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THE DETROIT FRONTIER: URBAN AGRICULTURE IN A LEGAL VACUUM

JACQUELINE P. HAND* & AMANDA GREGORY

I. INTRODUCTION

Visualize orderly rows of cabbage and carrot against a backdrop of the high-rise buildings of the city of Detroit. This should not be hard because variations on that scene have appeared in numerous books, articles and websites about the resurgence of the city or about urban gardening in general¹ The factor which is often not ignored about this phenomenon is that this urban farm may be operating outside the law, either because the farmer is using land that is owned by the city because of tax foreclosure or some private entity which has chosen not to care for or pay attention to it or because local ordinances prohibit some portion of the activity—or for one of several other common reasons. In addition, this “guerilla gardener”² may be watering that lush crop from a fire hydrant and/or violating the existing zoning ordinance by raising chickens or other livestock on the property.

Whether someone categorizes these activities as unlawful, deviant,³ or merely “transgressive,”⁴ they are generally not the subject of enforcement

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1. See generally, MARTHA H. CHUMBLER ET AL. EDS., URBAN AGRICULTURE: POLICY, LAW, STRATEGY AND IMPLEMENTATION (2015); SARAH C. RICH & MATTHEW BENSON, URBAN FARMS (2012); BILL LOOMIS, DETROIT FOOD: CONEY DOGS TO FARMERS MARKETS 53 (2014); Kristin Choo, *Plowing Over: Can Urban Farming Save Detroit and Other Declining Cities? Will the Law Allow It?*, ABA JOURNAL.COM (Aug. 1, 2011, 8:50 AM),

http://www.abajournal.com/magazine/article/plowing_over_can_urban_farming_save_detroit_and_other_declining_cities_will/; Suzanne A. Heckler, *A Right to Farm in the City: Providing a Legal Framework for Legitimizing Urban Farming in American Cities*, 47 VAL. U. L. REV. 217 (2012); John E. Mogk et al., *Promoting Urban Agriculture as an Alternative Land Use for Vacant Properties in the City of Detroit: Benefits, Problems and Proposals for a Regulatory Framework for Successful Land Use Integration*, 56 WAYNE L. REV. 1521, 1523 (2010); Patricia Norris, Gary Taylor & Mark Wyckoff, *When Urban Agriculture Meets Michigan's Right to Farm Act: The Pig's In the Parlor*, 2011 MICH. ST. L. REV. 365, 366 (2011); Kiah B. Treese, *Seeds of Change: Growing a Solution to Blight in Ohio's Legacy Communities Through Urban Agriculture*, 47 U. TOL. L. REV. 553 (2016); Kate A. Voigt, *Pigs in the Backyard or the Barnyard: Removing Zoning Impediments to Urban Agriculture*, 38 B.C. ENVTL. AFF. L. REV. 537 (2011).

2. See generally GUERILLA GARDENING, guerillagardening.org; RICHARD REYNOLDS, ON GUERILLA GARDENING: A HANDBOOK FOR GARDENING WITHOUT BOUNDARIES (2008).

3. See Mark A. Edwards, *Acceptable Deviance and Property Rights*, 43 CONN. L. REV. 459 (2010).

by the authorities unless there is a complaint or objection by a member of the community. The reason for this is that while these activities are technically illegal they are generally socially acceptable to the community.⁵ Interesting literature has been generated in recent years exploring situations where social norms and law diverge, both generally⁶ and with respect to urban agriculture.⁷

These widespread activities outside the law reflect the fact that Detroit has until recently exhibited many characteristics of the frontier, i.e., large areas of vacant land, often with unclear ownership and loose or no governmental supervision. This vacancy creates a challenge to a fully functioning community but also is a source of substantial opportunity⁸, both for economic development and for choice in the structure of the community that will be created as the land is put into use.

Just as the Western frontier in America was declared closed in the late nineteenth century, this “Detroit frontier”—with its lawless appearance and broad opportunities—is rapidly closing, as support for urban agriculture becomes institutionalized by the development of zoning ordinances and other policy initiatives intended to regularize urban agricultural operations. In this article, we examine how the operation of socially acceptable but unlawful activity developed and operated for several decades in Detroit, and how the movement to legalization is impacting the operation of, and culture of, agricultural activity in this major city, and will continue to do so.

There are clearly many distinctions between Detroit and the mythical West; perhaps the most obvious being that the vacant land in Detroit is a function of the shrinking city’s population decline from a number of fac-

4. Sarah Schindler, *Unpermitted Urban Agriculture: Transgressive Actions, Changing Norms, and the Local Food Movement*, 2014 WIS. L. REV. 369, 386 (2014).

5. Edwards, *supra* note 3, at 462. “That behavior [driving a few miles over the speed limit] is very unlikely to trigger a formal enforcement response.” Edwards has written thoughtfully about the varying relationships between activities that are normatively acceptable and those that are legal. He notes that often these two converge and therefore create no dissonance. Where law allows activity which violates social norms legal institutions often “falter” and various social sanctions tend to provide a sort of informal enforcement. By contrast, where behavior is illegal, but is socially acceptable, legal enforcement is generally unlikely. *Id.* at 460–62.

6. ROBERT C. ELLICKSON, *ORDER WITHOUT LAW: HOW NEIGHBORS SETTLE DISPUTES* 6–8 (1991) (exploring the ways that ranchers in Shasta County California have developed social norms to guide behavior independent of allocated legal rights).

7. Schindler, *supra* note 4, at 369.

8. Frederick Jackson Turner, *The Significance of the Frontier in American History* (1894), AMERICAN HISTORICAL ASSOCIATION, <https://www.historians.org/about-aha-and-membership/aha-history-and-archives/archives/the-significance-of-the-frontier-in-american-history> (last visited Dec. 27, 2016).

tors, including deindustrialization and white flight.⁹ By contrast, the eighteenth-century frontier was vacant only in the sense that the Native Americans who lived there generally did not settle in dense communities, but moved with the seasons within a defined communal territory.¹⁰

II. DEVELOPMENT OF URBAN AGRICULTURE IN DETROIT

Farming within the city is not a new phenomenon. Gardening—often accompanied by a few farm animals—was common in eighteenth- and nineteenth-century Detroit, as was true in most urban areas in the United States at that time. This backyard “farming” often expanded during lean economic times with the development of victory gardens during the two World Wars, as well as (in Detroit) Pingree Potato patches during the economic crisis of 1893.¹¹ Conflicts between neighboring property owners were usually resolved either by informal means or, in extreme cases, by actions in nuisance.¹²

In the early twentieth century, popular and political sentiment developed to hold that uses should be separated so that homes were separated from industrial and commercial uses. This policy preference became dominant after the U.S. Supreme Court holding in *Village of Euclid v. Ambler Realty Co.*¹³ and Detroit, like most cities, passed zoning ordinances which generally banished agricultural uses to limited portions of the city or to outside its boundaries. This generally did not limit backyard carrots and tomatoes, but prohibited larger, and particularly commercial, farm enterprises. This contrasts with Eastern Market, and other markets, which provided outlets for agricultural products from the surrounding area for both commercial and individual/family consumption;¹⁴ this, in turn, which provided a source of fresh food to the city’s growing population, and as such was crucial to the healthy development of the city.

9. JOHN A. GALLAGHER, REIMAGINING DETROIT: OPPORTUNITIES FOR REDEFINING AN AMERICAN CITY 21–26 (2010) [hereinafter REIMAGINING DETROIT]; JOHN GALLAGHER, REVOLUTION DETROIT: STRATEGIES FOR URBAN REINVENTION 67 (2013) [hereinafter REVOLUTION DETROIT].

