerce when that activity’s control was essential or appropriate to protect commerce from burdens or obstructions.¹⁶¹ The Court also construed “among the states” to mean virtually anything having an aggregate effect on commerce — as long as Congress reasonably believed the effect existed, then the regulation was constitutionally valid.¹⁶² During this period, the Court had an “expansive, and indeed almost unlimited, view of the Commerce Clause.”¹⁶³

Perhaps the most important case from this nationalist period, for the purpose of commons analysis, is *Wickard v. Filburn*,¹⁶⁴ which the U.S. Supreme Court itself has described as “perhaps the most far reaching example of Commerce Clause authority over intrastate activity.”¹⁶⁵ In *Wickard*, the Court upheld Congress’s authority under the Agricultural Adjustment Act to regulate farmers growing wheat for home consumption.¹⁶⁶ The Court found that such consumption competed with wheat sold in interstate commerce,

¹⁵³ U.S. CONST. art. 1, § 8, cl. 3.

¹⁵⁴ Robert L. Glicksman, *From Cooperative to Inoperative Federalism: The Perverse Mutation of Environmental Law and Policy*, 41 WAKE FOREST L. REV. 719, 755 (2006).

¹⁵⁵ Erwin Chemerinsky, Lecture on the Scope of the Commerce Clause at Duke University School of Law (Feb. 1, 2005).

¹⁵⁶ See *Gibbons v. Ogden*, 22 U.S. (9 Wheat.) 1, 10–12 (1824) (syllabus).

¹⁵⁷ Chemerinsky, *supra* note 155.

¹⁵⁸ See, e.g., *Carter v. Carter Coal Co.*, 298 U.S. 238 (1936); *United States v. E. C. Knight Co.*, 156 U.S. 1, 12–13 (1895).

¹⁵⁹ Chemerinsky, *supra* note 155.

¹⁶⁰ CHEMERINSKY, *supra* note 148, at 256.

¹⁶¹ *Id.* at 257 (discussing *NLRB v. Jones & Laughlin Steel Corp.*, 301 U.S. 1 (1937)).

¹⁶² In other words, the Court used a rational basis standard of review for the Commerce Clause. *Id.* at 262 (discussing *Katzenbach v. McClung*, 379 U.S. 294 (1964)).

¹⁶³ *Id.* at 243.

¹⁶⁴ 317 U.S. 111 (1942).

¹⁶⁵ *United States v. Lopez*, 514 U.S. 549, 560 (1995).

¹⁶⁶ 317 U.S. at 127–28.

and if thousands of farmers were to engage in the same activity, the aggregate impact of such intrastate consumption would have a substantial effect on interstate commerce.¹⁶⁷ Thus, the Court introduced what has come to be known as the “aggregation principle” into Commerce Clause jurisprudence, recognizing the inherent depletable and non-excludable nature of privatized commons resources.¹⁶⁸ For the next fifty-three years the Court would uphold Congress’s Commerce Clause authority in every case in which it was challenged.¹⁶⁹

In 1995, and then again in 2000, the Court returned to a federalist perspective in the cases of *United States v. Lopez*¹⁷⁰ and *United States v. Morrison*,¹⁷¹ respectively. At issue in *Lopez* was a high school student arrested for carrying a concealed and loaded .38 caliber handgun and was charged with violating the Gun-Free School Zones Act of 1990 (“Gun-Free Act”).¹⁷² Lopez was convicted and sentenced to six months’ imprisonment and two years of supervised release. Lopez appealed, arguing that the statute was unconstitutional and exceeded Congress’s Commerce Clause power.¹⁷³

In an opinion written by Chief Justice Rehnquist, the Court detailed that the Constitution created a national government of enumerated powers, emphasizing that Article I limits Congress’s legislative powers to those that are express or implied in the Constitution.¹⁷⁴ The Court summarized its Commerce Clause jurisprudence up to that point by noting that Congress can regulate three kinds of activities under the Commerce Clause. First, Congress can regulate the “use of the channels of interstate commerce,” such as the regulation of hotels and restaurants during the civil rights movement.¹⁷⁵ Second, Congress may legislate “to regulate and protect the instrumentalities of interstate commerce,” such as railroads transporting people and goods in interstate commerce.¹⁷⁶ Lastly, Congress may regulate “those activities having a substantial relation to interstate commerce . . . *i.e.*, those activities that *substantially affect* interstate commerce.”¹⁷⁷

¹⁶⁷ *Id.*

¹⁶⁸ *Id.* at 130. The Court also established the foundation for *Gonzales v. Raich*, 545 U.S. 1 (2005), discussed below, which was very similar factually and involved the regulation of similar resources. Even though the market for marijuana in *Raich* was an *illegal* market, the appropriation by an individual of that resource, under a commons analysis, would have an impact on that interstate market.

¹⁶⁹ CHEMERINSKY, *supra* note 148, at 256.

¹⁷⁰ 514 U.S. 549 (1995).

¹⁷¹ 529 U.S. 598 (2000).

¹⁷² *Lopez*, 514 U.S. at 549. The law prohibited the carrying of a gun within a school zone, defined as “in, or on the grounds of, a public, parochial, or private school” or “within a distance of 1,000 feet from the grounds of a public, parochial, or private school.” 18 U.S.C. §§ 922(a)(25)(A)–(B) (2006).

¹⁷³ *Lopez*, 514 U.S. at 552.

¹⁷⁴ *Id.*

¹⁷⁵ *Id.* at 558 (citing *United States v. Darby*, 312 U.S. 100 (1941); *Heart of Atlanta Motel, Inc. v. United States*, 379 U.S. 241 (1964)).

¹⁷⁶ *Id.* (citing the *Shreveport Rate Cases*, 234 U.S. 342 (1914); *S. R.R. Co. v. United States*, 222 U.S. 20 (1911)).

¹⁷⁷ *Id.* at 558–59 (citing *NLRB v. Jones & Laughlin Steel Corp.*, 301 U.S. 1 (1937); *Maryland v. Wirtz*, 392 U.S. 183 (1958)) (emphasis added).

The Court analyzed the case under the third standard, the substantial effects test,¹⁷⁸ to determine if the Gun-Free Act regulated an activity having a substantial effect on interstate commerce. The government argued that firearms were sold in interstate commerce, and that the carrying of firearms near schools would result in a significant aggregate effect on the economy and interstate commerce.¹⁷⁹ The Court, however, found that the Gun-Free Act was unconstitutional because the mere possession of a firearm near a school zone had no substantial effect on interstate commerce, the activity was primarily non-economic and unsuitable for aggregation,¹⁸⁰ and the regulation of local criminal activities was traditionally a state or local government function.¹⁸¹ The Court reasoned that upholding such legislation would open the door to federal regulation of anything that could lead to violent crime, or other activities traditionally regulated by the states.¹⁸² Key to the Court's holding was the fact that the activity of carrying a gun near a school zone was itself "non-economic."¹⁸³ The Court noted that *Wickard's* aggregation doctrine only allowed Congress to regulate activities that had a substantial economic impact on interstate commerce.¹⁸⁴

The U.S. Supreme Court continued its narrow application of the Commerce Clause in its 2000 *Morrison* decision. The Court used reasoning similar to that in *Lopez* to determine that the civil damages provision of the Violence Against Women Act ("VAWA") was unconstitutional because the targeted violence had no substantial effect on interstate commerce.¹⁸⁵ Under the provision, victims of gender-motivated violence could receive a federal civil damages remedy.¹⁸⁶ In passing the Act, Congress found that "violent crime against women costs this country at least 3 billion . . . dollars a year"¹⁸⁷ — a finding that was part of Congress's response to the Supreme Court's criticism in *Lopez* that Congress did not base the Gun-Free Act on sufficient findings of fact.¹⁸⁸ Congress bolstered VAWA with a voluminous record seeking to demonstrate the interstate economic effects of violence against women.¹⁸⁹

The Court again analyzed the case under the substantial effects test.¹⁹⁰ Despite Congress's finding of billions of dollars of losses due to violence against women, the Court found that the specific, non-economic activity that

¹⁷⁸ *Id.* at 559.

