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Governing the Ungovernable: Integrating the Multimodal Approach to Keeping Agricultural Land Use from Swallowing Ecosystems

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Governing the Ungovernable: Integrating the Multimodal Approach to Keeping Agricultural Land Use from Swallowing Ecosystems

Kalyani Robbins*

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I. INTRODUCTION

As the population grows, so does the conflict between the demand for agricultural productivity and the need to maintain healthy ecosystems. Unfortunately, this concern alone does not motivate the agricultural industry to operate in a more environmentally friendly manner, nor is it an industry that has proven amenable to strict regulation.¹ Indeed, any such effort must face one of the mightiest lobbies of all time.² As it functions today, agriculture is unsustainable and at risk of wiping out more than its fair share of our already

* Associate Professor of Law, Florida International University. The author is grateful for early-brainstorming feedback provided by J. B. Ruhl and Dan Rohlfs, as well as for the helpful practical insights provided by fellow symposium participants. Thanks also go to Professor Rachael Salcido for her generous invitation to participate in this symposium.

1. See generally Elizabeth M. Stapleton, *Agriculture as Industry: The Failure of Environmental and Agricultural Policy to Adapt to the Modern Agricultural Landscape*, 7 ALB. GOV'T L. REV. 321 (2014) (discussing the development of the agricultural industry into a relatively unregulated sector).

2. See Lauren Etter & Greg Hitt, *Farm Lobby Beats Back Assault on Subsidies*, WALL ST. J., Mar. 27, 2008, <http://online.wsj.com/news/articles/SB120657645419967077> (on file with the *McGeorge Law Review*) (discussing the strength of the farm lobby in defending farm bill subsidies).

dwindling biodiversity. As demand for agricultural production increases, so do the ecological risks. One might think that the Endangered Species Act (ESA) could solve the problem, given that it has strict prohibitions on harming listed species,³ but the ESA is no match for this industry, which works hard to avoid its reach.⁴ Some ESA approaches work better than others, such as regional habitat conservation plans that allow farmers to destroy some habitat in exchange for contributing to the protection of large and interconnected areas of habitat.⁵ However, a review of the ESA's implementation in the agricultural context makes it clear that far more is needed.⁶

In recent decades, a variety of approaches to improving conservation efforts on agricultural land have cropped up, such as conservation easements,⁷ payment for ecosystem services (PES) programs,⁸ the Conservation Reserve Program (CRP) to avoid overuse of agricultural land,⁹ organic labeling restrictions,¹⁰ and direct subsidy methods, such as the Environmental Quality Incentives Program (EQIP) and Conservation Stewardship Program (CSP), which pay farmers to incorporate more environmentally friendly practices.¹¹ Part II of this Article will review these existing efforts.

Some of these methods, such as PES and conservation easements, tend to be implemented by a wide range of entities, both public and private. What we wind up with is a mix of efforts that sometimes overlap in a haphazard manner. The disaggregation of agricultural conservation efforts, which is necessitated by the industry's successful avoidance of traditional top-down command-and-control regulation,¹² is not necessarily a problem.¹³ However, in light of these

3. See generally 16 U.S.C. §§ 1531–44 (2012). Under the ESA, it is unlawful to “take” any listed species. *Id.* § 1538(a)(1)(B). An unlawful taking includes any conduct which would “harm” a listed species. *Id.* § 1532(19). “Harm” includes “an act which actually kills or injures wildlife . . . includ[ing] significant habitat modification or degradation . . .”. 50 C.F.R. § 17.3 (2014).

4. See, e.g., Kalyani Robbins, *Lesser Conservation: The U.S. Fish & Wildlife Service Proposes Threatened Listing for the Lesser Prairie-Chicken, Then Guts It with Special 4(d) Rule*, *TRENDS*, Nov. 2013 (describing just one broad section 4(d) exception to the take prohibition for agricultural activity).

5. See *infra* Part II.C for a discussion of regional habitat conservation plans.

6. See, e.g., Robbins, *supra* note 4.

7. See *infra* Part II.B.

8. See *infra* Part II.A.

9. See *Conservation Reserve Program*, U.S. DEP'T OF AGRIC., FARM SERV. AGENCY, <http://www.fsa.usda.gov/FSA/webapp?area=home&subject=copr&topic=crp> (last visited Aug. 4, 2014) (on file with the *McGeorge Law Review*).