10. CHARLES E. CLELAND, RITES OF CONQUEST: THE HISTORY AND CULTURE OF MICHIGAN’S NATIVE AMERICANS 45–46 (1992).

11. REIMAGINING DETROIT, *supra* note 9, at 42–43.

12. See JACQUELINE P. HAND & JAMES C. SMITH, NEIGHBORING PROPERTY OWNERS 13–53 (1988).

13. 272 U.S. 365, 389–90 (1926) (finding zoning a valid exercise of the police power).

14. RANDALL FOGELMAN & LISA E. RUSH, IMAGES OF AMERICA: DETROIT’S HISTORIC EASTERN MARKET 7 (2013); REVOLUTION DETROIT, *supra* note 9, at 40.

A. Historic Role of Detroit's Eastern Market

Detroit is home to the historic Eastern Market, the largest and arguably the oldest continually operating public market in the United States. Over the course of its history, Eastern Market has reflected the local attitudes toward agriculture within the city. The first public food market in Detroit was established by the original Detroit City Charter in 1802. This market was relocated after fire destroyed most of the city in 1805 and became the City Hall Market, known as Central Market. This was the dominant city market until 1891.

In 1891, Central Market was split in two and relocated to accommodate rising property values in the downtown area. The Western Market, at Michigan Avenue and 18th Street, was demolished in 1965 to make way for Interstate 96. Eastern Market was located on land east of downtown in an area which started out as a ribbon farm.¹⁵

By the early 1920s newspapers asserted that Eastern Market was the largest farmer's market in the world, with 832 registered producers in 1924.¹⁶ Eastern Market was a place of opportunity in the Great Depression, with thousands of Detroiters depending on truck gardens¹⁷ for their livelihood. The Market continued to flourish through World War II since ration coupons were not required at public markets. Even as leadership within the city was shifting toward a prohibition on urban agriculture, Eastern Market remained a symbol of the area's fecundity. After World War II, and with the rise of chain supermarkets, Eastern Market and Detroit saw a steep decline. But the Market did not shut down. Even as the entire city struggled through riots, steep population decline, and rising deficits and crime, the city kept the market open. Even long after all legal avenues for urban agriculture were stripped away, and cities across the country began shuttering their own public markets, Detroit kept Eastern Market open.

Agriculture not only remained present in the city throughout this time; it was, indirectly supported by the city. There is an apparent hypocrisy for a city to create zoning requirements designed to push out agriculture while also keeping a very active public market (which included several active slaughterhouses). Yet such an inconsistency was not all that surprising, as it

15. LOIS JOHNSON & MARGARET THOMAS, DETROIT'S EASTERN MARKET: A FARMERS MARKET SHOPPING AND COOKING GUIDE 1-2 (1999).

16. FOGELMAN & RUSH, *supra* note 14, at 35.

17. A truck garden is a small farm, typically under one acre, producing enough product to be sold locally, traditionally out of a truck at a farmer's market. *Id.*

was common practice at the time of using zoning and restrictive covenants to enforce racial segregation.¹⁸

Detroit struggled through the 1990's to find the ideal arrangement for management of the landmark market, which had become the longest running historic public market in the nation. In 2006, operation of the market was handed over to the nonprofit Eastern Market Corporation, which operates and manages the market on behalf of the city of Detroit. Since that time, Eastern Market has seen a significant resurgence in popularity¹⁹ and has begun to focus on providing entrepreneurial support platform for both urban farmers and other food and agricultural businesses.

B. Depopulation Leads to a New Wild West

The city's population peaked in 1950 at approximately two million people. In the following years, a gradual decline set in which accelerated dramatically after the 1967 riots. Over time this trend resulted in the drastic reduction of the population to its current 750,000. In its wake, this urban flight is leaving behind many blighted structures and substantial vacant land after derelict buildings were removed. If vacant lots and blighted space in Detroit formed the new frontier for urban agriculture, the 1990s and early 2000s were the Wild West.

By the late 1980s, many people outside Detroit saw the city as a lost cause. The economic downturn—coupled with the loss of population and tax base to the suburbs—generated high unemployment and significant numbers of vacant and abandoned properties left unkempt due to a lack of municipal resources. There are currently over forty-four thousand publicly owned vacant parcels in Detroit²⁰ amounting to approximately five thousand acres of land.²¹ In the late 80s and early 90's, most that land was blighted, all but ignored by the city's crippled government.²²

As much of the middle-class population moved out, so too did much of the food system. By 2007, not a single chain grocery store remained in

18. Jaime Bouvier, *Why Urban Agriculture can be Controversial*, UNIV. OF DET. MERCY L. REV. 205, 211–13 (2014); Kevin Fox Gotham, *Urban Space, Restrictive Covenants and the Origins of Racial Residential Segregation in a US City, 1900–1950*, 24 INT'L. J. URB. AND REG'L. RES. 616, 623 (2000).

19. FOGELMAN & RUSH, *supra* note 14, at 8; REIMAGINING DETROIT, *supra* note 9, at 42.

20. REVOLUTION DETROIT, *supra* note 9, at 66. As these numbers are constantly changing, a good reference for current numbers is Motor City Mapping, which physically visited every parcel in Detroit. MOTOR CITY MAPPING, <https://www.motorcitymapping.org/#t=overview&s=detroit&f=public>

21. MOTOR CITY MAPPING, *supra* note 20.

22. REIMAGINING DETROIT, *supra* note 9, at 32–36.

the city.²³ Some independent grocers remained, but not nearly enough to provide the majority of Detroit residents (three quarters of whom lived without a car in the 90's) with access to fresh produce.²⁴

While so much of the outside world wrote off Detroit as a wasteland, many who remained refused to surrender, and the next iteration of Pingree's Potato Patches began to develop. For example, the Gardening Angels program started by the local activist Grace Lee Boggs²⁵ took hold.²⁶ And while the program faded away during the 90's and was completely gone by the early 2000s, the movement it had nurtured continued to grow. Individuals and communities began (or continued) planting gardens. Personal gardens and community gardens sprang up in back yards, side lots, and on vacant plots around the city. These gardens were a way to provide access to healthy food, create employment, bring communities together, and care for blighted lots. Organizations like the Detroit Black Food Security Network (made official in 2006) and the Greening of Detroit (1989) began to form and launch a variety of small urban farms and community gardens.²⁷

Many of these gardens and farms were located on property not owned by those operating them. The people farming the land had no idea who owned it. No one took action to remove these small farms even though the vast majority of them were illegal—not only because the farmers were trespassers (using property owned by others without authorization), but also because most urban agriculture was illegal under the zoning ordinances governing Detroit at the time.²⁸ Concurrently, popular culture in the United States was shifting. The growth of the Internet was nurturing greater public interest in both nutrition and corporate ethics. A strong coalition of activists began lobbying for community food security measures, first given legal substance in the 1996 Farm Bill.²⁹ In Detroit, the Community Food

23. Sheena Harrison, *A City Without Grocery Stores*, CNN MONEY (July 22, 2009), http://money.cnn.com/2009/07/22/smallbusiness/detroit_grocery_stores.smb/.

24. SARAH TREUHAFT & ALLISON KARPYN, POLICYLINK, THE GROCERY GAP: WHO HAS ACCESS TO HEALTHY FOOD AND WHY IT MATTERS 8 (2010), <http://policylink.org/sites/default/files/FINALGroceryGap.pdf>.

