

University of Maine School of Law University of Maine School of Law Digital Commons

Faculty Publications

Faculty Scholarship

2014

Banning Lawns

Sarah B. Schindler

University of Maine School of Law, sschindler@maine.edu

Follow this and additional works at: <http://digitalcommons.maine.edu/faculty-publications>

 Part of the [Environmental Law Commons](#), and the [Law and Society Commons](#)

Suggested Bluebook Citation

Sarah B. Schindler, *Banning Lawns*, 82 Geo. Wash. L. Rev. 394 (2014).

Available at: <http://digitalcommons.maine.edu/faculty-publications/68>

This Article is brought to you for free and open access by the Faculty Scholarship at University of Maine School of Law Digital Commons. It has been accepted for inclusion in Faculty Publications by an authorized administrator of University of Maine School of Law Digital Commons. For more information, please contact mdecrow@maine.edu.

Banning Lawns

*Sarah B. Schindler**

ABSTRACT

Recognizing their role in sustainability efforts, many local governments are enacting climate change plans, mandatory green building ordinances, and sustainable procurement policies. Thus far, however, local governments have largely ignored one of the most pervasive threats to sustainability—lawns. This Article examines the trend toward sustainability mandates by considering the implications of a ban on lawns, the single largest irrigated crop in the United States.

Green yards are deeply seated in the American ethos of the sanctity of the single-family home. This psychological attachment to lawns, however, results in significant environmental harms: conventional turfgrass is a non-native monocrop that contributes to a loss of biodiversity and typically requires vast amounts of water, pesticides, and gas-powered mowing.

In this Article, I consider municipal authority to ban or substantially limit preexisting lawns and mandate their replacement with native plantings or productive fruit- or vegetable-bearing plants. Although this proposal would no doubt prove politically contentious, local governments—especially those in drought-prone areas—might be forced to consider such a mandate in the future. Furthering this practical reality, I address the legitimate zoning, police power, and nuisance rationales for the passage of lawn bans, as well as the likely challenges they would face. I also consider more nuanced regulatory approaches that a municipality could use to limit lawns and their attendant environmental harms, including norm change, market-based mechanisms such as progressive block pricing for water, and incentivizing the removal of lawns.

TABLE OF CONTENTS

| | |
|--------------------------|-----|
| INTRODUCTION | 395 |
| I. LAWNS | 400 |
| A. <i>History</i> | 400 |
| B. <i>Benefits</i> | 403 |
| C. <i>Harms</i> | 405 |

* Associate Professor of Law, University of Maine School of Law. I am grateful to Dmitry Bam, Marya Baron, Jason Czarnecki, Keith Hirokawa, Stephen Miller, Tim Mulvaney, Dave Owen, Aaron Perzanowski, Christopher Serkin, and Jennifer Wriggins for their helpful comments. Thanks also to the participants of the Sabin Colloquium on Innovative Environmental Law Scholarship at Columbia Law School, the University of Washington Young Environmental Scholars Workshop, the Local Government Law Works-in-Progress Conference at Marquette University Law School, the Colloquium on Environmental Scholarship at Vermont Law School, and the Scholarship Development Workshop at Albany Law School. Special appreciation to Ciera Dye for excellent research assistance.

| | |
|---|-----|
| D. Alternatives | 413 |
| 1. Xeriscaping and Native Planting | 414 |
| 2. Productive Landscapes | 414 |
| 3. Synthetic Lawns | 415 |
| 4. Weeds | 416 |
| II. REGULATING LAWNS | 417 |
| A. Norm Change | 418 |
| B. Markets and Incentives | 422 |
| C. Architecture | 425 |
| D. Law: Mandates and Bans | 426 |
| III. THE ANATOMY OF A LAWN BAN | 434 |
| A. Regulatory Structure | 434 |
| 1. Scope: State Versus Local | 434 |
| 2. Power: Home Rule, Police Powers, and Zoning Enabling Acts | 436 |
| B. Crafting the Ban | 442 |
| 1. Timing of Ordinance Imposition | 443 |
| a. Applicable Prospectively | 443 |
| b. Applicable at a Point of Sale or Modification | 444 |
| c. Applicable Retroactively | 447 |
| 2. What Would be Covered | 449 |
| C. Affirmative Lawn Removal and Replacement Requirements | 451 |
| CONCLUSION | 454 |

INTRODUCTION

*“Mowing the lawn . . . is a civic responsibility.”*¹

*“[T]he sign of a good citizen is a dead lawn.”*²

Much of the United States is in the midst of the worst drought in fifty years.³ At the same time, lawns, which front many suburban American homes,⁴ are the largest irrigated crop in the country.⁵

¹ Michael Pollan, *Why Mow?: The Case Against Lawns*, N.Y. TIMES MAG., May 28, 1989, at 22, 23.

² Robert Smaus, *There Oughta Be a Lawn*, L.A. TIMES MAG., July 22, 1990, at 20, 22 (statement of Beth Rogers, quoting an unnamed federal water officer in Northern California).

³ See Editorial, *Drought and the Farm Bills*, N.Y. TIMES, July 25, 2012, at A24.

⁴ See Pollan, *supra* note 1, at 24; see also FRED E.H. SCHROEDER, *FRONT YARD AMERICA: THE EVOLUTION AND MEANINGS OF A VERNACULAR DOMESTIC LANDSCAPE* 1 (1993).

⁵ See *infra* notes 6–8, 49 and accompanying text.

Lawns occupy approximately three times more space than corn⁶ and twice as much as cotton,⁷ and consume up to sixty percent of potable municipal water supplies in Western cities and up to thirty percent in Eastern cities.⁸ As cities and towns confront water shortages and other concerns associated with climate change, many are beginning to adopt sustainability plans and ordinances that impose environmentally beneficial measures upon citizens and corporations—for example, mandatory green building ordinances, recycling requirements, plastic bag bans, and limits on what can be burned.⁹ As climate change adaptation measures become more common, it is likely that more municipalities will pass ordinances that aim to control individual actions that have a cumulatively significant impact on the environment.¹⁰ At the same time, existing regulation across much of the United States actively encourages and arguably requires the maintenance of lawns.¹¹

In this Article, I consider how municipalities can use the law to reduce lawns and the harms they cause. Specifically, I examine the case for municipal lawn bans or similar measures that would curtail the prominence, or incentivize the demise, of lawns. Because lawns are so prevalent and use such a large percentage of potable municipal water,¹² yet offer limited benefits, they are a logical point of attack for future sustainability ordinances. This is not far-fetched: a small number of southwestern localities have begun to prohibit or limit new turf installation,¹³ others have incentivized the removal of existing lawns;¹⁴

⁶ See Rebecca Lindsey, *Looking for Lawns*, NASA EARTH OBSERVATORY (Nov. 8, 2005), <http://earthobservatory.nasa.gov/Features/Lawn/>.

⁷ TED STEINBERG, *AMERICAN GREEN: THE OBSESSIVE QUEST FOR THE PERFECT LAWN* 4 (2006) (“[T]he lawn is one of America’s leading ‘crops,’ amounting to at least twice the acreage planted in cotton. It is estimated that there are roughly twenty-five to forty million acres of turf in the United States.” This estimate includes lawns, athletic fields, and golf courses.).

⁸ Bret Rappaport, *As Natural Landscaping Takes Root We Must Weed out the Bad Laws—How Natural Landscaping and Leopold’s Land Ethic Collide with Unenlightened Weed Laws and What Must Be Done About It*, 26 J. MARSHALL L. REV. 865, 898 n.114 (1993) (asserting that “[t]ypical suburban lawns are water wasters”).

⁹ See Katrina Fischer Kuh, *When Government Intrudes: Regulating Individual Behaviors that Harm the Environment*, 61 DUKE L.J. 1111, 1127–28, 1132–33, 1148 (2012).

¹⁰ See *id.* at 1112 (terming these actions “environmentally significant individual behaviors”).

¹¹ See James Charles Smith, *The Law of Yards*, 33 *ECOLOGY L.Q.* 203, 216–218 (2006).

¹² Rappaport, *supra* note 8, at 898 n.114; see also Smaus, *supra* note 2, at 22.

¹³ See, e.g., SCOTTSDALE, ARIZ., REV. CODE § 49-247 (Supp. 64, 2013) (limiting new model home landscaping by prohibiting new turf installation in front yards and limiting new turf installation to ten percent of lots less than 9000 square feet and to five percent of the remainder of larger lots up to one acre); TUCSON, ARIZ., LAND USE CODE ch. 23, § 3.7.2.2 (1995) (limiting new turf installation by multifamily residential developments to five percent of the site, 100 square feet, or eight percent of the required open space, whichever is greater); LAS VEGAS,

and watering and fertilizer limitations are fairly widespread.¹⁵ To date, however, there has been little scholarly discussion of limits on lawns.¹⁶

Part I of this Article provides a brief history of the lawn and discusses the reasons for its predominance in the United States. Lawns are prevalent, in part, because existing laws encourage their growth,¹⁷ but also because many Americans share a deep-seated psychological attachment to them.¹⁸ This commitment is rooted in several benefits of lawns, including: a unifying aesthetic;¹⁹ their contribution to social capital as a place for children to play and for neighbors to gather;²⁰ their impact on property values due to settled expectations and the

NEV., CODE § 14.11.150 (Supp. 2, 2009) (prohibiting new turf installation in residential front yards and limiting new turf installation in rear and side yards to the greater of fifty percent of gross area or 100 square feet).

¹⁴ See, e.g., SCOTTSDALE, ARIZ., REV. CODE § 49-243 (providing single-family residential customers up to \$1500 in rebates and commercial and multifamily customers up to \$3000 in rebates for removing existing turf and replanting with low-water-use landscaping); *Rebate Programs*, CHANDLER, ARIZ., <http://www.chandlerazgov/default.aspx?pageid=746> (last visited Feb. 15, 2014) (rebating residents for removing at least 1000 square feet of turf and replacing it with at least fifty percent non-grass plants); *Water Conservation—Landscape Rebates—Existing Home Conversions*, GLENDALE, ARIZ., <http://www.glendaleaz.com/waterconservation/landscaperebates.cfm> (last visited Feb. 15, 2014) (rebating owners of existing homes \$150 to \$750 for removing 500 or more square feet of grass and converting to low-water-use landscape).

¹⁵ See, e.g., DOTHAN, ALA., CODE § 102-165 (Supp. 35, 2013) (restricting the watering of lawns and gardens by Dothan Utilities customers to three days per week from April 1 to October 1 each year); TUCSON, ARIZ., CODE § 27-95 (Supp. 86, 2009) (prohibiting all outdoor irrigation during a “water emergency,” except with reclaimed water); GARDEN GROVE, CAL., MUN. CODE § 14.40.025 (2012) (prohibiting the watering of lawns between 10 AM and 6 PM and limiting watering that is not continuously attended to no more than fifteen minutes per day per station); CITY OF GLENDALE DROUGHT MANAGEMENT PLAN 16–19 (2004), available at http://www.glendaleaz.com/waterconservation/documents/DMP_200604pdf (allowing turf watering during a “Stage 1 Drought Watch” only between the hours of 9 PM and 6 AM; allowing watering by city facilities during a “Stage 2 Drought Alert” on every other day based on odd/even addresses; imposing a drought surcharge on water use above a base level and applying the odd/even restriction to residential, commercial, and industrial water users during a “Stage 3 Drought”; and prohibiting turf watering altogether during a “Stage 4 Drought Emergency”).

¹⁶ The existing scholarship focuses primarily on the need for norm change and the allowance of native plants, largely ignoring the idea of a lawn ban. See generally Asmara M. Tekle, *Lawns and the New Watershed Law*, 95 MARQ. L. REV. 213 (2011) (arguing that changes in norms surrounding lawn ownership are necessary to protect waterways, and generally dismissing the role of lawn bans); Rappaport, *supra* note 8, at 867–68 (discussing the need to overturn laws that prohibit natural landscaping).

¹⁷ See *infra* notes 53–60 and accompanying text.

¹⁸ See *infra* note 72 and accompanying text.

¹⁹ See *infra* note 38 and accompanying text.

²⁰ See *infra* notes 75–76 and accompanying text.

status quo;²¹ and their role in the norms and ethos of suburban living.²²

Part I next recognizes that, although lawns offer some benefits, they appear to be outweighed by the substantial number of harms that lawns create. These harms include: extreme water use in a time of water shortages;²³ emissions tied to gas-powered lawn mowers and leaf blowers;²⁴ pollution and runoff from petrochemical-based fertilizers;²⁵ fire hazards in dry climates;²⁶ and propagation of monocultures and the loss of biodiversity.²⁷ This Part situates lawn ownership and its harms within the literature addressing “environmentally significant individual behaviors.”²⁸ When examined cumulatively, such individual behaviors may warrant prohibition. Finally, Part I presents alternatives to lawns, including xeriscaping,²⁹ native plantings, productive plants such as vegetables and fruits, and environmentally sound synthetic lawns.

Part II outlines high-level regulatory techniques that might be applied to target and correct the harms associated with lawns, including norm change, market-based mechanisms and incentives, architecture, and law. After detailing the difficulties of regulating through norms, markets, and architecture, this Part argues that some local governments might consider legal mandates as a potentially powerful regulatory option, especially in the face of increasingly extreme climate conditions. Although a large-scale movement to ban lawns may currently be politically implausible in many parts of the country,³⁰ such

²¹ See *infra* note 63 and accompanying text.

²² See *infra* notes 48–52 and accompanying text.

²³ See *infra* notes 81, 95 and accompanying text.

²⁴ See *infra* notes 108–10 and accompanying text.

²⁵ See *infra* notes 113, 116–19 and accompanying text.

²⁶ See *infra* note 127 and accompanying text.

²⁷ See *infra* notes 124–31 and accompanying text.

²⁸ Kuh, *supra* note 9, at 112. The scale at which a locality considers cumulative lawn harms could be tied to the local watershed or the region.

²⁹ Xeriscaping involves low-water-using plants, rocks, or more generally a landscape native to the surrounding area. See Rappaport, *supra* note 8, at 898.

³⁰ Many city council members would not vote in favor of an ordinance that infringes on personal freedoms or goes against the preferences of a majority of homeowners (which a lawn ban might do). See WILLIAM A. FISCHER, *THE HOMEVOTER HYPOTHESIS: HOW HOME VALUES INFLUENCE LOCAL GOVERNMENT TAXATION, SCHOOL FINANCE, AND LAND USE POLICIES* 5–7 (2001) [hereinafter FISCHER, *THE HOMEVOTER HYPOTHESIS*] (arguing that land use decisions tend to accommodate the interests of homeowners). Further, even if such a ban were adopted, it is likely that it would be unpopular and thus repealed (and that those who passed it would be voted out of office). See Kuh, *supra* note 9, at 1120 n.21. Mandates on individual behaviors or private property are often opposed based on the view that they are too intrusive, or that they infringe too greatly on private property rights. See Hope M. Babcock, *Global Climate Change: A*

bans might be desirable or even necessary in the future as the effects of climate change—including water shortages—become more prevalent.³¹

Because prospective lawn bans are a very recent development and no local government has yet passed a retroactive ban,³² the current literature does not discuss bans in depth. Therefore, Part III considers the contours of a potential mandate against lawns. It begins with a discussion of the sources of municipal authority to regulate lawns: the police power, regulating in furtherance of the public health, safety, and welfare of the community;³³ the zoning power, pursuant to enabling legislation;³⁴ and the ability to regulate nuisances.³⁵ It also addresses the probable defeat of any takings challenge to a lawn ban.

It then turns to the structure of a potential ban on lawns, discussing when to impose the ordinance and whether the ordinance should outlaw all turfgrass or just front yards. A municipality could impose a lawn ban on three different time periods, making it applicable: (1) to all new construction; (2) upon the sale, rental, or substantial modification of a given property; or (3) retroactively, after a set amortization period. The case for applying such a ban to new construction is fairly straightforward and would face few legal challenges. A retroactive ban, however, would likely be viewed more skeptically, even after an amortization period.³⁶ Moreover, if lawns are considered an existing use they might be afforded substantial protection from changes in

Civic Republican Moment for Achieving Broader Changes in Environmental Behavior, 26 PACE ENVTL. L. REV. 1, 5–6 (2009) [hereinafter Babcock, *Global Climate Change*] (arguing that mandates are likely to “trigger enormous political resistance because of the[ir] interference with individual liberty and invasion of privacy”).

³¹ See *infra* note 95 and accompanying text.

³² By a retroactive ban, I mean one that would require people to tear up their existing lawns.

³³ Some states delegate general powers relating to the administration of local affairs, including the police powers, to their municipal corporations through a home rule act or provision in their constitution. See 1 E.C. YOKLEY, MUNICIPAL CORPORATIONS § 57 (1956); see also Richard Briffault, *Our Localism: Part I—The Structure of Local Government Law*, 90 COLUM. L. REV. 1, 10–11 (1990).

³⁴ See Catherine J. LaCroix, *SEPA's, Climate Change, and Corporate Responsibility: The Contribution of Local Government*, 58 CASE W. RES. L. REV. 1289, 1295 (2008) (“[L]ocal governments have land use regulatory power and power to adopt local environmental regulations, both through state legislation authorizing zoning, comprehensive planning, or other regulation, and through home rule power.”).

³⁵ JESSE DUKEMINIER ET AL., PROPERTY 731 (7th ed. 2010) (“The guiding principle [of nuisance law] is an ancient maxim: *Sic utere tuo ut alienum non laedas*, meaning that one should use one’s own property in such a way as not to injure the property of another.”).

³⁶ See *infra* note 330 and accompanying text.

zoning laws pursuant to vested rights or theories of estoppel.³⁷ Finally, Part III briefly addresses the ability of a municipality to affirmatively require not only the removal of lawns but also their replacement with alternatives that the locality deems more environmentally friendly or suitable.

The Article concludes by recognizing that many people would dislike the idea of “banning lawns.” At least upon first impression, they may think it sounds like an unlikely, untenable, and possibly impermissible use of the police power. This Article demonstrates, however, that it is in fact well within a municipality’s police power to reduce or eliminate lawns, even by retroactively banning them. Moreover, these regulatory techniques are likely to become more common as climate conditions worsen and water becomes increasingly scarce. Thus, what might at first seem like an implausible proposal may turn out to be more likely than most would suspect.

I. LAWNS

A. History

Most suburban neighborhoods in the United States have a few common aesthetic qualities. One of these qualities is that most homes are fronted by an expanse of green, non-native turfgrass.³⁸ Although it is now hard to imagine neighborhoods without lawns, prior to the Civil War turf cultivation was an uncommon use of property.³⁹ Rather, it was common to see houses fronted with productive vegetable gardens or native vegetation mixed with dirt.⁴⁰

Some commentators suggest that the creation and maintenance of lawns stems from the human desire to dominate and impose order over nature.⁴¹ The same could be said of landscape architecture gen-

³⁷ See *infra* note 332 and accompanying text.

³⁸ See Lindsey, *supra* note 6; see also *Blades of Glory: America’s Love Affair with Lawns*, WEEK (June 24, 2011), <http://theweek.com/article/index/216592/blades-of-glory-americas-love-affair-with-lawns> (estimating that eighty percent of homes in the United States have lawns).

³⁹ STEINBERG, *supra* note 7, at 11 (“Before [the Civil War], most people in towns and cities either maintained small fenced-in vegetable gardens or simply left the area alone, allowing it to revert to dirt interspersed with whatever vegetation flourished.”); see also SCHROEDER, *supra* note 4, at 5 (noting that before the Civil War, the grass-covered generic front yard did not exist; it became common only after 1900).

⁴⁰ STEINBERG, *supra* note 7, at 11.

⁴¹ Pollan, *supra* note 1, at 41 (discussing the difference between lawns and forests, and noting that “the urge to dominate nature is a deeply human one, and lawn mowing answers to it”). Andrew Jackson Downing, author of the first landscape-gardening book aimed at an American audience, believed that an expanse of “grass mown into a softness like velvet” was an essen-

erally.⁴² “If any individual can be said to have invented the American lawn, it is Frederick Law Olmsted,” the famous landscape architect who designed Central Park in New York City, along with other well-known public and private outdoor spaces.⁴³ The aesthetic has its roots in the English manor, where the lord of the estate maintained a neat, green expanse by employing a “band[] of scythe-wielding servants” or a shepherd and his flock.⁴⁴ This suggests that the lawn has a built-in class significance as well. In classic English literature, the lawn seems representative of order—a place where man has established his control over nature—while the wilderness outside the manor is untamed⁴⁵—a place where improper things may happen.⁴⁶ The American lawn is a “democratized” form of the aristocratic manor lawn, which was more of a “setting for lawn games and . . . a backdrop for flowerbeds and trees” than an aesthetic masterpiece in and of itself.⁴⁷

In recent years, U.S. lawns have expanded at a rapid rate,⁴⁸ such that the lawn is now “the single largest irrigated crop in America in terms of surface area, covering about 128,000 square kilometers in all.”⁴⁹ Many theories have been advanced to explain why lawns occupy the dominant position that they do.⁵⁰ People have long appreci-

tial component of any perfect garden. Elizabeth Kolbert, *Turf War*, *NEW YORKER*, July 21, 2008, at 82 (internal quotation marks omitted).

⁴² See Wendy J. Gordon, *A Property Right in Self-Expression: Equality and Individualism in the Natural Law of Intellectual Property*, 102 *YALE L.J.* 1533, 1556 (1993) (“In a civilized society, human beings create the reality around them. Our direct surroundings are buildings and landscape architecture . . .”).

⁴³ Pollan, *supra* note 1, at 41; see also *Frederick Law Olmsted*, *CENTRALPARK.COM*, <http://www.centralpark.com/guide/history/frederick-law-olmsted.html> (last visited Feb. 15, 2014).

⁴⁴ Kolbert, *supra* note 41, at 82.

⁴⁵ See, e.g., *JANE AUSTEN, MANSFIELD PARK* 93–94, 97 (Ernest Rhys ed., J.M. Dent & Co. 1906) (1816) (describing the grounds beyond the manicured lawn as a “wilderness”).

⁴⁶ See *id.* at 102 (a scene in which young Miss Bertram becomes impatient waiting for her fiancé and squeezes in between a locked gate and a sharp hedge to go for a solitary stroll with Mr. Crawford, a man whose advances she is entertaining).

⁴⁷ See Pollan, *supra* note 1, at 41.

⁴⁸ See Steinberg, *supra* note 7, at 4 (“[B]etween 1982 and 1997 . . . the lawn colonized over 382,850 acres of land per year.”).

⁴⁹ Lindsey, *supra* note 6.

⁵⁰ For example, one commentator puts forth four possible reasons:

Lawns exist today for several reasons. First, lawns serve as a physical and psychological “moat” between the homeowner and the outside world. Second, it is theorized that humans are genetically predisposed to favor open grass-type landscapes as an artifact of our species’ development on the savannas and grasslands of East Africa. Third, to many sprawling green shaved lawns are a status symbol delineating suburban homeowners from their city brethren who generally have neither the land nor resources to make such a public statement of wealth. Finally, in the land

ated the lawn as an essential, beautiful component of the home,⁵¹ and lawn dominance has likely continued due to status quo bias and preference.⁵² The lawn norm is deeply embedded.

Existing public and private laws also encourage and often effectively require a neat, short, turfgrass yard.⁵³ From a public law perspective, after the Supreme Court declared zoning to be a valid exercise of the police power,⁵⁴ suburban development flourished.⁵⁵ Many of the first suburban municipal zoning ordinances included setback regulations, which required buildings to be constructed a certain distance from the street or sidewalk and thus created an area of space between the building and the street.⁵⁶ For commercial structures, this setback space is often filled in by parking lots; in residential neighborhoods, it is filled in with lawns. Many localities also have “weed ordinances” that effectively require lawns, both by mandating that ground cover be kept short, and by prohibiting certain native plantings or vegetable gardens in front yards.⁵⁷ From a private, contractual perspec-

of cookie-cutter tract housing a premium is placed on neatness and conformity both of which are promoted by mono-turf yards. Manicured lawns are, unfortunately, the collective face of modern suburbia.