¹⁷⁹ *Id.* at 563.

¹⁸⁰ *Id.* at 561.

¹⁸¹ *Id.* at 564.

¹⁸² *Id.*

¹⁸³ *Id.* at 559–62.

¹⁸⁴ *Id.* at 556.

¹⁸⁵ *United States v. Morrison*, 529 U.S. 598, 614–15 (2000).

¹⁸⁶ *See* 42 U.S.C. § 13981 (2006).

¹⁸⁷ S. Rep. No. 101-545, at 37 (1990).

¹⁸⁸ Louis J. Virelli III & David S. Leibowitz, "Federalism Whether They Want It or Not": *The New Commerce Clause Doctrine and the Future of Federal Civil Rights Legislation After United States v. Morrison*, 3 U. PA. J. CONST. L. 926, 949 n.142 (2001).

¹⁸⁹ *Morrison*, 529 U.S. at 614.

¹⁹⁰ *Id.* at 609.

Congress was attempting to regulate could not be aggregated to find a substantial effect on interstate commerce.¹⁹¹ The Court noted that “in those cases where we have sustained federal regulation of intrastate activity based upon the activity’s substantial effects on interstate commerce, *the activity in question has been some sort of economic endeavor.*”¹⁹² The Court then found that “[i]f accepted, petitioners’ reasoning would allow Congress to regulate any crime as long as the nationwide, aggregated impact of that crime has substantial effects on employment, production, transit, or consumption.”¹⁹³ Thus, the Court posited that such an interpretation of the Commerce Clause would create a slippery slope that would allow Congress to regulate all violent crimes in the United States, as well as other non-economic activities that have some aggregated effect on the economy.¹⁹⁴ *Morrison* further clarified the Court’s narrower view of the commerce power as expressed in *Lopez*, that “Congress cannot regulate a non-economic activity by finding that, looked at cumulatively, it has a substantial effect on interstate commerce.”¹⁹⁵ As a result, in *Morrison* the Court converted the economic activity rationale discussed in *Lopez* into a clear constitutional requirement.¹⁹⁶ The Court in *Lopez* and *Morrison* took this approach on the economic/non-economic distinction “[b]ecause the aggregation of non-economic activities could justify federal usurpation of traditional state functions, [and thus] the Court expressed strong reservations about allowing Congress to aggregate non-economic activities to show a substantial effect on interstate commerce.”¹⁹⁷

In 2005, the Court decided *Gonzales v. Raich*¹⁹⁸ — the first Commerce Clause case since the revival of “new federalism” in *Lopez* that dealt with the constitutionality of federal government regulation of privatized commons resources.¹⁹⁹ Describing the potential implications of *Raich* for the precedential value of *Lopez* and *Morrison*, Professor Claeys posited that in

¹⁹¹ *Id.* at 617.

¹⁹² *Id.* at 611 (emphasis added). Justice Rehnquist wrote:

Gender-motivated crimes of violence are not, in any sense of the phrase, economic activity. While we need not adopt a categorical rule against aggregating the effects of any noneconomic activity in order to decide these cases, thus far in our Nation’s history our cases have upheld Commerce Clause regulation of intrastate activity only where that activity is economic in nature [T]he existence of congressional findings is not sufficient, by itself, to sustain the constitutionality of Commerce Clause legislation. As we stated in *Lopez*, ‘[S]imply because Congress may conclude that a particular activity substantially affects interstate commerce does not necessarily make it so.’

Id. at 613–14.

¹⁹³ *Id.* at 615.

¹⁹⁴ *Id.*

¹⁹⁵ CHEMERINSKY, *supra* note 148, at 264.

¹⁹⁶ Claeys, *supra* note 45, at 802.

¹⁹⁷ Mank, *Split in the Circuits*, *supra* note 51, at 954.

¹⁹⁸ 545 U.S. 1 (2005).

¹⁹⁹ *SWANCC* and *Rapanos* dealt with privatized commons resources, but the Court did not reach the constitutional issues raised in those cases, deciding the cases on statutory interpretation grounds. See text accompanying notes 216–28.

Raich “the New Federalism passed from youthful exuberance to middle-aged sobriety.”²⁰⁰ Given the commons nature of the regulated natural capital, however, it is not clear that the new federalism is yet in the midst of a mid-life crisis, as *Raich* is only a natural extension of the Court’s longstanding treatment of privatized commons resources under the Commerce Clause.

In *Raich*, the Court considered the validity of the Controlled Substances Act (“CSA”), which made illegal the possession, distribution, or manufacturing of marijuana.²⁰¹ The CSA conflicted with California’s Compassionate Use Act, which allowed limited medical use of marijuana.²⁰² The Court of Appeals for the Ninth Circuit construed *Lopez* and *Morrison* as dispositive in its finding that intrastate, personal medical use of homegrown marijuana was beyond the reach of the federal government, and thus application of the CSA to the plaintiffs was an unconstitutional exercise of Congress’s Commerce Clause power.²⁰³

The U.S. Supreme Court vacated the decision and remanded to the Ninth Circuit, finding that the CSA was within Congress’s power under the Commerce Clause.²⁰⁴ Importantly, the Court noted that the case was both analogous to *Wickard*²⁰⁵ and consistent with the “new federalism” cases because “[u]nlike [the statutes] at issue in *Lopez* and *Morrison*, the activities regulated by the CSA are quintessentially *economic*.”²⁰⁶ According to some scholars, the Court also established an alternative holding, that Congress has “broad discretion to regulate *non-economic*, intrastate activities as long as it does so in a comprehensive statute.”²⁰⁷ It is not clear, however, that the majority opinion established this test. Though Justice Scalia’s concurrence did state that “Congress may regulate even noneconomic local activity if that regulation is a necessary part of a more general regulation of interstate commerce,”²⁰⁸ the majority never conceded this point, only stating that Congress had the “power to regulate purely *local* activities that are part of an *economic* ‘class of activities’ that have a substantial effect on interstate commerce.”²⁰⁹ Thus the majority focused on the “local” nature of the activity and the “economic” nature of the class, of which the homegrown marijuana at issue in *Raich* was a part.²¹⁰

²⁰⁰ Claeys, *supra* note 45, at 792 (stating also that “[w]hile the New Federalism has not been repudiated, in the future its growth is certain to be far slower and more erratic”).

²⁰¹ See 21 U.S.C. § 841(a)(1) (2006).

²⁰² CAL. HEALTH & SAFETY CODE § 11362.5 (Deering 2011).

²⁰³ See *Raich v. Ashcroft*, 352 F.3d 1222, 1227 (9th Cir. 2003), *rev’d sub nom.* *Gonzales v. Raich*, 545 U.S. 1 (2005).

²⁰⁴ See *Raich*, 545 U.S. at 9.

²⁰⁵ *Id.* at 18.

²⁰⁶ *Id.* at 25 (emphasis added).

²⁰⁷ Mank, *After Gonzales v. Raich*, *supra* note 13, at 410 (emphasis added) (citing Adler, *supra* note 16, at 764–65; Kmiec, *supra* note 141, at 98).

²⁰⁸ *Raich*, 545 U.S. at 37 (Scalia, J., concurring).

²⁰⁹ *Id.* at 17 (majority opinion) (emphasis added). As noted in Justice Thomas’s dissent, the Supreme Court “has never held that Congress can regulate noneconomic activity that substantially affects interstate commerce.” *Id.* at 69 (Thomas, J., dissenting).

²¹⁰ *Id.* at 17 (majority opinion).