10 *Organic Labeling*, U.S. DEP'T OF AGRIC., AGRIC. MARKETING SERV., <http://www.ams.usda.gov/AMSV1.0/ams.fetchTemplateData.do?template=TemplateA&navID=OrgLabelingLinkNOPOrganicSeal&rightNav1=OrgLabelingLinkNOPOrganicSeal&topNav=&leftNav=NationalOrganicProgram&page=NOPOrganicLabeling&resultType=&acct=nopgeninfo> (last visited Oct. 24, 2014) (on file with the *McGeorge Law Review*).

11. See *infra* Part II.D.

12. See Stapleton, *supra* note 1, at 325.

13. This is not to say that the regulation avoidance is not itself a problem, but it is too intractable a problem to focus on here.

disaggregated and sometimes overlapping spheres of influence, some effort at integration could reduce the chaos and lead to more consistency nationwide.

Drawing from scholarship focused on transnational regimes, we see that decentralized (and public-private mixed) governance can be effective and even coordinated.¹⁴ As beneficial programs expand, social norms develop and begin to tie them together.¹⁵ As this occurs, it creates the opportunity to better coordinate and integrate the diverse influences.¹⁶ Part III of this Article explains why integrated multimodal governance is the most appropriate approach to governing ecological conservation on agricultural land, especially in light of the political obstacles to comprehensive regulation.

Given the importance of scale in maximizing the benefit-to-cost ratio when protecting ecosystems,¹⁷ coordination of the various sources of authority is especially valuable in this context. It would thus be worthwhile to have an entity capable of taking a holistic ecosystem approach to implementing the array of existing programs. It is likewise important to share both information and strategy, in light of the shared goals of the many entities involved in the governance of ecologically sustainable agriculture. Part IV of this Article considers potential methods for improving the integration of the array of approaches, as well as the importance of taking an adaptive management approach to this coordination-seeking venture.

II. EXISTING EFFORTS TO LESSEN THE ENVIRONMENTAL IMPACT OF AGRICULTURE

Although there is no comprehensive legislation requiring environmental conservation on agricultural land,¹⁸ there are numerous programs designed to reach this result. Because the agricultural lobby is so immensely powerful, these programs tend to be very expensive, as they are entirely voluntary on the part of farmers and thus must benefit them economically.¹⁹ In addition to being costly, they are also generally uncoordinated with each other. This, when combined with

14. See generally James N. Rosenau, *Governing the Ungovernable: The Challenge of a Global Disaggregation of Authority*, 1 REG. & GOVERNANCE 88 (2007) (predicting a system of global governance based upon norms, informal rules, and regimes as the world is divided into further spheres of influence and superpowers lose their influence).

15. *Id.* at 93–94.

16. *Id.*

17. See Daniel N. Laven et al., *Examining Conservation Practice at the Landscape Scale*, 22 GEORGE WRIGHT F. 5, 5 (2005) (describing the importance of using a landscape-scale approach to conservation).

18. See generally Stapleton, *supra* note 1 (discussing the development of the agricultural industry into a relatively unregulated sector).

19. See J.B. Ruhl, *Agriculture and Ecosystem Services: Strategies for State and Local Governments*, 17 N.Y.U. ENVTL. L.J. 424, 441–42 (2008) (listing expense among the drawbacks of many of the agricultural conservation programs).

the farmer initiative for opting in,²⁰ results in somewhat random geographic placement of conservation efforts. This Part provides a brief overview of the most common approaches.

A. *Payment for Ecosystem Services*

One of the newest and (in this author's view) most promising approaches to conservation on agricultural land is Payment for Ecosystem Services (PES). Ecosystem services have finally begun to receive their due, at least in terms of scientific appreciation of value, especially since an impressive study that brought together approximately 1,300 experts from around the globe, culminating in the 2005 Millennium Ecosystem Assessment ("MEA report").²¹ The MEA report divided ecosystem services into four categories based upon the functions they serve: provisioning services (e.g., food or medicine), regulating services (e.g., pollination or regulation of air or water quality), cultural services (e.g., recreational or educational), and supporting services (e.g., habitat provision or oxygenation).²² It has been estimated that the economic value of these services reaches an annual average of \$33 trillion, which is 1.8 times the gross national product of the entire earth.²³ Unfortunately, the MEA report also concluded that roughly 60% of ecosystem services had already been degraded by human activity and that further decline was rapidly underway.²⁴ Conversion to agricultural use is a leading cause of this destruction.²⁵

Because of the immense economic value of ecosystem services,²⁶ combined with the urgency of preserving what is left of them,²⁷ some governments have deemed it worthwhile to begin purchasing them from landowners as one would

20. Before those with practical experience lose all faith in this Article's proposal, it will not involve a loss of this farmer discretion (the author is aware of how unpalatable this would be). Indeed, by determining the relative value to various programs of each farmers' land, it may even be possible to increase some farmers' negotiating power.