Rappaport, *supra* note 8, at 884 (footnotes omitted).

⁵¹ STEINBERG, *supra* note 7, at 12 (noting that the lawn was viewed as “the most essential element of beauty on the grounds of a suburban house” (quoting FRANK JESUP SCOTT, *THE ART OF BEAUTIFYING SUBURBAN HOME GROUNDS OF SMALL EXTENT* 107 (New York, D. Appleton & Co. 1870))).

⁵² See generally Eric Biber, *Climate Change and Backlash*, 17 N.Y.U. ENVTL. L.J. 1295, 1321–22 (2009) (discussing status quo bias generally).

⁵³ See *infra* notes 56–57 and accompanying text. These restrictive covenants and ordinances are typically justified by concerns about aesthetics and property values or the health and safety of the community.

⁵⁴ *Village of Euclid v. Ambler Realty Co.*, 272 U.S. 365, 387–88, 397 (1926).

⁵⁵ See Henry R. Richmond, *Sprawl and Its Enemies: Why the Enemies Are Losing*, 34 CONN. L. REV. 539, 548 (2002).

⁵⁶ See Smith, *supra* note 11, at 206 (“[A] person who erected . . . a house had to have land in a proper use district, observe height and size limits, and comply with set-back requirements which often mandated the size and existence of yards.”). One reason for these setbacks was to avoid potential takings challenges if the government needed to widen roads. FRANK BACKUS WILLIAMS, *THE LAW OF CITY PLANNING AND ZONING* 177–79 (1922).

⁵⁷ See Tekle, *supra* note 16, at 230 n.72 (giving examples of weed height ordinances, including: “KALAMAZOO, MICH., CODE § 17-131(B) (2011) (Great Lakes) (a weed control ordinance which prohibits uncontrolled weed growth over twelve inches in height or over seed bearing height); ANNAPOLIS, MD., CODE § 10.20.010 (2011) (Chesapeake Bay) (the height limit of grass, weeds and ‘other rank vegetation’ is twelve inches); BREMERTON, WASH., CODE § 6.08.020(b)(1) (2011) (Puget Sound) (prohibiting owners and occupants of properties from allowing grass or weeds to exceed twelve inches in height); TACOMA, WASH., MUN. CODE § 8.30.040(C)(2) (2010) (Puget Sound) (considering a nuisance any hazardous vegetation (i.e., vegetation which “poses a threat to public health, safety and welfare, including vegetation which may harbor rodents or transient activity”) that is “over one foot in height or length”).

tive, one fifth of Americans live in residential common-interest communities that are governed by covenants, conditions, and restrictions (“CC&Rs”).⁵⁸ CC&Rs regularly require setbacks, limit fences, and may even require front lawns.⁵⁹ Some CC&Rs also prohibit the cultivation of vegetables, fruits, or native plants.⁶⁰ Thus, both existing laws and agreed-to property rules tend to reinforce the lawn as a staple of American landscape design.

B. Benefits

Whether the prevalence of lawns is a product of their entrenched legal status, or whether existing law simply reflects long-held practice, many feel an attachment to their lawns and believe that lawns offer benefits to them and their communities.⁶¹ Lawns provide a consistent, unifying aesthetic when one looks down a street.⁶² Because they are what people expect, lawns tend to “keep[] the neighbors happy and add[] to their property value.”⁶³ By maintaining a neat front yard, homeowners suggest that they have a relationship to, and shared values with, their neighbors.⁶⁴ Thus, not mowing, tending, or maintaining a lawn could be viewed as a dereliction of one’s civic responsibility and duty as a member of the community.⁶⁵

⁵⁸ See Justin Jouvenal, *The Spat That Laid Low Olde Belhaven*, WASH. POST, Feb. 10, 2013, at A1 (noting that the number of association-governed communities in the United States grew from 10,000 in 1970 to 324,000 in 2012, and that one in five Americans now live in an association-governed community); see also *Industry Data*, COMMUNITY ASS’NS INST., <http://www.caionline.org/info/research/Pages/default.aspx> (last visited Feb. 15, 2014) (as of 2012, 63.4 million people lived in association-governed communities). Further, the percentage of the total residential land base taken up by these communities is likely greater than the percentage of the population living in such communities.

⁵⁹ SCHROEDER, *supra* note 4, at 22 (discussing restrictions in deeds).

⁶⁰ See Sarah B. Schindler, *Of Backyard Chickens and Front Yard Gardens: The Conflict Between Local Governments and Locavores*, 87 TUL. L. REV. 231, 289 (2012). [hereinafter Schindler, *Of Backyard Chickens*] (discussing private covenants).

⁶¹ See *supra* notes 51–52 and accompanying text.

⁶² F. HERBERT BORMANN, DIANA BALMORI & GORDON T. GEBALLE, *REDESIGNING THE AMERICAN LAWN: A SEARCH FOR ENVIRONMENTAL HARMONY* 9 (2nd ed. 2001) (“[L]awns run together without interruption, giving a neighborhood a sense of unity and providing a source of community pride.”); Pollan, *supra* note 1, at 24 (“[T]he lawn has served to unify the American landscape; it is what makes the suburbs of Cleveland and Tucson . . . look more alike than not.”).

⁶³ STEINBERG, *supra* note 7, at 7.

⁶⁴ See, e.g., Pollan, *supra* note 1, at 23, 41 (describing how the “lawn immediately establishes a certain relationship with one’s neighbors and, by extension, the larger American landscape” and how lawns allow us to “declare our like-mindedness to our neighbors”).

⁶⁵ *Id.* at 23 (“Mowing the lawn, I realized the first time I gazed into my neighbor’s yard and imagined him gazing back into mine, is a civic responsibility.”). Pollan wrote this article in 1989. Perhaps norms have since changed sufficiently for one to question the responsibility of

There are also some health and safety justifications for lawns: grass can help prevent soil erosion and runoff;⁶⁶ trap dust and particulate matter;⁶⁷ and can lower temperatures⁶⁸ and reduce glare and noise.⁶⁹ A lawn also provides a better carbon sink⁷⁰ than a parking lot.⁷¹ Further, many people derive a psychological benefit from having a buffer between their homes and the outside world, and the law protects that buffer.⁷²

maintaining a lawn in the face of the harms that lawns visit upon communities. *See infra* Part I.C (discussing harms associated with lawns).

⁶⁶ STEINBERG, *supra* note 7, at 7; *see also* Tekle, *supra* note 16, at 226 (describing health-related benefits of lawns, including “absorbing glare, allergens, and noise, [and] guarding against fire”).

⁶⁷ *See* Other Turfgrass Benefits to the Environment, UNIV. OF MINN. SUSTAINABLE URBAN LANDSCAPE INFO. SERIES, http://www.sustland.umn.edu/maint/benefits_4html (last visited Feb. 15, 2014).

⁶⁸ V.A. Gibeault et al., *California Turfgrass: It's Use, Water Requirement and Irrigation*, 39 CAL. TURFGRASS CULTURE, nos. 3 & 4, 1989, at 1.

⁶⁹ *Id.* (“[T]urfgrasses directly influence our immediate environment in many positive ways. As examples, actively growing turfgrasses have been shown to reduce high summer ground surface temperatures because of transpirational cooling. . . ., reduce discomforting glare and traffic noise. . . . [and] increase infiltration of water into the soil profile and also increase [] the water quality”).

⁷⁰ *See* Cristina Milesi et al., *Mapping and Modeling the Biogeochemical Cycling of Turf Grasses in the United States*, 36 ENVTL. MGMT. 426, 426 (2005) (demonstrating that “well-watered and fertilized turf grasses act as a carbon sink,” meaning that they are able to absorb and store carbon dioxide); Yaling Qian & Ronald F. Follett, *Assessing Soil Carbon Sequestration in Turfgrass Systems Using Long-Term Soil Testing Data*, 94 AGRONOMY J. 930, 935 (2002); *see also* BES Long Term Stream and Watershed Study Update—Overview, BALT. ECOSYSTEM STUDY, http://www.beslter.org/frame4-page_3f_05html (last visited Feb. 15, 2014) (suggesting that pervious lawns might be net nitrogen sinks, as opposed to nitrogen sources).

⁷¹ Mark Bittman, *Lawns Into Gardens*, N.Y. TIMES OPINIONATOR (Jan. 29, 2013, 9:00 PM), <http://opinionator.blogs.nytimes.com/2013/01/29/lawns-into-gardens/> (noting that while a lawn is a better carbon sink than concrete, meadows and vegetable gardens provide better sinks than lawns).

⁷² *See* Nancy M. Wells & Gary W. Evans, *Nearby Nature: A Buffer of Life Stress Among Rural Children*, 35 ENV'T & BEHAV. 311, 321 (2003) (ranking an outdoor grass yard high on the “naturalness scale” and determining that “the presence of nearby nature moderates or buffers the impact of life stress on children”). A court may also use the “curtilage doctrine” to elevate the lawn’s protection under the Fourth Amendment. Curtilage is the area surrounding the home “to which extends the intimate activity associated with the ‘sanctity of a man’s home and the privacies of life.’” *Oliver v. United States*, 466 U.S. 170, 180 (1984) (quoting *Boyd v. United States*, 116 U.S. 616, 630 (1886)). Courts tend to protect “families and personal privacy in [the curtilage.] an area intimately linked to the home, both physically and psychologically, where privacy expectations are most heightened.” *California v. Ciarolo*, 476 U.S. 207, 213 (1986); *see also* *Poe v. Ullman*, 367 U.S. 497, 551 (1961) (Harlan, J., dissenting) (noting that if the physical curtilage is protected, “it is surely as a result of solicitude to protect the privacies of the life within”).

Some also see lawns as providing a community-centered benefit⁷³—a space where neighbors can gather.⁷⁴ They are also more user-friendly than, for example, a rocky desert landscape; they provide a soft place for children and dogs to play.⁷⁵ Lawns can enhance social capital in a given neighborhood by providing an area that facilitates such interactive behavior.⁷⁶ This ties into the idea of the lawn as deeply seated in the ethos of the sanctity of the single-family home and of home ownership itself.⁷⁷ Justice Douglas, in *Village of Belle Terre v. Boraas*,⁷⁸ famously exclaimed, “[a] quiet place where yards are wide, people few, and motor vehicles restricted are legitimate guidelines in a land-use project addressed to family needs.”⁷⁹ The police power is broad enough to accomplish these goals: it can be used to mandate wide yards under the guise of furthering the public welfare.

C. Harms

Although many individuals have a strong psychological attachment to their lawns, that attachment comes with a significant cost. In

⁷³ See, e.g., BORMANN ET AL., *supra* note 62, at 23 (citing Bruce Kelly, *Art of the Olmsted Landscape*, in ART OF THE OLMSTED LANDSCAPE 5 (Bruce Kelly et al. eds., 1981)) (discussing the lawn as a unifier and provider of a sense of community).

⁷⁴ *Id.* at 3 (“A lawn is a gathering place for family, friends, and neighbors, a place where we engage in our favorite activities. In cities, it is a place of verdure, a refuge from crowds, traffic, and noise.”).

⁷⁵ Richard Benke, *Dew Point*, CHI. TRIB., Feb. 8, 1998, § 16 (“‘Most folks want a place for their kids to play . . .’ said Bobby Lee of Conroy’s Landscaping. ‘They see a need for grass.’”). But if lawns were banned, a locality could compensate for the loss of play space by installing more public parks in urban and suburban areas. Public parks provide space for the development of social ties. Aleksandra Kazmierczak, *The Contribution of Local Parks to Neighbourhood Social Ties*, 109 LANDSCAPE & URB. PLAN. 31, 40 (2013).

⁷⁶ See DOUGLAS FARR, SUSTAINABLE URBANISM: URBAN DESIGN WITH NATURE 147 tbl.7-10 (2008) (listing lawns as a criteria for suburban, outdoor “third place[s]” for students, nonworking adults, working parents and working professionals). *But see* ROBERT D. PUTNAM, BOWLING ALONE: THE COLLAPSE AND REVIVAL OF THE AMERICAN COMMUNITY 211 (2000) (discussing the decline in social capital caused by suburbanization, and observing that “[w]ith increased use of automobiles, the life of the sidewalk and the front yard has largely disappeared, and the social intercourse that used to be the main characteristic of urban life has vanished” (quoting KENNETH T. JACKSON, CRABGRASS FRONTIER: THE SUBURBANIZATION OF THE UNITED STATES 272, 279–80 (1985))). For this reason, there might be environmental justice concerns associated with a ban on lawns. Open space, and especially green space, is lacking in many poor urban areas; requiring removal of lawns might be taking away some of the limited green space that exists in a community. See generally Pengyu Zhu & Yaoqi Zhang, *Demand for Urban Forests in United States Cities*, 84 LANDSCAPE & URB. PLAN. 293 (2008).

⁷⁷ See *Village of Belle Terre v. Boraas*, 416 U.S. 1, 9 (1974). *But see generally* Stephanie M. Stern, *Residential Protectionism and the Legal Mythology of Home*, 107 MICH. L. REV. 1093 (2009) (disputing standard accounts of the importance accorded to the home).

⁷⁸ *Village of Belle Terre v. Boraas*, 416 U.S. 1 (1974).

⁷⁹ *Id.* at 9.

many localities, lawns may be inefficient⁸⁰ and may cause harms that outweigh their benefits. Those harms include dramatic potable water consumption,⁸¹ high energy costs from water use,⁸² increased water and air pollution,⁸³ and loss of biodiversity.⁸⁴ Because lawns cover such a large percentage of our built environment,⁸⁵ we must account for these harms cumulatively.

When considering large-scale environmental harms, one often imagines commercial manufacturing facilities with polluting smokestacks. A growing area of legal scholarship, however, focuses on “the environmental significance of individual behaviors and lifestyles”—actions that scholars term “environmentally significant individual behaviors.”⁸⁶ Many existing environmental laws—especially comprehensive federal laws—fail to regulate individual actions that, cumulatively, result in significant harm to the environment.⁸⁷ Though the actions taken by a single individual to keep her lawn neat and green might be environmentally insignificant, on a nationwide scale, or even one based on the local watershed, lawn care may have a substantial impact and thus warrants close consideration.⁸⁸ Further, while the govern-

⁸⁰ See Stephen E. Margolis, *Two Definitions of Efficiency in Law and Economics*, 16 J. LEGAL STUD. 471, 473–74 (1987) (“An efficient legal system is one in which property rights are assigned and liability rules are formulated so that the value of the things present in society, as measured by willingness to pay, is maximized over all alternative legal environments, given the costs of transacting.”). The efficiency of a lawn is inherently tied to its location. There are parts of the United States where lawns, even non-native ones, grow well without substantial watering, fertilizing, or pesticide application. See, e.g., N.Y.C. DEP’T OF SANITATION, LEAVE IT ON THE LAWN: A GUIDE TO MULCH-MOWING, available at <http://www.nycgov/html/nycwasteless/downloads/pdf/materials/lawnpdf> (describing lawn care best practices in New York City). If individuals in these areas mow their lawns with push mowers, many of the harms discussed in this section would not be applicable. Thus, the balance between lawn benefits and lawn harms is regionally dependent.

⁸¹ See *infra* notes 99–101 and accompanying text.

⁸² See *supra* note 102–07 and accompanying text.

⁸³ See *infra* notes 108–10 and accompanying text.

⁸⁴ See *infra* note 124–31 and accompanying text.

⁸⁵ See *supra* note 49 and accompanying text.

⁸⁶ See Kuh, *supra* note 9, at 1116 n.12, 1117 n.15 (defining these behaviors as “behaviors of individuals that, taken alone, have a negligible impact on the environment but that, in the aggregate, may significantly harm the environment”); Paul C. Stern, *Toward a Coherent Theory of Environmentally Significant Behavior*, 56 J. SOC. ISSUES 407, 408 (2000) (defining environmentally significant individual behavior).

⁸⁷ See Kuh, *supra* note 9, at 1116.

⁸⁸ See, e.g., Keith H. Hirokawa, *At Home with Nature: Early Reflections on Green Building Laws and the Transformation of the Built Environment*, 39 ENVTL. L. 507, 562 (2009) (“Actions that may not have previously appeared to be worthy of regulation have been found to cause significant adverse impacts cumulatively, over time, and in context—heading us toward a certain death by a thousand cuts.” (footnote omitted)); see also Hope M. Babcock, *Assuming Personal*

ment can control some sources of environmental harm by regulating manufacturers, there is no upstream source through which to regulate the harms associated with lawns; thus, the most logical place to impose regulation is on the individual's behavior.⁸⁹

Although regulation of lawns is technically a property restriction, it is also inherently a limitation on individual actions; if a property restriction is put in place that retroactively bans all lawns, an individual may not plant a new lawn, may not continue to water or mow an existing lawn, and may even be forced to tear up an existing lawn. Individual actions like these are environmentally significant because every person is a polluter; our individual actions “lie at the core of both the climate-change problem and its potential solutions.”⁹⁰ As one commentator notes, “[w]e pollute when we drive our cars, *fertilize and mow our yards*, pour household chemicals on the ground or down the drain, and engage in myriad other common activities.”⁹¹ Thus, the law should find a way to capture these individual but cumulatively significant harms.⁹² It is important to consider harms in this context, because it is only by considering the failures of the current system that we can determine which types of regulatory approaches will best address and correct those failures.⁹³

Lawns often require substantial quantities of water to maintain color, health, and appearance. For the last hundred years, Americans have come to see water as “abundant, safe, and cheap,” living in what one commentator has referred to as “the golden age of water.”⁹⁴ Those days are waning, however—many parts of the United States are facing one of the worst water shortages in recent history, and climate change will alter weather patterns such that these droughts will be-

Responsibility for Improving the Environment: Moving Toward a New Environmental Norm, 33 HARV. ENVTL. L. REV. 120–21 (2009) [hereinafter Babcock, *Assuming Personal Responsibility*] (discussing individual pollution).

⁸⁹ For example, there is less need to regulate the individual use of cars because the government could require manufacturers to create cars that do not emit greenhouse gas emissions.

⁹⁰ Kuh, *supra* note 9, at 1114. The same could be said of air quality.

⁹¹ Michael P. Vandenberg, *From Smokestack to SUV: The Individual as Regulated Entity in the New Era of Environmental Law*, 57 VAND. L. REV. 515, 518 (2004) [hereinafter Vandenberg, *From Smokestack to SUV*] (emphasis added).

⁹² Kuh, *supra* note 9, at 1116 n.12.

⁹³ See generally CASS R. SUNSTEIN, *AFTER THE RIGHTS REVOLUTION: RECONCEIVING THE REGULATORY STATE* (1990) [hereinafter SUNSTEIN, *RIGHTS REVOLUTION*].

⁹⁴ CHARLES FISHMAN, *THE BIG THIRST: THE SECRET LIFE AND TURBULENT FUTURE OF WATER* 9 (2011) (“The last century has conditioned us to think that water is naturally abundant, safe, and cheap We are entering a new era of water scarcity—not just in traditionally dry or hard-pressed places . . . but in places we think of as water-wealthy . . .”).

come more common.⁹⁵ Thus, climate change adaptation is inherently linked to water concerns, and therefore to lawns.⁹⁶

People like green lawns, and in many parts of the country green lawns mean heavily-watered and fertilized lawns.⁹⁷ Because most turf-grass is a non-native species,⁹⁸ it often needs assistance to thrive; some people even water their lawn twice per day.⁹⁹ A large percentage of the potable municipal water supply is used for this purpose; studies suggest that approximately sixty percent in the West and thirty percent in the East is being used for lawn irrigation.¹⁰⁰ In real numbers, the EPA estimates that residential landscape irrigation accounts for approximately nine billion gallons of water per day, and one-third of all residential water use in the United States.¹⁰¹

⁹⁵ See *id.* at 9, 56; Holly Doremus, *Climate Change and the Evolution of Property Rights*, 1 U. CAL. IRVINE L. REV. 1091, 1104–05, 1115 (2011) [hereinafter Doremus, *Evolution*] (suggesting that both flooding and droughts will increase as “[c]limate change will . . . alter the total amount of precipitation. In general, the northern and eastern portions of the country are expected to get wetter, while the already arid Southwest gets drier.”); see also Michael E. Webber, Op-Ed., *Will Drought Cause the Next Blackout?*, N.Y. TIMES, July 24, 2012, at A21 (“Climate-change models . . . suggest that droughts and heat waves may be more frequent and severe.”).

⁹⁶ Doremus, *Evolution*, *supra* note 95, at 1103 (noting that “[t]he problem of adaptation to climate change is in many ways a water problem”).

⁹⁷ While a lawn in certain parts of the United States might grow well without a lot of assistance, “out West . . . the only way to grow those grasses is with high use of water and nitrogen fertilizer.” Lindsey, *supra* note 6 (quoting Cristina Milesi).

⁹⁸ *Id.* (“[M]ost of the grasses used in U.S. lawns aren’t native to the area they are grown.” (quoting Cristina Milesi)).

⁹⁹ *Id.* (“I had a neighbor who would water every day, even twice a day.” (quoting Cristina Milesi)). Compare this to green roofs: “Plant selections are typically hardy, drought-tolerant varieties that need little maintenance, no fertilizers or pesticides, and scant human intervention of any kind once established.” NOAH GARRISON & CARA HOROWITZ, NATURAL RES. DEF. COUNCIL, REPORT NO. R:12-06-B, LOOKING UP: HOW GREEN ROOFS AND COOL ROOFS CAN REDUCE ENERGY USE, ADDRESS CLIMATE CHANGE, AND PROTECT WATER RESOURCES IN SOUTHERN CALIFORNIA 12 (2012).

¹⁰⁰ Rappaport, *supra* note 8, at 898 n.114; see also CONNIE LOCKHART ELLEFSON ET AL., XERISCAPE GARDENING: WATER CONSERVATION FOR THE AMERICAN LANDSCAPE 3 (1992) (suggesting that residential landscapes, including lawns, consume at least fifty percent of the domestic water used in the United States); Smaus, *supra* note 2 (“California’s estimated 1.38 million acres of lawn are thought to use the bulk of the water applied to the landscape. Studies done by the North Marin County Water District indicate that, at least in that region, lawns soak up about 90% of all water used outdoors in suburban areas.”); *Conserving Water*, U.S. ENVTL. PROTECTION AGENCY, <http://www.epagov/greenhomes/ConserveWaterhtm> (last updated Dec. 19, 2012) (stating that up to thirty percent of the total U.S. water supply is used for outdoor uses, primarily irrigation); Lindsey, *supra* note 6 (noting that “drinking-quality water” is used to water most lawns).