Similarly, the *Raich* majority asserted that “*Wickard* thus establishes that Congress can regulate purely intrastate activity that is not itself ‘commercial,’ in that it is not produced for sale, if it concludes that failure to regulate that class of activity would undercut the regulation of the interstate market in that commodity.”²¹¹ The activity in *Wickard* was still “economic,”²¹² even though not “commercial” in the sense that it would be entering, via sale, an official commercial market.²¹³ The *Raich* majority’s recognition that the wheat production in *Wickard* was not commercial, while leaving undisturbed the *Lopez* Court’s previous recognition of the production and consumption as “economic,” seems to have been overlooked by scholars.²¹⁴ In fact, the Court suggested the activity was economic for the very reason that it was not entering the commercial market — being a depletable resource, the appropriative consumption of the resource by non-excludable actors would substantially affect the commercial market when aggregated.²¹⁵

To this point we can see that in the major Commerce Clause cases since *Wickard* the U.S. Supreme Court has upheld federal regulatory authority over natural resources that can be characterized as privatized commons resources. The two cases, however, that have perhaps caused the most concern over the scope of environmental Commerce Clause authority are *Solid Waste Agency of Northern Cook County v. United States Army Corps of Engineers* (“*SWANCC*”)²¹⁶ and *Rapanos v. United States*.²¹⁷ In *SWANCC*, a group sought to purchase an abandoned gravel pit to dispose of nonhazardous wastes.²¹⁸ Water within the pit, however, maintained habitat for endan-

²¹¹ *Id.* at 18 (emphasis added).

²¹² Justice Rehnquist stated in *Lopez* that “*Wickard* . . . involved economic activity in a way that the possession of a gun in a school zone does not.” *United States v. Lopez*, 514 U.S. 549, 560 (1995) (emphasis added).

²¹³ The *Wickard* Court stated that the Agricultural Adjustment Act “extend[ed] federal regulation to production not intended in any part for commerce but wholly for consumption on the farm.” *Wickard v. Filburn*, 317 U.S. 111, 118 (1942). Scholars seem to interpret this statement as evidence that the *Raich* Court relied on *Wickard* to prove that intrastate, non-economic activities that are part of a broader comprehensive scheme can be reached by federal regulation. See Mank, *After Gonzales v. Raich*, *supra* note 13. As noted, however, Justice Rehnquist stated in *Lopez* that *Wickard* involved economic activity. *Lopez*, 514 U.S. at 560. It is completely consistent to say that use of a resource that will not be entering an official commercial market is an economic activity, as is the appropriation, this Article argues, of any privatized commons resources.

²¹⁴ See, e.g., Mank, *After Gonzales v. Raich*, *supra* note 13, at 456 (arguing that the *Raich* majority and Justice Scalia’s *Raich* concurrence “explain . . . that Congress may regulate non-economic, purely intrastate activities as long as they are an appropriate part of a valid comprehensive scheme”).

²¹⁵ Nonetheless, even if the claim that non-economic activity may be reached under the “comprehensive scheme” analysis has merit, this Article argues that *Raich* did involve an economic activity under a commons analysis, and thus the Supreme Court has yet to declare that non-economic intrastate activities can be reached under a comprehensive scheme analysis. This Article further argues that failure to recognize the economic/non-economic distinction under the comprehensive scheme analysis would leave little to no judicial federalism protection in place.

²¹⁶ 531 U.S. 159 (2001).

²¹⁷ 547 U.S. 715 (2006).

²¹⁸ *SWANCC*, 531 U.S. at 163.

gered migratory birds.²¹⁹ In denying the group's proposed use, the Army Corps of Engineers ("Corps"), pursuant to its authority under Section 404(a) of the Clean Water Act,²²⁰ applied the Migratory Bird Rule, which asserted that the Corps' jurisdiction extended to intrastate waters "[w]hich are or would be used as habitat by . . . migratory birds which cross state lines."²²¹

The government argued that the rule was appropriate because "protection of migratory birds is a 'national interest of very nearly the first magnitude,' . . . [and], as the Court of Appeals found, millions of people spend over a billion dollars annually on recreational pursuits relating to migratory birds."²²² The Court proceeded, however, to decide the case upon statutory interpretation grounds in order to avoid constitutional questions about the scope of the Commerce Clause.²²³ Rather, the Court narrowly construed the CWA as not granting the Corps this authority and held that the Act did not apply to intrastate land merely because of the presence of migratory birds.²²⁴ Even though constitutional and federalism questions were raised, however, some have asserted that "SWANCC is . . . noteworthy for its explicit validation of federal regulation of activities that 'substantially affect' interstate commerce and for its continued approval of the 'aggregation doctrine'" — an important fact given the context of federal environmental regulation.²²⁵

The Court again addressed federal authority to regulate the environment under the CWA in the case of *Rapanos v. United States*.²²⁶ Property owners challenged the Corps' authority to regulate portions of property connected to wetlands by man-made drains. The Court rejected the government's claim that the CWA gave the Corps the power to regulate wetlands regardless of the connection to "navigable waters."²²⁷ The Court, however, as in *SWANCC*, did so based solely upon statutory interpretation grounds, construing the CWA narrowly and refusing to address the constitutional issues raised by the property owners.²²⁸

²¹⁹ *Id.* at 164.

²²⁰ 33 U.S.C. § 1344(a)(2006).

²²¹ Final Rule for Regulatory Programs of the Corps of Engineers, 51 Fed. Reg. 41,206, 41,217 (Nov. 13, 1986).

²²² *SWANCC*, 531 U.S. at 173.

²²³ *Id.* at 174. In so finding, Chief Justice Rehnquist stated:

These are significant constitutional questions raised by respondents' application of their regulations, and yet we find nothing approaching a clear statement from Congress that it intended § 404(a) to reach an abandoned sand and gravel pit such as we have here. Permitting respondents to claim federal jurisdiction over ponds and mudflats falling within the "Migratory Bird Rule" would result in a significant impingement of the States' traditional and primary power over land and water use . . . We thus read the statute as written to avoid the significant constitutional and federalism questions raised by respondents' interpretation . . .

Id.

²²⁴ *Id.*

²²⁵ Klein, *supra* note 45, at 37.

²²⁶ *Rapanos v. United States*, 547 U.S. 715 (2006).

²²⁷ *Id.* at 730–32.

²²⁸ See Somin, *supra* note 16, at 127. Somin argues that "*Rapanos* probably does not impose significant limits on the scope of federal authority under the CWA." *Id.* at 130.

Ultimately, the *SWANCC* and *Rapanos* Courts' Commerce Clause discussions express "similar federalism concerns as those expressed in *Lopez* and *Morrison*."²²⁹ Though the types of concerns raised in *SWANCC* and *Rapanos* have caused disquiet among scholars about the future of federal environmental regulation,²³⁰ a commons analysis, as applied to *SWANCC* in Part V.B.2, below, demonstrates that the resources at issue in those cases may be considered privatized commons resources when appropriated by development (as is often the case with wetlands and endangered species) or by individuals as part of a larger, intrastate economic market (as with wheat and marijuana). Thus, the appropriation of these resources is in fact intrastate economic activity that may be constitutionally regulated under the substantial effects test of the Commerce Clause.²³¹ Such was the case with the wheat in *Wickard* and the marijuana in *Raich*, and it was decidedly not the case with the public goods at issue in *Lopez* and *Morrison* — laying the foundation for Commerce Clause jurisprudence that is actually more consistent than has long been perceived, at least in the area of federal environmental regulation. This review of cases sets the necessary background and context for how a commons analysis answers important, recurring questions arising in Commerce Clause jurisprudence.