21. CARLOS CORVALAN ET AL., WORLD HEALTH ORG., ECOSYSTEMS AND HUMAN WELL-BEING: HEALTH SYNTHESIS, A REPORT OF THE MILLENNIUM ECOSYSTEM ASSESSMENT, at ii (José Sarukhán et al. eds., 2005) [hereinafter MEA REPORT].

22. *Id.* at 12.

23. Robert Costanza et al., *The Value of the World's Ecosystem Services and Natural Capital*, 387 NATURE 253, 259 (1997).

24. MEA REPORT, *supra* note 21, at 6–8.

25. *Id.* at 6.

26. See generally James Salzman, *Valuing Ecosystem Services*, 24 ECOLOGY L.Q. 887 (1997) (the seminal law review article on this topic).

27. See Gro Harlem Brundtland, Op-Ed., *Earth Agonistes*, N.Y. TIMES, June 18, 2012, <http://www.nytimes.com/2012/06/19/opinion/earth-agonistes.html> (on file with the *McGeorge Law Review*) ("With our current growth and development model we are indeed changing the earth system, and as a result rapidly undermining the resilience of the planet and the future of humanity. The pressures of ecosystem decline, pollution and resource depletion have become immense, drawing down on the economic prospects of present and future generations.").

any traditional commodity.²⁸ As a result of concretizing this value and creating a market for these services, even the most hardened business thinker may find that conservation of at least portions of her land survives a cost-benefit analysis. The PES concept, which was developed first in other countries²⁹ but has gradually cropped up throughout the United States, has begun to have a meaningful impact on agricultural land in areas where such programs are being implemented. Ultimately, these PES programs are creating a shift in attitude: rather than seeing conservation as a sacrifice, it is seen as an economically rational choice when ecosystem services are more valuable than other potential commodities for a given plot of land.³⁰ When we take into account the multifunctionality of the land—capable of producing both goods and services—we position ourselves indeed to *maximize* its economic value.³¹

B. Conservation Easements

Another way that both governments and private organizations pay to protect land is via conservation easements. This is a restriction on the property's use, requiring that it be conserved and not exploited for non-conservation values.³² Most conservation easements are perpetual,³³ as this is preferable for setting aside land that can be relied upon for habitat and other ecosystem values. Another factor, one which varies by state law and impacts the reliability of the

28. As this trend has begun to develop, resources have been created to provide guidance for such programs, which may also improve uniformity, which is preferable in designing new markets. *See, e.g.,* FOREST TRENDS ET AL., PAYMENTS FOR ECOSYSTEM SERVICES: GETTING STARTED, A PRIMER 4 (2008), available at http://www.unep.org/pdf/PaymentsForEcosystemServices_en.pdf (on file with the *McGeorge Law Review*). Additional guidance and templates can be downloaded at *Template Payments for Ecosystem Services (PES) Agreements*, KATOOMBA GROUP, http://www.katoombagroup.org/regions/international/legal_contracts_care.php (last visited Oct. 16, 2014) (on file with the *McGeorge Law Review*).

29. For more background on this development period, see James Salzman, *Creating Markets for Ecosystem Services: Notes from the Field*, 80 N.Y.U. L. Rev. 870, 873–74 (2005).

30. *See id.* at 888 (encouraging a perspective in which the purchase of ecosystem services is treated the same as any other cash crop).

31. For a wonderful discussion of this concept of multifunctionality of agricultural land, see Ruhl, *supra* note 19 at 431–34.