¹⁰¹ U.S. ENVTL. PROT. AGENCY, REDUCE YOUR OUTDOOR WATER USE (2013), available at http://www.epagov/WaterSense/docs/factsheet_outdoor_water_use_508pdf. If every lawn in the contiguous United States were well-watered, the amount of water used for domestic and commercial lawns would equal 184 to 238 gallons per person per day. Lindsey, *supra* note 6

The amount of water used is even more problematic when one considers the resultant energy costs. In the United States, water is typically collected, treated, and delivered to consumers before it is used to water lawns, consuming large amounts of energy at each step in the process.¹⁰² Much of the water used for lawn care has to be transported from elsewhere, which contributes to emissions and thus global climate change.¹⁰³ Specifically, most municipal water is either surface water that must be extracted from rivers or streams, or groundwater that must be pumped from aquifers.¹⁰⁴ The utilities that then treat and distribute the water must use energy to do so, and because many of the pipe distribution systems in the United States are old, a substantial amount of this already-treated potable water is lost during transport.¹⁰⁵ As for the water that does reach end users, it is often further heated or cooled, requiring the expenditure of additional energy.¹⁰⁶ The high energy cost of water is also connected to the water subsidies that are prevalent in the United States; although people require drinking water for survival and certain agricultural pursuits warrant subsidized water costs, there is no valid reason for allowing individuals to avoid paying the true cost of water, including its energy costs, when it is merely used for growing grass.¹⁰⁷

(citing Cristina Milesi). This works out to approximately 84 billion gallons of water per day used on lawns. See STEINBERG, *supra* note 7, at 8 (noting that a Florida golf course consumes approximately 178,800 gallons of water each day and that this amount is “enough to meet the daily water needs of more than twenty-two hundred Americans”). A standard lawn in the suburbs requires approximately 10,000 gallons of water each year, not including rainwater. *Conserving Water*, *supra* note 100.

¹⁰² See RONNIE COHEN, BARRY NELSON & GARY WOLFF, NATURAL RES. DEF. COUNCIL, ENERGY DOWN THE DRAIN: THE HIDDEN COSTS OF CALIFORNIA’S WATER SUPPLY 2 (2004), available at <http://www.nrdc.org/water/conservation/edrain/edrainpdf>.

¹⁰³ See Ben Jervey, *The Waterless City*, GOOD (Apr. 23, 2011, 10:00AM), www.good.is/post/the-waterless-city (“[T]oday, roughly 85 percent of the water flowing through Los Angeles’ pipes comes from afar. A mere 15 percent of Los Angeles’ water comes from local groundwater sources.”).

¹⁰⁴ See COHEN ET AL., *supra* note 102, at 2 (“The State Water Project (SWP) is the largest single user of energy in California. . . . SWP energy use accounts for 2 to 3 percent of all electricity consumed in California. The SWP consumes so much energy because of where it sends its water. To convey water to Southern California from the Sacramento–San Joaquin Delta, the SWP must pump it 2,000 feet over the Tehachapi Mountains. . . . Pumping one acre-foot of SWP water to the region requires approximately 3,000 [kilowatt hours].”); see also *Water—Energy Connection*, U.S. ENVTL. PROTECTION AGENCY, <http://www.epagov/region9/waterinfrastructure/waterenergyhtml> (last updated Dec. 15, 2012).

¹⁰⁵ See COHEN ET AL., *supra* note 102, at 17 (noting that “[l]osses vary significantly among urban suppliers: typically from 6 to 15 percent, but as high as 30 percent”).

¹⁰⁶ See *id.* at v (determining that more energy is consumed by water’s end user than during its conveyance or treatment).

¹⁰⁷ While a broad discussion of water subsidies is beyond the scope of this Article, see

Beyond energy production, emissions are associated with lawns in other ways as well. Specifically, almost all people with yards mow them (or hire others to do so), typically with a gas-powered lawn mower, and many use leaf blowers to rid their lawns of debris.¹⁰⁸ Thirty minutes of leaf blower usage creates the same amount of “polluting hydrocarbon emissions as driving a car seventy-seven hundred miles at a speed of thirty miles per hour.”¹⁰⁹ Cumulatively, these individual actions substantially increase not only emissions, but smog and particulate matter.¹¹⁰ Lawns are also expensive and time consuming to maintain. Estimates suggest that people in the United States spend approximately forty billion dollars each year on lawn care,¹¹¹ and mowing and tending a lawn may occupy hours every week.¹¹²

Another lawn-related harm is tied to the petrochemical-based fertilizers with which many lawns are treated.¹¹³ Although front yards may look identical in Ohio, Arizona, and Georgia, their local geography, weather, and growing conditions are not.¹¹⁴ Homeowners require “the tools of 20th-century industrial civilization—its chemical fertilizers, pesticides, herbicides, and machinery” to keep lawns green and growing in many parts of the United States.¹¹⁵ These chemicals pollute stormwater runoff¹¹⁶ that often flows into local bodies of water.¹¹⁷ The United States is not meeting water quality standards in large part because of urban runoff.¹¹⁸ Although some point source pollution—

generally James L. Huffman, *The Federal Role in Water Resource Management*, 17 N.Y.U. ENVTL. L.J. 669 (2008); *see also infra* notes 195–97 and accompanying text.

¹⁰⁸ Of course, leaf-blowers might still be used on artificial lawns or xeriscaped yards.

¹⁰⁹ STEINBERG, *supra* note 7, at 8.

¹¹⁰ *See id.* at 4.

¹¹¹ *Id.* at 5.

¹¹² *See, e.g.*, Pollan, *supra* note 1 (describing spending four hours mowing his lawn each week).

¹¹³ *See* Rappaport, *supra* note 8, at 901 n.119 (“[M]any homeowners apply fertilizers, pesticides and herbicides to maintain and beautify their exotic turf landscapes.”).

¹¹⁴ *See* Pollan, *supra* note 1 (discussing the “green mantle of grass” that stretches across the continent, despite differing local conditions).

¹¹⁵ *Id.* at 42 (“[L]awns . . . receive, on average, more pesticide and herbicide per acre than just about any crop grown in this country.”); *see also* Kevin S. Baldwin, *Rethinking Lawns*, 3 QUARKS DAILY (May 14, 2012), <http://www.3quarksdaily.com/3quarksdaily/2012/05/rethinking-lawnshtml> (“[M]onoculture is a triumph of technology. It takes a lot of inputs to maintain such a beast: Regular mowing, herbicides, fungicides, pesticides, fertilizer, and in some areas, water. Perhaps that is the point.”).

¹¹⁶ Tekle, *supra* note 16, at 215.

¹¹⁷ *See id.* at 215–16 (noting that “when introduced into bodies of water, lawn chemicals, especially phosphorous and nitrogen from lawn fertilizer, create ‘dead zones’ where algae bloom in excess”).

¹¹⁸ *See* U.S. GEN. ACCOUNTING OFFICE, GAO-01-679, WATER QUALITY: BETTER DATA

from defined sources like factories and wastewater treatment plants—has been substantially reduced through regulations, urban stormwater runoff is still a major source of environmental harm.¹¹⁹ It is within the purview of local governments to regulate much of the land use that results in that form of pollution.¹²⁰ Further, although runoff is much more pronounced from truly impervious surfaces, such as pavement, “compacted soils mono-turf landscapes” like lawns can be “near impervious,” and thus result in much greater amounts of runoff than would a natural landscape with a greater variety of topography.¹²¹ Runoff from lawns also contributes to the prevalence of pesticides in urban waterways.¹²² In addition to environmental harm, there is also some evidence that lawn chemicals and weed killers can increase cancer in pets and humans, respectively.¹²³

The non-native nature of turfgrass also results in harms associated with ecological principles and loss of species biodiversity.¹²⁴ This landscape reduces the amount of habitat that might otherwise be available for native plants, thus “hasten[ing] the process of plant extinction.”¹²⁵ For example, the prairie is an extremely endangered ecosystem that provides an important habitat for birds and butterflies, and requires little water.¹²⁶ Additionally, in many dry climates, lawns

AND EVALUATION OF URBAN RUNOFF PROGRAMS NEEDED TO ASSESS EFFECTIVENESS 37 (2001).

¹¹⁹ Nonpoint source pollution consists of pollution from diffuse sources. *What Is Nonpoint Source Pollution?*, U.S. ENVTL. PROTECTION AGENCY, <http://water.epagov/polwaste/nps/whatis.cfm> (last updated Aug. 27, 2012). If water goes to storm drains, however, it is not considered nonpoint source runoff. *Stormwater Program*, U.S. ENVTL. PROTECTION AGENCY, http://cfpub.epagov/npdes/home.cfm?program_id=6 (last updated Feb. 16, 2012) (noting that “stormwater discharges are considered point sources”).

¹²⁰ See John R. Nolon, *Historical Overview of the American Land Use System: A Diagnostic Approach to Evaluating Governmental Land Use Control*, 23 PACE ENVTL. L. REV. 821, 838 (2006).

¹²¹ See Rappaport, *supra* note 8, at 901 n.119.

¹²² See generally U.S. GEOLOGICAL SURVEY, USGS FACT SHEET No. 092-00, PESTICIDES IN STREAM SEDIMENT AND AQUATIC BIOTA, available at <http://water.usgs.gov/nawqa/pnsp/pubs/fs09200/fs09200pdf>; see also U.S. GEOLOGICAL SURVEY, CIRCULAR 1225, THE QUALITY OF OUR NATION’S WATERS: NUTRIENTS AND PESTICIDES 58 (1999), available at <http://pubs.usgs.gov/circ/circ1225/pdf/pestpdf> (noting the prevalence of pesticides in both groundwater and streams and finding that ninety percent of stream water sampled contained at least one pesticide).

¹²³ Rappaport, *supra* note 8, at 923 (“[R]esearchers at the National Cancer Institute have linked frequent chemical-lawn treatments to an increased incidence of deadly cancer in dogs and suggest a link between the weed killer, 2, 4-D, and cancer in humans.”).

¹²⁴ See, e.g., *id.* at 877 n.30 (“Mono-turf landscapes destroy diversity. The restoration and maintenance of the native (natural) characteristics of the bioregion is a key to species preservation.”).

¹²⁵ *Id.* at 885.

¹²⁶ Hollie O’Connor, *Saving the Prairie, and Planting Some New Ones*, N.Y. TIMES, Aug.

are a potential fire hazard; fire hazards maybe be reduced if native plants or xeriscaping is used instead of lawns.¹²⁷ Furthermore, lawns also tend to create more allergy-producing pollen than native plantings.¹²⁸ They also fail to provide the same level of ecosystem services¹²⁹ as native plants¹³⁰ or even some vegetable gardens.¹³¹ All of these factors combine to lead some to view the lawn as “the most obvious example of humankind’s disregard for Nature.”¹³²

Although in many ways the current legal structure mandates lawns, they are often environmentally and financially inefficient, for the reasons discussed above. Yet property rules and laws are typically organized in such a way as to incentivize or encourage the productive use of property and to avoid waste.¹³³ These rules are informed by numerous strands of property theory. For example, Locke’s labor theory of property suggests that people have ownership interests in prop-

19, 2012, at A23 (lamenting the loss of existing prairies to serve as seed banks for others and noting the hurdles of planting prairies in cities, including the view that they are weeds or could hide snakes or bodies).

¹²⁷ See, e.g., NAT’L FIRE PROT. ASS’N, FIRE INVESTIGATIONS: OAKLAND/BERKELEY HILLS FIRE 7 (1991) (describing a dry spell in 1991 that turned the “once-lush grass” of the Oakland and Berkeley Hills region into a “rich source of dry fuel” that fed a devastating fire). Fires are a clear health and safety issue, and fire prevention was one of the early reasons that zoning ordinances were adopted. ROBERT C. ELICKSON & VICKI L. BEEN, LAND USE CONTROLS 75 (3d ed. 2005) (describing a Boston ordinance from 1906 that sought to minimize fire hazards). However, certain native vegetation is also prone to burning. See *Climate, Fire, and Habitat in Southern California*, U. CAL. COOPERATIVE EXTENSION, http://ucanr.edu/sites/SAFElandscapes/Fire_in_Southern_California_Ecosystems/ (last visited Feb. 15, 2014).

¹²⁸ See *Green Landscaping: Greenacres*, U.S. ENVTL. PROTECTION AGENCY, <http://www.epagov/greenacres/nativeplants/factshthtml> (last updated June 29, 2012) (explaining that most native flowers do not cause allergies because they are insect pollinated rather than wind pollinated, and that many species of turfgrass are responsible for pollen allergens).

¹²⁹ Generally, ecosystem services are “basic services [of nature] that support life itself . . . such as purification of air and water, pest control, renewal of soil fertility, climate regulation, pollination of crops and vegetation, and waste detoxification and decomposition.” James Salzman, *A Field of Green?: The Past and Future of Ecosystem Services*, 21 J. LAND USE & ENVTL. L. 133, 133 (2006). These services are not accounted for in traditional markets, and thus are often undervalued. See *id.* at 134; see also generally LISA HEINZERLING & FRANK ACKERMAN, *PRICING THE PRICELESS: COST-BENEFIT ANALYSIS OF ENVIRONMENTAL PROTECTION* (2002).

¹³⁰ Rappaport, *supra* note 8, at 899 n.116 (“[N]ative plants curtail non-point source pollution by trapping run-off, anchoring existing soil and slowing and filtering run-off from melting snow and summer storms.”).

¹³¹ See generally Jac Smit & Joe Nasr, *Urban Agriculture for Sustainable Cities: Using Wastes and Idle Land and Water Bodies as Resources*, 4 ENV’T & URBANIZATION 141 (1992) (discussing the benefits of urban agriculture).

¹³² Rappaport, *supra* note 8, at 886.

¹³³ See Christopher Serkin, *Existing Uses and the Limits of Land Use Regulations*, 84 N.Y.U. L. REV. 1222, 1275 (2009) (describing this as the “now familiar—if not standard—account of property law”).

erty in which they invest their labor.¹³⁴ Law and economics theorists have described the way that private property ownership serves to internalize externalities, thus fostering more efficient use of property.¹³⁵ Such theories form the basis of property doctrines such as adverse possession,¹³⁶ which seek to decrease the inefficient use of land and increase its efficient use.¹³⁷ In contrast, the law in many communities currently requires, and certainly allows, lawns that are inefficient and that affirmatively cause harm to those communities. Alternative productive uses of property—food-producing gardens or native plants, for example—would provide ecosystem services benefits and thus would be more efficient. Such a result would be more in line with standard views of the purpose of property law.¹³⁸

D. Alternatives

Given that lawns create numerous harms, the door is open for municipal action to devise a new lawn paradigm. There are a number of options that would likely produce many of the same benefits as, or perhaps even more benefits than, lawns and substantially fewer harms.¹³⁹ Specifically, lawns could be replaced with: native plantings

¹³⁴ JOHN LOCKE, *An Essay Concerning the True Original, Extent and End of Civil Government*, in *THE SECOND TREATISE OF CIVIL GOVERNMENT AND A LETTER CONCERNING TOLERATION* 15 (J.W. Gough ed., Basil Blackwell 1948) (1690) (“[E]very man has a property in his own person The labour of his body and the work of his hands we may say are properly his. Whatsoever, then, he removes out of the state that nature hath provided and left it in, he hath mixed his labour with, and joined to it something that is his own, and thereby makes it his property.”).

¹³⁵ See Armen A. Alchian & Harold Demsetz, *The Property Right Paradigm*, 33 J. ECON. HIST. 16, 22 (1973); see also Richard A. Epstein, *How to Create—or Destroy—Wealth in Real Property*, 58 ALA. L. REV. 741, 762 (2007) (suggesting that the Council’s decision to sell the property at issue in *Lucas v. South Carolina Coastal Council*, 505 U.S. 1003 (1992), is an example of the internalization that accompanies private ownership).

¹³⁶ Other theories, including personhood, also justify adverse possession. See Oliver Wendell Holmes, *The Path of the Law*, 10 HARV. L. REV. 457, 477 (1897) (“A thing which you have enjoyed and used as your own for a long time, whether property or an opinion, takes root in your being and cannot be torn away without your resenting the act and trying to defend yourself, however you came by it.”).

¹³⁷ See ALVIN ARNOLD, *REAL ESTATE INVESTOR’S DESKBOOK* § 8:8 (2013). Similarly, reciprocal negative easements are permissible, in part, because they benefit entire neighborhoods. See, e.g., *Sanborn v. McLean*, 206 N.W. 496, 496–98 (Mich. 1925).

¹³⁸ See *supra* notes 133–37 and accompanying text.

¹³⁹ Of course, some potential lawn substitutes would create equal, or perhaps worse, impacts. For example, if lawns were replaced with non-native vegetation, impervious pavement or surfaces, crushed rock, or larger building footprints, the lawn ban might have net negative effects. Thus, this Article asserts that it is important for a municipality that is considering a lawn ban to also mandate the options with which the lawn may be replaced. See *infra* Part III.C.

or xeriscaping; productive landscapes, including vegetable gardens or fruit-bearing trees; or synthetic lawns.¹⁴⁰

1. *Xeriscaping and Native Planting*

Xeriscaping is often thought of as desert or dry landscaping, but can be used more generally to describe any landscaping that uses native plants and is thus sustained primarily by natural rainfall.¹⁴¹ Native plants are those that are adapted to local climates, and thus typically require less maintenance and watering than non-native turfgrass.¹⁴² These are not new ideas,¹⁴³ yet many people hold biases against xeriscaping, viewing it as nothing more than bland gravel and cacti: “Looking down a row of lawns interrupted by xeriscape is like looking at someone ‘who has a tooth missing,’ said [the] chairman of [an] architectural control committee.”¹⁴⁴ Thus, those communities interested in promoting or requiring native plantings and xeriscaping first have to work on “myth busting”¹⁴⁵—ensuring that people understand the ecological,¹⁴⁶ monetary, and water-saving¹⁴⁷ benefits of this type of landscape.

2. *Productive Landscapes*

Productive landscapes, such as those containing vegetable- and fruit-producing plants and bushes, do not always require less water

¹⁴⁰ See Tekle, *supra* note 16, at 219–20 (discussing “‘green’ and permeable residential landscapes . . . such as xeriscaping or native planting, wildflowers or meadow, ‘working’ or edible landscapes such as gardens or fruit trees, artificial turf, micro-wetlands, permaculture, the less-is-more lawn or freedom lawn” (footnotes omitted)).

¹⁴¹ See Christian D. Petrangelo, Note, *Altering the Home Landscape from London’s Boroughs to America’s “Sin City”: Are Urban Authorities Using the Right Set of Land Use Law and Policy Tools in Adapting to Climate Change?*, 36 VT. L. REV. 779, 798 (2012) (“[X]eriscaping emulates the flora of the local environment, leading (in the ideal long-term) to a simple, complete reliance on natural precipitation rather than human watering.”); see also GAYLE WEINSTEIN, XERISCAPE HANDBOOK: A HOW-TO GUIDE TO NATURAL, RESOURCE-WISE GARDENING vii–viii (1999).

¹⁴² *Green Landscaping: Greenacres*, *supra* note 128 (describing the needs of native plants).

¹⁴³ A 1993 article discusses “many seminars held on natural landscaping, prairie restoration, xeriscaping, or wildflower propagation, [which were attended by] suburban yuppies, weekend ecologists, and seniors whose retirement hobby is gardening.” Rappaport, *supra* note 8, at 867.

¹⁴⁴ Benke, *supra* note 75.

¹⁴⁵ O’Connor, *supra* note 126.

¹⁴⁶ See Rappaport, *supra* note 8, at 897–98 (noting that some local governments have embraced natural landscaping, and stating that “[e]cologically there is no doubt that natural landscapes are preferable particularly when compared to traditional suburban exotic lawns”).

¹⁴⁷ See Taylor E.C. Hawes, *Water Conservation*, TRENDS, Sept.–Oct. 2002, at 10, 10.

than lawns,¹⁴⁸ but they provide other environmental, ecological, and sustainability benefits such that a municipality might decide that, on balance, they are more appropriate than mono-cultured turf.¹⁴⁹ In a sense, productive landscapes represent a return to past, pre-zoning practices.¹⁵⁰ Currently, however, many localities' weed ordinances prohibit individuals from growing vegetables in their front yards.¹⁵¹ That said, there is a recent trend toward relaxing those ordinances and allowing or encouraging productive front yards for a number of reasons.¹⁵² As I discussed in a previous article, allowing individuals full use of their property to grow their own food has a number of benefits, including an increase in food safety, and a reduction in food insecurity, food deserts, reliance on processed foods, and food miles traveled—and thus a reduction in harms associated with climate change, monocropping, and polluted runoff.¹⁵³ Further, allowing, encouraging, or even requiring productive landscapes in suburban communities could have the added benefit of partially offsetting the loss of farmland that has resulted from suburban sprawl and population growth.¹⁵⁴

3. Synthetic Lawns

Synthetic lawns avoid many of the harms that monocropped turf poses. They do not need to be watered or mowed, and therefore require less maintenance and time.¹⁵⁵ Estimates suggest that a typical home would save around 234,000 gallons of water over ten years by

¹⁴⁸ *Vegetable and Flower Gardens*, DENVER WATER, <http://www.denverwater.org/Conservation/TipsTools/Outdoor/VegetableGarden/> (last visited Feb. 15, 2014) (“A healthy vegetable and annual flower garden can use less or about the same amount of water as a lawn does.”). The use of drip-irrigation systems can sufficiently water many fruit and vegetable plants while using relatively little water. *Id.*

¹⁴⁹ *See, e.g.*, Pollan, *supra* note 1 (“What is the alternative [to lawns]? To turn them into gardens. I’m not suggesting that there is no place for lawns in these gardens or that gardens by themselves will right our relationship to the land, but the habits of thought they foster can take us some way in that direction.”); *see also* Bittman, *supra* note 71.

¹⁵⁰ Pollan states:

19th-century visitors [to the United States] noted . . . the typical yard was ‘landscaped’ in the style Southerners would come to call ‘white trash’—a few chickens, some busted farm equipment, mud and weeds, an unkempt patch of vegetables. This might do for farmers, but for the growing number of middle-class city people . . . something more respectable was called for.

Pollan, *supra* note 1. There is now a way to have chickens and gardens that is more “urban-hipster-chic” than “white trash.”

¹⁵¹ *See* Schindler, *Of Backyard Chickens*, *supra* note 60, at 240.

¹⁵² *See id.* at 235–36.

¹⁵³ *Id.* at 262–78.

¹⁵⁴ *See id.* at 248.

¹⁵⁵ Pollan, *supra* note 1 (discussing the four hours per week he spent mowing his lawn).

installing a synthetic lawn.¹⁵⁶ There are environmental costs associated with producing them, however, especially if the product is produced from plastic.¹⁵⁷ Further, synthetic lawns provide none of the ecosystem services that native plantings provide, and depending on the material, could increase runoff.¹⁵⁸ Finally, it is debatable whether they provide the same connection to “nature and the natural” that even a non-native lawn might.¹⁵⁹

4. Weeds

Finally, lawns could be left to revert to their natural state, a practice that was common in the past and is still customary in many parts of the world. For example, in Italy, “[i]f there is grass in the yard, it is generally a mixture of clover, dandelions, and lots of other so-called weeds, able to survive the long dry summers with little additional water.”¹⁶⁰ Of course, in many localities, existing weed ordinances would need to be revised to allow this type of growth to flourish.¹⁶¹ Further, because the idea that an unkempt lawn is a nuisance, prone to harboring vermin and opening the door to additional blight, provides the basis for many of those weed ordinances, the norms underlying those ideas would likely also need to change.¹⁶²

Given these alternatives, the question is: how does a municipality encourage or force their adoption? The next Part considers four fundamental tools for achieving the policy goal of replacing the traditional lawn with more sustainable alternatives.

¹⁵⁶ Andrew Abramson, *West Palm Set to Lift Ban on Artificial Turf for Parks, Fields*, PALM BEACH POST (June 3, 2012, 6:54 PM), <http://www.palmbeachpost.com/news/news/west-palm-set-to-lift-ban-on-artificial-turf-for-p/nPMdz/>.