B. The Economic/Non-economic Controversy: The Commons Addresses Difficult Questions Arising Under the Commerce Clause

1. *The Aggregation Principle? The Commons Is an Inherently Aggregated Economic System*

As noted, the Court in *Wickard* introduced the aggregation principle to Commerce Clause jurisprudence, establishing that intrastate consumption of privatized commons resources — even if not directly entering an established commercial market — is economic activity that can be aggregated for the purpose of finding a substantial effect on interstate commerce.²³² Scholars have argued that the *Wickard* Court's formulation of the aggregation doctrine is problematic because it does not clearly establish which intrastate activities are appropriate to aggregate in order to determine the validity of legislation under the Commerce Clause.²³³ By using the lens of the commons, however,

²²⁹ Mank, *Split in the Circuits*, *supra* note 51, at 959.

²³⁰ See *supra* note 45 for a list of examples.

²³¹ This Article is not addressing the issue of whether commons analysis necessarily allows regulation of isolated wetlands under the Clean Water Act, since that Act also has an internal limitation restricting its application to "navigable waters." Thus the statute may be construed as not granting the EPA the authority to regulate isolated wetlands, resulting in an administrative law limitation as in *SWANCC* and *Rapanos*. Congressional authority to regulate isolated wetlands as a general matter under the Commerce Clause, however, would be validated under a commons analysis if the wetland were being appropriated by economic development.

²³² See *supra* notes 211–15 and accompanying text.

²³³ Mank, *After Gonzales v. Raich*, *supra* note 13, at 387; Nagle, *supra* note 45, at 179–80.

we can see that the Court's very establishment of an aggregation principle incorporates a commons analysis within Commerce Clause jurisprudence.

Though the question might be different regarding regulation of social constructs, like health care and guns near schools,²³⁴ the aggregation doctrine in the context of privatized commons resources like the wheat in *Wickard* is no more than recognition of the commons nature of the regulated resource. A commons *is itself* a principle of aggregation, because the resources present in the commons are naturally aggregated. The aggregate effects of each herder maximizing economic return and appropriating as much grass as possible from the pasture results in a reduction of resources all across the commons — leading to its potential destruction. The same is true for the rational farmer, forester, developer, or pot-smoker. Thus the appropriation of privatized commons resources by one party, regardless of the nature of the use (e.g., commercial versus home consumption of wheat or marijuana) or the geopolitical or private property boundaries separating appropriators, substantially affects the economic transactions of other appropriators, i.e., “commerce.”

An analysis of the rationales presented in *Wickard* and *Raich* supports these assertions. In *Raich*, the majority noted that “[i]n *Wickard*, we had no difficulty concluding that Congress had a rational basis for believing that when viewed in the aggregate, leaving home-consumed wheat outside the regulatory scheme would have a substantial influence on price and market conditions.”²³⁵ The *Raich* majority also noted that in both *Wickard* and *Raich* “the regulation is squarely within Congress’ commerce power because production of the commodity meant for home consumption, be it wheat or marijuana, has a substantial effect on supply and demand in the national market for that commodity.”²³⁶ The substantial influence on price and market conditions demonstrates that the “local” activities in *Wickard* and *Raich* were economic, and also that they took on the characteristics of commons resources because their depletable affects the use, consumption, availability (to rival, non-excludable appropriators), and economic value of resources elsewhere.

In *Raich*, Justice Stevens distinguished *Lopez* and *Morrison* by finding that neither dealt with regulation of activities that were “quintessentially economic.”²³⁷ At least one critic has argued that “it is hard to take that argu-

²³⁴ It should be noted that regulation of some social constructs, like labor, may be characterized as constituting a commons that may substantially affect interstate commerce — as they are arguably exclusive and subject to rivalry. See the important Commerce Clause cases of *NLRB v. Jones & Laughlin Steel Corp.*, 301 U.S. 1 (1937); *United States v. Darby*, 312 U.S. 100 (1941); *Maryland v. Wirtz*, 392 U.S. 183 (1968). Thus, commons analysis may be similarly useful to assess those regulations under the Commerce Clause. Such analysis is, however, beyond the scope of this Article.

²³⁵ *Gonzales v. Raich*, 545 U.S. 1, 19 (2005).

²³⁶ *Id.* Justice Stevens also stated that “[o]ne need not have a degree in economics to understand why a nationwide exemption for the vast quantity of marijuana . . . locally cultivated for personal use . . . may have a substantial impact on the interstate market . . .” *Id.* at 28.

²³⁷ *Id.* at 25.

ment seriously on a record that establishes only medicinal use, coupled with a total absence of buying, selling, or bartering.”²³⁸ But a commons analysis demands serious consideration, as appropriation of these privatized commons resources is by default an economic transaction in a zero-sum world — whether it be characterized in microeconomic parlance as an internalization of externalities or merely as representing the depletion of another rival’s consumptive use or preservation elsewhere. In upholding the CSA in *Raich*, the majority noted:

Like the farmer in *Wickard*, respondents are cultivating, for home consumption, a fungible commodity for which there is an established, albeit illegal, interstate market. Just as the Agricultural Adjustment Act was designed “to control the volume [of wheat] moving in interstate and foreign commerce in order to avoid surpluses . . .” and consequently control the market price . . . a primary purpose of the [Substances Act] is to control the supply and demand of controlled substances in both lawful and unlawful drug markets.²³⁹

In other words, the Court equated the “rational farmer” from *Wickard* with the “rational pot-smoker” in *Raich*. Market price is determined based upon both rivalry over the resource and supply and demand — as parties seek access to a resource in a rivalrous fashion, one party appropriates the resource, which in the aggregate results in less of that resource for other parties. What the Court is describing in *Raich* and *Wickard* as economic activity suitable for aggregation is a commons.

Scholars have argued that *Wickard* and *Raich* were decided incorrectly, since the Commerce Clause does not reach intrastate, *noncommercial* transactions.²⁴⁰ The commons analysis demonstrates, however, that the activities involved in the cases at issue remain economic in nature, as is the appropriation of any depletable, non-excludable privatized commons resource. The “trade” or “exchange”²⁴¹ of such resources, whereby one person’s appropriation of the resource reduces its availability to others, may not be explicit, as they may not appropriate the resource directly into an official commercial market.²⁴² Given the aggregated value of natural capital across the United

²³⁸ Kmiec, *supra* note 141, at 88–89.

²³⁹ *Raich*, 545 U.S. at 18–19.

²⁴⁰ See, e.g., Steven K. Balman, *Constitutional Irony: Gonzales v. Raich, Federalism and Congressional Regulation of Intrastate Activities Under the Commerce Clause*, 41 TULSA L. REV. 125, 150 (2005).

²⁴¹ *Id.* at 151–59 (noting various sources that describe “commerce” as “trade or exchange”).

²⁴² Such is the case with biodiversity, the loss of which in the aggregate, and when appropriated by private parties, would have dramatic effects on the nation’s economy. Describing the magnitude of economic impact continued consumptive growth might have on our genetic heritage, the 1973 House Committee Report on the ESA stated that species loss put our genetic heritage at risk and “the value of this genetic heritage is, quite literally, incalculable.” H.R. Rep. No. 93-412, at 4 (1973).

States, however, an economic effect approximating trade or exchange occurs nonetheless.