25. Robert D. McFadden, *Grace Lee Boggs, Human Rights Advocate for 7 Decades, Dies at 100*, N.Y. TIMES (Oct. 5, 2015), https://www.nytimes.com/2015/10/06/us/grace-lee-boggs-detroit-activist-dies-at-100.html?_r=0.

26. REIMAGINING DETROIT, *supra* note 9, at 45.

27. DETROIT BLACK COMMUNITY FOOD SECURITY NETWORK, <http://detroitblackfoodsecurity.org/> (last visited Dec. 27, 2016); THE GREENING OF DETROIT, <http://www.greeningofdetroit.com/who-we-are/about-us/> (last visited Dec. 27, 2016).

28. REVOLUTION DETROIT, *supra* note 9, at 53. *See generally*, Mogk, *supra* note 1, at 1523.

29. Federal Agriculture Improvement and Reform Act of 1996, Pub. L. No. 104-127, 110 Stat. 890 (1996).

Projects Competitive Grant Program began to feed into the grassroots movement in the city.³⁰ The Detroit Agriculture Network³¹ and Garden Resource Program³² were two early beneficiaries.

Images of agriculture reflecting the new value placed on a direct connection to one's food through farming began popping up in popular media. Books like *An American Homeplace*³³, which appeared in 1992, looked positively at the 1970s "back to nature" movement. As a result, the popular fascination with agriculture exploded by the turn of the twenty-first century with local food³⁴ and urban agriculture books³⁵ flooding the bestseller lists while documentaries like *Food, Inc.* and *Supersize Me* rolled into production. Several novels focused a gritty, "new-frontier" style of urban farming. They painted a vision of romanticized squat farms³⁶ in blighted neighborhoods bearing beautiful crops and uniting communities. Detroit was rarely, if ever, mentioned in these early fantasies of guerilla gardening as a means of using blighted land to nourish bodies and communities. But in Detroit, a large proportion of the 1,000 or more community gardens and urban farms were quietly doing just that: running gardens and farms that nourished the city while remaining illegal, either because the farmers did not own the land they were using, or because zoning ordinances and property laws prohibited agriculture as a use for land within the city limits.

Just as the popular perception of the Wild West, crime in Detroit was commonplace, while law enforcement was sparse and underfunded. Settlers in this new frontier built communities and established norms for themselves that operated outside the formalized legal system.³⁷ Of the hundreds of guerilla gardens and squat farms in Detroit from the late 1980s to early 2000s, only a small handful were ever fined, ticketed, or removed.³⁸ There

30. See generally Kameshwari Pothukuchi, *Five Decades of Community Food Planning in Detroit: City and Grassroots, Growth and Equity*, 35 J. PLAN. EDUC. & RES. 419 (2015).

31. *Id.*

32. *Id.*

33. See generally DONALD MCCAIG, *AN AMERICAN HOMEPLACE* (1992).

34. See generally BEN HEWITT, *THE TOWN THAT FOOD SAVED: HOW ONE COMMUNITY FOUND VITALITY IN LOCAL FOOD 2* (2010) (discussing the impact of the focus on local food production on the small town of Harwick, Vermont). See also MICHAEL POLLAN, *THE OMNIVORE'S DILEMMA: THE SEARCH FOR A PERFECT MEAL IN A FAST-FOOD WORLD 1* (2006).

35. Rich, *supra* note 1.

36. Meaning farms held by squatters, not short in stature.

37. Terry L. Anderson & Peter J. Hill, *An American Experiment in Anarcho-Capitalism: The Not So Wild, Wild West*, 3 J. LIBERTARIAN STUD. 9, 13–15 (1979).

38. Research into city databases as well as conversations with officials from Detroit Police Department confirmed that there are no accurate records kept on this data-point. However, in these conversations with city officials, as well as with dozens of urban farmers, representatives from farming support organizations, and attorneys working in the field in Detroit, it has been made clear that this is in fact the case.

was a pervasive, and generally accurate, perception that the city had neither the resources nor any interest in preventing the cultivation of unused lots, however illegal.

By 2013 when Detroit adopted its Urban Agriculture Amendments to the City's Zoning Ordinance,³⁹ there were already over 1,400 gardens and farms operating in the city.⁴⁰ Since their establishment predated regulation, there was little uniformity in their operations. They varied in ownership, resources, environmental testing, size, shape, irrigation methods, products, inputs, operation method, fertilization, region, mission, distribution, and many other aspects.

An analogous legal situation occurred in the American west before the Civil War during the American antebellum period, when the Forty-niners flocked to the West in search of mineral riches, often on public land. Regulation of mining and mining claims was spotty and sparse, and most mines were not legal under federal law. When the General Mining Act of 1872 legitimized and legalized most of the existing mines, there still remained significant work to normalize regulation of these operations.⁴¹ This parallels the practical challenges faced by Detroit and its farmers in moving to a legal, but regulated system of urban agriculture.

Urban cultivation of crops is now legal in Detroit, and small scale livestock is projected to be approved soon as well.⁴² The process of formalization has highlighted several novel or otherwise unanswered legal issues, exacerbated by the erratic way the legal vacuum has been filled.

39. DETROIT, MICH., ZONING ORDINANCE, § 61 (1984).

40. Nina Ignaczak, *No Stranger to Urban Agriculture, Detroit Makes It Official with New Zoning Ordinance*, SEEDSTOCK (Apr. 9, 2012), <http://seedstock.com/2013/04/09/no-stranger-to-urban-agriculture-detroit-makes-it-official-with-new-zoning-ordinance/>.

41. Robert McClure & Andrew Schneider, *The General Mining Act of 1872 Has Left a Legacy of Riches and Ruin*, SEATTLE POST-INTELLIGENCER (June 10, 2001), <http://www.seattlepi.com/news/article/The-General-Mining-Act-of-1872-has-left-a-legacy-1056919.php>; MINING & SCIENTIFIC PRESS, Sept. 23, 1905, at 203. Practices for mining on public land were essentially uniform in the West, and supported by state and territorial legislation. *Id.* Still, the mines were technically illegal under federal law. *Id.* At the end of the American Civil War, some in Congress saw western miners as squatters, and proposed seizure of the western mines to pay the huge war debt. *Id.* In June 1865, Representative George Washington Julian of Indiana introduced a bill to allow the federal government to take ownership of the western mines and sell them at public auction. R.S. MORRISON AND EMILIO D. DE SOTO, *MINING RIGHTS ON THE PUBLIC DOMAIN* 6 (15th ed. 1917). In response to Representative Julian's proposal, Western representatives successfully argued that western miners performed valuable services by promoting commerce and settling new territory. *Id.* In 1865, Congress passed a law that instructed courts deciding questions of contested mining rights to ignore federal ownership, and defer to the miners in actual possession of the land. *Id.*

42. Daniel Bethencourt, *Detroit Eyes Adding Livestock to Urban Farms*, DETROIT FREE PRESS (Nov. 23, 1:31 PM), <http://www.freep.com/story/news/local/michigan/detroit/2015/11/22/detroit-eyes-adding-livestock-urban-farms/76123622/>.

C. Barriers to Regularizing the Status of Urban Farming in Detroit

For many years, urban farming flourished in Detroit, despite violating the city's zoning ordinances as well as a variety of other regulations. This situation was not caused by city leaders' deep opposition to urban farming.⁴³ Rather, it reflected a reasonable concern on the part of city leaders that the peculiar operation of Michigan's Right to Farm Act⁴⁴ was such that—once any sort of agricultural activity was allowed—the city would lose any ability to control or regulate activities which might cause health problems or other nuisances.⁴⁵ An examination of the evolution of this Michigan statute will assist in understanding continuing issues in the movement to a fully legal system of urban agriculture in Detroit.