¹⁵⁷ See Dawn Isaac, *Life in Plastic*, GUARDIAN WEEKEND, July 17, 2010, at 66. Of note, many synthetic lawns are now being made with recycled and environmentally friendly materials. Nick Leech, *Faking It: Why Artificial Grass Makes Sense*, NATIONAL (April 6, 2012), <http://www.thenational.ae/lifestyle/house-home/faking-it-why-artificial-grass-makes-sense>.

¹⁵⁸ See Rappaport, *supra* note 8, at 901 n.119 (explaining that nonpermeable surfaces increase runoff).

¹⁵⁹ See Mark Sagoff, *On Preserving the Natural Environment*, 84 YALE L.J. 205, 206–08, 248 (1974) (rejecting the utilitarian calculation that plastic trees cost less and last longer than real trees). See generally Laurence H. Tribe, *From Environmental Foundations to Constitutional Structures: Learning from Nature's Future*, 84 YALE L.J. 545 (1975); Laurence H. Tribe, *Ways Not to Think About Plastic Trees: New Foundations for Environmental Law*, 83 YALE L.J. 1315 (1974) (discussing the utility of nature and the natural).

¹⁶⁰ Lindsey, *supra* note 6 (quoting Cristina Milesi) (internal quotation marks omitted).

¹⁶¹ See Rappaport, *supra* note 8, at 914 n.152 (providing examples of weed ordinance language).

¹⁶² See Schindler, *Of Backyard Chickens*, *supra* note 60, at 241 (“[A]esthetics and the prevention of blight, which could lead to a nuisance, are both of concern to the town in determining what belongs in a front yard.”).

II. REGULATING LAWNS

Change in environmental law and policy requires intentional action.¹⁶³ Such action can take the form of law (including mandates and bans),¹⁶⁴ norms,¹⁶⁵ market-based mechanisms (including economic incentives),¹⁶⁶ or architecture.¹⁶⁷ Although scholars have shown an increased interest in determining the appropriate regulatory scope for individual behavior that impacts the environment,¹⁶⁸ and have debated which techniques would be most appropriate for different types of harms,¹⁶⁹ few have focused on bans. Although some scholars and regulators view bans as too harsh and broad-stroked for the harms that they target, they are currently used in some instances.¹⁷⁰ Further, worsening climate change might alter the physical and regulatory landscape, necessitating a more stringent approach to regulation in the future.¹⁷¹ In fact, many local ordinances that once seemed innocu-

¹⁶³ See Doremus, *Evolution*, *supra* note 95, at 1093 (“Changes in law are always intentional, chosen by some human agency.” (footnote omitted)). Of note, even deregulation can be a form of intentional action. See *infra* notes 215–16 and accompanying text.

¹⁶⁴ Law “directs behavior in certain ways” and threatens individuals with sanctions if they do not comply. See Lawrence Lessig, *The New Chicago School*, 27 J. LEGAL STUD. 661, 662 (1998). By mandates, I mean laws that prohibit some action; that limit the extent of that action or the conditions under which it may be taken; or that affirmatively require some course of action. See Edward K. Cheng, *Structural Laws and the Puzzle of Regulating Behavior*, 100 Nw. U. L. REV. 655, 659 (2006). By bans, I mean the subset of mandates dealing with the complete prohibition of a certain behavior or action.

¹⁶⁵ Norms constrain behavior through community enforcement, not through some official rule or source. See Lessig, *supra* note 164, at 662; Richard A. Posner, *Social Norms and the Law: An Economic Approach*, 87 AM. ECON. REV. 365, 365 (1997).

¹⁶⁶ Lessig, *supra* note 164, at 663 (“Markets regulate through the device of price.”). Although technically economic incentives are a way that the law regulates markets, I will address incentives along with markets.

¹⁶⁷ See *id.* at 662–63. In practice, it is hard to separate these categories from one another.

¹⁶⁸ See generally JASON J. CZARNEZKI, *EVERYDAY ENVIRONMENTALISM: LAW, NATURE & INDIVIDUAL BEHAVIOR* (2011). See also Vandenberg, *From Smokestack to SUV*, *supra* note 91, at 554.

¹⁶⁹ See Gunnar S. Eskeland & Emmanuel Jimenez, *Choosing Policy Instruments for Pollution Control: A Review* (World Bank Working Paper No. 624, 1991), available at http://www-wds.worldbank.org/external/default/WDSContentServer/WDS/IB/1991/03/01/000009265_396101045114/Rendered/PDF/multi_pagepdf. See generally CZARNEZKI, *supra* note 168; SUNSTEIN, *RIGHTS REVOLUTION*, *supra* note 93.

¹⁷⁰ For example, health concerns have led to bans on smoking and the use of asbestos. See Julie Steenhuisen, *Half of U.S. States Have Comprehensive Smoking Bans: CDC*, REUTERS, Apr. 21, 2011, available at <http://www.reuters.com/article/2011/04/22/us-usa-smoking-idUSTRE73K6JM20110422>; U.S. Federal Bans on Asbestos, U.S. ENVTL. PROTECTION AGENCY, <http://www2.epagov/asbestos/us-federal-bans-asbestos> (last updated Mar. 14, 2013).

¹⁷¹ Water shortage is already a pressing problem. See, e.g., Tim Gaynor & Steve Gorman, *Fast-Growing Western U.S. Cities Face Water Crisis*, REUTERS, Mar. 11, 2009, available at <http://www.reuters.com/article/2009/03/11/us-water-cities-idUSTRE52A1WY20090311>.

ous—those limiting front yard cover to lawns, for instance—are now being placed under the microscope as municipalities try to find many small ways in which they can increase their sustainability.¹⁷² Because “[c]limate change is a private property problem,” it will likely lead to greater restrictions on individual behavior and the use of private property.¹⁷³

This Part first considers the benefits and shortcomings of regulatory methods other than law that could be used to reduce the predominance of lawns in the United States. It then brackets those approaches, and focuses on the role that legal regulation might play. It addresses arguments against relying on mandates and bans, but concludes that those arguments are less compelling than their proponents suggest, and that bans could serve an important role in alleviating lawn-related harms in some instances.

A. Norm Change

The preeminent role of front lawns in the United States is due in large part to a pervasive norm.¹⁷⁴ Author Michael Pollan believes that this norm involves “a deep distrust of individualistic approaches to the landscape. The land is too important to our identity as Americans to

To save precious water, some say, Californians will simply have to get rid of their lawns. Incredible suggestions are being made as water-saving alternatives. Some seem ridiculous, such as filling entire front yards with artificial plants and dyeing lawns green. Others sound sublime, such as replacing water-needy plants with Mediterranean and California natives that can survive almost entirely on natural rainfall. There is talk among city and county officials not only of limits on how much area around a home can be planted with turf and of “official” plant lists that would mandate which plants can and cannot be grown, but of outright bans on lawns.

Smaus, *supra* note 2. The fact that the *Los Angeles Times* mentioned a lawn ban suggests that this is a possibility that has at least been discussed, even if it has not yet been broadly adopted. *See id.*

¹⁷² See Rappaport, *supra* note 8, at 918 n.165 (criticizing weed laws as “generally irrational because enforcement of the prohibition does not further the articulated public safety and health goals”).

¹⁷³ See Paul Babie, *Climate Change: Government, Private Property, and Individual Action*, SUSTAINABLE DEV. L. & POL’Y, Winter 2011, at 19, 19.

¹⁷⁴ See generally Richard H. McAdams, *The Origin, Development, and Regulation of Norms*, 96 MICH. L. REV. 338, 359 (1997) (discussing lawn norms); see also Pollan, *supra* note 1 (“I daydreamed of scalping the entire yard. But I didn’t do it—I continued to observe front-yard conventions, mowing assiduously and locating all my new garden beds in the backyard.”). The norm, bolstered by ordinances, supports the idea that only lawns belong in front yards. There is some evidence that this norm is starting to change in some parts of the country, as front-yard gardens are becoming legally and normatively acceptable. See Schindler, *Of Backyard Chickens*, *supra* note 60, at 294–95.

simply allow everyone to have his own way with it.”¹⁷⁵ The strength of the norm, evinced by the fear of social sanctions for failing to maintain a neat front lawn, results in entrenchment despite the many harms associated with lawns.¹⁷⁶ The norm could be what Robert Ellickson terms “welfare maximizing”—one that seeks to solve collective action problems.¹⁷⁷ Under this theory, the goal of the lawn norm might be maximization of aggregate property value in a neighborhood.¹⁷⁸ But this norm appears to be self-reinforcing and circular—property value is tied to lawns due, in part, to the historic expectation of lawns. But this is not because the lawn norm is inherently good or valuable; it is because no one wants to defect from the norm for fear of social sanctions (and because the norm has likely resulted in some having a true preference for lawns).¹⁷⁹ A locality interested in norm shift might consider how it can change expectations about lawns and at the same time protect property values if the neighborhood moves away from lawns.

In some instances, informational campaigns combined with other tools can work to change norms,¹⁸⁰ which can in turn result in more

¹⁷⁵ Pollan, *supra* note 1 (“[C]ommon land, rather than race or tribe . . . makes us all Americans . . . once we decide that the land should serve as a vehicle of consensus, rather than an arena of self-expression, the American lawn—collective, national, ritualized, and plain—begins to look inevitable.”). Of course, this norm could evolve. Eventually, front yards might still look identical, but not be filled by turf. Further, norms vary by locality; not every U.S. neighborhood follows the industrial lawn norm. See Eric A. Posner, *Strategies of Constitutional Scholarship*, 26 L. & SOC. INQUIRY 529, 542 (2001) (book review).

¹⁷⁶ Tekle, *supra* note 16, at 228 (“[There] is a fear . . . that our neighbors will look down upon or think less of us, subtle actions that may translate into the harsher acts of gossip, isolation, and social excommunication or banishment because we have opted out of the front-lawn social code.”). Tekle describes the social sanctions imposed on Michael Pollan’s family when his father stopped mowing the lawn, including neighbors slowly and angrily driving by the house, and eventually resulting in self-imposed exile. *Id.* at 228–29 (citing MICHAEL POLLAN, *SECOND NATURE: A GARDENER’S EDUCATION* 23–26 (paperback ed. 1992)). See generally ROBERT C. ELLICKSON, *ORDER WITHOUT LAW: HOW NEIGHBORS SETTLE DISPUTES* (1991) (discussing the role of gossip in enforcing norms in certain tight-knit communities).

¹⁷⁷ ELLICKSON, *supra* note 176, at 167 (hypothesizing that “members of a close-knit group develop and maintain norms whose content serves to maximize the aggregate welfare that members obtain in their workaday affairs with one another”).

¹⁷⁸ See *supra* note 63 and accompanying text (discussing property values in the context of lawn norms); see also FISCHER, *THE HOMEVOTER HYPOTHESIS*, *supra* note 30, at 5–6 (suggesting that homeowners seek to preserve their home’s value, and therefore make self-interested regulatory decisions).

¹⁷⁹ See Cass R. Sunstein, *Social Norms and Social Roles*, 96 COLUM. L. REV. 903, 929 (1996) [hereinafter Sunstein, *Social Norms*] (“[T]he deterrent effect of social norms on acts and beliefs creates a sharp disjunction between public acts (including speech) and private thought. Hence a state of affairs may persist even though there is widespread opposition to it. And eventually the norms may affect private thought itself.” (footnote omitted)).

¹⁸⁰ See Kuh, *supra* note 9, at 1118 (noting academic discussions of the important role of informational and norm campaigns); see also *id.* at 1116 (“A public-information campaign de-

environmentally responsible behavior.¹⁸¹ For example, a locality could work to promote information about how much money a household could save by not watering its lawn; a similar approach has been used in the context of energy efficiency.¹⁸² Norms are often slow to change, however, even with the aid of informational campaigns.¹⁸³ Sticky norms often persist even when they do not make much sense or are harmful to the community.¹⁸⁴ One commentator suggests that the current lawn norm will only fade when more sustainable front yard norms rapidly attract broad public interest.¹⁸⁵ Perhaps this is beginning to happen independently—members of the popular press have begun to write about the growing interest in front-yard gardens and the wastefulness of lawns,¹⁸⁶ and certain thought-leader communities are adopting policies to promote alternatives to standard lawns in response to citizen demands.¹⁸⁷ Although current norms might suggest that homeowners would prefer to retain their existing lawns, a few

signed to encourage people to cease backyard burning is a regulation of norms designed to influence, and thereby to regulate indirectly, individual behaviors.”).

¹⁸¹ Babcock, *Assuming Personal Responsibility*, *supra* note 88, at 118 (discussing norm change as a critical part of shaping an individual’s environmentally responsible behavior).

¹⁸² SARAH SCHINDLER, ENCOURAGING PRIVATE INVESTMENT IN ENERGY EFFICIENCY 13–14 (2011) [hereinafter SCHINDLER, ENCOURAGING PRIVATE INVESTMENT], available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1805891 (University of Connecticut Center for Energy and Environmental Law Policy Paper).

¹⁸³ See Eric A. Posner, *Law, Economics, and Inefficient Norms*, 144 U. PA. L. REV. 1697, 1712–13 (1996) (attributing the stubbornness of norms and norm change to information lag and coordination problems, where some are aware of new information that supports the abandonment of an old norm, but others are not).

¹⁸⁴ See McAdams, *supra* note 174, 372–75; see also Dan M. Kahan, *Gentle Nudges vs. Hard Shoves: Solving the Sticky Norms Problem*, 67 U. CHI. L. REV. 607, 607–08 (2000) (describing the “sticky norms problem” as one where “the prevalence of a social norm makes decisionmakers reluctant to carry out a law intended to change that norm” and suggesting that the law is not always effective at changing norms).

¹⁸⁵ See Tekle, *supra* note 16, at 230 (“[R]eal change concerning the front residential landscape benefitting waterways will take place only when ‘green’ front-lawn social norms embracing diverse residential landscapes ‘go viral.’”).

¹⁸⁶ See Bittman, *supra* note 71; Steven Kurutz, *The Battlefield in the Front Yard*, N.Y. TIMES, Dec. 20, 2012, at D1; Steven Kurutz, *Giving Gardens a Hand*, N.Y. TIMES (Dec. 19, 2012), <http://www.nytimes.com/2012/12/20/garden/in-santa-monica-calif-gardens-and-gardeners-are-welcome.html>; see also SARA STEIN, NOAH’S GARDEN: RESTORING THE ECOLOGY OF OUR OWN BACK YARDS 244 (1993) (positing that perhaps “at some time in the future, the value of a property will be perceived in part according to its value to wildlife. A property hedged with fruiting shrubs will be worth more than one bordered by forsythia.”); Tekle, *supra* note 16, at 225 (“[S]imply posing the question of what landscapes are acceptable to front a dwelling or even challenging it in the form of ‘dissident’ landscapes, suggests a slow march to overthrowing the standard-form front lawn and replacing it with landscape choice.”); Petrangelo, *supra* note 141, at 779.

¹⁸⁷ See Schindler, *Of Backyard Chickens*, *supra* note 60, at 236.

pioneering communities could lead to an avalanche of changing preferences.¹⁸⁸ Further, movement away from an entrenched norm might occur more naturally when the historic norm is shown to be harmful in contemporary settings.¹⁸⁹

It is also possible, however, that something stronger, like mandates, might be necessary to force more rapid change surrounding an entrenched norm.¹⁹⁰ Because climate change problems are intensifying and the current drought is worsening the water scarcity problems in much of the country,¹⁹¹ immediate action is necessary. Further, while the harms from norm defection are internalized in the first person in the neighborhood to replace a lawn with xeriscaping—she risks damaging her property value and angering her neighbors for little (cumulative) environmental benefit—harms from maintaining lawns are

¹⁸⁸ See Sunstein, *Social Norms*, *supra* note 179, at 912 (describing “[n]orm cascades [that] occur when societies experience rapid shifts toward new norms”). Communities could usher in change by demonstrating the relationship between a new form of behavior (e.g., lawn alternatives) and values that others hold in high regard (e.g., environmentalism). See Amitai Etzioni, *Social Norms: Internalization, Persuasion, and History*, 34 L. & SOC’Y REV. 157, 169 (2000). Under those circumstances, homeowner preferences would point towards legal change.

¹⁸⁹ See Stern, *supra* note 86, at 413 (describing norm change as a process that is driven by awareness of adverse consequences to the things that people value); see also Smaus, *supra* note 2 (“Even without threats from city governments, some gardeners have already said their farewells to front lawns, the least used of lawns. ‘I got sick and tired of pushing a lawn mower for almost 80 years,’ says [a Los Angeles man], who tore out an aging Bermuda-grass lawn and replaced it with various succulents and ground covers ‘All that mowing, edging, fertilizing and weeding got to me.’”).

¹⁹⁰ See Sunstein, *Social Norms*, *supra* note 179, at 910 (“Some norms are obstacles to human well-being and autonomy. It is appropriate for law to alter norms if they diminish well-being”). Recently, governments have attempted to impose mandates to force norm change with respect to limits on the size of sugary drinks and on smoking in public spaces. See Jill Colvin, *New York Soda Ban Approved: Board of Health OKs Limiting Sale of Large-Sized, Sugary Drinks*, HUFFINGTON POST (Sept. 13, 2012, 11:37 AM), http://www.huffingtonpost.com/2012/09/13/new-york-approves-soda-ban-big-sugarydrinks_n_1880868.html (describing New York City’s attempted prohibition on the sale of “sugar-sweetened drinks in cups larger than 16 ounces”); *U.S. Smoking Bans, State by State*, HUFFINGTON POST, http://www.huffingtonpost.com/2011/02/23/smoking-bans-state-by-sta_n_826672.html (last updated May 25, 2011) (“In the U.S., 38 states have some kind of state-wide legislated action banning smoking”). One commentator suggests that the use of reusable bags instead of plastic bags at the grocery store is an example of norm change. Tekle, *supra* note 16, at 242. However, in some localities public laws have been enacted banning plastic bags. See, e.g., LONG BEACH, CAL., CODE § 8.62.020 (Supp. 2, 2013) (prohibiting stores from providing customers with plastic carryout bags). Other municipalities have incentivized reduced plastic bag use by providing a discount for using a reusable bag or charging for using a nonreusable bag. See, e.g., LOS ANGELES COUNTY, CAL., CODE § 12.85.040 (2010) (requiring stores that provide recyclable paper bags to customers to charge ten cents for each bag provided). Thus, it is not clear that the norms changed without the help of public law in this instance.

¹⁹¹ See Editorial, *supra* note 3.

broadly dispersed. Law is useful at coordinating behavior in the face of collective action problems and helps internalize externalities.¹⁹²

B. *Markets and Incentives*

Many governments view market-based strategies as an efficient tool for abating pollution.¹⁹³ There is similar potential for incentives to play an important role in furthering sustainable policies in the face of water scarcity and climate change.¹⁹⁴ With respect to limiting the existence of lawns, there are a number of possible market-based solutions and incentives that would effectively impose stiff economic penalties on those who choose to maintain a lawn. Some of these would directly relate to water usage. Although many do not realize it, water in the United States is dramatically subsidized,¹⁹⁵ leading to “ridiculously low” water prices.¹⁹⁶ Thus, localities could charge consumers the true marginal cost of water in order to disincentivize wasteful water usage, including use on lawns.¹⁹⁷

One example of a water conservation incentive is progressive block pricing for water usage.¹⁹⁸ Under this scheme, a baseline of water usage is priced moderately, but each additional increment of

¹⁹² See Harold Demsetz, *Toward a Theory of Property Rights*, 57 AM. ECON. REV. 347, 348 (1967) (“A primary function of property rights is that of guiding incentives to achieve a greater internalization of externalities.”); Epstein, *supra* note 135, at 747.

¹⁹³ Glenn P. Jenkins & Ranjit Lamech, *Market-Based Incentive Instruments for Pollution Control*, INT’L BUREAU OF FISCAL DOCUMENTATION BULL., Nov. 1992, at 523, 524, available at http://jdintl.econ.queensu.ca/publications/qed_dp_99pdf.

¹⁹⁴ These are not pure market mechanisms. They are a hybrid of law and market regulation, in part because we do not have pure markets for public utilities like water. See, e.g., Craig Anthony Arnold, *Privatization of Public Water Services: The States’ Role in Ensuring Public Accountability*, 32 PEPP. L. REV. 561, 579–80 (2005).

¹⁹⁵ See generally Tekle, *supra* note 16, at 241 n.117.

¹⁹⁶ Robert Glennon, *Water Scarcity, Marketing, and Privatization*, 83 TEX. L. REV. 1873, 1882–84 (2005) (discussing the elimination of water subsidies).

¹⁹⁷ Jenkins & Lamech, *supra* note 193, at 524 (discussing incentives and market-based mechanisms for addressing environmental harms, stating that “[e]conomic theory suggests that if the monetary value of the environmental damage . . . can be determined, an environmental charge equal to the cost of damage could be established to serve as a disincentive for environmentally harmful behaviour”).

¹⁹⁸ See Hawes, *supra* note 147, at 10 (“On the residential side, the greatest opportunity to save [water] occurs regarding outdoor use. Incentives to encourage outdoor conservation include metering coupled with rate structures that reflect actual water use: the more a household uses, the more it pays and vice versa.”); *Residential Water Rates*, TUALATIN VALLEY WATER DISTRICT, <http://www.tvwd.org/customer-services/residential-water-rates.aspx> (last visited Feb. 15, 2014); *Water Rates: Conserving Water and Protecting Revenue*, SW. FLA. WATER MGMT. DISTRICT, <http://www.swfwmd.state.fl.us/conservation/waterrates/> (last visited Feb. 15, 2014) (“Without decreasing revenues, utilities can lower water use by using inclining block rates, that is, water price increases with increasing blocks of water use.”).

water used is priced higher.¹⁹⁹ Because conventional lawns consume such a large amount of water, affected homeowners might respond to increased water prices by watering their lawns less frequently or removing and replacing them with less water-intensive options (assuming the local ordinances permit them to do so).²⁰⁰ These incentives tied to water usage would serve to treat water more like a commodity by forcing consumers to pay for its actual value.²⁰¹

Other incentives might relate directly to lawns. For example, some municipalities and water districts pay people to tear up their existing lawns.²⁰² Although it is not clear why governments should pay people to avoid harming others, lawn removal and replacement can be expensive, and this approach has had some success in Las Vegas.²⁰³ Local governments could also impose a “lawn tax,”²⁰⁴ which would allow people to maintain their lawns, but would require them

¹⁹⁹ Similar techniques are used with energy pricing. See Kuh, *supra* note 9, at 1128 (describing “pricing mechanisms” including “charging more for energy use above a set baseline”).

²⁰⁰ But see Michael P. Vandenbergh, Jack Barkenbus & Jonathan Gilligan, *Individual Carbon Emissions: The Low-Hanging Fruit*, 55 UCLA L. REV. 1701, 1704 (2008) (citing research that suggests that price signals may have only a limited effect on behavior).

²⁰¹ See Barton H. Thompson, Jr., *Water as a Public Commodity*, 95 MARQ. L. REV. 17, 24–25 (2011) (addressing subsidization of water). Another water-based incentive would provide rebates for installing water-efficient devices. See, e.g., SCOTTSDALE, ARIZ., CODE § 49-243(d)(5) (Supp. 64, 2013) (rebating property owners the lesser of cost or \$250 per unit for installation of programmable irrigation controllers).

²⁰² See, e.g., SCOTTSDALE, ARIZ., CODE § 49-243(d)(3) (offering rebates to single-family residential customers up to \$1500 and commercial and multifamily customers up to \$3000 for removing turf and replanting with low-water use landscaping); *North Marin Water District Conservation*, N. MARIN WATER DISTRICT, http://www.nmwd.com/conservation_exterior.php (last visited Feb. 15, 2014) (describing the North Marin Water District’s “Cash-for-Grass” rebate program that pays residential customers fifty dollars per 100 square feet of lawn removed and converted to native low-water-use landscape or synthetic turf).