32. *See* NANCY A. MCLAUGHLIN, CONSERVATION EASEMENTS: OUTLINE OF RELEVANT LAWS, AG STANDING, AND CASES AND CONTROVERSIES 9–10, 14 (2014), available at http://web.law.columbia.edu/sites/default/files/microsites/attorneys-general/outline_of_relevant_laws_ag_standing_and_cases_and_controversies_final.pdf (on file with the *McGeorge Law Review*) (describing federal and state law provisions that apply to conservation easements); LITTLE TRAVERSE CONSERVANCY, THE CONSERVATION EASEMENT AS A LAND PROTECTION AND FINANCIAL PLANNING TOOL 4–5, available at <http://www.landtrust.org/ProtectingLand/ConsEaseGuidebook.pdf> (indicating that a conservation easement is an agreement between a landowner and an entity like a conservancy which will restrict future uses of the land); *Frequently Asked Questions*, LAND TRUST FOR TENN., <http://landtrusttn.org/faq.html> (last visited July 9, 2014) (on file with the *McGeorge Law Review*) (explaining that conservation easements are voluntary agreements between landowners, land trusts, government agencies, or other organizations qualified to hold the easement).

33. Nancy A. McLaughlin, *Conservation Easements: Perpetuity and Beyond*, 34 *ECOLOGY* L.Q. 673, 675, 705 (2007).

ecological value of a conservation easement, is whether third-party enforcement of its terms is permitted.³⁴ If a conservation easement is perpetual, third-party enforceable, and on ecologically valuable land, this is arguably the ideal combination for maximizing its value.

Conservation easements are purchased from landowners by non-profit organizations as well as all levels of government.³⁵ At the federal level, there are several programs specifically designed for purchasing conservation easements in certain ecosystem types. These programs include the Healthy Forests Restoration Program,³⁶ the Wetlands Reserve Program,³⁷ and the Grassland Reserve Program,³⁸ the latter two of which are being absorbed into the more comprehensive Agricultural Conservation Easement Program (ACEP).³⁹ Also included is the Conservation Reserve Program, in which rental payments are made on short-term leases of land in order to keep it out of agricultural service.⁴⁰ In addition to purchasing conservation easements on agricultural land, the federal government also pays farmers directly to engage in better practices.⁴¹

One of the more exciting recent developments in the conservation easement context—especially relevant to this Article as it represents a first step in the direction here proposed—is the National Conservation Easement Database.⁴² By tracking as many conservation easements as possible and mapping them via a single GIS, we not only increase the likelihood of enforcement,⁴³ but also open

34. See generally Jessica E. Jay, *Third-Party Enforcement of Conservation Easements*, 29 VT. L. REV. 757 (2005).

35. See KATIE CHANG, LAND TRUST ALLIANCE, 2010 NATIONAL LAND TRUST CENSUS REPORT: A LOOK AT VOLUNTARY LAND CONSERVATION IN AMERICA 5 (Rob Aldrich & Christina Soto eds., 2011), available at <http://www.landtrustalliance.org/land-trusts/land-trust-census/national-land-trust-census-2010/2010-final-report> (on file with the *McGeorge Law Review*) (listing the acres conserved as of 2010 by state, local, and national land trusts); ROB ALDRICH & JAMES WYERMAN, LAND TRUST ALLIANCE, 2005 NATIONAL LAND TRUST CENSUS REPORT 12 (Chris Soto & Anne W. Garnett eds., 2006), available at <http://www.Northolympiclandtrust.org/Documents/2005LandTrustCensusReport.pdf> (on file with the *McGeorge Law Review*) (describing the work of non-profit conservation organizations called land trusts).

36. *Healthy Forests Reserve Program*, U.S. DEP'T AGRIC., NATURAL RES. CONSERVATION SERV., <http://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/easements/forests/> (last visited June 18, 2014) (on file with the *McGeorge Law Review*).

37. *Wetlands Reserve Program*, U.S. DEP'T AGRIC., NATURAL RES. CONSERVATION SERV., <http://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/easements/wetlands/> (last visited June 18, 2014) (on file with the *McGeorge Law Review*).

38. *Grassland Reserve Program*, U.S. DEP'T AGRIC., NATURAL RES. CONSERVATION SERV., <http://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/easements/grassland/> (last visited June 18, 2014) (on file with the *McGeorge Law Review*).

39. *Agricultural Conservation Easement Program*, U.S. DEP'T AGRIC., NATURAL RES. CONSERVATION SERV., <http://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/easements/acep/> (last visited June 18, 2014) (on file with the *McGeorge Law Review*).

40. *Conservation Reserve Program*, *supra* note 9.

41. See *infra* Part II.D.

42. NATIONAL CONSERVATION EASEMENT DATABASE, <http://conservationeasement.us/> (last visited May 21, 2014) (on file with the *McGeorge Law Review*).