Some version of Right to Farm law is in operation in every state. Most were passed in the late 1970s and early 1980s.⁴⁶ They were passed in response to both post-war population trends that saw suburbs spreading into surrounding farmland, and the fact that this migration to rural areas often resulted in homes interspersed between farm operations.⁴⁷ As a result, numerous conflicts arose between the inhabitants of these new residences and the pre-existing farms. Farmers objected to the new challenges ranging from litter dumped in fields, to trespassers on their land, to increased traffic on farm roads creating problems between family cars and slow moving tractors or cattle being driven down the highways.⁴⁸ Perhaps the most galling to farmers was the fact that city people moved to the country for its rural atmosphere then were unpleasantly surprised by traditional farm practices which they found objectionable and responded to by either threatening or actually filing nuisance suits.

The idea of creating statutory protections for farms from outsiders who relocated in proximity to them began to take the form of legislation in

43. For example, the Detroit City Council has leased two acres of a city part to the Black Community Food Security Network for a community garden named D-Town. See DETROIT BLACK COMMUNITY FOOD SECURITY NETWORK, *supra* note 27.

44. MICH. COMP. LAWS ANN. § 286.471 (West, Westlaw through 99th Legis. 2017 Reg. Sess.).

45. See Mogk, *supra* note 1, at 1563 (“The Act removes the city's ability to protect the broader public welfare of its citizens.”).

46. See Alexander A. Reinert, *The Right to Farm: Hog-Tied and Nuisance Bound*, 73 N.Y.U. L. REV. 1694, 1695–96 (1998); Wendy K. Walker, *Whole Hog: The Preemption of Local Control by the 1999 Amendment to the Michigan Right to Farm Act*, 36 VAL. U. L. REV. 461, 468 n. 51 (2002).

47. Jacqueline P. Hand, *Right-to-Farm Laws: Breaking New Ground in the Preservation of Farmland*, 45 U. PITT. L. REV. 289, 290–91 (1984). This article explores the genesis of these laws as a response to the fact that roughly one million acres of prime farmland were being converted to development uses, much of it in the fertile river floodplains that also were the location of the country's major cities.

48. *Id.* at 292.

1979.⁴⁹ These statutes took a variety of forms since they arose from an informal dissemination of similar ideas at various meetings of people interested in agriculture.⁵⁰ Two elements were universally required for the defense provided in the statute to be effectively asserted: first, that the defendant was using his property for an agricultural operation before the plaintiff arrived in the area (i.e. was a preexisting use); and second, that the defendant's operations reflected a reasonable use of farm property. If these elements were met, the fact that the plaintiff "came to the nuisance" served as a complete defense to any nuisance action, rather than simply serving as one factor in a balancing test for an ordinary common law nuisance case. This statutory constraint on common law nuisance goes to the heart of why Detroit experienced such a lengthy delay between the proliferation of urban farms and the city's authorization and subsequent regulation of urban farms.⁵¹

The Second Restatement of Torts defines a private nuisance as "a non-trespassory invasion of another's interest in the private use and enjoyment of land."⁵² In effect, a nuisance occurs when one property owner's action interferes with the right of his neighbor's enjoyment of her property in reasonable comfort. Courts must balance these conflicting rights. It is this balancing that makes up the essence of a cause of action in nuisance. The vast majority of nuisances are, in the words of the Restatement, "intentional and unreasonable."⁵³ Thus, the key determination courts face in deciding a nuisance is whether the defendant's action is unreasonable. This assessment is based on a series of factors, the most important of which is the nature of the area in which the properties are located. Another factor which—while not generally determinative—carries substantial weight is whether the plaintiff "came to the nuisance." In effect, a person who chooses to make her home in a manufacturing district cannot effectively complain about discomforts caused by manufacturing activities. Thus, a factory that would be a nuisance in a quiet residential district, will not be found to be a nuisance if it operates in a location full of similar opera-

49. *Id.*

50. *Id.* at 289; *See generally* NEIL D. HAMILTON & GREG ANDREWS, EMPLOYING THE "SOUND AGRICULTURE PRACTICE" APPROACH TO PROVIDING RIGHT TO FARM NUISANCE PROTECTIONS TO AGRICULTURE (1993); Neil D. Hamilton, *Right-to-Farm Laws Reconsidered: Ten Reasons Why Legislative Efforts to Resolve Agricultural Nuisances May Be Ineffective*, 3 DRAKE J. AGRIC. L. 103, 103-04 (1998); Reinert, *supra* note 46, at 1707; Walker, *supra* note 46, at 461.

51. For a much fuller explanation of the law of nuisance in the context of farm/residence conflicts, *see* Hand, *supra* note 47, at 299-304.

52. RESTATEMENT (SECOND) OF TORTS § 821D (AM. LAW INST. 1979).

53. *Id.* § 822.

tions.⁵⁴ This factor is then balanced with other factors, such as the seriousness of the harm to the plaintiff and the general suitability of the activity to the location. Right to Farm laws generally place a heavy thumb on the side of the farmer during this balancing.

The Michigan Right to Farm Statute as passed in 1981,⁵⁵ was typical of the statutes passed in that period in that it clearly limited its reach to providing a defense against nuisance suits. This defense was available only to a defendant farm which had been in operation before the plaintiff “came to the nuisance.” If, prior to the change in land use, the operation would not have been a nuisance, the farmer could claim a complete defense to any nuisance action. In order to qualify for this defense, the farm operation had to comply with “generally accepted agricultural and management practices [“GAAMP”].”⁵⁶ This language which was found in many Right to Farm statutes, was interpreted interchangeably with “reasonable” practices⁵⁷ in the application of these statutes.⁵⁸ In Michigan, this flexible approach was changed to something much more rigid when these GAAMPs became not just descriptive but were designated as guidelines to be issued by the Michigan Department of Agriculture (whose title was recently and tellingly changed to the Department of Agriculture and Rural Development, (“MDARD”).⁵⁹

Over the next twenty-five years, this simple mechanism for protecting currently operating farms from being displaced by non-farm residences was transformed from a shield to a sword,⁶⁰ and gave almost complete protection to any farm activity to which neighbors might object. The only constraint on this much expanded—and arguably excessive—use of the statute was supervision by MDARD—an agency with a mandate to promote agricultural development over all other policy concerns. Some of these changes

54. See generally DAN B. DOBBS ET AL., HORNBOOK ON TORTS (2d ed.) (2000).

55. The Michigan Right to Farm Statute has received substantial attention in the legal literature. See generally Norris, Taylor & Wyckoff, *supra* note 1, at 366; Walker, *supra* note 46, at 461.

56. MICH. COMP. LAWS ANN. § 286.473(1) (West, Westlaw through 99th Legis. 2017 Reg. Sess.).

57. Hand, *supra* note 47, at 317; See also Walker *supra* note 46, at 470, n. 65 (noting that thirty-one states leave the determination of what is reasonable to the courts. In thirteen of these states, the statutes use the term “generally accepted agricultural practice” but do not designate a procedure to define the term. The eighteen other states, of which Michigan is one, establish a procedure for making the determination.).

58. Hand, *supra* note 47, at 313–16. All statutes have some sort of requirement that the farm use sound practices, also framed as non-negligently. See also Walker, *supra* note 46, at 470.