²⁰³ See S. NEV. WATER AUTH., A REGIONAL SOLUTION: MILESTONES 1991–2011, at 7, 15 (2012), available at <http://www.leg.state.nv.us/Interim/76th2011/Exhibits/Lands/E050412B-1.pdf> (“The SNWA’s . . . rebate program is one of the most successful initiatives of its kind in the world. The . . . rebate program has resulted in the conversion of more than 157 million square feet of lawn to water-efficient landscaping, saving Southern Nevada more than 8.7 billion gallons annually.”); *Water Smart Landscapes Rebate*, S. NEV. WATER AUTHORITY, <http://www.snwa.com/rebates/wslhtml> (last visited Feb. 15, 2014) (describing the rebate program). The money for this program comes from federal grants, water service delivery and connection charges, usage fees, sales tax, and municipal bonds. See S. NEV. WATER AUTH., 2012 ANNUAL REPORT 12, 29 (2012), available at http://www.snwa.com/assets/pdf/about_reports_annual.pdf; U.S. DEP’T OF INTERIOR, WATERSMART WATER AND ENERGY EFFICIENCY PROGRAM AND WATER CONSERVATION FIELD SERVICES GRANTS: WATER SMART LANDSCAPE REBATE PROGRAM IN CLARK COUNTY, NEVADA 1 (2010), available at http://www.usbr.gov/lc/region/g2000/envdocs/Water-Smart_SNWA_Final_Supp_EA_and_FONSI_09-27-2010.pdf; see also *North Marin Water District Conservation*, *supra* note 202 (describing a similar program run by the North Marin Water District). Of course, these are not pure market-based solutions. They are a combination of markets

to pay a price to do so. The tax could be coupled with and fund an incentive payment for the removal of existing lawns.²⁰⁵ In the alternative, a locality could decide to grant a tax credit or reduction to those individuals who opt to remove their lawns, or who instead plant environmentally friendly landscapes.²⁰⁶ This would alleviate the need to find a positive funding source for the incentive.

While they offer numerous avenues for change, market-based mechanisms and incentives also raise some concerns. For example, Professor Doremus suggests that markets will not adequately protect public, collective interests, but rather “[c]hanges to underlying property rules will be needed if those interests are to be sustained.”²⁰⁷ She posits that markets will only look after private interests; regulation through law is best suited to protect “public values,” including the quality of the environment.²⁰⁸ Thus, to effectively protect the many aspects of the environment that are public goods, including things like biodiversity and ecosystem services, individuals will need to sacrifice some control over private property usage. More broadly, one commentator warns against a global commodities market for water, drawing analogies to problems associated with derivatives and mortgage-backed securities as well as food prices, food shortages, and speculation.²⁰⁹

and legal regulation, and they may be aimed at changing norms. In practice, various mechanisms of regulation overlap and influence each other.

²⁰⁴ See Editorial, *Unthinkable? A Lawn Tax*, GUARDIAN (Apr. 6, 2012, 4:56PM), <http://www.guardian.co.uk/commentisfree/2012/apr/06/editorial-unthinkable-lawn-tax> (suggesting that “a tax on private lawns beyond a certain size is within the gift of every chancellor”).

²⁰⁵ The tax proceeds could be remitted to fund lawn removal programs.

²⁰⁶ For example, New Jersey is currently entertaining a bill that would provide taxpayers owning property within 1000 feet of Barnegat Bay and its tributaries with a recurring annual state tax credit of \$250 for replacing grass lawns on their property with stones, crushed shells, or other materials that require no chemical agents. Gen. Assemb. No. 406, 215th Gen. Assemb., Reg. Sess. (N.J. 2012). A Florida statute requires water districts to encourage local governments to incentivize landscaping that decreases water usage, eliminates invasive species, and limits the amount of ground that can be covered by turfgrass. FLA. STAT. ANN. § 373.185 (West Supp. 2013); see also *WaterSaver Landscape Rebate*, SAN ANTONIO WATER SYS., <http://www.saws.org/Conservation/Outdoor/LandscapeRebate/> (last visited Feb. 15, 2014) (rebating customers up to \$400 if no more than fifty percent of their landscape is planted in turf, their shrubs and flowers are selected from an approved list, they plant shade trees, and no more than five percent of their landscape is annuals or unapproved plants).

²⁰⁷ See Doremus, *Evolution*, *supra* note 95, at 1091, 1119 (also noting that “markets typically underprovide public goods”—including environmental quality—due to free-rider problems).

²⁰⁸ See *id.* at 1119. This critique might apply with less force to quasi-market forces like tax incentives.

²⁰⁹ See Frederick Kaufman, *Wall Street's Thirst for Water*, 490 NATURE 469, 471 (2012).

Further, regulation via incentive is inherently tied to norms. If people care more about the benefits that they receive from their lawns than the benefits they would receive from an incentive, they may not take action pursuant to that incentive; the norm may be stronger than the incentive, especially for wealthy individuals who do not need the monetary benefit. The incentive might even reinforce the norm among the wealthy because it increases the cost of maintaining the lawn, turning the lawn into a sort of Veblen good.²¹⁰ Thus, incentives might further segregate rich and poor neighborhoods, and function as a form of exclusionary zoning with rich neighborhoods being defined by their ability to afford lawns. Of course, as localities should primarily care about the cumulative harms associated with lawn maintenance, the existence of a few holdouts is acceptable, and economic theory would suggest that so long as the incentive price is set correctly, most households will participate.²¹¹

C. Architecture

Architectural solutions—“features of the world”—are almost always difficult to decouple from the other vectors of regulation.²¹² For example, one could argue that building up to the property line but installing a green roof, harvesting rainfall to water lawns, or separating the drinking water supply from the nonpotable water system, are architectural solutions. Each alters the built world in a way that reduces lawns or mitigates their harms. To the extent that a municipality neither expressly permits nor forbids those behaviors, perhaps they are architectural solutions. But in the realm of land use and lawns, legal intervention into architecture (e.g., setbacks, rainwater capture prohibitions, and water distribution network design) and markets (e.g., water pricing)—and their resulting influence on social norms—all but guarantees that there are no pure design solutions. Much like markets and norms, architectural solutions cannot be decoupled from changes to existing legal structures.²¹³

²¹⁰ The expense of a Veblen good makes it desirable as a status symbol. See Richard H. McAdams, *Relative Preferences*, 102 *YALE L.J.* 1, 39–40 (1992); see also *It's Expensive, So It Must Be Good*, *ECONOMIST* (Sept. 2, 2009, 3:09 PM), http://www.economist.com/blogs/freeexchange/2009/09/its_expensive_so_it_must_be_go.

²¹¹ See Sharon Beder, *Economic Incentives for Environmental Protection*, *ECODATE*, July 2001, at 6, 7 (“In the case of price-based measures, their effectiveness will depend on whether the prices or charges are high enough.”).

²¹² Lessig, *supra* note 164, at 662–63.

²¹³ See *id.* at 664.

Further, perhaps the greatest architectural change has already happened—climate change and drought. Although localities are working against this change via mitigation techniques, they are also beginning to implement adaptation measures in response.²¹⁴ Put simply, the physical world that we have created by our behavior is, in many parts of the country, one that is less hospitable to lawns. So, if we choose to maintain lawns at their current levels in the face of that change, it will require even more substantial legal and market intervention.

Deregulation might offer an attractive first step. Local governments could begin to address lawn harms by removing existing restrictions that encourage lawns: weed laws and setback requirements. Although this would not actively incentivize individuals to stop maintaining industrial-style lawns, it would *allow* them to do so.²¹⁵ If deregulation in conjunction with norm change was not sufficient to address the harms, affirmative mandates could be adopted to *force* lawn replacement. Any autonomy concerns would be managed if the municipality allowed various alternatives—xeriscaping, vegetable gardens, etc.—with which a homeowner could replace the lawn.²¹⁶

D. Law: Mandates and Bans

As lawn-related harms become more pressing, it is likely that deregulation alone will not be sufficient; localities may turn to the aforementioned regulatory methods to foster sustainability and ensure harm reduction. Although incentives may be sufficient to reduce water consumption and alleviate other lawn-related harms at the present time, mandated reductions in water consumption might be a more important policy tool in the future. Further, legal regulation encompasses varying levels of strictness—from mandated reductions to outright bans.²¹⁷ This Section addresses some concerns with legal reg-

²¹⁴ See Sally Kane & Jason F. Shogren, *Linking Adaptation and Mitigation in Climate Change Policy*, 45 CLIMATIC CHANGE 75, 85 (2000).

²¹⁵ When property owners are free to use their land as they wish, they will theoretically use it efficiently and for its highest and best use. See Schindler, *Of Backyard Chickens*, *supra* note 60, at 282–83 (discussing the theory supporting deregulation and the economic benefits of deregulated property); see also Carol Rose, *The Comedy of the Commons: Custom, Commerce, and Inherently Public Property*, 53 U. CHI. L. REV. 711, 720 (1986).

²¹⁶ See Sunstein, *Social Norms*, *supra* note 179, at 961 (“A citizen can be understood as autonomous insofar as she is able to choose among a set of reasonably good options and to be reflective and deliberative about her choice.”).

²¹⁷ A ban entirely outlawing all turfgrass is an extremely restrictive form of mandate—“the most burdensome regulatory option.” See *Corrosion Proof Fittings v. EPA*, 947 F.2d 1201, 1215–16 (5th Cir. 1991) (discussing the retroactive asbestos ban). However, a municipality could

ulation, but also discusses why these solutions may be appropriate to address the harms associated with lawns in the future.

As a starting point, it is important to acknowledge that, at the present time, pervasive lawn regulation is unlikely in all but the most drought-ridden areas. This is in part because mandates—and especially bans—are often seen as unlikely or politically untenable for a number of reasons. First, they are generally disfavored and unpopular.²¹⁸ Public choice theory suggests that mandates—those that would provide amorphous benefits to the community at large, but would substantially burden individual homeowners—would not garner enough organized support to persuade local politicians to implement them.²¹⁹ Further, some commentators suggest that mandates are politically unlikely because laws will not change until the norms underlying those laws change.²²⁰ But this argument is specious because it ignores the

instead simply limit the amount of ground area that turfgrass can occupy. *See, e.g.*, Benke, *supra* note 75, at 5 (discussing Albuquerque, and noting that “[w]ith water becoming scarce . . . the city is restricting the cultivation of lawns . . . [by] limit[ing] high-water-use lawns to just 20 percent of any new home lot”).

²¹⁸ *See, e.g.*, Cheng, *supra* note 164, at 659–62 (criticizing mandates); Michael P. Vandenberg, *Order Without Social Norms: How Personal Norm Activation Can Protect the Environment*, 99 *Nw. U. L. Rev.* 1101, 1103 (2005) (“Regulations that seek to direct personal behavior by fiat are exceedingly unpopular.”); *see also Corrosion Proof Fittings*, 947 F.2d at 1215–16 (petitioners describing the EPA ban on existing and future asbestos use as the “death penalty alternative”); Kuh, *supra* note 9, at 1120 n.21 (stating that “even if such mandates were adopted, they would engender public outcry and be repealed or disobeyed”).

²¹⁹ Public choice theory suggests that “[t]here is no public or general or social interest, there are only concatenations of particular interests or private preferences.” Frank I. Michelman, *Political Markets and Community Self-Determination: Competing Judicial Models of Local Government Legitimacy*, 53 *IND. L.J.* 145, 148 (1977–1978).

²²⁰ *See, e.g.*, Kuh, *supra* note 9, at 1117–18; Tekle, *supra* note 16, at 239. In her informative article about lawns, Professor Tekle addresses the idea of a ban on lawns only briefly and dismissively. She states:

In the absence of meaningful cultural change, government mandates in the form of public law requiring or even suggesting alternative landscapes likely will not work. In theory, 160 years of front lawn norms could be changed by the stroke of the mayor and town council’s pen, but in practice, this change is likely highly illusory. Citizens may find it difficult to comply with the new laws, and, consequently, local officials may find it difficult to enforce them. Once culture catches up with science, then the law, as a reflection of societal values, can catch up with culture.

Tekle, *supra* note 16, at 239 (footnote omitted). This discussion seems to conflate the issues of power to enact a ban with its subsequent enforcement. The fact that enforcement might be difficult (although this author would suggest otherwise, especially if the ban only covers front yards) does not weaken the police power justifications for the passage of a ban in the first place. Further, Professor Tekle fails to explain why such a ban would be “illusory” and “will not work,” especially given the fact that other sustainability mandates, such as green building ordinances, have been quite successful.

fact that norm change often follows legal change, and that the police power is broad enough to lead despite opposing norms.²²¹

Although widespread lawn bans are currently unlikely, climate change may put many of these issues on the table; “[c]risis can lower political barriers to legal change.”²²² Some would call the current drought in many parts of the United States a crisis,²²³ and looking forward, climate scientists almost universally predict that radical, catastrophic changes in the natural environment will soon occur as a direct result of climate change.²²⁴ In times of national crisis, policies that were previously politically untenable—or even viewed as illegal or unconstitutional—may become the controlling policies to address the problems that are causing the crisis.²²⁵ As more individuals in more parts of the country feel the effects of severe water shortage, pollu-

²²¹ See *supra* note 190.

²²² Doremus, *Evolution*, *supra* note 95, at 1115.

²²³ See, e.g., Brad Plumer, *As Food Prices Spike, How Close Is the World to Another Crisis?*, WASH. POST WONKBLOG (Aug. 9, 2012, 10:51 AM), <http://www.washingtonpost.com/blogs/wonkblog/wp/2012/08/09/-could-the-u-s-drought-trigger-another-global-food-crisis/>.

²²⁴ See, e.g., INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, CLIMATE CHANGE 2007: SYNTHESIS REPORT 11–12 tbl.SPM.2 (2008) (noting that in Australia and New Zealand, “[b]y 2020, significant loss of biodiversity is projected to occur in some ecologically rich sites”); ORG. FOR ECON. COOPERATION & DEV., *Climate Change, in OECD ENVIRONMENTAL OUTLOOK TO 2050: THE CONSEQUENCES OF INACTION* 71, 87 (2012) (“By 2020, between 75 and 250 million people [in Africa] are projected to be exposed to increased water stress . . .”).

²²⁵ See 2 BRUCE ACKERMAN, *WE THE PEOPLE: TRANSFORMATIONS* 409 (1998) (“During normal politics, the center of American politics is occupied by politicians and parties content with interstitial modifications of the existing regime. . . . While there are many groups devoted to fundamental reform, each wants to transform the system in very different ways, and none can plausibly claim to set the agenda for the mainstream of American opinion. That is what changes during a constitutional moment. . . . [A] broad movement of transformative opinion has now earned the authority to set major aspects of the political agenda.”); see also Walter Dean Burnham, *Constitutional Moments and Punctuated Equilibria: A Political Scientist Confronts Bruce Ackerman’s We the People*, 108 YALE L.J. 2237, 2246 (1999) (describing Ackerman’s “view that in constitutional moment crises the public is also transformed for the duration of the crisis. It becomes energized, mobilized, and, even less plausibly, proactive rather than reactive, as it usually is. At these times, the public can and sometimes does lead politicians, rather than the other way around.”); Mark Tushnet, *The Flag-Burning Episode: An Essay on the Constitution*, 61 U. COLO. L. REV. 39, 47–48 (1990) (stating that Ackerman distinguishes “between times of ordinary politics, when the mundane and routine dominate the nation’s consideration of political issues, and . . . constitutional moments, [when] the public is attentive to fundamental issues of constitutional government—we consider what sort of government we want to have, we consider what kinds of limits we want to place on that government, and, most important, we recognize that the arrangements we put in place will persist for a relatively long time.”); Philip J. Weiser, Note, *Ackerman’s Proposal for Popular Constitutional Lawmaking: Can It Realize His Aspirations for Dualist Democracy?*, 68 N.Y.U. L. REV. 907, 907 (1993) (suggesting that in Ackerman’s view, “the public will muster sufficient support to enact constitutional referendum proposals only in those times of crisis which he terms ‘constitutional moments’”).

tion, and climate change,²²⁶ they may become more likely to support policies previously thought to be radical, as well as the politicians who adopt those policies, in order to target crisis-related harms.²²⁷

Another concern is that mandates directed at individuals sometimes suffer from an “intrusion objection,” which involves opposition to a perceived invasion of “privacy or other civil liberties in a manner unpalatable to the public.”²²⁸ Many believe that banning the actions of private citizens impinges too substantially on private rights, including private property rights.²²⁹ Challenges to land use ordinances are often founded in general libertarian property rights theory, the idea being that the fewer regulations on the use of the property there are the better, as this will foster more efficient use of property.²³⁰ These views relate to lawns because “[a] strong view of private property em-

²²⁶ One could argue that this is already happening. See, e.g., *Climate Change Facts: Answers to Common Questions*, U.S. ENVTL. PROTECTION AGENCY, <http://epagov/climatechange/factshtml> (last updated Sept. 9, 2013) (noting that the rise in global temperatures has been accompanied by more intense storms, more frequent and severe heat waves, and rising sea levels, which have “already put coastal homes, beaches, roads, bridges, and wildlife at risk”).

²²⁷ An important distinction between this idea and Ackerman’s concept of constitutional moments is that currently, according to the analysis set forth in this Article, these bans are already “legal,” even if they are applied retroactively. Cf. Gregg Costa, Note, *John Marshall, the Sedition Act, and Free Speech in the Early Republic*, 77 TEX. L. REV. 1011, 1012 n.7 (1999) (noting that “Ackerman’s influential theory of ‘constitutional moments’ . . . posits that political crises can result in fundamental constitutional reinterpretation”). They are not, however, likely politically tenable in most jurisdictions at the present time. This is the key tie-in to Ackerman’s ideas. In times of crisis, the idea of a lawn mandate may become sufficiently politically palatable to withstand challenges, or at least to withstand the removal of those public elected officials who passed the ordinances imposing the bans.

²²⁸ Kuh, *supra* note 9, at 1119–20; see also *Olmstead v. United States*, 277 U.S. 438, 479 (1928) (Brandeis, J., dissenting) (“The greatest dangers to liberty lurk in insidious encroachment by men of zeal, well-meaning but without understanding.”), *overruled by* *Katz v. United States*, 389 U.S. 347 (1967), and *Berger v. New York*, 388 U.S. 41 (1967); Babcock, *Global Climate Change*, *supra* note 30, at 5–6 (describing individual mandates as “costly” and likely to “trigger enormous political resistance because of the interference with individual liberty and invasion of privacy”); Vandenberg, *From Smokestack to SUV*, *supra* note 91, at 598 (noting concerns with the “intrusiveness” of enforcing mandates on individual behavior which might “undermine compliance or produce a political backlash”).

²²⁹ There is a prevailing cultural view that Americans “accept that individual landowners rightly ought to be vested with decisions about how best to use” their land. Timothy Beatley & Richard C. Collins, *Americanizing Sustainability: Place-Based Approaches to the Global Challenge*, 27 WM. & MARY ENVTL. L. & POL’Y REV. 193, 212 (2002); see also Hawes, *supra* note 147, at 10 (“Elected officials may consider conservation [to be the same as] ending green lawns and therefore politically unpalatable. Water users might think conservation is inconvenient or interfering with private property rights.”).

²³⁰ See Epstein, *supra* note 135, at 761–63. It is worth noting that the liberty objection seems to entrench weak property owner preferences. What people value in their neighborhoods is consistency; they do not want their yard to be an outlier. See *supra* notes 62–65 and accompanying text. Once a shift away from lawns occurs, however, whether through norm pioneering or

powers the landowner to do what she wishes with her yard.”²³¹ Indeed, property rights proponents believe that having a lawn is a right—a form of democracy.²³² Even proponents of natural landscapes sometimes take this view, assuming that there is a right to environmentally unfriendly landscapes, and ignoring the strength of the police powers.²³³ One commentator suggests that “it would stretch our customary understanding of the appropriate role of regulation to attempt to mandate that an owner . . . systematically remove invasive species.”²³⁴ Although the police power is broad, local governments are still quite deferential to property rights, and thus often fail to pass otherwise legally permissible ordinances that would support principles of sustainability and biodiversity.²³⁵

However, “the right to use one’s real property as desired, historically cherished as it is, was never conceived as absolute.”²³⁶ And, as previously discussed, local governments already regulate lawns in the United States via weed ordinances, front-yard garden bans, and setback requirements.²³⁷ This effectively eliminates the libertarian argument because the government already interferes with individual lawn choice. Because individuals own property subject to the government’s police power, governments have the ability to “redefine the content of

legal regulation, one could imagine property owners readily embracing xeriscaping, front yard gardens, or synthetic lawns.

²³¹ Smith, *supra* note 11, at 215.

²³² Beatriz Colomina, *The Lawn at War: 1941–1961*, in *THE AMERICAN LAWN* 135, 149 (Georges Teyssot ed., 1999) (“The lawn represents democracy . . . Everybody can have a lawn. The lawn is a right . . .”).

²³³ See, e.g., Rappaport, *supra* note 8, at 927 (arguing for natural landscapes, but stating, seemingly non-ironically, that “[p]eople have a right to astro-turf-covered stoops, closely cropped evergreens, and spinning plastic sun-flowers in their yards. That is the American way.”); Bittman, *supra* note 71 (advocating for turning lawns into gardens, but stating, “I’m not going to argue that we should be limiting the size or number of lawns”).

²³⁴ John D. Echeverria, *Regulating Versus Paying Land Owners to Protect the Environment*, 26 *J. LAND, RESOURCES & ENVTL. L.* 1, 14 (2005).

²³⁵ See Holly Doremus, *Biodiversity and the Challenge of Saving the Ordinary*, 38 *IDAHO L. REV.* 325, 346 (2002) (“Despite an underappreciated history of substantial regulation, real property has somehow become an iconic symbol of individual liberty in America. Landowners assume that they are or should be free to use their land in virtually any way they please, so long as other people are not directly injured by that use. Because that assumption is widespread and politically powerful, the effort to impose the kinds of regulatory controls on land use that are essential to biodiversity protection faces particularly formidable institutional barriers.” (footnote omitted)). This is beginning to change, as more local governments are beginning to impose sustainability requirements such as green building mandates. See Sarah B. Schindler, *Following Industry’s LEED®: Municipal Adoption of Private Green Building Standards*, 62 *FLA. L. REV.* 285, 285 (2010) [hereinafter Schindler, *Following Industry’s LEED*].

²³⁶ Smith, *supra* note 11, at 215.

²³⁷ See *supra* notes 56–57 and accompanying text.

property rights.”²³⁸ The key is striking the appropriate balance between regulatory control and honoring the autonomy interest in using one’s property as one wishes.

The collective fear of imposing mandates—both from the perspective of academics and policymakers—might also be unfounded and less formidable than imagined.²³⁹ That this fear is overstated is evidenced by the fact that “sustainability mandates”²⁴⁰ are becoming more common. Courts have long recognized that the exercise of the police power “must become wider, more varied, and frequent, with the progress of society,”²⁴¹ and local government trends toward sustainable policies are an example of that progress. For example, green building ordinances, which require private developers to construct their private development projects to meet certain levels of energy efficiency or sustainable design, are now quite common.²⁴² Some communities restrict leaf blower usage on “ozone action” days;²⁴³ others limit whether and when people can wash their cars or water their lawns;²⁴⁴ and in some areas, residents are required to separate their

²³⁸ Serkin, *supra* note 133, at 1259. But most discussion of property rights focuses on their strengthening over time, and that this strengthening leads to increases in growth and development. Doremus, *Evolution*, *supra* note 95, at 1095 (“[T]he [scholarly] focus has remained primarily on the initial emergence and subsequent strengthening of individuated property rights as a reaction to the inefficiencies of collective ownership. The tacit assumption seems to be that change should uniformly run in the direction of increased property rights, because stronger property rights mean increased economic development and growth.” (footnote omitted)). Although it is understood that governments do at times use law to weaken private property rights, such action is viewed by some as “an aberration.” *Id.* at 1095 n.16. Thus, the proposal in this Article suggesting a ban on lawns is counter to the general trend. One method of climate change adaptation is changing property rules, which are motivated by recognition of the shared sacrifice that will be necessary to confront a changing climate. *See id.* at 1092 (“The changes that climate change calls for will largely be toward *weaker*, rather than stronger, individual property rights. Strong property rights encourage moral hazard, increasing the costs of adaptation to a warmer world, and may stand directly in the way of societal adaptation.”).