43. See Amy Wilson Morris & Adena R. Rissman, *Public Access to Information on Private Land*

the door to comprehensive ecosystem-scale land management.⁴⁴ The database is populated via self-reporting, however, and is thus incomplete.⁴⁵ With adequate funding to engage in comprehensive data compilation—less dependent on landowners taking the time to submit it themselves—this database could provide a truly comprehensive understanding of the impact of conservation easements on any given region or ecosystem.⁴⁶

C. Regional Habitat Conservation Plans via the Endangered Species Act

Another trend in agricultural land conservation is taking place in the context of the Endangered Species Act (ESA). The ESA does not have statutory exemptions for agriculture in the way that other environmental statutes do, though in recent years we have seen the emergence of regulatory deals exempting agricultural operations from the prohibition against taking certain listed species so long as they are engaging in some basic conservation practices (that may or may not aid that species).⁴⁷ While such arrangements may prove problematic for conservation,⁴⁸ the clearly valuable trend is the regional habitat conservation plan (RHCP), in which multiple covered parties (for our purposes, this might be multiple farmers in a given region) must contribute to a mitigation plan in exchange for a limited ability to “take” listed species on their land.⁴⁹ This ideally results in conservation of large and interconnected areas of highly desirable habitat at a scale that cannot be achieved via the traditional individual habitat conservation plan (HCP).⁵⁰ It can also reduce administrative costs and improve implementation as a result of taking the process out of the hands of the individual landowner.⁵¹ Unlike the other methods described in this section, the RHCP does

Conservation: Tracking Conservation Easements, 2009 WIS. L. REV. 1237, 1246 (2009) (indicating that enforcement of conservation easement restrictions is difficult without accessible conservation easement data).

44. See *infra* Part IV (explaining the need for a compilation of the data from various programs prior to embarking on large-scale conservation efforts).

45. NATIONAL CONSERVATION EASEMENT DATABASE, *supra* note 42.

46. And, of course, if you included the data on each of the other conservation programs the picture would be crystal clear.

47. See Robbins, *supra* note 4.

48. See *id.*

49. See 16 U.S.C. § 1539(a)(2) (providing for the use of habitat conservation plans in obtaining an incidental take permit); J. B. Ruhl, *Regional Habitat Conservation Planning Under the Endangered Species Act: Pushing the Legal and Practical Limits of Species Protection*, 44 SW. L.J. 1393 (1991) [hereinafter *Regional Habitat Conservation*] (describing the use of regional habitat conservation plans).

50. See *Regional Habitat Conservation*, *supra* note 49, at 1403–04 (contrasting individual and regional habitat conservation plans); George Frampton, *Ecosystem Management in the Clinton Administration*, 7 DUKE ENVTL. L. & POL'Y F. 39, 40 (1996) (describing the transformation of the ESA from “emergency room” to “a comprehensive vehicle for regional multi-species habitat planning”); Robert D. Thornton, *Habitat Conservation Plans: Frayed Safety Nets or Creative Partnerships?*, 16 NAT. RESOURCES & ENV'T 94, 99 (2001).

51. See J.B. Ruhl, *Harmonizing Distributed Energy and the Endangered Species Act*, 4 SAN DIEGO J. CLIMATE & ENERGY L. 121, 135–37 (2012); J.B. Ruhl, *Harmonizing Commercial Wind Power and the Endangered Species Act Through Administrative Reform*, 65 VAND. L. REV. 1769, 1783–85 (2012).

not require monetary payment to the landowners, as they are compensated with the limited right to incidental take federally listed species.⁵² It will be important, as such permits proliferate, to improve on public participation in the planning, as well as increase adaptive planning.⁵³

D. *Federal Subsidies for Best Practices*

Finally, at least for this list of most common approaches, is the practice of providing subsidies to farmers and agribusinesses for engaging in more environmentally conservative methods of production. Examples of such subsidy programs include the Conservation Stewardship Program,⁵⁴ the Environmental Quality Incentives Program (EQIP),⁵⁵ the related EQIP Organic Initiative,⁵⁶ and the various “conservation partnership programs” (state-private funded grants for conservation and restoration efforts).⁵⁷ Although there is evidence that subsidy-linked conservation requirements are making a difference,⁵⁸ their value is somewhat limited by the extensive Farm Bill subsidies that actually (albeit as an unintended consequence) encourage harmful practices.⁵⁹ Another concern with subsidies for environmental stewardship is that it fails to force polluters to internalize their environmental externalities.⁶⁰ Of course, the only way to do so is with command-and-control regulation, which has proven too challenging to achieve. For this reason, the remainder of this Article continues the effort to work with what has evolved to make it better.