59. MICH. COMP. LAWS ANN. § 286.472(d) (West, Westlaw through 99th Legis. 2017 Reg. Sess.).

60. In effect, it is no longer purely a defense to actions against the farmer but supports a positive assertion of legal priority by the agricultural operation. *But see* Kurt H. Schindler, *Right to Farm Act Can Preempt Local Regulation Authority, but Not All Local Regulation*, MICH. ST. U. EXTENSION, Aug. 24, 2014, at 4, <http://blogs.mml.org/wp/cc/files/2015/03/BREAKOUT-Urban-Farming-Handout.pdf>.

occurred in other jurisdictions as well, but in Michigan the combination of amendments and court interpretations completely changed the basic nature and policy of the statute. A summary of these changes helps to explain Detroit's long delay in regularizing urban agriculture, and highlights conflicts between domestic and agricultural uses.

As initially passed, the Right to Farm Act only provided a defense to nuisance suits brought by neighboring property owners; it had no effect on local land use regulation. This limitation was reiterated by a 1995 amendment that explicitly declared that agricultural operations were subject to local land use and zoning ordinances.⁶¹ Four years later, the policy was completely reversed with the passage of an amendment that provided:

it is the express legislative intent that this act pre-empts any local ordinance, regulation or resolution that purports to extend or revise in any manner the provisions of this act or generally accepted agricultural management practices developed under this act. Except as otherwise provided in this section, a local unit of government shall not enact, maintain, or enforce an ordinance, regulation or resolution that conflicts in any manner with this act or GAAMPS developed under this act.⁶²

This was tempered slightly by an additional provision that allowed local governments to submit ordinances designed to protect the environment or public health to the Michigan Department of Agriculture for approval.⁶³ It is not surprising the city of Detroit was reluctant to concede this much control over local impacts, given that the mandate of the Michigan DOA was explicitly to promote agriculture⁶⁴ not to balance the property rights of the community as a whole.

Concerns about this cessation of local control were further exacerbated by a series of decisions by the Michigan courts in interpreting the statute. The most problematic decision was *Steffens v. Keeler*,⁶⁵ in which the Michigan Court of Appeals held that the prerequisites to a defense under the Right to Farm Act are disjunctive, so that the agricultural operation must *either* comply with GAAMPs *or* must have begun operations before the plaintiff moved to the area. In effect, the farmer who relocated near a person's property is just as protected by the statute as one who was there when the plaintiff arrived. By obliterating the requirement that the plaintiff

61. MICH. COMP. LAWS ANN. § 286.473a (repealed 1999).

62. MICH. COMP. LAWS ANN. § 286.474(6) (West, Westlaw through 99th Legis. 2017 Reg. Sess.).

63. *Id.* § 286.474(4)(7).

64. Walker, *supra* note 46, at 483.

65. 503 N.W.2d 675, 677 (Mich. Ct. App. 1993).

“came to the nuisance” this ruling opened up the specter of a feedlot or hog factory⁶⁶ moving into a residential neighborhood and neither the existing residents nor the local government can do anything about it.

A further complication arose from a series of cases expanding the reach of the term “farm operation.” The statutory definition of the term is already broad, including “any condition or activity that occurs at any time as necessary on a farm in connection with the commercial production, harvesting, and storage of farm products.”⁶⁷ Although the limitation of the application of the statute to “commercial” operations theoretically narrowed its reach by excluding home and community gardens, its functional application was not so restrictive. since the Court of Appeals determined that even minimal activities such as selling a single egg rendered an operation commercial and protected by the statute⁶⁸

These two judicial glosses caused the statute to lose all connection to its original purpose of protecting pre-existing farms from the consequences of residential intrusions. In the process, these glosses also removed all ability not only of neighbors but also of the local government to balance the harms and benefits of any activity that could be conceivably be termed agricultural. The last constraint that prevents the Right to Farm Act from becoming a blank check for any operation labeled as a “farm” activity is that, to be protected, the activity must conform to any relevant GAAMPs. From the perspective of an urban community dealing with agricultural activities within a larger community, this is unsatisfactory for a variety of reasons.

The first of these is the fact that the GAAMPs are developed by a state administrative department (whose mission is explicitly rural development)⁶⁹ and adopted by a state commission charged with promoting agriculture as opposed to the broader public welfare. As such, their primary allegiance is to an agriculture industry which is increasingly an industry of large corporate players, so that in balancing the needs and rights of the farm activity, there is a thumb on the scale for the farm. This lack of local decision-making can be a problem in rural counties,⁷⁰ but is particularly

66. See Walker, *supra* note 46 at 489. (asserting that such facilities should be treated as industrial rather than agricultural operations). This threatens not only urban neighborhoods but also the quality of life in traditional rural neighborhoods.

67. § 286.472.

68. See Schindler, *supra* note 60, at 2.

69. This name change suggests the problem with locating these land use decisions at the state level.

70. For an example of the tensions between traditional farms and confined animal feeding operations (CAFOs) see Jake Harper, *Sickened By Smells, Retired Farmer Looks to Challenge Indiana's Right to Farm Law*, WFYI INDIANAPOLIS (Oct. 14, 2015), <http://www.wfyi.org/news/articles/sickened->

debilitating for dense urban communities where conflicts can be particularly intense. The second problem with the reliance on GAAMPs is that they have been developed for a limited number of topics.⁷¹ Where no GAAMP has been formulated, the Right to Farm Act may still apply if it qualifies as a “farm operation,” produces a “farm product,” and is “commercial.” Finally, GAAMPs are an administrative law anomaly. They are not regulations, adopted after required public participation through notice and a hearing, and are not enforceable as such. They only come into operation as a defense to a nuisance action or in a challenge to zoning enforcement.

Given this statutory climate, it is not surprising that—despite the broad and intense activity of urban farming activity in Detroit—the City declined to develop and pass zoning authorizing farm activities within the city. In light of the numerous farm activities all over Detroit, problems began to develop.⁷² There were numerous calls for the legislature to amend the statute to exempt urban areas from the Right to Farm Act, calls which remained unanswered for several years. Ultimately, in 2012 the Michigan Agricultural Commission addressed the problem by adding a preface to existing GAAMPs⁷³ which exempted cities with populations exceeding 100,000 from the operation of the Right to Farm statute.⁷⁴

The long delay, between the development of urban agriculture and the adoption of ordinances regulating it had several consequences. It allowed the development of many farm operations with few practical restraints,

by-smells-retired-farmer-looks-to-challenge-indianas-right-to-farm-law; Kristine Guerra, *Lawsuit Raises Stink over Indiana's Right to Farm Laws*, IND. STAR (Oct. 7, 2015), <http://www.indystar.com/story/news/politics/2015/10/07/lawsuit-challenges-constitutionality-indianas-right-farm-laws/73511680/>.

71. There are a total of eight GAAMPs addressing these topics: Manure Management and Utilization, Pesticide Utilization/Pest Control, Nutrient Utilization, Care of Farm Animals, Cranberry Production, Site Selection and Odor Control for New and Expanding Livestock Facilities, Irrigation Water Use, and Farm Markets. See *Michigan Right to Farm Information*, MICH. COMM'N OF AGRIC. & RURAL DEV., http://www.michigan.gov/mdard/0,4610,7-125-1599_1605---,00.html.

72. The authorities generally did not enforce against farmers and gardeners unless there was a complaint.

73. For an example, see the Manure Management GAAMP, which provides “This GAAMP does not apply in municipalities with a population of 100,000 or more in which a zoning ordinance has been enacted to allow for agriculture provided that the ordinance designates existing agricultural operations present prior to the ordinance’s adoption as legal non-conforming uses as identified by the Right to Farm Act for purposes of scale and type of agricultural use.” MICH. COMM'N OF AGRIC. & RURAL DEV., *GENERALLY ACCEPTED AGRICULTURAL AND MANAGEMENT PRACTICES FOR MANURE MANAGEMENT AND UTILIZATION* iii, http://www.michigan.gov/documents/mdard/2016_MANURE_GAAMPs_516117_7.pdf.