²³⁹ Kuh, *supra* note 9, at 1112 (“[T]here are reasons to believe that the cost and feasibility of imposing mandates on environmentally significant individual behaviors may be less daunting than widely imagined.”).

²⁴⁰ I use this term to mean mandates or bans, imposed via public law, that aim to require or curtail an action that can lead to a more sustainable environment, and perhaps reduce some negative impacts associated with climate change.

²⁴¹ *See* *Bos. & Me. R.R. Co. v. Cnty. Comm’rs of York*, 10 A. 113, 114 (Me. 1887).

²⁴² *See generally* Schindler, *Following Industry’s LEED*, *supra* note 235. Green building ordinances may be distinguishable, as they often only apply to large development projects or commercial enterprises, *see id.* at 312, and not to single-family residential homeowners—the group that would be most directly impacted by a retroactive lawn ban.

²⁴³ CZARNEZKI, *supra* note 168, at 46.

²⁴⁴ *See* Kuh, *supra* note 9, at 1140 n.110 (discussing limits on car washing); *id.* at 1133 (“Municipalities also commonly adopt water-conservation ordinances that prohibit or limit the time or duration of outdoor water use, require the use of hoses that have an automatic shut-off nozzle,

recyclables from their trash.²⁴⁵ Some municipalities have placed restrictions on watering golf courses²⁴⁶ and at least one prohibits restrictive covenants that require turfgrass.²⁴⁷ Even affirmative removal mandates are not unheard of. For example, many cities require homeowners to remove snow from the sidewalks in front of their homes.²⁴⁸ From a private law perspective, some intentional communities are beginning to incorporate sustainability mandates—including bans on gas-powered mowers, leaf-blowers, and industrial fertilizers—into their CC&Rs.²⁴⁹

Further, a lawn ban should suffer less risk of an intrusion objection than other mandates on individual behaviors because a lawn ban is primarily a *property* restriction, not a direct restriction on individual behaviors.²⁵⁰ Of course, a ban on lawns de facto regulates individual

bar the washing of impervious surfaces, or require the installation of low-flow fixtures before the sale or major modification of a residential home.”). One locality has prohibited the “non-beneficial use of water.” RIO RANCHO, N.M., CODE §§ 52.01–.09 (2013). Thus, if the city of Rio Rancho decided to define lawns as a “non-beneficial use,” their existing ordinance might be interpreted to ban the watering of lawns, and thus could lead to the demise of the lawns themselves. *See id.*; *see also* GARDEN GROVE, CAL., CODE §§ 14.40.042–.044 (2012) (during a stage 2 water alert, restricts watering to every other day on an odd/even basis; during a stage 3 water warning, restricts watering to twice a week on an odd/even basis and prohibits watering between 6 AM and 6 PM; during a stage 4 water emergency, prohibits all watering); PASCO COUNTY, FLA., CODE § 62-98 (Supp. 60, 2013) (restricts the watering of established lawns to once per week, except by hand).

²⁴⁵ Kuh, *supra* note 9, at 1132 n.60 (citing, e.g., S.F., CAL., ENVIR. CODE §§ 1901–1912 (2011) and NANTUCKET, MASS., CODE §§ 125-2, -5 (2009)).

²⁴⁶ *See, e.g.*, DOTHAN, ALA., CODE § 102-166 (Supp. 35, 2013) (prohibiting watering of golf course fairways during a water emergency); LAS VEGAS VALLEY WATER DISTRICT SERVICE RULES § 12.6(B) (2013), available at http://www.lvwd.com/assets/pdf/serv_rules_fulldocpdf (requiring golf courses using District supplied water to conform to a water budget, pay a surcharge for exceeding the budget, and submit water use reduction plans).

²⁴⁷ DENVER, COLO., CODE § 57-100 (Supp. 114, 2013) (prospectively prohibiting restrictive covenants that require turfgrass).

²⁴⁸ The majority of courts considering these ordinances have found them to be valid exercises of the police power. *See, e.g.*, *State v. McMahon*, 55 A. 591, 593 (Conn. 1903); *State v. Small*, 137 A. 398, 399 (Me. 1927); *Flynn v. Canton Co. of Balt.*, 40 Md. 312, 324 (1874).

²⁴⁹ *See* Amy Bray, *How to Create a Green Community*, PRAC. REAL EST. LAW., July 2008, at 47, 48–50 (suggesting prohibition of leaf blowers and lawn mowers that are gas-powered, as they generate pollution and excessive noise, and stating, “[w]ith respect to landscaping, require use of native plants in landscaping, including wildflowers. Use guidelines to minimize lawn areas and encourage tree planting.”); Ross Jackson, *The Ecovillage Movement*, PERMACULTURE MAG., Summer 2004, at 25, 25–29. Bray suggests that “requiring vast expansive lawns [is a] practice[] that [is] not appropriate in a community that seeks to be environmentally responsible and ignores the growing trend favoring environmental responsibility in everyday choices.” Bray, *supra*, at 52.

²⁵⁰ *See* Kuh, *supra* note 9, at 1128–29 n.46 (distinguishing mandates that regulate individuals from those that regulate architecture, and specifically identifying zoning ordinances and green building codes as “mandates directed to individuals at the juncture of construction or

behavior, because individual action is inherently limited by property restrictions, but that is not a lawn ban's primary purpose.²⁵¹ Further, while many environmentally significant individual behaviors are conducted in private inside the home, this is not so with respect to lawns, on which all activities are conducted outside the home.²⁵² Thus, the intrusion concerns related to privacy and civil liberties should be less pronounced in the face of a property restriction that only indirectly limits publicly visible behaviors.

Finally, as the effects of climate change make themselves more evident to citizens and policymakers, the externalities associated with environmentally significant individual behaviors should emerge as a natural target of regulation.²⁵³ Regulation serves as a means of forcing internalization of externalities, which is often necessary in the context of environmental law.²⁵⁴ Indeed, “[m]ost economic theorists recognize that some level of environmental regulation is necessary because environmental problems frequently involve significant externalities, require solutions that carry high transaction costs, and concern threats to a public good, all factors that may contribute to market failures.”²⁵⁵ Thus, mandates should be less troubling in the context of a lawn ban than they would be if private individual behaviors were being directly targeted, and they may even be necessary to target and alleviate the harms associated with lawns specifically, and climate change more broadly.²⁵⁶

renovation, [which] do not directly operate on specific day-to-day behaviors” but recognizing that they “indirectly constrain behavior” and thus categorizing them as “a direct regulation of architecture that indirectly regulates individuals”); *supra* notes 228–33 and accompanying text.

²⁵¹ A lawn ban would effectively bar individuals from maintaining a lawn, and would extend to actions like watering, mowing, and fertilizing.

²⁵² See Kuh, *supra* note 9, at 1120. Further, if a ban were limited to the front yard, the behaviors that would be curtailed would be visible to the public.

²⁵³ See *supra* notes 222–27 and accompanying text.

²⁵⁴ See Brett M. Frischmann & Mark A. Lemley, *Spillovers*, 107 COLUM. L. REV. 257, 300 (2007) (“Environmental laws and regulation generally aim to force externality-producing agents . . . to fully account for the consequences of their actions.”).

²⁵⁵ Carl J. Circo, *Using Mandates and Incentives to Promote Sustainable Construction and Green Building Projects in the Private Sector: A Call for More State Land Use Policy Initiatives*, 112 PENN ST. L. REV. 731, 749 (2008).

²⁵⁶ See Kuh, *supra* note 9, at 1177 (describing a successful mandate as one that “do[es] not impose disproportionate burdens on a select few, [that does] not unduly transgress the home, [that is] designed to minimize inconvenience and other costs to the public, and [that is] effectively ‘sold’ to the public through communication and demonstration of the measure’s benefits”).

III. THE ANATOMY OF A LAWN BAN

This Article seeks to examine what a lawn ban might look like in the event that such bans become more necessary and accepted. Thus, this Part addresses the appropriate scale of regulation and sources of governmental power to enact a lawn ban, and discusses how it might be implemented.

A. Regulatory Structure

1. Scope: State Versus Local

Because climate, resource scarcity, and environmental priorities are so dependent upon location, a ban on lawns would not make sense for all states or municipalities in the country.²⁵⁷ Certainly, a federal ban on lawns would not be appropriate, at least not given the current disparate U.S. climate and water usage patterns. State regulation might be useful in certain states that face similar water usage patterns and demands across their jurisdictions. Perhaps those states could establish standards that would trigger targeted incentives or disincentives, and eventually, as water shortages became more acute, bans on lawns. However, local governments are likely more adept at addressing climate change in larger states with many different climates.²⁵⁸ Further, because the real power to effect change lies in the police power, which is delegated to local governments,²⁵⁹ they are the ones who are already taking action on lawns.²⁶⁰ A benefit of regulating at the municipal level is that municipalities can be innovative and local

²⁵⁷ In many parts of the country, including the Northeast, lawns often grow with little need for watering or fertilizer. See, e.g., *Lawn Care Library*, CORNELL U., <http://www.gardening.cornell.edu/homegardening/scened6bfhtml> (last visited Feb. 15, 2014) (noting that most lawns in New York generally do not need watering other than for a few weeks during the summer). Thus many of the harms associated with lawns discussed earlier in this Article would not be present, and therefore would not be alleviated, by a lawn ban.

²⁵⁸ For example, in California, a large state with many different climates, the state building codes permit regional variation for climatic purposes, and many of the first green building codes in that state were enabled under that exception to the standard rules. See CAL. CODE REGS. tit. 24, § 2-101 (2010). When California passed its first state green code, it provided local governments with options to choose from depending upon their climate. CAL. CODE REGS. tit. 24, § 101.7 (2010). Similarly, California uses regional governments to implement its State Implementation Plan under the Clean Air Act. See Kenneth A. Manaster, *Fairness in the Air: California's Air Pollution Hearing Boards*, 24 UCLA J. ENVTL. L. & POL'Y 1, 3 (2006).

²⁵⁹ See *infra* notes 275–80 and accompanying text.

²⁶⁰ See, e.g., LAS VEGAS, NEV., CODE § 14.11.150(a) (Supp. 17, 2013) (prohibiting new turf installation in residential front yards); see also Robert R.M. Verchick, *Why the Global Environment Needs Local Government: Lessons from the Johannesburg Summit*, 35 URB. LAW. 471, 472–73 (2003) (explaining that the level of involvement of localities in sustainable development problem solving has increased dramatically in recent years).

ordinances can be specifically tailored to the needs, concerns, and geographically related harms of each individual community.²⁶¹ Thus, pragmatically, local regulation seems to make the most sense. However, there are also theoretical justifications for local action to alleviate lawn harms.

Because a lawn ban is a controversial proposal, the political capital necessary to pass such an ordinance may be lacking in many (or all) states.²⁶² Localities, however, are different. First, in many major “thought-leader” cities in the United States, lawn norms are starting to change.²⁶³ There already exists a market-driven desire in these places for sustainable policies and efforts to reduce greenhouse gas emissions. Effective regulation at the local level can harness that market desire, and when these cities adopt cutting-edge policies, others tend to follow.²⁶⁴ Further, according to Charles Tiebout, different communities provide different services and benefits—and adopt different policies—to attract different types of residents.²⁶⁵ So if lawn bans are enacted at the local instead of the state level, those with a preference for lawns can (theoretically) move to a jurisdiction without a ban, thus allaying some concerns over property rights and free choice that might otherwise be associated with lawn bans.

The Matching Principle provides some support for the idea that certain local harms tied to climate change are ripe for local regulation.²⁶⁶ Specifically, the Principle posits that the regulating jurisdiction should not be larger than the regulated activity.²⁶⁷ At base, the costs of lawns go beyond each individual municipality. Water crosses juris-

²⁶¹ Schindler, *Following Industry's LEED*, *supra* note 235, at 289–90 (discussing the benefits of ordinances that are crafted at the local level by local government actors).

²⁶² This does not mean that there might not be valid reasons to consider a state-level ban at some point—at least in certain states that have water shortage or pollution problems. Such a state-level approach might ensure uniformity so that rich and poor municipalities share an equal burden, insulate local politicians from an unpopular decision, and be less subject to revision in future years.

²⁶³ See Schindler, *Of Backyard Chickens*, *supra* note 60, at 234–37.

²⁶⁴ See Sunstein, *Social Norms*, *supra* note 179, at 912 (describing norm bandwagons and cascades). See generally Sushil Bikhchandani, David Hirshleifer & Ivo Welch, *A Theory of Fads, Fashion, Custom, and Cultural Change as Informational Cascades*, 100 J. POL. ECON. 992 (1992).

²⁶⁵ See Charles M. Tiebout, *A Pure Theory of Local Expenditures*, 64 J. POL. ECON. 416, 420 (1956) (describing residents as “consumer-voters” who look for municipalities that provide a mix of public goods and services that appeal to them).

²⁶⁶ See Henry N. Butler & Jonathan R. Macey, *Externalities and the Matching Principle: The Case for Reallocating Environmental Regulatory Authority*, 14 YALE L. & POL'Y REV. 23, 36 (1996) (arguing that “purely local externalities” should be dealt with locally); see also Schindler, *Following Industry's LEED*, *supra* note 235, at 295–96 (discussing the Matching Principle).

²⁶⁷ Butler & Macey, *supra* note 266, at 25.

dictional boundaries; its availability and the harms that lawns impose manifest themselves on a regional scale—the watershed for water use impacts and runoff, and the grid-scale for energy issues. While regional or watershed-level governance might be ideal in this context, the United States generally lacks strong regional structures.²⁶⁸ Thus, the next smallest unit of government—local governments—would most appropriately address these problems.²⁶⁹ For example, most lawns exist in the suburbs, and greenhouse gas emissions in the suburbs are usually higher than in central cities.²⁷⁰ This suggests that the policies implemented in suburbs with respect to lawns might differ from those implemented in cities.

Finally, the general-purpose local government should take action instead of a special use district. Although much concern about lawns stems from a concern about water, municipalities cannot assume that water providers will—or even have the authority to—act.²⁷¹ And even if they have the authority to ban water usage at certain times, the water providers often prefer not to because bans are viewed as “less customer friendly than incentives or education.”²⁷²

2. *Power: Home Rule, Police Powers, and Zoning Enabling Acts*

Although to some the idea of a local government banning lawns might seem draconian, local governments in fact have many sources of authority to enact lawn bans. First, a land use ordinance generally only requires a rational basis to be upheld.²⁷³ So long as the munic-

²⁶⁸ In the alternative, if sufficient organization and desire were present, lawn regulation could occur through regional compacts.

²⁶⁹ Of course, within each watershed, local governments face a collective action problem, in which the costs of water consumption are spread to other municipalities sharing the same watershed.

²⁷⁰ See EDWARD L. GLAESER & MATTHEW KAHN, *THE GREENNESS OF CITIES* 7–9 (2008) available at http://www.hks.harvard.edu/var/ezp_site/storage/fckeditor/file/pdfs/centers-programs/centers/taubman/policybriefs/greencities_finalpdf (Rappaport Institute for Greater Boston and Taubman Center for State and Local Government Policy Brief).

²⁷¹ See Hawes, *supra* note 147, at 11 (“Challenges arise where water providers are special districts rather than municipal or county governments. Without land use authority, these entities have no control over the type of new development that may be approved and cannot dictate plumbing codes or landscaping requirements.”).

²⁷² *Id.* (noting that “usually only in extreme situations, such as drought or emergency, water providers impose mandatory restrictions on water usage. Throughout Colorado in the summer of 2002, mandatory watering restrictions were the norm” (internal quotation marks omitted)).

²⁷³ See, e.g., *City of Lilburn v. Sanchez*, 491 S.E.2d 353, 355 (Ga. 1997) (“So long as an ordinance realistically serves a legitimate public purpose, and it employs means that are reasonably necessary to achieve that purpose, without unduly oppressing the individuals regulated, the ordinance must survive a due process challenge.”).

pality had “fairly debatable” reasons for the enactment, the ordinance will stand.²⁷⁴ This is due in part to broad police powers: local governments have the power to act in furtherance of the public health, safety, welfare, and morals of the community.²⁷⁵ This power flows from the state’s plenary regulatory authority,²⁷⁶ coupled with municipal home rule authority, which now exists in most states.²⁷⁷ When a land use ordinance is enacted pursuant to the locality’s police power, it is presumed to be valid.²⁷⁸ Police powers are broad and may change to encompass the times and the context.²⁷⁹ Thus, scholars recognize that these powers justify “development regulations intended to conserve natural resources and protect the environment,” including regulations that “broadly seek to curb unsustainable land development, even when they impose significant burdens on the landowner.”²⁸⁰

An additional source of local power flows from enabling legislation, which exists in all states and expressly grants zoning powers to municipalities.²⁸¹ Because every state has adopted a zoning enabling act, “the question of inherent power to zone is rarely litigated.”²⁸²

²⁷⁴ *Vill. of Euclid v. Ambler Realty Co.*, 272 U.S. 365, 388 (1926) (“If the validity of the legislative classification for zoning purposes be fairly debatable, the legislative judgment must be allowed to control.”).

²⁷⁵ See Anthony J. Samson, Comment, *A Proposal to Implement Mandatory Training Requirements for Home Rule Zoning Officials*, 2008 MICH. ST. L. REV. 879, 886 (“Absent expressed or implied powers to regulate a particular activity, home rule municipalities may rely on their police powers to safeguard and promote public health, safety, morals, and general welfare.” (footnote omitted)).

²⁷⁶ See *Hunter v. City of Pittsburgh*, 207 U.S. 161, 178 (1907) (explaining that localities are “created as convenient agencies for exercising such of the governmental powers of the State as may be entrusted to them”), *overruled on other grounds by Kramer v. Union Free Sch. Dist. No. 15*, 395 U.S. 621 (1969).

²⁷⁷ See *supra* note 33. Home rule authority permits municipalities to regulate without first needing express authorization from the state. See DALE KRANE, PLATON N. RIGOS & MELVIN B. HILL, JR., *HOME RULE IN AMERICA: A FIFTY-STATE HANDBOOK* 14 (2001); see also James G. Hodge, Jr., *An Enhanced Approach to Distinguishing Public Health Practice and Human Subjects Research*, 33 J.L. MED. & ETHICS 125, 130 (2005) (“Primary responsibility for protecting the public’s health, however, is held by the states (and local governments via delegated state authority).”).

²⁷⁸ Serkin, *supra* note 133, at 1257–58 n.174.

²⁷⁹ See *Ambler Realty Co.*, 272 U.S. at 387 (“[W]hile the meaning of constitutional guarantees never varies, the scope of their application must expand or contract to meet the new and different conditions which are constantly coming within the field of their operation.”); see also *Bos. & Me. R.R. Co. v. Cnty. Comm’rs of York*, 10 A. 113, 114 (Me. 1887) (“[The police power’s] exercise must become wider, more varied, and frequent, with the progress of society.”).

²⁸⁰ Circo, *supra* note 255, at 745. The harms laid out in Part I.C *supra* suggest that the support for a ban is at least debatable.

²⁸¹ See ELLICKSON & BEEN, *supra* note 127, at 29.

²⁸² 1 KENNETH H. YOUNG, *ANDERSON’S AMERICAN LAW OF ZONING* § 2.15 (4th ed. 1996).

There is a question, however, whether the power to regulate lawns would be considered within a locality's zoning power, especially if one is in a jurisdiction with a fairly specific zoning enabling act. Many states began the process of zoning by enacting the Standard State Zoning Enabling Act ("SZE A"), which was promulgated in 1922,²⁸³ but many have now adopted their own modified, state-specific acts.²⁸⁴ Thus, the power to regulate lawns as a form of zoning would vary based on the specific language of the state statute. Historically, because most zoning laws did not mention yard vegetation, many communities adopted "special purpose controls"—the aforementioned weed ordinances—in addition to their normal zoning ordinances to regulate landscaping.²⁸⁵ Some zoning enabling acts, however, do specifically address these issues. For example, the Texas SZE A expressly refers to the "size of yards" as zoning that is covered by the act.²⁸⁶ Thus, a locality seeking to ban lawns in Texas could likely rely upon its express zoning powers, instead of falling back on its broader home rule authority, to do so.²⁸⁷ On the other hand, if a locality is situated in a Dillon's Rule²⁸⁸ state whose SZE A does not specifically delegate or mention the ability to ban or control lawns, the locality might not be able to do so.²⁸⁹

²⁸³ See *id.* § 2.21; Alan R. Madry, *Judging Ziervogel: The Twisted Path of Recent Zoning Variance Decisions in Wisconsin*, 91 MARO. L. REV. 485, 492 (2007).

²⁸⁴ See, e.g., MICH. COMP. LAWS ANN. §§ 125.3101–.3702 (West 2012); OKLA. STAT. ANN. tit. 11, §§ 43-101 to -109 (West 2012).

²⁸⁵ Smith, *supra* note 11, at 217 n.51 (explaining that traditional zoning laws do not mention vegetation but noting that whether the ordinance is within or outside of zoning is "purely semantic" in that "there is no difference between living in a residential community that is 'zoned' to prohibit bamboo vegetation than one that has a special purpose 'no bamboo' ordinance.").

²⁸⁶ TEX. LOC. GOV'T CODE ANN. § 211.003(a)(3) (West 2006).

²⁸⁷ Regardless of the approach taken, a local government should be certain that any ordinance it adopts complies not only with the SZE A (or is pursuant to home rule authority), but that it also complies with other state statutes that might limit the use of zoning or agriculture ordinances or govern water consumption. See, e.g., MASS. ANN. LAWS ch. 40A, § 3 (LexisNexis 2006) (zoning ordinances cannot prohibit use of land owned by religious groups for religious or educational purposes).

²⁸⁸ In states that follow Dillon's Rule, the powers of a local government generally include only: powers granted to them expressly, powers "necessarily or fairly implied in or incident to" powers granted expressly, and powers indispensable to a municipality's purposes. See YOKLEY, *supra* note 33, § 52; James S. Macdonald & Jacqueline R. Papez, *Over 100 Years Without True "Home Rule" in Idaho: Time for Change*, 46 IDAHO L. REV. 587, 599 (2010). Even in home rule states, not all municipalities operate under home rule powers. See Briffault, *supra* note 33, at 10 n.20.

²⁸⁹ This concern may be academic, as zoning enabling acts regularly grant the power to zone consistent with the police powers. See, e.g., YOUNG, *supra* note 282, § 2.22 (describing the SZE A as "delegat[ing] the zoning power in a single sentence . . . [which] begins by attaching the power securely to the orthodox components of the police power").