52. See 16 U.S.C. § 1539(a)(1)(B)–(2)(A) (2012).

53. Alejandro E. Camacho, *Can Regulation Evolve? Lessons from a Study in Maladaptive Management*, 55 UCLA L. REV. 293, 314, 355–56 (2007).

54. See *Conservation Stewardship Program*, U.S. DEP’T AGRIC., NATURAL RES. CONSERVATION SERV., <http://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/financial/csp/> (last visited June 23, 2014) (on file with the *McGeorge Law Review*).

55. See *Environmental Quality Incentives Program*, U.S. DEP’T AGRIC., NATURAL RES. CONSERVATION SERV., <http://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/financial/eqip/> (last visited June 23, 2014) (on file with the *McGeorge Law Review*).

56. See *2014 EQIP Organic Initiative*, U.S. DEP’T AGRIC., NATURAL RES. CONSERVATION SERV., http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/programs/?cid=nrcs143_008224 (last visited June 23, 2014) (on file with the *McGeorge Law Review*).

57. See, e.g., *Regional Conservation Partnership Program*, U.S. DEP’T AGRIC., NATURAL RES. CONSERVATION SERV., <http://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/farmbill/rcpp/> (last visited June 23, 2014) (on file with the *McGeorge Law Review*); *Conservation Partners Program*, NAT’L FISH & WILDLIFE FOUND., <http://www.nfwf.org/conservationpartners/Pages/home.aspx#U6id57G9Z8E> (last visited June 23, 2014) (on file with the *McGeorge Law Review*); *New York State Conservation Partnership Program*, NY.GOV, <http://www.dec.ny.gov/lands/48901.html> (last visited June 23, 2014) (on file with the *McGeorge Law Review*);

58. See Erin Morrow, *Agri-Environmentalism: A Farm Bill for 2007*, 38 TEX. TECH L. REV. 345, 360–61 (2006).

59. *Id.* at 371.

60. See Margaret Rosso Grossman, *Agriculture and the Polluter Pays Principle: An Introduction*, 59 OKLA. L. REV. 1, 3 (2006).

III. INTEGRATED MULTIMODAL GOVERNANCE: THE SWEET SPOT FOR AGRICULTURE

Imagine a large city with several modes of transportation: a subway system, buses, and a tourist trolley. This multimodality allows the city to achieve various goals that may not all be possible with a single modality alone. It can move people quickly (without excess stopping and slow-downs) between residential areas and downtown via the subway system. It can get people to a wider range of less common destinations, especially for workers in more spread-out establishments such as fast-food chains, via the bus system. It can take tourists to a network of historic, entertaining, or otherwise appealing locations in eye-catching trolleys. Now imagine that instead of creating a single transportation agency to plan these systems, the city created three separate agencies and did not ask them to work together. Indeed, each agency is under the impression that it must accomplish all possible goals—meeting all the needs of the metropolis—on its own. No coordination of track lines or station locations is allowed either. I need not describe the redundancy, gaps, conflicts, and inefficiencies that might result, as I am sure you can think of many. To avoid such redundancy and target efforts where they are most needed, the city will ideally opt to integrate the operation of this multimodal transportation system.⁶¹ Some goals will be better achieved via one or the other system and a single perspective will allow for such targeting.

Land management, especially for the purposes of ecosystem resilience and maximization of ecosystem services, is heavily scale-dependent. While it is not entirely inconsequential for a small player to make good stewardship choices on his or her parcel at random,⁶² it is far preferable (and, frankly, essential) to manage conservation practices at the landscape scale.⁶³ We have seen our greatest ecosystem management successes when vast land areas have been managed in a unified manner in spite of the numerous and varied stakeholders involved.⁶⁴ Ecosystems thrive when we prioritize both size and connectivity of protected

61. See EDWARD WEINER, *URBAN TRANSPORTATION PLANNING IN THE UNITED STATES: AN HISTORICAL OVERVIEW* (1999) (recognizing the need for centralized urban transportation planning, but lamenting that some cities have chosen a path of decentralization of authority instead).

62. Of course, as with other environmentally conservative behaviors (e.g., recycling or use of low-emissions vehicles), this will have greater value when a greater percentage of people do so.