A telling illustration of how courts have come to treat regulation of privatized commons resources as meeting the substantial effects test via the aggregation principle is the different outcomes delivered by the Court of Appeals for the Fourth Circuit in *Gibbs v. Babbitt*²⁴³ and *Brzonkala v. Virginia Polytechnic Institute*,²⁴⁴ the precursor to *Morrison*. *Gibbs* was decided by the Fourth Circuit a little more than a year after it decided *Brzonkala*, and less than a month after the U.S. Supreme Court decided *Morrison*. *Gibbs* has been described as a “doctrinal double-standard” when compared to *Morrison*.²⁴⁵ *Gibbs* upheld the ESA’s prohibition on the taking of endangered red wolves from private property, even though the prohibition conflicted with a North Carolina statute.²⁴⁶ The Court relied on the *Wickard* aggregation principle in holding that the taking of red wolves would substantially affect interstate commerce,²⁴⁷ even though the very same court had rejected the *Wickard* aggregation doctrine in *Brzonkala*.²⁴⁸ The court justified its distinction by finding that, unlike the legislation in *Lopez* and *Morrison*, which was aimed at non-economic activity, the legislation in *Gibbs* was aimed at “what is in a meaningful sense economic activity.”²⁴⁹ The court found that:

²⁴³ 214 F.3d 483 (4th Cir. 2000).

²⁴⁴ 169 F.3d 820 (4th Cir. 1999) (en banc).

²⁴⁵ Virelli & Leibowitz, *supra* note 188, at 968.

²⁴⁶ See 214 F.3d at 506; see also 50 C.F.R. §§ 17.84(c)(4)(i)–(iv) (2010). The federal regulation promulgated pursuant to the ESA that guides the protection of red wolves allows a person to take red wolves on private land “[p]rovided that such taking is not intentional or willful, or is in defense of that person’s own life or the lives of others.” 50 C.F.R. § 17.84(c)(4)(i) (2010). Private landowners may also take red wolves on their property “when the wolves are in the act of killing livestock or pets, [p]rovided that freshly wounded or killed livestock or pets are evident” 50 C.F.R. § 17.84(c)(4)(iii) (2010). A landowner may also “harass red wolves found on his or her property . . . [p]rovided that all such harassment is by methods that are not lethal or physically injurious to the red wolf” 50 C.F.R. § 17.84(c)(4)(iv) (2010).

²⁴⁷ *Gibbs*, 214 F.3d at 493.

²⁴⁸ *Brzonkala*, 169 F.3d at 836 (noting that the statute “cannot be sustained on the authority of cases such as *Wickard*, which have upheld ‘regulations of activities that arise out of or are connected with a commercial transaction, which viewed in the aggregate, substantially affects interstate commerce’”). The court also stated that:

To extend such reasoning beyond the context of statutes regulating economic activities and uphold a statute regulating noneconomic activity merely because that activity, in the aggregate, has an attenuated, though real, effect on the economy, and therefore presumably on interstate commerce, would be effectively to remove all limits on federal authority, and to render unto Congress a police power impermissible under our Constitution.

Id. at 840.

²⁴⁹ *Gibbs*, 214 F.3d at 492. The Court also distinguished the statutes in *Lopez* and *Morrison* because they dealt with traditionally state-regulated activities, arguing that conservation of natural resources, unlike regulation of gun possession and domestic violence, was “an appropriate and well-recognized area of federal regulation.” *Id.* at 500. A discussion of traditional state versus federal regulatory functions, however, is beyond the scope of this Article.

[T]he taking of a red wolf on private land is unlike gender-motivated violence or guns near schools. The protection of commercial and economic assets is a primary reason for taking the wolves. Farmers and ranchers take wolves mainly because they are concerned that the animals pose a risk to commercially valuable livestock and crops. Indeed, appellants' arguments focus quite explicitly on these economic concerns — they want freer rein to protect their property and investments in the land. The relationship between red wolf takings and interstate commerce is quite direct — with no red wolves, there will be no red wolf related tourism, no scientific research, and no commercial trade in pelts.²⁵⁰

Some scholars have criticized this distinction as inconsistent,²⁵¹ but a commons analysis provides a much more meaningful, consistent distinction. Red wolves are a privatized commons resource being extracted from the collective privatized environment in the name of economic development. As the court itself describes, without explicitly recognizing it, the *appropriation* of a privatized commons resource, involving both an appropriator (the farmers and ranchers) and the resource being appropriated (the wolves), is the act the federal government is regulating, and the act which in the aggregate substantially affects interstate commerce. In other words, because regulation of privatized commons resources seeks to achieve efficient management of natural capital — allowing *depletable consumption* of resources while *preserving* to the extent possible²⁵² their continued availability²⁵³ — such regulation can be characterized as an inherently aggregated economic system with substantial effects on interstate commerce.

In summary, “a principle of aggregation was built into the ‘substantial economic effects’ test.”²⁵⁴ Since the commons is an inherently aggregated system, we see therefore that a commons analysis is also built into the test. With the Court in *Raich* “reaffirm[ing] that *Wickard v. Filburn* remains the dominant Commerce Clause case of the last century,”²⁵⁵ we have perhaps the most important case in Commerce Clause jurisprudence incorporating a commons aggregation principle to find that appropriation of privatized commons resources substantially affects interstate commerce. Thus, the Court has effectively incorporated a commons analysis into its Commerce Clause jurisprudence, at least in the area of natural capital regulation. Viewing the Court's past Commerce Clause jurisprudence through this lens and adopting a commons analysis for future cases provides a unified and simplified ratio-

²⁵⁰ *Id.* at 492.

²⁵¹ See, e.g., Virelli & Leibowitz, *supra* note 188, at 969–70.

²⁵² I say “to the extent possible” because certain finite resources, such as minerals, will not be available in perpetuity.

²⁵³ Such is the case with endangered species, whereby the government has made a determination that the only means of preserving availability of the resource is to temporarily halt consumptive activity entirely.

²⁵⁴ Kmiec, *supra* note 141, at 85.

²⁵⁵ Claey's, *supra* note 45, at 812.

nale for demonstrating an aggregated, “substantial effect on interstate commerce” in the area of privatized commons resources.

2. *The “Object” of Regulation? The Entire Act of “Appropriation”*

A related question has arisen in recent Commerce Clause cases at both the Supreme Court and the Court of Appeals levels: what is the “object of regulation” that federal statutes passed pursuant to the Commerce Clause seek to address and that in the aggregate must “substantially affect” interstate commerce? As discussed below, courts have indicated that this question is important because it informs whether the intrastate activity can appropriately be considered “economic” so as to allow aggregation under the substantial effects test.

In Commerce Clause cases, “a court must determine the central or ‘precise’ ‘object’ of a regulatory statute,” and “how close the nexus must be between the object and the commercial purposes of the Commerce Clause.”²⁵⁶ *Lopez* and *Morrison* “failed to provide a framework for courts to use in deciding: (1) which, of possibly several subjects regulated by a statute, is the central or precise ‘object’ for determining whether the statute regulates economic or non-economic activities and (2) whether those activities have substantial impacts on interstate commerce.”²⁵⁷ This is a crucial oversight, as “a court cannot resolve whether an object or activity is ‘economic’ or ‘non-economic’ without identifying what that object or activity is.”²⁵⁸ Take an example from Supreme Court jurisprudence: in avoiding the constitutional question in *SWANCC*, the Court stated that to answer the question would require an evaluation of “the precise object or activity that, in the aggregate, substantially affects interstate commerce.”²⁵⁹ The Court was implying that if the “object” that must substantially affect interstate commerce was the simple filling of an isolated gravel pit home to migratory birds, severed from any broader economic activity related to interstate commerce, then the application of the Commerce Clause might be in doubt.²⁶⁰

Indeed, the “object of regulation” question has resulted in disagreement regarding whether, under the CWA, wetlands themselves or rather commercial activities impacting those wetlands should be considered the focus of the statute.²⁶¹ The divide is perhaps best evidenced, however, by the

²⁵⁶ Mank, *After Gonzales v. Raich*, *supra* note 13, at 403.

²⁵⁷ *Id.*

²⁵⁸ *Id.* (quoting David W. Scopp, *Commerce Clause Challenges to the Endangered Species Act: The Rehnquist Court’s Web of Confusion Traps More Than the Fly*, 39 U.S.F. L. REV. 789, 801 (2005)).