74. This resolved the immediate problem in Detroit and the other larger Michigan cities but leaves unaddressed the underlying problem of allowing individuals engaging in a wide variety of agricultural practices to move to a new area (including one that is predominantly residential) and operate only within the broad constraints of GAAMPs promulgated from an agricultural industry perspective without balancing local concerns.

which both created the frontier atmosphere discussed earlier, and complicated the transition to a balanced approach of supporting urban farms and gardens without ignoring the concerns of traditional urban residents. On the plus side, it provided an opportunity for the city to develop a well-thought-out ordinance that drew on earlier ordinances in other cities, but that specifically tailored its provisions to Detroit's economic and social needs.

The modification of the application of the Right to Farm Act was followed relatively quickly by amendments to the Detroit Zoning Ordinance, which authorized many forms of urban agriculture.⁷⁵ These amendments are similar to ordinances adopted in other cities. The amendments, often referred to as the Urban Ag Ordinance, define an "urban garden" as a lot of up to one acre used to grow crops for individual, group, or commercial use. An "urban farm" is a zoned lot of over one acre which may grow crops for personal, group, or commercial purposes and includes orchards and tree farms. Urban gardens and farms are allowed in nearly all zoning districts and may sell their own products from farm stands on their own property. Both urban gardens and urban farms are allowed a variety of accessory uses such as greenhouses, hoop houses, and sheds, though these structures are subject to set-back requirements and, where appropriate, building permits. Urban farms are generally required to submit site plans explaining in substantial detail information ranging from the type of machinery which will be used to the location of a compost heap.⁷⁶ Those located in nonresidential districts can—subject to appropriate permits and setbacks—engage in aquaculture,⁷⁷ hydroponics,⁷⁸ and aquaponics.⁷⁹

Generally, agricultural operations that existed before April 2013 may be allowed to (with permission from the City Planning Commission) operate in a manner inconsistent with the Urban Agriculture Ordinance as a "nonconforming use." A quick perusal of these thoughtful but real requirements suggests that the much-sought-after legalization creates sub-

75. DETROIT, MICH., ZONING ORDINANCE §§ 61-3-128, 61-3-113 (2016); for a clear explanation of the provisions of the Amendments, see Libby Busdicker, Mich. State Univ., *A Summary of the Urban Agriculture Amendments to Detroit's Zoning Ordinance*, www.law.msu.edu/clinics/food/busdickerfact.pdf (last visited Dec. 27, 2016).

76. DETROIT, MICH., ZONING ORDINANCE § 61-3-113 (2016).

77. CITY OF DETROIT, CITY PLANNING COMMISSION, DRAFT: URBAN AGRICULTURE ORDINANCE SEPT. 12, 2012 VERSION 2 (2012) (defining aquaculture as "[t]he cultivation of marine or freshwater food fish, shellfish, or plants under controlled conditions.").

78. *Id.* (defining hydroponics as "[a] method of growing plants without soil, using mineral nutrient solutions or water, or in an inert medium such as perlite, gravel or mineral wool.").

79. *Id.* (defining aquaponics as "[t]he integration of aquaculture, with hydroponics, in which the waste products from fish are treated and then used to fertilize hydroponically growing plants.").

stantial constraints on people who are used to being limited only by their own judgment; met with varying degrees of push back.

The amendments also contain provisions designed to minimize conflicts between urban farmers and their neighbors. In addition to clear standards on lighting, property maintenance, noise, and compost, gardens operate on a conditional-use basis, and all urban farms must provide written notice—with a description of what is planned—to abutting property owners or occupiers (neighbors do not, however, have a veto over the operation). Most existing gardens and farms, particularly those begun by people who did not already live in the community, have wisely made sure their neighbors have such information, at least on an informal basis. Finally, these operations may not operate as a nuisance. They may not, for example, be “detrimental to the physical environment or to public health and general welfare”⁸⁰ by producing too much noise, smoke, fumes, vibrations, or odors. This suggests that operations which do not meet this standard will be subject to zoning enforcement and nuisance actions.

The 2013 amendments continued the prohibition on farm animals for any use other than a zoo, circus, or laboratory. When these zoning amendments were in development, the planning department originally intended to include provisions allowing but regulating livestock. However, vocal opposition from a substantial segment of the broader community led the drafters to put approval of livestock on hold. A separate set of amendments addressing urban livestock is projected to be introduced in the city council soon. There is currently at least one bill that may come to consideration by the Michigan legislature which would affect this proposed regulation.

The decision to further delay the regulation of livestock reflects the greater emotional intensity that surrounds animal agriculture, as well as the controversial nature of bringing traditionally rural practices into urban neighborhoods. Restrictions on these practices, not faced when they were transgressive, can lead to a difficult transition for all members of the community. While requirements for setbacks, placement of compost heaps, noise, and lighting may seem relatively minor to an outsider, they can feel objectionable and claustrophobic to a person used to doing things their own way. One reason adverse possession is deeply embedded in the common law is that it reflects the human characteristic of developing a sense of entitlement to property.⁸¹ Similarly, urban farmers often believe that they

80. DETROIT, MICH., ZONING ORDINANCE § 61-12-335 (2016).

81. Oliver Wendell Holmes, *The Path of the Law*, 10 HARV. L. REV. 457, 476–77 (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

“don’t need anyone telling me how to operate” In addition, as with the Western frontier, the very people who are attracted to the risk involved in starting a farm in the inner city tend to be folks who like the “guerilla” aspects of guerilla farms. At one of the public meetings held by the city planning department in the run-up to the passage of the ordinance, the only regulation that participants believed strongly was needed was the prohibition of the use of pesticides and of genetically modified organisms. Neither of which concerns are in fact addressed by the ordinance because of concerns that such provisions would be preempted by state law. Despite these tensions, enforcement actions against urban farmers in the past two years have been relatively few, mostly against individuals for the illegal raising of livestock of various kinds. This suggests that the imminent passage of the livestock amendments will experience a rougher transition from transgression to regulation.⁸²

III. CURRENT STATE OF LIVESTOCK IN DETROIT

Detroit is sometimes held up as a model city for trying new things.⁸³ The city has for many years been referred to as a “blank slate,” much to the chagrin of the more than 700,000 people who’ve populated Detroit for generations. Blank or not, Detroit has become a proving ground for new methods of living, producing, and governing.⁸⁴ The city planners involved in creating Detroit’s new Urban Livestock Ordinance are focused on developing a model that is sustainable over the long term. While several cities have adopted ordinances allowing livestock, the Detroit ordinance reflects an unprecedented quantity of thought and research.

A. Content of Proposed Ordinance

Soon after the passage of the Urban Agriculture Ordinance in Detroit (indeed, even as it was being created), members of the City Planning Commission began considering and planning for additional amendments to the City Code aimed at legalizing and regulating urban livestock. Currently, the City Code states, in pertinent part:

[i]t shall be unlawful for a person to own, harbor, keep, or maintain, sell, or transfer any farm animal, or any wild animal, on their premises or at a

yourself, however you came by it. The law can ask no better justification than the deepest instincts of man.”).

82. Conflicts under “right to farm” often involve livestock.

83. Brittany Robinson, *It’s Not a Blank Slate*, MASHABLE (Mar. 1, 2015), <http://mashable.com/2015/03/01/detroit-new-people/#HoUlpbJskq9>.