63. See Laven et al., *supra* note 17, at 5 (describing the importance of using a landscape-scale approach to conservation).

64. Judith A. Layzer, *Ecosystem-Based Management: An Empirical Assessment*, in *THE LAWS OF NATURE: REFLECTIONS ON THE EVOLUTION OF ECOSYSTEM MANAGEMENT LAW AND POLICY* Ch. 2 (University of Akron Press, Kalyani Robbins ed., 2013). See also, e.g., *GREATER YELLOWSTONE ECOSYSTEM, YELLOWSTONE RESOURCES AND ISSUES HANDBOOK* (2013), available at http://www.nps.gov/yell/planyourvisit/upload/ri_2013_ecosystem.pdf (on file with the *McGeorge Law Review*); *EVERGLADES RESTORATION.GOV*, <http://www.evergladesrestoration.gov> (last visited Mar. 24, 2015) (on file with the *McGeorge Law Review*).

areas.⁶⁵ This is why *integrated* multimodal governance is the best feasible system for ecosystem conservation on agricultural lands.

Of course, the first question is why multimodal at all? If a centralized perspective is so valuable to ecosystem management, why not regulate the balance between agricultural use and habitat conservation with a single mode of governance? This might make sense as a completely abstract concept applied to a hypothetical newly-created state, but U.S. history, culture, economics, and politics have already firmly developed the value of independence for farmers and big-ag alike (albeit for different reasons, with the former relying more on the history/culture aspects and the latter more on the economics/politics).⁶⁶ As mentioned at the outset, this problem is intractable, and no effort is made in this Article to solve it. Instead, the goal here is to take what we have—multimodal governance that has sprung up from many varied sources—and work with it by proposing an approach that might maximize value both to the environment and to farmers via an overseeing entity. Integrated multimodal governance, while not a panacea nor appropriate for all contexts, is the best possible approach to the particular context of conservation on agricultural land.

Tony Arnold first identified integrationist multimodality as an emerging approach to environmental law in his 2011 article, *Fourth-Generation Environmental Law: Integrationist and Multimodal*.⁶⁷ He made clear, however, that he did not intend his work to be normative but rather sought to identify this emergence, for better or worse.⁶⁸ Indeed, some contexts will benefit more than others from such an approach, and in some cases it may be entirely inappropriate.⁶⁹ This Article, conversely, does express a normative perspective, applied to the narrow context of ecosystem management in highly agricultural regions. “Multimodality is a much broader phenomenon that appears in complex evolutionary systems and in human efforts to interact with complex problems or tasks by using multiple methods.”⁷⁰ Integrated multimodality is thus a process of coordinating these multiple methods.

The many programs discussed in Part II of this Article are noble efforts to contribute substantial resources to getting farmers to implement conservation approaches to their agricultural operations or to set aside some of their land from

65. See Laven et al., *supra* note 17, at 5 (indicating that biology and landscape conservation goals are best served by large-scale efforts); David A. Perry & Michael P. Amaranthus, *Disturbance, Recovery, and Stability*, in *CREATING A FORESTRY FOR THE 21ST CENTURY* 49 (Kathryn A. Kohm & Jerry F. Franklin eds., 1997).

66. See Stapleton, *supra* note 1, at 325 (examining the factors that have allowed the agricultural industry to largely escape regulation).

67. Craig Anthony (Tony) Arnold, *Fourth-Generation Environmental Law: Integrationist and Multimodal*, 35 *WM. & MARY ENVTL. L. & POL'Y REV.* 771 (2011).

68. See *id.* at 772.

69. See *id.* at 880 (describing circumstances in which integrationist multimodality may fail).

70. *Id.* at 793.

cultivation entirely. However, these programs respond to participant applications individually, which results in a somewhat scattershot impact on the landscape. Moreover, they operate separately from one another, which adds yet another layer of blindness to the particular ecosystem needs. To maximize the value of the many dollars spent on these programs, it is necessary to manage the landscape holistically at a scale that reflects the functioning of the ecosystems upon it.⁷¹ When we look at the multifunctionality of a given parcel of land,⁷² and attempt to compare the value of goods production with that of services (in order to make the best use of that land), we need to know what value that land has to the ecosystem of which it is a part. This requires a more comprehensive viewpoint, especially when we consider that this value will depend in part on what other farmers are doing with their land.