²⁵⁹ *SWANCC v. U.S. Army Corps of Eng’rs*, 531 U.S. 159, 173 (2000).

²⁶⁰ The Court stated that the “object” of regulation was “not clear, for although the Corps has claimed jurisdiction over petitioner’s land because it contains water areas used as habitat by migratory birds, respondents now, *post litem motam*, focus upon the fact that the regulated activity is petitioner’s municipal landfill, which is plainly of a commercial nature.” *Id.*

²⁶¹ See Klein, *supra* note 45, at 38; Michael J. Gerhardt, *On Revolution and Wetland Regulations*, 90 GEO. L.J. 2143, 2163 (2002).

debate among the courts of appeals regarding the appropriate mechanism for applying the ESA. All courts of appeals to consider Commerce Clause challenges to the ESA have upheld the statute,²⁶² but as scholars have noted, the courts have not been able to formulate consistent legal reasoning for doing so.²⁶³ Even so, courts seem determined to uphold the ESA under some rationale, even if they cannot agree on the mechanism of analysis. A commons analysis provides a means by which the varied past rationales of the circuit courts can be reconciled and can be applied in a clearer fashion in the future.

The “object of regulation” question in the context of the ESA takes the form of a split among the courts of appeals over whether the ESA regulates the actual taking of protected species or the commercial activities that result in the taking of species.²⁶⁴ For example, in *Rancho Viejo, LLC v. Norton*, the court held that then-Judge Roberts’s “hapless toad”²⁶⁵ was not the object of ESA regulation.²⁶⁶ Rather, the court found that the “regulated activity is Rancho Viejo’s planned commercial development, not the arroyo toad that it threatens.”²⁶⁷ By contrast, the Court of Appeals for the Fifth Circuit in *GDF Realty Investments v. Norton*²⁶⁸ (“*GDF*”) rejected the argument that the economic impact of the development is the appropriate focus of ESA regulation, instead finding that endangered species in and of themselves have substantial effects on interstate commerce when they are aggregated because of their “interdependence.”²⁶⁹ This jurisdictional split is troublesome, because “[t]he [Supreme] Court’s failure to define what objects or activities are most important in analyzing whether a statutory scheme may regulate an activity under the Commerce Clause has caused especially difficult problems for courts deciding whether the ESA is constitutional under the [Commerce] Clause.”²⁷⁰ Correlatively, the distinction between the approaches of the Fifth and D.C. Circuits is important because, as noted by Professor Mank:

If a court focuses on the ESA’s means in regulating the economic impact of the activities that harm endangered species, then the government likely can regulate large scale construction projects, but not a lone hiker walking through a forest or perhaps even individual homeowners, although in the aggregate both types of activities could cause significant harm to these species By

²⁶² Indeed, federal courts in general have been reluctant to rely on *Lopez* and *Morrison* to strike down environmental regulations. See CHEMERINSKY, *supra* note 148, at 273. For a more recent update on Courts of Appeals treatment of the ESA specifically, see Robert Thornton, *9th Circuit Rejects Commerce Clause Challenge to Delta Smelt Biological Opinion*, ENDANGERED SPECIES LAW & POLICY (March 25, 2011), <http://www.endangeredspecieslawandpolicy.com>.

²⁶³ Mank, *After Gonzales v. Raich*, *supra* note 13, at 428; Lee, *supra* note 20, at 471–75.

²⁶⁴ See generally Mank, *Split in the Circuits*, *supra* note 51.

²⁶⁵ *Rancho Viejo, LLC v. Norton*, 334 F.3d 1158, 1160 (D.C. Cir. 2003), *rehearing denied* (Roberts, J. dissenting).

²⁶⁶ *Rancho Viejo, LLC v. Norton*, 323 F.3d 1062, 1072 (D.C. Cir. 2003).

²⁶⁷ *Id.*

²⁶⁸ 326 F.3d 622 (5th Cir. 2003).

²⁶⁹ *Id.* at 640.

²⁷⁰ Mank, *After Gonzales v. Raich*, *supra* note 13, at 405.

contrast, under the rationale of *GDF*, the government could regulate a lone hiker or landscaping homeowner who harms any endangered species, no matter how insignificant, because the loss of any endangered species threatens the delicate balance of ecosystems, and harm to ecosystems would cause substantial harms to interstate commerce.²⁷¹

The Fifth Circuit based its decision in part upon dicta from the U.S. Supreme Court in *SWANCC*, suggesting that the commercial activities at issue in *SWANCC* were “too far removed from the CWA’s ‘object’ of regulating ‘navigable waters.’”²⁷² Professor Mank argues, however, that “*SWANCC* itself failed to provide a clear answer about how lower courts should decide what is the central ‘object’ of a statute — either the statute’s regulatory ‘targets’ or its beneficiaries — and how close the relationship must be between the object of the statute and the commercial purposes of the Commerce Clause.”²⁷³ Mank argues that the *SWANCC* decision in fact suggested that:

[N]either the value of the migratory birds nor the commercial activities that motivated the filling in of the wetlands could justify congressional regulation because they were not the precise object of the statute. Instead, the Court implied that the wetlands themselves are the “object” that must substantially affect interstate commerce.²⁷⁴

Other scholars have argued that “intrastate water” was the object regulated in *SWANCC*,²⁷⁵ while yet others have stated that the CWA “is not regulating wetlands use; it is regulating the economic, and often commercial, activity of land use and development.”²⁷⁶

Commons analysis helps make sense out of this chaos, providing a clear framework within which to analyze the “object” of natural capital regulation. The “interdependence” of species recognized by the Fifth Circuit, and the recognition by the D.C. Circuit that the actor impacting the resource is necessarily tied to the resource itself, are each — though previously considered independent jurisprudential rationales — nothing more than recognition by the appellate courts of the commons nature of the regulated activity, or “object,” under the ESA. In fact, scholars have asserted that the ESA provides support for the approach of *either* the Fifth Circuit *or* the D.C. Circuit, because “the statute suggests that both commercial activities that

²⁷¹ Mank, *Split in the Circuits*, *supra* note 51, at 926–27.

²⁷² *Id.* at 929.

²⁷³ *Id.*

²⁷⁴ *Id.* at 960–61 (citations omitted).

²⁷⁵ Robert H. Bork & Daniel E. Troy, *Locating the Boundaries: The Scope of Congress’s Power to Regulate Commerce*, 25 HARV. J.L. & PUB. POL’Y 849, 890 (2002).

²⁷⁶ Marianne Moody Jennings & Nim Razook, *United States v. Morrison: Where the Commerce Clause Meets Civil Rights and Reasonable Minds Part Ways: A Point and Counterpoint from a Constitutional and Social Perspective*, 35 NEW ENG. L. REV. 23, 54 (2000).

harm species and the species themselves affect interstate commerce.”²⁷⁷ Though these scholars argue that one approach may be more appropriate than the other,²⁷⁸ this Article argues that not only is it unnecessary to pick one *or* the other, but to do so is jurisprudentially incorrect. The two approaches cannot be logically separated under the commons appropriation analysis.