A final municipal source of power to enact lawn bans could derive from a determination that lawns are a nuisance, or a “public bad,” due to their negative impact on the health and safety interests of the public.²⁹⁰ To facilitate this legal construction, a municipality could identify a “lawn” as a nuisance per se, for example by defining “weeds” or “noxious vegetation” in a nuisance vegetation ordinance to include lawns.²⁹¹ By labeling lawns a nuisance per se, a local government could engage in a direct attack on the very existence of lawns, as many have done against funeral homes²⁹² or houses of ill-repute²⁹³ in residential areas. The ban would seek to directly prevent the harm that lawns cause.²⁹⁴ For example, because turfgrass is often a non-native species,²⁹⁵ a locality could address it in the same way it addresses other exotic species. Because non-native flora and fauna have the ability to harmfully modify local ecosystems,²⁹⁶ local governments might take an aggressive position on removal and remediation to alleviate the threat; indeed, local governments often regulate and eradicate invasive species, and do so with the support of their police powers.²⁹⁷

²⁹⁰ States and their authorized municipalities may proscribe nuisances pursuant to their exercise of the police power. *See, e.g.*, *Nw. Laundry v. City of Des Moines*, 239 U.S. 486, 491–92 (1916) (upholding a Des Moines ordinance declaring dense smoke emissions in populous areas to be a nuisance).

²⁹¹ *See* Serkin, *supra* note 133, at 1240 (“Applying the nuisance exception, the government can regulate away a hazardous or injurious activity without paying compensation.”). Of course, such a determination could not be arbitrary, or it could be struck down as violative of substantive due process. *See infra* note 329 and accompanying text. A finding that lawns are a nuisance would have a greater likelihood of success in an area facing water shortages or water pollution problems.

²⁹² *See, e.g.*, *Travis v. Moore*, 377 So. 2d 609, 610–12 (Miss. 1979).

²⁹³ *See, e.g.*, *Martin v. State*, 10 S.E.2d 254, 256 (Ga. Ct. App. 1940).

²⁹⁴ Lawn bans would both prevent harm and confer benefits because lawn removal would result in environmental benefits to the broader community. In *Lucas v. South Carolina Coastal Council*, the Court noted that the difference between the two is “often in the eye of the beholder.” *Lucas v. S.C. Coastal Council*, 505 U.S. 1003, 1024 (1992). This distinction is important to some courts, however, which

reason that harm prevention is a valid exercise of a state’s police power and that, since all property is owned subject to the police power, no such harm prevention can trigger a compensation requirement. Fundamentally, the inquiry in these . . . opinions is whether the regulation is an invalid exercise of the police power—that is, whether it is irrational or arbitrary.

Serkin, *supra* note 133, at 1248 (footnote omitted).

²⁹⁵ *See* Lindsey, *supra* note 6.

²⁹⁶ *See supra* notes 124–32 and accompanying text.

²⁹⁷ *See, e.g.*, PALM BEACH COUNTY, FLA., UNIFIED LAND DEV. CODE, art. 14, ch. D, §§ 1–10 (Supp. 15, 2013), available at <http://www.pbcgov.com/pzb/ePZB/uldcpdf> (requiring owners of property located near “natural areas” to remove invasive non-native species, and prohibiting their planting); *see also* 321 MASS. CODE REGS. 2.12(1) (2012) (establishing “requirements

The nuisance approach may be attractive to local governments because of the deference that courts afford to governments that act to protect their communities. Of course, many landowners will probably object to a ban on lawns, and are likely to assert that a newly enacted land use ordinance works a regulatory taking of their property. In *Lucas v. South Carolina Coastal Council*,²⁹⁸ the Supreme Court held that a state regulation depriving a landowner “of all economically beneficial use” of her land is a taking, unless the use prohibited by the regulation is already precluded by the principles of nuisance and property law.²⁹⁹ On balance, a local government enacting a lawn ban has support against such a constitutional challenge. First, the idea of a “regulatory taking” is a recent creation. Previously, the Supreme Court held that government regulations that control nuisances are not subject to property protections afforded by the Fifth Amendment because the police power is broad enough to cover these situations.³⁰⁰ This is because “[u]nder the police power, rights of property are impaired not because they become useful or necessary to the public, or because some public advantage can be gained by disregarding them, but because their free exercise is believed to be detrimental to public interests.”³⁰¹ In addressing nuisances to protect the public, “the government can regulate away a hazardous or injurious activity without paying compensation.”³⁰²

Even if a regulatory taking challenge were to proceed to the merits, the claim would be examined under the per se test of *Lucas* only if the landowner could show that the regulation deprives her of all eco-

for the licensing, possession, propagation, maintenance, and disposition of wild birds, mammals, reptiles and amphibians”).

²⁹⁸ *Lucas v. S.C. Coastal Council*, 505 U.S. 1003 (1992).

²⁹⁹ *Id.* at 1027–29.

³⁰⁰ See *Hadacheck v. Sebastian*, 239 U.S. 394, 410 (1915); see also Thomas W. Merrill, *The Economics of Public Use*, 72 *CORNELL L. REV.* 61, 70 (1986) (“[T]he outer limit of the police power has traditionally marked the line between *noncompensable* regulation and compensable takings of property Legitimately exercised, the police power requires no compensation.”).

³⁰¹ ERNST FREUND, *THE POLICE POWER: PUBLIC POLICY AND CONSTITUTIONAL RIGHTS* § 511 (1904).

³⁰² Serkin, *supra* note 133, at 1240; see also *Miller v. Schoene*, 276 U.S. 272, 279 (1928) (finding that no taking existed in the order to destroy healthy cedar trees that harbored a disease fatal to apple trees); Christine A. Klein, *The New Nuisance: An Antidote to Wetland Loss, Sprawl, and Global Warming*, 48 *B.C. L. REV.* 1155, 1195 (2007) (“In theory, traditional takings law has long recognized a nuisance exception under which landowners are not entitled to compensation when they are precluded from using their land to create a nuisance.”). In *Miller v. Schoene*, the Court held that the state was free to decide “upon the destruction of one class of property in order to save another, which, in the judgment of the legislature, is of greater value to the public.” *Miller*, 276 U.S. at 279. Here, the government could similarly decide that protection of water or other state resources is more valuable than an individual’s right to maintain a lawn.

nomically viable use of her property.³⁰³ Because land uses that involve a lawn are typically not dependent on the presence of the lawn itself, a landowner would likely have a difficult time establishing that being forced to remove a lawn was a deprivation of all use of the property, especially because the doctrine of conceptual severance suggests that a court must look at the parcel as a whole when considering what has been taken.³⁰⁴ A lawn ban would result in the homeowner losing the value of the lawn, but retaining the value of the rest of the property. Only in the rarest of cases would a lawn ban be assessed under the *Lucas* jurisprudence. Instead, a court would likely apply the ad hoc analysis set forth by the Supreme Court in *Penn Central Transportation Co. v. New York City*,³⁰⁵ which considers the regulation's economic impact, its interference with reasonable investment-backed expectations, and the character of the governmental action.³⁰⁶ In practice, "landowners rarely win these cases,"³⁰⁷ and a court applying these factors to a lawn ban would likely find in favor of the municipality because the extent of the loss the lawn owner incurs is not likely to be dramatic.³⁰⁸

The only remaining question is whether a court might consider a retroactive lawn ban that includes an affirmative replacement requirement to be a permanent physical occupation of property constituting a per se taking.³⁰⁹ Although there has been little scholarship addressing the government's authority to require people to take action on their private property, the Supreme Court has recognized that a regulation may force action without being deemed an impermissible taking.³¹⁰ In

³⁰³ *Lucas*, 505 U.S. at 1027. Although there would be a defense if maintaining a lawn would have been considered a nuisance at common law, that is unlikely.

³⁰⁴ *See id.* at 1016 n.7; *Tahoe-Sierra Pres. Council, Inc. v. Tahoe Reg'l Planning Agency*, 535 U.S. 302, 331–32 (2002).

³⁰⁵ *Penn Cent. Transp. Co. v. New York City*, 438 U.S. 104 (1978).

³⁰⁶ *See id.* at 123–24; *see also Lucas*, 505 U.S. at 1019 n.8 (applying the *Penn Central* analysis); *Kaiser Aetna v. United States*, 444 U.S. 164, 175 (1979).

³⁰⁷ Bradley C. Karkkainen, *Biodiversity and Land*, 83 *CORNELL L. REV.* 1, 90 (1997). *But see E. Enters. v. Apfel*, 524 U.S. 498, 528–29 (1998) (plurality opinion) (holding that extreme retroactive liability that only applied to a small number of individuals who could not have predicted their liability could constitute a taking as applied to those individuals).

³⁰⁸ Here, the first two factors (economic impact and interference with reasonable investment-backed expectations) would be fairly low because the lawn constitutes a small portion of the entire economic value of most parcels of land. *See ELIOT C. ROBERTS & BEVERLY C. ROBERTS, LAWN INST., LAWN AND SPORTS TURF BENEFITS 5–6* (1989). However, the character of the action could resemble a physical taking. *See infra* notes 309–14 and accompanying text.

³⁰⁹ *See Loretto v. Teleprompter Manhattan CATV Corp.*, 458 U.S. 419, 440 (1982) (explaining that a permanent physical occupation of property by a third party pursuant to government authority is a taking).

³¹⁰ *Id.* at 436, 441.

Loretto v. Teleprompter Manhattan CATV Corp.,³¹¹ the Court explained that a physical occupation of land by a third party “is qualitatively more severe than a regulation of the *use* of property, even a regulation that imposes affirmative duties on the owner.”³¹² Thus, while there might be a taking if the government requires a landlord to allow third parties to enter his land and install something thereupon, there would not likely be a taking if the landlord were required to install the thing himself.³¹³ Accordingly, it would seem that, so long as a lawn ban provides a homeowner with multiple replacement alternatives, and allows the homeowner to install those alternatives himself, the ban would not run afoul of *Loretto*.³¹⁴

B. *Crafting the Ban*

Because lawns are not only ubiquitous in most American residential communities, but also legally permissible and often required, banning them would be what some commentators have referred to as a “[r]egulatory transition[]”—a movement away from one legal regime to another.³¹⁵ These transitions “are inevitable over the long run, and often represent socially adaptive responses to changed circumstances or increased information. They are difficult to achieve, however, because substantial psychological and political barriers stand in the way.”³¹⁶ Times of legal transition also bring about the risk of legal challenges; whenever a local government considers adopting a new land use ordinance—especially one that is controversial, uncommon, or provocative—it must consider its likelihood of being sued.³¹⁷ Municipalities face a “problem of how to be fair to landowners who ac-

³¹¹ *Loretto v. Teleprompter Manhattan CATV Corp.*, 458 U.S. 419 (1982).

³¹² *Id.* at 436.

³¹³ *Id.* at 436, 440 n.19.

³¹⁴ After *Loretto*, a number of attorneys did attempt to “shoehorn” their clients’ cases into the “permanent physical occupation” rule set forth by the Court, as the dissent in that case feared. See *id.* at 451 (Blackmun, J., dissenting); see also, e.g., *FCC v. Fla. Power Corp.*, 480 U.S. 245, 249–50 (1987); *Gilbert v. City of Cambridge*, 932 F.2d 51, 59–60 (1st Cir. 1991). The Court clarified the *Loretto* holding in *Yee v. City of Escondido*, 503 U.S. 519 (1992), stating, “[t]he government effects a physical taking only where it *requires* the landowner to submit to the physical occupation of his land.” *Id.* at 527. Landowners could try to use *Yee* to assert that a requirement by a local government that they replace their former lawns with something else is a permanent physical occupation and thus a taking. They could argue that the local government is “compel[ling] a landowner over objection” to plant something on his property. See *id.* at 528.

³¹⁵ Holly Doremus, *Takings and Transitions*, 19 J. LAND USE & ENVTL. L. 1, 11, 45 (2003) [hereinafter Doremus, *Takings and Transitions*].

³¹⁶ *Id.* at 45.

³¹⁷ See e.g., *Lucas v. S.C. Coastal Council*, 505 U.S. 1003, 1006–07 (1992); *Loretto*, 485 U.S. at 421–24.

quired property under one set of rules, only to see the uses of the property drastically limited as morals, technology, or scientific understanding change.”³¹⁸ Sometimes, the threat of a lawsuit is enough to discourage a local government from enacting forward-thinking legislation.³¹⁹ This Section addresses the different temporal circumstances under which a lawn ban could be imposed, and the legal challenges that might accompany or inform that timing decision. It then considers who or what a ban could cover and control.

1. *Timing of Ordinance Imposition*

In considering *when* to impose a ban on lawns, a municipality has three options. The mandate: (1) could apply only to new construction—thus allowing the continuation of existing lawns but prohibiting new ones; (2) it could apply only when the property at issue is sold, rented, or modified in some way—requiring, prior to a conveyance of the property, that any existing lawn be torn up and replaced with another acceptable form of ground cover; or (3) it could be imposed retroactively—requiring that all existing lawns be torn up, perhaps pursuant to an amortization schedule. This Section addresses the arguments for, and legal consequences of, each option.

a. *Applicable Prospectively*

The most straightforward and least controversial approach to a ban on lawns would be to prohibit any new construction (commercial, residential, or both) from including a turfgrass lawn. This is the approach taken in Las Vegas, which generally prohibits new turf installation in front yards and limits it in rear and side yards.³²⁰ Applying a ban prospectively avoids some of the political concerns that accompany retroactive ordinances that force existing community residents and homeowners to take actions that they might not support or desire; existing residents often prefer land use patterns to freeze once they have moved in.³²¹

³¹⁸ ELLICKSON & BEEN, *supra* note 127, at 140.

³¹⁹ See, e.g., Rob Scott, *Threat of Lawsuit Halts Council Action on Fields Project*, MOORESTOWN PATCH (May 22, 2012, 5:08 PM), <http://moorestown.patch.com/groups/politics-and-elections/p/threat-of-lawsuit-halts-council-action-on-fields-project>.

³²⁰ LAS VEGAS, NEV., CODE § 11.14.150 (Supp. 17, 2013); see also *id.* § 11.14.140 (generally prohibiting installation of new turf in nonresidential developments and in common areas of residential neighborhoods, but allowing installation of new turf on school grounds and in parks).

³²¹ See William A. Fischel, *Why Are There NIMBYs?*, 77 LAND ECON. 144, 146–47 (2001) (“[H]omeowners are touch[y] about changes in their neighborhood They want it left the way they found it.”).

There are some substantial problems with only applying a new rule prospectively. Specifically, because a ban on lawns would be put in place to reduce harms, and hopefully alleviate some climate change-related concerns, applying it only prospectively would curtail its potential benefits.³²² Especially in a community that is already substantially developed, it is unlikely that only banning new lawns would have much of a cumulative impact. In contrast, for a still-developing area, beginning with a baseline of existing lawns and banning new ones could still result in a substantial decrease in water and fertilizer usage.

b. Applicable at a Point of Sale or Modification

A second approach that a municipality could take would be to prospectively ban all new lawns, but also to require the removal of existing lawns at the time that the owner of property covered by the ordinance sells the property, rents to someone new, or seeks discretionary permits to alter the property in a way that is related to the lawn. The imposition of ordinances at a point of change is a technique already used in some situations.³²³ For example, under the Clean Air Act, if a preexisting stationary source is “subsequently modified,” it will then need to comply with new source performance standards.³²⁴ Similarly, some suggest that the only way that states will succeed in achieving energy efficiency will be to require homeowners to take certain actions such as retrofitting their homes with energy efficient appliances and fixtures prior to a sale.³²⁵ Further, the highest court in

³²² See Serkin, *supra* note 133, at 1265 (discussing problems with new rules that improve the legal system, yet are only applied prospectively).

³²³ See, e.g., MASS. ANN. LAWS ch. 40A, § 6 (LexisNexis 2006) (stating that if structures are “lawfully in existence or lawfully begun” before notice of a new zoning ordinance, the ordinance shall not be applied to those structures, but must be applied to “any change or substantial extension of such use”); Julian Conrad Juergensmeyer, *Rainwater Recapture: Development Regulations Promoting Water Conservation*, 43 J. MARSHALL L. REV. 359, 365 (2010) (explaining Prescott, Arizona’s imposition of mandatory water conservation measures on new construction and the requirement that whenever “a homeowner in an existing home replaces fixtures in his or her home, these replacements must comply with certain water conservation requirements” (citing PRESCOTT, ARIZ., CODE § 3-10-3 (2009))).

³²⁴ Serkin, *supra* note 133, at 1226.

³²⁵ SCHINDLER, ENCOURAGING PRIVATE INVESTMENT, *supra* note 182, at 20 (discussing mandates and recognizing that “voluntary approaches to energy efficiency probably will not be enough to reach the levels of deep cuts that are needed to reduce greenhouse gas emissions” (citing Telephone Interview with Blair Hamilton, Policy Dir., Vt. Energy Inv. Corp. (Oct. 18, 2010))); see also S.F., CAL., HOUSING CODE §§ 12A05–12A10 (Supp. 2013) (requiring water conservation inspector to analyze whether to require replacement of certain fixtures with low-flow versions prior to a sale); Edna Sussman, *Reshaping Municipal and County Laws to Foster Green Building, Energy Efficiency, and Renewable Energy*, 16 N.Y.U. ENVTL. L.J. 1, 21 (2008) (recog-

the state of New York upheld the facial validity of a local ordinance that banned mobile homes from certain areas of the Village of Valatie upon a transfer of ownership of the land containing the mobile home or the mobile home itself.³²⁶

Conditioning the point of ban implementation on change in ownership instead of applying it immediately is a form of amortization. In the context of land use law, some localities build in an amortization period to newly adopted ordinances that would otherwise immediately force lawful, preexisting, nonconforming uses to come into compliance with the new ordinance.³²⁷ The idea behind amortization is that property owners should be given enough time to realize on their investments before being forced to comply with the new law.³²⁸ Generally, an ordinance faces a greater risk of being deemed a taking or violative of substantive due process if it is immediately applied to a nonconforming use.³²⁹ Some jurisdictions, however, deem any amortization period to be per se unreasonable.³³⁰ Further, there is a real question as to whether a lawn would be considered a lawful, preexist-

nizing that “garnering voluntary action is a slow process and municipalities may wish to consider opportunities to mandate energy efficiency upgrades”).

³²⁶ Vill. of Valatie v. Smith, 632 N.E.2d 1264, 1265 (N.Y. 1994).

³²⁷ But see Margaret Collins, *Methods of Determining Amortization Periods for Non-Conforming Uses*, 3 WASH. U. J.L. & POL’Y 215, 216 (2000) (suggesting that use of amortization periods is not very common, as demonstrated by “[a] survey of 489 cities [which] showed that, although planners in 159 cities had access to amortization programs, only 27 cities had actually used them”).

³²⁸ See *Murmur Corp. v. Bd. of Adjustment of Dall.*, 718 S.W.2d 790, 798 (Tx. App. 1986); see also Doremus, *Evolution*, *supra* note 95, at 1093–94 (“Law by its very nature favors stability over time. Legal rules are supposed to facilitate investment and allow people to make long-term decisions with confidence.”).

³²⁹ See *City of Los Angeles v. Gage*, 274 P.2d 34, 44–45 (Cal. Dist. Ct. App. 1954); *Murmur Corp.*, 718 S.W.2d at 798. Generally, a court analyzing the legality of an ordinance that would remove a nonconforming use would balance the harm that the ordinance imposes on the property owner against the broader benefits to the public. Serkin, *supra* note 133, at 1237.

³³⁰ See Jay M. Zitter, Annotation, *Validity of Provisions for Amortization of Nonconforming Uses*, 8 A.L.R. 5th 391, 419–22 § 3[b] (1992) (listing cases holding amortization provisions to be per se invalid); see also Serkin, *supra* note 133, at 1243 (noting that “[a] number of courts have held that an amortization period is nothing but a deferred taking of property”). Some states’ SZEAs provide that zoning cannot be applied to existing uses. Comment, *Retroactive Zoning Ordinances*, 39 YALE L.J. 735, 735 n.6 (1930). A statement in the SZEA limiting the application of zoning laws to future uses, however, begs the question of whether lawn control ordinances would constitute “zoning ordinances” for this purpose. Cf. *PA Nw. Distribs., Inc. v. Zoning Hearing Bd.*, 584 A.2d 1372, 1377 (Pa. 1991) (Nix, C.J., concurring) (“The weight of authority supports the conclusion that a reasonable amortization provision would not be unconstitutional. . . . [A] blanket rule against amortization provisions should be rejected because such a rule has a debilitating effect on effective zoning, unnecessarily restricts a state’s police power, and prevents the operation of a reasonable and flexible method of eliminating nonconforming uses in the public interest.” (citation omitted)).

ing, nonconforming “use” for purposes of this analysis, and thus subject to greater protections.³³¹ This inquiry is relevant because heightened protections are often afforded to existing uses of land.³³² At least one commentator argues, however, that the additional protection of existing uses is unjustified.³³³ Thus, one could assert that lawn bans applied at the time of a property change should not be viewed differently and should not be more likely to result in a taking or due process violation than those applied only prospectively.³³⁴

Assuming that amortization periods are permissible in a state,³³⁵ this approach—applying a ban at the time of a change in status of the property—would be beneficial in communities that are already built-out, in that it would cover more property than a purely prospective ban. There is, of course, an enforcement concern associated with this approach; for example, homeowners might attempt to get around the ban by failing to report new leases. It is unlikely, however, that a homeowner would forego the protections of a recording statute and not record the sale or transfer of an interest in their property merely to avoid having to remove a lawn.³³⁶ Further, because permit applica-

³³¹ As discussed in Part III.A.2, *supra*, it is uncertain whether the zoning power could be used to pass lawn bans because landscaping ordinances are often viewed as separate from zoning ordinances. “[M]odern zoning ordinances usually say nothing about vegetation, grass cutting, and the like. These matters are handled by special purpose ordinances.” Smith, *supra* note 11, at 206 n.9 (citation omitted). Thus, one could argue that lawns are not a “use” of land; rather, they are merely a type of landscaping that is situated on the land. *But see* FLA. STAT. ANN. § 70.001(3)(b) (West 2004) (existing use is “an actual, present use *or activity* on the real property” (emphasis added)). Thus, in some jurisdictions, growing grass could be considered an existing use because it is an activity or a way that the property is being used.

³³² Serkin, *supra* note 133, at 1244 (noting that courts could find that a “land use regulation[] eliminating [an] existing use[]” is either a taking, or that it is unreasonable, and thus raises a due process problem).

³³³ *See id.* at 1242–43 (observing that courts assume that existing uses are protected by the Takings or Due Process Clause of the Constitution, but do not explain specifically why or how, and arguing that those clauses do not actually require that courts afford special protection to existing uses).

³³⁴ *See id.* at 1230 (disputing the assumption that there is a difference between the unfairness of regulating existing uses and that of regulating future uses).

³³⁵ *See* Osborne M. Reynolds, Jr., *The Reasonableness of Amortization Periods for Nonconforming Uses—Balancing the Private Interest and the Public Welfare*, 34 WASH. U. J. URB. & CONTEMP. L. 99, 109 (1988) (“[M]ost courts held that amortization provisions are valid if they are reasonable in nature. This is currently the majority view in America.” (footnote omitted)); *see also* PA Nw. *Distrib.*, 584 A.2d at 1378 (Nix, C.J., concurring) (“A community should have a right to change its character without being locked into pre-existing definitions of what is offensive.”); Serkin, *supra* note 133, at 1244 (“The majority of courts, however, have upheld amortization statutes—but only after applying a takings analysis.”).

³³⁶ DUKEMINIER ET AL., *supra* note 35, at 646 (listing functions of the recording system including preservation of important documents and protecting bona fide purchasers and credi-

tions are matters of public record submitted directly to a municipality, the municipality would be on notice of such changes, and thus able to enforce the lawn ban.