IV. IMPLEMENTATION

The integration of our multiple modes of implementing ecosystem conservation on agricultural lands does not necessarily require a single programmatic entity, which is likely unattainable in this context. It will, however, require substantial coordination of the myriad programs as well as perhaps some additional gap-filling proposals. Connections must be developed among actors, ecosystem needs at the relevant scales, and methodology being implemented throughout the relevant geographic area.⁷³ The value of connecting the dots and integrating the management of these programs is substantial,⁷⁴ but in light of the intensity of farmer and big-ag independence, the real question is how to achieve it.

While it is likely impossible to impose mandatory participation in these programs, which farmers would interpret as an assault on the sense of autonomy that they enjoy and expect,⁷⁵ it is possible to provide guidance and connections among all actors (whether agricultural or conservation program administrators) via a single entity capable of seeing the big picture. This single entity to holistically oversee agricultural land conservation would compile and overlay the data from all existing programs, both public and private.⁷⁶ Instead of haphazard individual-farmer-initiated implementation, this entity would provide on-the-ground guidance to landowners regarding preferred uses for their lands, with an

71. See D. Scott Slocombe, *Implementing Ecosystem-Based Management*, 43 *BIOSCIENCE* 612, 620 (1993).

72. See Ruhl, *supra* note 19, at 428, 434 (identifying the need to assign economic value to ecosystem services in order to encourage farmers to move toward multifunctional land use).

73. See Arnold, *supra* note 67, at 867–74.

74. See *supra* Part III.

75. See Stapleton, *supra* note 1, at 325.

76. This would be similar to the Conservation Easement Database discussed in Part II.B above, only far more comprehensive.

eye toward habitat and ecosystem-service needs as well as commodity demand. In other words, the interdisciplinary team making up this entity would be looking to maximize at least two values, goods and services, and potentially a third, ecosystem health independent of service provision, for the sake of the future.

In addition to providing oversight for the combined efforts of all programs and seeking to balance these efforts based on areas of greater need via individualized guidance to farmers, this entity would also operate as a think tank, generating gap-filling policy proposals based on this comprehensive viewpoint. It would operate at the watershed scale with regional offices. While decision-making guidance regarding geographic placement of conservation land would take place on this regional or watershed scale, at a national level the entity would disseminate, to the extent appropriate, valuable innovations and information. This, of course, would also be the scale of any broader policy guidance.

This new entity could be a federal agency with watershed-based field offices. The upside to this would be reliable funding (once appropriated) and greater accountability. Alternatively, it could be a private organization, presumably with not-for-profit status. While this creates the need for adequate charitable interest to bring funding, if feasible it could help to avoid some of the drawbacks to the government approach. The most notable such drawback is the risk of agency capture by special interests (of course, this risk is lessened by the guidance-level authority of the agency, but its influence could still be great enough to attract such efforts), but there is also the problem of distrust of government, which is widespread in the agricultural community. A private non-profit seeking to maximize both agricultural success and ecological values may be more palatable to landowners. It would be a source of free expert guidance through the thicket of federal, state, and private programs available to the farmer, resulting in greater feelings of trust.

Whether public or private, the primary goal of this organization or agency would be to maximize efficient use of the land resource, thereby improving both economic and ecological value. Each parcel (or portion of a parcel) of land has a different best use based on comparing its ecological value (taking into account its potential impact on ecosystem services) with its commodity production value.⁷⁷ Individual farmers are unlikely to know how to maximize the value of their land without expert guidance. That guidance, in turn, depends upon access to ecosystem-wide information—information that administrators of individual programs a farmer chooses to contact may not have.

V. CONCLUSION

When systems develop in a piecemeal fashion with many different participants, oftentimes the result is less than optimal. At some point in time it

77. See Ruhl, *supra* note 19, at 434.

becomes necessary to take stock of what we have and consider what is working well (such as paying for the ecological benefits we seek from farmers) and what is not (such as the failure to maximize the value of each parcel of land in relation to the uses occurring on neighboring parcels). Typically the value of a comprehensive strategy is attained via centralized regulation of a field, but in complex and politically fraught areas such as conservation on agricultural land, this is not feasible. Given that the multimodal approach appears unavoidable, value must be maximized more creatively. The proposal in this Article is a broad-strokes effort to simply begin the discussion of what can be done to bring together the implementation of otherwise unconnected programs. Without doing so, waste will continue and potentially worsen. When we work with complete information regarding the most valuable use of each increment of our resources, waste can be minimized, and this is an area in which we could certainly use a bigger pie.