84. *Id.*

public place within the City; provided, that farm animals or wild animals may be kept in circuses, zoos, or laboratories, subject to approval of the City⁸⁵

Members of the City Planning Commission and other interested individuals determined that drafting a complete and effective urban livestock ordinance would be a complicated process. Detroit's reputation as a domestic and international leader in urban agriculture,⁸⁶ as well as promulgators' desires to maintain quality standards of living for urban livestock, urban farmers, and their neighbors, caused the notion of "getting it right" to take priority over speed while drafting the ordinance.

Codes, ordinances, rules, and policies for urban livestock regulation in Detroit will most likely impact three primary regulatory areas: zoning (including the city's development of a new Master Plan), animal control, and public health.⁸⁷ As such, the amendments will affect various sections of the City Code, and may additionally require promulgation of rules for some impacted city departments. The Planning Department focused on three major categories of concern. These considerations included the following: first, types of animals to be allowed and animal husbandry definitions; second, zoning and conformance with the Master Plan; third, site-level requirements and restrictions; fourth animal care standards/livestock keeping practices; and finally, administrative oversight.⁸⁸

B. Animal Husbandry

Narrowing down which animals would be allowed under the proposed ordinance was one of the least contentious parts of the drafting process. The ordinance as proposed includes hens and ducks, honeybees, rabbits, and goats, with an option for farmers to request special permitting for "miscellaneous" other animals (which might include horses, turkeys, or alpacas, among others).⁸⁹ It was also decided that animal husbandry would

85. DETROIT, MICH., CODE § 6-1-3(a)(2016).

86. Letter from Kathryn Lynch Underwood, City Planner, & the Council Legislative Policy Div. to the Urban Livestock Workgroup, MDARD Urban Livestock Tech. Grp., Renee Wallace & Charles Cross (undated).

87. Letter to the Urban Livestock Workgroup, MDARD Urban Livestock Technical Group, Renee Wallace, and Charles Cross from Kathryn Lynch Underwood, and the Council Legislative Policy Division from early 2015 (undated).

88. *Id.*

89. CITY OF DETROIT, MICH., SUMMARY OF AMENDMENTS PROPOSED TO THE DETROIT ZONING ORDINANCE 9 (July 2016),

http://www.detroitmi.gov/Portals/0/docs/Legislative%20Policy%20Reports/City%20Planning%20Commission/CHAPTER%2061%20ZONING_amendments_3.0.pdf?ver=2016-07-14-162425-243.

be permitted only as an accessory, not a principal use. The proposed definition of animal husbandry is as follows: “The keeping of animals and/or honey bees for personal consumption, use, and/or sale of certain of their products as determined by the City, and; according to State and/or Federal regulations. Animals allowed are specified in Chapter 6 of this Code. The animals allowed are for agricultural purposes and not to be considered the same as companion animals.”⁹⁰

C. Zoning and the Master Plan

A key question for the drafters was the choice of whether to allow animal husbandry by-right or as a conditional use, and in which zoning districts these distinctions should apply.⁹¹ Ultimately, the proposed amendments to the zoning code provide mostly for by-right livestock keeping, but as an accessory use only. Exceptions exist to the by-right zoning for certain related activities, such as slaughter. These are allowed in fewer areas and even there are generally conditional uses.⁹² Many of the initial discussions in drafting the new ordinance centered on the Planning Department’s desire, strongly supported by the community, to require membership in an “Urban Livestock Guild” in order to qualify for a livestock permit.⁹³ This requirement does not appear in the most recent proposed ordinance.⁹⁴ Possible implications of such a guild are discussed further in subsequent sections of this paper. Finally, a special permit provision was included for animals not specifically listed for uses such as an equestrian facility or alpaca farm.⁹⁵

D. Site Level Requirements and Restrictions

As the livestock ordinance discussion in Detroit was taking off, similar discussions were gaining traction statewide, particularly since the GAAMP exceptions applied only to cities with populations of over 100,000 people. In 2014, Director of the Michigan Department of Agricultural and Rural Development (“MDARD”), Jamie Clover, and Senator Joe Hune formed the Urban Livestock Workgroup (“ULW”). Kathryn Lynch Under-

90. *Id.* at 12.

91. *Id.* at intro.

92. Detroit legislators are proposed an ordinance to amend Chapter 61 of the 1984 Detroit City Code, known as the *Urban Livestock Ordinance*. This document is available on file with authors.

93. Letter from Kathryn Lynch Underwood, City Planner, & Kimani Jeffery of the City Planning Comm’n to the City Planning Comm’n at large (July 19, 2016) [hereinafter *Letter*].

94. Amendments proposed to the Detroit Zoning Ordinance, July 2016

95. *Letter*, *supra* note 93.

wood from the Detroit City Planning Commission—the lead planner working on the urban livestock ordinance for Detroit—was asked to join the Urban Livestock Technical Group, a sub-committee of the ULW that focused on developing guidelines for urban livestock producers usable by policymakers when legalizing urban livestock.⁹⁶ The *Urban Livestock Technical Group Report* provided detailed recommendations for husbandry of various kinds of animals. The report's topics include site evaluation, livestock health standards, animal shelters, animal density per unit area, space recommendations, feed recommendations (including storage standards), waste and manure management, fencing, and slaughter and euthanasia standards.⁹⁷

The following requirements set forth in the proposed Detroit zoning ordinance are based on the recommendations of the above-referenced report: numbers of animals per space; shelter space per animal; outdoor pen space per animal; setback from all property lines; setback of pen space from neighboring dwelling; and setback of pen space from animal owner dwelling. The proposed ordinance further includes hive facings⁹⁸ and fly-way barriers⁹⁹ near apiaries.¹⁰⁰ To further clarify the requirements set forth in this section, the Detroit Collaborative Design Center at the University of Detroit Mercy School of Architecture, was contracted to, among other things, create a detailed illustration of required setbacks and positioning of animal husbandry activities.¹⁰¹ These illustrations are included in the proposed ordinance.¹⁰²

E. Animal Care Standards

Sorting out the steps necessary to implement the livestock ordinance is an even greater challenge. One of the primary concerns expressed by leaders in the city departments who were likely to have some role in administering the urban livestock ordinance in Detroit was the lack of

96. CITY OF DETROIT, MICH., *supra* note 89, at intro.

97. *See generally* URBAN LIVESTOCK WORKGROUP, RECOMMENDATIONS REPORT TO DIRECTOR JAMIE CLOVER ADAMS AND STATE SENATOR JOE HUNE (2015), https://www.michigan.gov/documents/mdard/Urban_Livestock_Workgroup_Report_w_Technical_Workgroup_Guidelines_031315____484099_7.pdf.

98. The direction a hive opening is permitted to face in comparison to property lines and neighboring residences. *See, e.g., Bee Standards*, CITY OF MADISON, WISC., <https://www.cityofmadison.com/dpced/bi/documents/BeeStandards.pdf>.

99. A wall, fence, or dense hedge designed to redirect bees' flight. For a visual depiction, see *id.*

100. *Letter, supra* note 93.

101. *Id.*

102. CITY OF DETROIT, MICH., *supra* note 89.

infrastructure for maintaining animal health.¹⁰³ While there was general support for the need to inspect urban livestock operations, no personnel employed by the city were qualified to conduct such inspections. Moreover, at the time of the ordinance debates, the city had not budgeted for training or hiring such employees.¹⁰⁴ Similar concerns were raised about setting up a system for responding to complaints. Detroit's Animal Control department has historically dealt almost exclusively with dogs, cats, and occasional urban wildlife like opossums and raccoons.¹⁰⁵ In addition, there are not more than two Detroit veterinarians who are known to treat livestock.¹⁰⁶

The Livestock Guild concept (discussed below) was developed to deal with these problems. In the absence of a Guild requirement in the current proposed ordinance, the draft ordinance remains largely silent on issues concerning animal care, and disputes concerning livestock will likely be governed by common law, local custom, and any existing, applicable state and national rules.