There is also an efficiency concern with a ban applied at the time of sale in that there might be an incentive for people to hold onto their property. If there is a close community in a given neighborhood, there might be pressure from neighbors urging others not to sell or rent because they want to maintain the existing uniform lawn aesthetic.³³⁷

A final concern might tie back into the intrusion objection discussed earlier.³³⁸ Although a lawn ban would generally have only an indirect impact on a homeowner's behavior—because lawns are banned, a person cannot continue actions that would maintain the lawn—if that ban is imposed at the point of sale or permit-seeking, one could argue that such a ban is actually directly regulating individual behavior because it would force a person to directly remove an existing lawn.³³⁹ Therefore, intrusion objections might be less concerning for future homeowners, but more pressing for those owning the property at the time of sale.³⁴⁰

c. Applicable Retroactively

Finally, a municipality could adopt a retroactive lawn ban: a ban imposed at the time the ordinance is adopted, which requires all covered property owners to tear up their existing lawns and replace them with something else, or let them die. At the time of this writing, there does not appear to have been a legal challenge to any existing lawn ban. However, a municipality considering implementing a retroactive ban pursuant to the discussion above might expect to be sued by landowners unhappy with the requirement that they remove their existing lawns. Indeed, some of these individuals might assert that they bought their homes, in part, because of the specific landscaping that fronts it, and that the ban interferes with their vested rights. But pur-

tors against prior unrecorded interests); Corwin W. Johnson, *Purpose and Scope of Recording Statutes*, 47 IOWA L. REV. 231, 231 (1962) (noting that recording acts serve “to provide a public record of transactions affecting title to land”).

³³⁷ See *supra* notes 174–76 and accompanying text.

³³⁸ *Supra* notes 228–35 and accompanying text.

³³⁹ See Kuh, *supra* note 9, at 1128–29 n.46 (“[R]egulations might be viewed as indirect with respect to individuals who are *prospective* homeowners, renters, or residents—and who thus are likely to experience the codes primarily in terms of how they have already defined existing architecture—but direct when they affect an *existing* property owner’s use or renovation.”).

³⁴⁰ *Id.*

suant to the analysis in the previous Section, retroactive bans would also likely withstand such challenges.³⁴¹

That said, a retroactive approach is bold and would certainly be viewed with disfavor by many.³⁴² Scholars have described retroactive laws as “anathema to liberty and a well-ordered society”³⁴³ and “a monstrosity.”³⁴⁴ Others view them as unfair, believing that individuals must be able to rely on existing laws in structuring their actions and behaviors.³⁴⁵ Further, they are somewhat rare;³⁴⁶ for example, this author is unaware of any recent situation in which a city adopted a residential zoning ordinance and forced all lawful, preexisting, nonnuisance commercial uses in the zone to immediately cease operation.³⁴⁷

³⁴¹ See *supra* notes 324–34 and accompanying text. *But see supra* note 330.

³⁴² The SZEAs seemed to expressly recognize that, at times, retroactive application of zoning ordinances would be necessary and should be permitted, at least with respect to individual cases:

While the almost universal practice is to make zoning ordinances nonretroactive, it is recognized that there may arise local conditions of a peculiar character that make it necessary and desirable to deal with some isolated case by means of a retroactive provision affecting that case only. For this reason it does not seem wise to debar the local legislative body from dealing with such a situation.

ADVISORY COMM. ON ZONING, DEP’T OF COMMERCE, A STANDARD STATE ZONING ENABLING ACT UNDER WHICH MUNICIPALITIES MAY ADOPT ZONING REGULATIONS 2 (1926), available at <http://www.planning.org/growingsmart/pdf/SZEnablingAct1926pdf>.

³⁴³ Serkin, *supra* note 133, at 1262.

³⁴⁴ LON L. FULLER, *THE MORALITY OF LAW* 53 (rev. ed. 1969).

³⁴⁵ See Doremus, *Takings and Transitions*, *supra* note 315, at 14 (“Changing the rules after people have adjusted their conduct on the basis of those rules often seems unfair, because we generally think that people are entitled to, and indeed should, govern their behavior according to the existing rules.”); Smith, *supra* note 11, at 220 (noting that when the Baton Rouge Audubon Society “acquired its property and commenced its natural landscaping, there was no weed ordinance in effect. Only after neighbors complained did the parish extend the ordinance to the Audubon Society’s property. Arguably, this sequence justifies protecting the Audubon Society because they were proceeding lawfully, with no notice of any legal problem, when they acquired and developed their property.”).

³⁴⁶ See J.S. Young, *City Planning and Restrictions on the Use of Property*, 9 MINN. L. REV. 593, 628 (1925) (“Retroactive zoning is not to be recommended except in very unusual cases [where] public protection imperatively demands it.”). Pasco County, Florida, however, at least entertained an ordinance that would have “force[ed] some existing businesses to dig up their parking lots to plant trees and bushes.” James Thorner, *Critics Snip Away at Landscape Ordinance*, ST. PETERSBURG TIMES (Jan. 20, 2002), http://www.sptimes.com/2002/01/20/Northoftampa/Critics_snip_away_at_.shtml. The ordinance as adopted only requires existing lots to be relandscaped upon redevelopment of the property. See PASCO COUNTY, FLA., LAND DEV. CODE § 905.2 (2012), available at <http://www.pascocountyfl.net/index.aspx?nid=756>.

³⁴⁷ It is likely that such action would infringe upon vested rights and constitute a taking. See, e.g., Serkin, *supra* note 133, at 1224 (“A local government enacting a new zoning ordinance must almost always grandfather existing uses. . . . Try even to imagine what it would mean for a local government to force preexisting houses to conform to new setback requirements.”). *But*

Despite its unpopularity, and thus political unlikelihood, there are a number of benefits that would derive from a retroactive lawn ban (assuming the lawns are replaced with environmentally friendly alternatives). Importantly, this approach would most immediately and directly target the harms caused by lawns because it would encompass the greatest amount of property.³⁴⁸ In addition to the broad societal and ecosystem services benefits that would flow from lawn removal, removal would also lead to individual savings: lawnless homes would use less water on average, and their proprietors might gain free time that would otherwise be spent caring for the lawn.³⁴⁹

2. *What Would Be Covered*

A municipality considering a ban on lawns should think carefully about how much lawn to ban. Specifically, will all turfgrass be outlawed—that surrounding both residences and commercial properties—or just “front yards”? If all turfgrass were banned, golf courses, athletic fields, corporate campuses, and public parks would also be impacted. Such a broad ban would target and alleviate lawn harms most thoroughly, assuming that all turf, regardless of location or use, contributes to the same harms. Such an extensive ban would intrude on some commercial uses of the lawn itself, however, and thus could raise additional considerations in a takings analysis.³⁵⁰ Further, if the replacement material for turfgrass in play fields and parks did not allow for play, their utility might be decreased, leading to a decrease in social capital in the neighborhood.³⁵¹

see *Hadacheck v. Sebastian*, 239 U.S. 394, 410–11 (1915) (suggesting that if a regulation prohibits a common law nuisance, it is not a taking); *Mugler v. Kansas*, 123 U.S. 623, 668–69 (1887) (holding that the police power allows for the removal of an existing use which the legislature deems to be a nuisance). Lawns are more akin to nuisances than are most commercial buildings in residential neighborhoods, and thus would likely fall under the nuisance doctrine of *Mugler* and *Hadacheck*.

³⁴⁸ *Cf.* Serkin, *supra* note 133, at 1226 (“Grandfathering existing uses can dramatically limit the effectiveness of new environmental regulations.”).

³⁴⁹ *But see* Susan Block-Lieb & Edward J. Janger, *The Myth of the Rational Borrower: Rationality, Behavioralism, and the Misguided “Reform” of Bankruptcy Law*, 84 *TEX. L. REV.* 1481, 1534 (2006) (“Cognitive research also finds that individuals are reluctant to walk away from sunk costs, irrationally ignoring the marginal costs and benefits of additional action.”); Serkin, *supra* note 133, at 1270 (explaining that a “regulation eliminating an existing use wipes out the money already expended in developing that use” but also recognizing an “unwarranted prioritization of out-of-pocket costs over foregone profits”).

³⁵⁰ For example, if a commercial use is forced to cease, this raises concerns under a *Penn Central* analysis, including the effects of the ban on landowners’ reasonable investment-backed expectations and their primary uses of their property. *See supra* notes 305–08 and accompanying text.

³⁵¹ *See supra* notes 73–79 and accompanying text.

Finally, a ban on all turf would cover not just publicly visible private property in front of the house, but the backyard as well. At base, this should not raise additional legal concerns because the primary justifications for bans pertain to water consumption and environmental harm rather than aesthetics. A ban on backyard lawns might raise additional privacy concerns, however, which could lead a court to apply heightened scrutiny to the ban. The home itself, often surrounded by a lawn, has received exceptional levels of protection under the law.³⁵² One reason for this heightened protection might be that expressed by Professor Radin, who views certain property—including the home—as part of a person’s identity.³⁵³ Generally, people are angered by laws when they see those laws as “infringing upon personal autonomy . . . by preventing the home from providing a space for unfettered thinking, reflection, and the development of personhood.”³⁵⁴ Thus, the closer a regulation is to the self or its extensions, the greater the level of resistance to it.³⁵⁵ Front yards are visible to all passing by and thus lack a portion of the privacy, or the expectation of privacy, associated with the home’s interior.³⁵⁶ The same cannot be said for backyards, however. Thus, courts might be more willing to protect backyards for the same reasons they protect homes. Further, the intrusion objections against a ban on backyards would likely be stronger than if only front yards were banned.³⁵⁷

In contrast, a locality could decide only to ban front yards in residential areas or in front of commercial buildings or offices. Such an approach would raise fewer concerns with respect to issues surrounding privacy, intrusions, and takings, but it would also result in a

³⁵² See *Payton v. New York*, 445 U.S. 573, 601 (1980) (“[An] overriding respect for the sanctity of the home . . . has been embedded in our traditions since the origins of the Republic.”); Kuh, *supra* note 9, at 1168–69 (“[T]he home has long been afforded special status in a variety of legal contexts.”). The Bankruptcy Code, for example, provides debtors with a homestead exemption, exempting their interest in the value of their home, up to a certain dollar amount, from the estate. See 11 U.S.C. § 522(d)(1) (2012). The Fourth Amendment’s prohibition on unreasonable searches and seizures also recognizes the sanctity of, and provides special protections for, the home. See, e.g., *Florida v. Jardines*, 133 S. Ct. 1409, 1414 (2013).

³⁵³ See Margaret Jane Radin, *Property and Personhood*, 34 STAN. L. REV. 957, 992 (1982) (discussing the relationship between personhood and the sanctity of the home).

³⁵⁴ Kuh, *supra* note 9, at 1173 (footnote omitted).

³⁵⁵ See *id.* at 1160 (“[G]overnment restrictions on individual behaviors may arouse greater resistance when they apply to behaviors that occur in or near the home or that must be enforced in or near the home.”).

³⁵⁶ See *id.* at 1170 (“The home is considered ‘the most private of places,’ and laws that would require ‘police invasion’ of the home for their enforcement are deemed particularly suspect.” (footnotes omitted)).

³⁵⁷ See *supra* notes 228–29 and accompanying text (discussing the “intrusion objection”).

smaller total benefit. Finally, a locality could simply ban “the industrial lawn,” regardless of its location or use.³⁵⁸ Thus, any playfield or green open space that, while perhaps non-native, did not need to be watered, fertilized, or mowed, could remain.

C. *Affirmative Lawn Removal and Replacement Requirements*

One might wonder why a municipality would choose to ban lawns rather than the practices that contribute to lawn-related harms: watering, mowing, and fertilizing. If these practices were banned, lawns would surely die out in the regions where they are causing the greatest harm, and most of the aforementioned takings concerns would be avoided. The problem is that if a locality only bans those behaviors, it misses out on the opportunity and benefits that might come from a ban that not only requires lawn removal, but also requires its replacement with landscaping that is more beneficial.

Lawn bans that are part of a broader sustainability plan can further ambitious community designs—the goal is not just to eliminate environmental externalities associated with lawns, but also to change the landscape into something more sustainable. Further, if a locality seeks to alleviate lawn-related harms, but does not control what can be installed in their stead, the harms that the mandate seeks to eliminate may not actually be avoided. For example, if a locality forbids lawn maintenance, but does not require lawn replacement, a homeowner whose lawn died due to lack of water and fertilizer could simply install Astroturf, which may be less environmentally sound than a lawn. Thus, a lawn mandate that does not address subsequent replacement will not necessarily result in a net environmental benefit.

Although affirmative requirements do raise autonomy issues—and along with them, concerns about constitutional challenges under the First,³⁵⁹ Fifth,³⁶⁰ Fourteenth,³⁶¹ and perhaps even Thirteenth

³⁵⁸ See Tekle, *supra* note 16, at 215 (defining the industrial lawn as one that “must be treated with artificial fertilizers, pesticides, and herbicides”).

³⁵⁹ One could argue that the lawn is a form of expressive speech that is “sufficiently imbued with elements of communication to fall within the scope of the First and Fourteenth Amendments.” See *Spence v. Washington*, 418 U.S. 405, 409 (1974) (per curiam); see also *City of Ladue v. Gilleo*, 512 U.S. 43, 48–49 (1994) (holding that city ordinance prohibiting all signs on residential property except a limited few violated constitutional protection of content-based speech); JOHN J. COSTONIS, *ICONS AND ALIENS: LAW, AESTHETICS, AND ENVIRONMENTAL CHANGE* 94 (1989) (“For many, architecture and other environmental features communicate ideas more effectively than does language”); Rappaport, *supra* note 8, at 907–08 n.129, 909 n.133 (arguing “the case for natural landscaping as art” and noting that a Rhode Island statute defines art to include “architectural landscaping” (citing R.I. GEN. LAWS § 42-75.2-3 (1992))); Smith, *supra* note 11, at 221 (“If planting endemic grasses was necessary for the [Audubon] Society to express

Amendments³⁶²—municipalities have historically regulated what individuals may plant on their property. For example, statutes in colonial Virginia prohibited people from overplanting tobacco and actually required them to grow other crops.³⁶³ Similarly, lawn maintenance is not always a personal choice. Weed ordinances, which require people to mow their lawn and remove native plants,³⁶⁴ have been upheld despite the fact that some view them as “irrational.”³⁶⁵

Similarly, many historic preservation ordinances require landowners to maintain the historic features of their property, or to install

its environmental ethic, then under First Amendment analysis the government cannot prohibit that conduct unless it articulates a compelling, or at least an important, reason.” (footnote omitted)). Because the Supreme Court permits content-neutral regulations of lawn signs, perhaps this indicates that lawns can themselves be regulated, even if lawns are viewed as expressive. *See, e.g., Perry Educ. Ass’n v. Perry Local Educators’ Ass’n*, 460 U.S. 37, 45 (1983); *see also* Smith, *supra* note 11, at 223 (“Attaching First Amendment significance to certain landscape or yard elements doesn’t necessarily mean that the government is precluded from restricting that expressive behavior. The effect of finding First Amendment protection is to remove the normal presumption of legitimacy attached to the regulation.”). Lawns might be expressive, but can still be banned. If cities can ban native plants—arguably merely for aesthetic preferences, with some tangential nuisance arguments—certainly they can ban lawns, which are environmentally harmful.

³⁶⁰ *See supra* notes 299–314 and accompanying text.

³⁶¹ *See Spence*, 418 U.S. at 409.

³⁶² Although it would be a stretch, a homeowner who is forced to remove her lawn and replace it with a vegetable garden might argue that she is being forced to act in violation of the Thirteenth Amendment. Certainly, it takes time, money, and often expertise for people to successfully grow vegetables. However, local governments regularly mandate individual action. *See supra* notes 239–49. Further, weed ordinances arguably exist for purely aesthetic purposes, unlike a mandate on productive landscaping, which has utility in that it can provide food in food-insecure communities and foster social capital. *See generally* Schindler, *Of Backyard Chickens*, *supra* note 60 (discussing the benefits of front yard gardens). Moreover, the only reason that a person would be required to engage in landscaping is because he or she owns or leases a house. Thus, this argument would quite likely fail.

³⁶³ ELLICKSON & BEEN, *supra* note 127, at 135.

³⁶⁴ *See, e.g.,* LITTLE ROCK, ARK., CODE § 20-2 (Supp. 62, 2013) (making it unlawful to permit “[g]rass, weeds, or any other plant that is not cultivated, to grow to a height greater than ten (10) inches”); *see also* Rappaport, *supra* note 8, at 891 n.81 (discussing a Natural Resources professional’s decision to landscape with native plants: “After several months, a Notice of Violation arrived . . . from the County Solid Waste Department. Her neighbor had filed a complaint. If her yard wasn’t mowed in 20 days, the County would mow it” (citing Robin Hart, *Natural Landscapes vs. Mowing Ordinances*, PALMETTO, Spring 1993, at 8–9)).

³⁶⁵ Rappaport, *supra* note 8, at 918 n.165 (referring to weed laws as “generally irrational because enforcement of the prohibition does not further the articulated public safety and health goals”); *cf. City of St. Louis v. Galt*, 77 S.W. 876, 880 (Mo. 1903) (holding that weeds can be regulated under the police power because they are known to cause health problems). One court has struck down a weed ordinance, however, holding that it violated the Equal Protection Clause. *City of New Berlin v. Hagar*, No. 33582 (Wis. Cir. Ct. Apr. 21, 1976), *reprinted in* Rappaport, *supra* note 8, at 936–40 app.D.

new ones, often at great expense.³⁶⁶ Although the affirmative requirement to install a certain type of landscaping might require the expenditure of money, that alone would not make it an unconstitutional taking of property.³⁶⁷ There are political concerns associated with requiring individuals to spend money, however, and because many municipalities are facing severe budgetary shortages,³⁶⁸ it is unlikely that they could contribute funding for lawn replacements.³⁶⁹ Thus, municipalities should think creatively about how to require replacement of lawns with sustainable alternatives that would not cost their citizens a great deal of money.³⁷⁰

Finally, because the removal of lawns might result in a decrease in social capital or in spaces where children can play, a locality requiring removal of lawns could commit to constructing additional public parks in their communities.³⁷¹ These could serve the role of third places, and would be more inclusive than front yards, as they would be truly public open space—a commons instead of private property.

³⁶⁶ For example, homeowners in Portland, Maine's historic district who seek to replace gutters that are "a significant and integral feature of the structure" may be required to use historic but expensive materials, such as wood. See PORTLAND, ME., CODE §§ 14-634(a)(2)(a), 14-650(b), (e), (f) (2013), available at <http://www.portlandmainegov/citycodehtm>.

³⁶⁷ See *Maier v. City of New Orleans*, 516 F.2d 1051, 1067 (5th Cir. 1975) ("The fact that an owner may incidentally be required to make out-of-pocket expenditures in order to remain in compliance with an ordinance does not per se render that ordinance a taking.")

³⁶⁸ See *Bankrupt Cities, Municipalities List and Map*, GOVERNING, <http://wwwgoverning.com/gov-data/municipal-cities-counties-bankruptcies-and-defaultshtml> (last visited Feb. 15, 2014).

³⁶⁹ *But see supra* notes 198–201 and accompanying text (discussing ways for governments to generate money for lawn replacement).

³⁷⁰ One possibility might be a co-op system. For example, in Austin, Texas, a "non-profit neighborhood farm network" called Urban Patchwork is pioneering an interesting approach to urban gardening that combines features of community gardening with those of a Community Supported Agriculture ("CSA"). See *About*, URB. PATCHWORK & NEIGHBORHOOD FARMS, <http://www.urbanpatchwork.org/about/> (last visited Feb. 15, 2014) [hereinafter URBAN PATCHWORK]. Under a standard CSA model, individuals buy "shares" in a farm or a group of farms, and then receive a portion of the harvest during the growing season. *Community Supported Agriculture*, LOC. HARVEST, <http://www.localharvest.org/csa/> (last visited Feb. 15, 2014). Under Urban Patchwork's model, residents and businesses can volunteer to be "hosts," offering up their yard space, and the organization will turn their yard into an urban farm. URB. PATCHWORK, *supra*. In exchange, the homeowner gets a CSA share—some of the harvest from their yard and from others in the neighborhood—for free. *Id.* Although Urban Patchwork is a private nonprofit, a city could create a similar municipal entity in conjunction with a lawn ban in order to address potential criticisms about the time and money it would take for homeowners to replace their lawns with gardens.

³⁷¹ If the community were already built out, perhaps it could obtain vacant properties through tax foreclosure or eminent domain for this purpose.

CONCLUSION

Although laws inflict numerous harms on the communities in which they are located,³⁷² most localities have not banned or even limited them.³⁷³ However, water shortage is quickly becoming one of the most dire problems facing much of the country, as well as the world.³⁷⁴ Limiting lawns, especially in parts of the country where water shortages or water pollution are most acute, is a direct way to reduce their harms while simultaneously providing an opportunity to improve food security and biodiversity.³⁷⁵ Although the hurdles to implementing lawn bans are currently more political than legal, the changing climate might lead to changing attitudes.

Fifty years ago, if a city told a developer that her new homes had to be “green buildings,” which incorporate certain features to make them more sustainable and efficient than standard, more cheaply constructed homes, she would likely have been incredulous. Today, however, green building ordinances are quite common in many localities.³⁷⁶ In part, this legal change followed a shift in norms as growing builder interest in green development was evidenced through the use of voluntary market mechanisms like the Leadership in Energy and Environmental Design (“LEED”) standards.³⁷⁷ In sum, this Article suggests nothing more than an expansion of the notion that local governments appropriately can regulate the sustainability of the built environment; that principle simply needs to be taken beyond buildings and into the yard.

Although the idea of a local government ordering its citizens to tear up their lawns and replace them with vegetable gardens or xeriscaping seems far-fetched, norms are already moving in that direction in some communities. Residents are petitioning local governments to repeal outdated ordinances and to allow them to plant front yard gar-

³⁷² See *supra* notes 81–84 and accompanying text.

³⁷³ But see MORGAN HILL, CAL., CODE § 18.73.040 (Supp. 40, 2013) (requiring certain projects to meet landscape water-efficiency goals by conforming to a water budget or plant-type restriction; prohibiting total turf area from exceeding twenty-five percent of the landscape area; and requiring eighty percent of plants in nonturf areas to be native or low-water use); S.F., CAL., ADMIN. CODE, ch. 63, §§ 5–6 (Supp. 33, 2010) (requiring applicants for public, residential, and commercial landscapes greater than 1000 square feet to use low water or climate appropriate plants, and restricting the turf areas of those projects to twenty-five percent of the total landscaped area).

³⁷⁴ See FISHMAN, *supra* note 94, at 9, 56.

³⁷⁵ Food security and biodiversity could be improved if individuals had to replace former lawns with productive and native plants. See *supra* note 124.

³⁷⁶ See *supra* note 242 and accompanying text.

³⁷⁷ Schindler, *Following Industry's LEED*, *supra* note 235, at 285.

dens.³⁷⁸ Thus, as with green building, it is possible that as voluntary actions become more common, and as droughts lengthen and water and energy become more expensive, local politicians will become less wary of the concept of a lawn ban. And as far as trade-offs go, “[t]he lawn is an easy sacrifice, compared to trees and shrubs—or taking a shower.”³⁷⁹

³⁷⁸ See *Wesson Supports Parkway Gardens*, L.A. WAVE, Aug. 8, 2013, http://wavenews.papers.com/news/local/west_edition/article_dee68e4c-0061-11e3-b0f4-001a4bcf6878html; see also Schindler, *Of Backyard Chickens*, *supra* note 60 (discussing petitions to get garden bans overturned).

³⁷⁹ Smaus, *supra* note 2 (internal quotation marks omitted).