Regulation of commons resources cannot be separated into regulation of *either* the appropriator *or* the resource being appropriated. One need only look at the structure of the statutes to determine that wetlands, endangered species, uncontaminated land, air, and other resources are inseparable from the activities impacting them — without this interaction there would be no regulation in the first instance. A developer, for example, is an appropriator of the wetlands resource, or of endangered species habitat, and the substantial effects on interstate commerce arise out of the *act of appropriation*. Completing the circle, the appropriation substantially affecting interstate commerce is impossible without the constituent sub-elements of an appropriator (the developer) as well as that being appropriated (the wetlands or endangered species). In other words, the “object or activity” of regulations like the ESA and CWA is the *entire act of appropriation* of privatized commons resources, which combines the appropriator (the herder) with the resource being appropriated (the pastoral commons). It is this act of appropriation that in the aggregate substantially affects interstate commerce.²⁷⁹ Regulating *appropriation* of privatized commons resources is the

²⁷⁷ Mank, *Split in the Circuits*, *supra* note 51, at 931. See also Michael C. Blumm & George Kimbrell, *Flies, Spiders, Toads, Wolves, and the Constitutionality of the Endangered Species Act's Take Provision*, 34 ENVTL. L. 309, 327 (2004) [hereinafter Blumm & Kimbrell, *Take Provision*]; Nagle, *supra* note 45, at 210 (stating “either the means or the ends should be able to provide the requisite connection to interstate commerce”) (emphasis omitted); Robert A. Schapiro & William W. Buzbee, *Unidimensional Federalism: Power and Perspective in Commerce Clause Adjudication*, 88 CORNELL L. REV. 1199, 1245–47 (2003) (arguing the ESA may apply to both targets of regulation and beneficiaries). The ESA states that “various species of fish, wildlife, and plants in the United States have been rendered extinct as a consequence of economic growth and development untempered by adequate concern and conservation . . .” 16 U.S.C. § 1531(a)(1) (2006).

²⁷⁸ See generally, Mank, *Split in the Circuits*, *supra* note 51.

²⁷⁹ Lee has made a similar argument within the general market failure context:

A developer whose activity eliminates a particular species receives all of the profit of the development but bears only a fraction of the social cost of eliminating the species. The remaining cost is an externality that is imposed on society at large. The ESA internalizes this externality by mandating that commercial actors increase the value that they place on listed species. Thus, the precise economic activity regulated by the ESA is the cost-benefit analysis in which developers assign to species loss a lower value than that assigned to it by society at large.

Lee, *supra* note 20, at 490. The D.C. Circuit in *Nat'l Ass'n of Home Builders v. Babbitt*, 130 F.3d 1041 (D.C. Cir. 1997), was one of the first courts to consider an ESA challenge after *Lopez* and *Morrison*, and the two judges writing for the majority projected conflicting rationales for upholding the ESA. The court did, however, recognize the commons nature of endangered species when it applied the aggregation doctrine to uphold application of the ESA. The court stated that “[i]n the aggregate . . . we can be certain that the extinction of species and the attendant decline in biodiversity will have a real and predictable effect on interstate

primary purpose of virtually all environmental regulation, to manage how actors within our environment (appropriators) consume, distribute, conserve, and utilize resources (air, endangered species, water, minerals, uncontaminated land). Regulating the act of appropriation is necessary because from a policy perspective dividing the regulation into the constituent sub-elements of appropriation will result in inefficient and ultimately ineffective regulation. Since the “object of regulation” of privatized commons resources is the act of appropriation, which is an economic transaction when implicating land development or external interstate markets, these acts can be aggregated for the purpose of finding a substantial effect on interstate commerce. This renders constitutional privatized commons resource regulation by the federal government under the Commerce Clause.

3. *Comprehensive Scheme? A Commons Analysis Better Protects Federalism Principles*

Perhaps the most significant and complex question arising in Commerce Clause cases is what is the appropriate balance between federal regulatory authority and constitutional federalism principles? As noted above, some scholars have argued that *Raich* stands for the proposition that intrastate, *non-economic* activity can be aggregated to meet the substantial effects test.²⁸⁰ Though this Article challenges that argument, it seems to have gained some degree of traction in the scholarly community. As such, it is necessary to address the implications of this argument for federalism and how a commons analysis can provide a test that both allows protection of important environmental resources and avoids endorsing limitless federal power in violation of constitutional principles of federalism.

The “comprehensive scheme” argument is based largely upon Justice Scalia’s *Raich* concurrence and his argument that non-economic activity could be aggregated if it was “an essential part of a larger regulation of economic activity, in which the regulatory scheme could be undercut unless the intrastate activity were regulated,”²⁸¹ or if it was “a necessary part of a more general regulation of interstate commerce.”²⁸² Justice Scalia argued

commerce,” *id.* at 1053–54, and “we know that in the aggregate the extinction of endangered species will have a substantial effect on interstate commerce” *Id.* at 1053 n.14. Though future extinction provides an accurate description of the after-effects on interstate commerce, it does not necessarily provide sufficient judicial justification for the effects on interstate commerce at the time the regulation is enacted and implemented. A better way to characterize the point is to recognize that it is the appropriation of endangered species from the collective privatized environment that is being regulated, and appropriation in the aggregate is what substantially affects interstate commerce.

²⁸⁰ Mank, *After Gonzales v. Raich*, *supra* note 13 at 410 (emphasis added) (citing Adler, *supra* note 16, at 764–65; Kmiec, *supra* note 141, at 98).

²⁸¹ *Gonzales v. Raich*, 545 U.S. 1, 36 (2004) (citing *Lopez*, 514 U.S. 549, 561 (1995)). See Mank, *After Gonzales v. Raich*, *supra* note 13, at 416 (noting Justice Scalia’s argument that “the *Lopez* decision had ‘implicitly acknowledged’ that ‘Congress’s authority to enact laws necessary and proper for the regulation of interstate commerce is not limited to laws directed against economic activities that have a substantial effect on interstate commerce’”).

²⁸² *Raich*, 545 U.S. at 37.

that federalism protections remained since Congress could only reach such activity “in conjunction with congressional regulation of an interstate market”²⁸³

Despite Justice Scalia’s arguably oversimplified articulation of a “comprehensive scheme” rule that allows regulation of even intrastate *non-economic* activity, it is difficult to imagine how such a rule leaves any room for constitutional federalism. As noted by Justice O’Connor’s dissent, the breadth of such a rule would obliterate federalism protections, since virtually any non-economic activity could be characterized as part of a broader comprehensive economic scheme.²⁸⁴ If the statutes at issue in *Lopez* and *Morrison* had only been cast in a different light, then under the comprehensive scheme analysis those regulations would have been upheld. For example, Justice O’Connor argued in her *Raich* dissent that in *Lopez*:

Congress should have described the relevant crime as “transfer or possession of a firearm anywhere in the nation” — thus including commercial and noncommercial activity, and clearly encompassing some activity with assuredly substantial effect on interstate commerce. Had it done so . . . we would have sustained its authority to regulate possession of firearms in school zones. Furthermore, [our] decision suggests we would readily sustain a congressional decision to attach the regulation of intrastate activity to a pre-existing comprehensive (or even not-so-comprehensive) scheme.²⁸⁵

Also, because virtually any activity can be folded within a broader economic regulatory scheme, Justice O’Connor stated that such a rule “gives Congress a perverse incentive to legislate broadly pursuant to the Commerce Clause — nestling questionable assertions of its authority into comprehensive regulatory schemes — rather than with precision.”²⁸⁶ Indeed, some scholars have predicted that “*Raich*’s elaboration of the national-regulatory-scheme principle will invite lower courts to characterize existing statutes that had previously been thought vulnerable to Commerce Clause challenges as parts of national regulatory schemes, and hold that Congress may reach all local, noncommercial activity within the classes of activities covered by those statutes.”²⁸⁷

²⁸³ *Id.* at 38.

²⁸⁴ *Id.* at 46 (O’Connor, J., dissenting).

²⁸⁵ *Id.* It should be noted that Justice O’Connor attributes this approach to the majority’s decision, though, as argued above, the majority never held that the intrastate activity could indeed be non-economic. See *supra* notes 207–15 and accompanying text.

²⁸⁶ *Raich*, 545 U.S. at 43. See also Adrian Vermeule, *Does Commerce Clause Review Have Perverse Effects?*, 46 VILL. L. REV. 1325 (2001).

²⁸⁷ Glenn H. Reynolds & Brannon P. Denning, *What Hath Raich Wrought? Five Takes*, 9 LEWIS & CLARK L. REV. 915, 923 (2005). This Author has noted this potential to skirt federalism limitations in other contexts, such as the treaty power. Blake Hudson, *Climate Change, Forests and Federalism: Seeing the Treaty for the Trees*, 82 U. COLO. L. REV. 363 (2011). Professor Swaine likewise has noted that “[t]he new federalism decisions also invite fresh scrutiny of the treaty power by encouraging its creative use to circumvent federalism restric-

Perhaps the best way to highlight the faulty logic of simultaneously supporting the circular comprehensive scheme rule (for non-economic activity) and recognizing any constitutional federalism limitations on Congress's power to regulate is the re-characterization of the rule by one scholar as meaning "the more Congress regulates, the more it can regulate."²⁸⁸ As stated by Justice O'Connor, "something more than mere assertion is required when Congress purports to have power over local activity whose connection to an interstate market is not self-evident."²⁸⁹ Such constitutional shortcuts are obviously problematic and seek to skirt useful distinctions for upholding federalism protections. Indeed, the economic/non-economic distinction is important because requiring that the wholly intrastate activities Congress seeks to regulate be economic assures that federal regulation is truly aimed at interstate commerce.²⁹⁰

In the environmental context, and more specifically with regard to the ESA, for example, scholars have latched upon this potential boon for federal authority, arguing that the comprehensive scheme rationale would provide a greater protection for endangered species.²⁹¹ These scholars have argued that *Raich's* supposed comprehensive scheme holding established that "intrastate species *without a substantial effect on interstate commerce*" could be safely regulated under the ESA.²⁹² Other scholars have asserted that "the comprehensive scheme rationale . . . is probably the strongest justification for concluding that the regulation of isolated, economically insignificant endangered species is constitutional"²⁹³ because such regulation is simply a part of the ESA's broader scheme for protecting all endangered species.

tions." Swaine, *supra* note 41, at 417. Swaine noted that many scholars argue that VAWA, struck down in *Morrison*, could (and should) be effectively re-enacted if legislated pursuant to an international treaty. *Id.* See also Curtis A. Bradley, *The Treaty Power and American Federalism, Part II*, 99 MICH. L. REV. 98, 100 (2000) (noting that in *Morrison* "a group of international law scholars filed an *amicus curiae* brief arguing that, even if the statute exceeded Congress's powers (as the Supreme Court ultimately concluded), it should be upheld as a valid implementation of a treaty"); Brief of Amici Curiae on Behalf of International Law Scholars and Human Rights Experts in Support of Petitioners at 28–30, *United States v. Morrison*, 529 U.S. 598 (2000) (Nos. 99-0005, 99-0029), 1999 WL 1037253, at *28–*30. Yet it seems clear there would be no room for federalism at all if the national government could regulate any activity pursuant to either the Commerce Clause or Treaty Clause.

²⁸⁸ John T. Parry, "Society Must be [Regulated]": *Biopolitics and the Commerce Clause* in *Gonzales v. Raich*, 9 LEWIS & CLARK L. REV. 853, 862 (2005).

²⁸⁹ *Raich*, 545 U.S. at 52.

²⁹⁰ Barnett, *supra* note 45, at 748.

²⁹¹ Blumm & Kimbrell, *Comprehensive Scheme*, *supra* note 46.

²⁹² *Id.* at 491 (emphasis added) (referring to Blumm & Kimbrell, *Take Provision*, *supra* note 277).

²⁹³ Mank, *After Gonzales v. Raich*, *supra* note 13, at 391. In full, Mank states that:

Under the comprehensive scheme rationale that allows Congress to regulate purely intrastate activities if they are an integral part of a larger regulatory scheme and the Court's highly deferential rational basis standard of review in Commerce Clause cases, if the Supreme Court had addressed the constitutionality of the ESA sometime between its enactment in 1973 and 1995, the Court almost certainly would have concluded that Congress had authority under the Clause to enact the ESA even though some of the species the statute regulates exist in only one state or have little direct economic significance.

The commons analysis discussed above, however, demonstrates that there is no need to go down the path of rendering meaningless the federalism principles established in the Constitution for the purpose of justifying federal environmental legislation. To do so is to stretch unnecessarily the credibility of environmental protection and to foster greater skepticism among its critics. A better approach is to recognize that privatized commons resources constitute an inherently aggregated economic system, and that a commons analysis has been built into the "substantial economic effects" test.²⁹⁴ In addition, the "object of regulation" discussion above demonstrates that because the act of appropriation of privatized commons resources is an economic activity in a finite world dependent on the consumption and preservation of natural capital, privatized commons resources may be aggregated to meet the substantial economic effects test. Thus, a commons analysis places endangered species takings by development, for example, within the *economic* activity requirement of the substantial effects test. Commons analysis also renders it unnecessary to characterize appropriation of natural capital as *non-economic* activity rolled into a broader economic scheme, which would provide no meaningful federalism protections.²⁹⁵

In short, there is no need to go to the extreme of engaging in a bottomless comprehensive scheme analysis. Privatized commons resources, due to the inherently economic, aggregating effect of commons appropriation, substantially affect interstate commerce. Acts of appropriation, when aggregated, substantially affect the value, quantity, and quality of natural capital consumed or preserved elsewhere. This is sufficient to uphold federal regulation of such resources and at the same time maintain constitutional federalism protections for activities the federal government seeks to regulate that are not commons, but rather take on the characteristics of, for example, public goods.²⁹⁶ Viewing Supreme Court and lower court environmental jurisprudence through the lens of the commons demonstrates as much.

VI. CONCLUSION

With every ebb and flow of Commerce Clause jurisprudence, oscillating between federalist and nationalist approaches to the scope of the clause, scholars express concern over federal environmental regulatory authority. Yet environmental regulatory authority has survived, with federal courts content to treat it as fundamentally different from other areas of regulation.

Id. at 391–92.

²⁹⁴ See *supra* notes 254–55 and accompanying text.

²⁹⁵ Some scholars have even implicitly argued that commons principles could be used in determining whether a regulated activity is an essential part of a larger scheme of economic regulation: "*Raich* could be construed simply as having adopted a limited 'fungible goods' rationale for why it is essential to the larger prohibition of a national market in a commodity that even the local cultivation and possession of such a commodity [*sic*] also be reached." Barnett, *supra* note 45, at 747.

²⁹⁶ See *supra* note 50 and accompanying text.

Whether it be the different results reached by the U.S. Supreme Court in *Lopez/Morrison* and *Raich*, or the Fourth Circuit coming to strikingly divergent conclusions in *Gibbs* and *Brzonkala*, courts are determined to treat regulation of depletable resources subject to non-excludable appropriation differently than other objects of regulation. We need to understand why.

Viewing Commerce Clause jurisprudence in the context of natural capital regulation through the lens of the commons explains and justifies this distinction. Courts have consistently upheld federal regulation of privatized commons resources since the beginning of the modern regulatory state based upon their aggregated substantial effects on interstate commerce. *Raich* was no outlier — it was merely a continuation of precedent in that regard. Perhaps *Lopez* and *Morrison* were not outliers either, as they did not involve regulation aimed at commons concerns. It remains to be seen how the Court will treat future Commerce Clause challenges to federal environmental and other statutes. In the meantime, commons analysis, with its useful descriptions of appropriators, coappropriation, producers, providers, and other concepts, provides important and unified answers to much debated questions within Commerce Clause jurisprudence, especially regarding the “aggregation,” “object of regulation,” and “scope of federal authority” questions. Rather than trying to predict the outcomes of future environmental Commerce Clause challenges based upon single cases, scholarly energy would be better served by recognizing and analyzing the objects of regulation that have received in the past judicial recognition as a valid subject of federal regulatory authority — that is, objects of regulation that constitute commerce in the commons of the United States.