F. Administrative Oversight

While initial plans for the urban livestock ordinance envisioned comprehensive administrative oversight through a combination of permitting regulations and governance by “the Guild,”¹⁰⁷ the current proposed ordinance remains largely silent on these issues.¹⁰⁸ Similar silence in Detroit's 2012 Urban Agriculture Ordinance on permissions for urban gardening resulted in the City using a standard building permit for agricultural land use—a confusing process for both the applicants and the city officials responsible for the processing of the permits.¹⁰⁹ Since the current draft ordinance proposes by-right permission of animal husbandry as an accessory use, it is unclear as to whether any permit will be required for basic livestock keeping, and, if one is required, what city department will be responsible for issuing such permits.

103. Kathryn Lynch Underwood, City Planner, City of Detroit, Michigan, Presentation at the Detroit Food Policy Council Research and Policy Committee (2016).

104. *Id.*

105. *Id.*

106. *Id.*

107. *Letter, supra* note 93.

108. CITY OF DETROIT, MICH., *supra* note 89.

109. Janell O'Keefe, Evaluation Coordinator, Keep Growing Detroit, remarks at panel discussion with Jacqueline Hand and Amanda Gregory at the Harvard Food Law Society 2016 Just Food? Forum (March 26, 2016).

IV. THE GUILD CONCEPT

Proper care of livestock animals is a learned skill.¹¹⁰ Such expertise is vital to the animals' health, mitigates risks from the consumption of their products, and—especially in urban settings—decreases nuisances. The training and oversight of individuals keeping livestock in the city harmonizes animal-raising (ordinarily a rural process) with dense urban living. In attempting to create such harmony, problems inevitably arise, problems that the Urban Livestock Guild attempts to address.

The idea for the Guild originated from observation of the internal policing used by urban dog fighting rings to prevent nuisance claims by neighbors and detection by authorities.¹¹¹ Dog fighting is a horrific and illegal activity for which prosecution rightfully imposes criminal penalties. It is also an activity which is likely to causes nuisances, both of sound and smell; unchecked, these nuisances make the practice highly susceptible to detection within urban areas. Despite its deplorable continuation, dog-fighting's internal policing serves as a learning point from which more innocuous activities like urban farming can borrow.

The Urban Livestock Guild is envisioned as a “train-the-trainer” collective of individuals engaged in animal husbandry within Detroit. As originally conceived, an animal husbandry permit would be conditional upon membership in the Guild and compliance with certain Guild-set standards or training. Such a guild would also have some level of self-policing authority inherent in its charter with the city.¹¹² The Guild as initially proposed included several key concepts. Its primary focus sought to generate a minimum level of understanding for keepers on how to care for their livestock. This, in turn, was expected to relieve the City of some of the regulatory and inspection burden by establishing peer accountability and permitting standards. In addition, the Guild would provide training for owners of city livestock and city employees.¹¹³

110. THE 20 BEST COLLEGE FARMS, <http://www.bestcollegereviews.org/best-university-farms/> (last visited Dec. 19, 2016); *U.S. Colleges offering degrees in Animal/Livestock Husbandry and Production*, STARTCLASS, http://colleges.startclass.com/d/o/Animal_-_Livestock-Husbandry-and-Production; Livestock Management Colleges, Universities, and Degree Programs, COLLEGEATLAS.ORG, <http://www.collegeatlas.org/livestock-management-colleges.html>.

111. *Letter, supra* note 93.

112. Telephone Interview with Kathryn Lynch Underwood, Detroit Planning Commission (Oct. 23, 2015).

113. Letter from David Whitaker, Interim Dir., Kathryn Lynch Underwood, City Planner, & the Legislative Policy Div. to Detroit City Council, Michael E. Duggan, Mayor, & the City Planning Comm'n (June 18, 2014) [hereinafter *Letter II*].

The Urban Livestock Guild is an innovative approach to minimizing conflicts involving livestock in an urban environment. It received widespread approval within the city and across the state.¹¹⁴ During 2016, Michigan State University agreed to run the “train the trainer” program,¹¹⁵ and Detroit Food Policy Council agreed to house and administer the Guild.

Despite this widespread enthusiasm, the Urban Livestock Ordinance’s current iteration does not include any language incorporating or chartering such a guild.¹¹⁶ The omission of the Guild from the ordinance has had cascading effects. Many of the practical issues addressed by the Guild now remain unresolved. This then contributes to city agencies’ hesitancy to support the new ordinance based on their lack of capacity, training, and funding; their apathy (stemming from a perceived lack of funding and formal training) has pressured planners to roll back the proposed ordinance entirely and create a new, restrictive ordinance aimed at regulating only new urban farmers interested in starting larger farms. This new ordinance would exclude small farmers and individuals who wish to conduct small scale animal husbandry for personal use.¹¹⁷ And while there has been no movement to shelve the Urban Livestock Ordinance, whether the old ordinance will yield to this newly promulgated regulation remains unclear now.¹¹⁸

V. WATER

Operating legally is only one challenge facing urban farmers in Detroit. Obtaining water for cultivation is equally daunting. Access to water within cities has recently received substantial attention within the United States, and Detroit is no exception. A recent and controversial crackdown on thousands of Detroit residents in default on their water bills¹¹⁹ raised

114. *Id. See generally* LAURA SCHMITT OLABISI ET AL., URBAN LIVESTOCK ADOPTION IN DETROIT MICHIGAN, https://www.ippsr.msu.edu/sites/default/files/MAPPR/Urban_Livestock.pdf.

115. Interview with Kathryn Lynch Underwood, Detroit Planning Commission (Feb. 8, 2016) (on file with author).

116. CITY OF DETROIT, MICH., *supra* note 89.

117. Interview with anonymous Detroit City Worker (Dec. 15, 2016) (transcript on file with authors).

118. *Id.*

119. Joel Kurth, *Detroit Hits Residents on Water Shut-offs as Business Slides*, DETROIT NEWS (Mar. 31, 2016), <http://www.detroitnews.com/story/news/local/detroit-city/2016/03/31/detroit-water-shutoffs/82497496/>; Matt Helms, *Detroit to Resume Water Shut-offs May 1; Help Available*, DETROIT FREE PRESS (Apr. 26, 2016),

<http://www.freep.com/story/news/local/michigan/detroit/2016/04/26/detroit-resume-water-shutoffs-may-1-help-available/83542074/>; *Water as a Commons in Detroit, the Great Lakes, and Beyond*, <https://www.thenatureofcities.com/2016/08/03/water-as-a-commons-in-detroit-the-great-lakes-and-beyond/>

questions of both human rights¹²⁰ and civic responsibility. While less controversial than these, urban agriculture also engenders some significant water related issues for the city. Though Michigan has no shortage of water, obtaining water legally for irrigation inside the city can be difficult and cost-prohibitive.¹²¹ Then there are further problems related to runoff and management of excess water, namely storm water.¹²²

A. Fire Hydrant Tapping

The practice of fire hydrant tapping clearly highlights the issues raised when long running guerilla practices that were once accepted—despite being illegal—suddenly need to be integrated into a legitimized system. In an urban agricultural context, this consists of obtaining water for irrigation from a fire hydrant, usually by opening the hydrant and connecting a hose. It has been widely used by urban farmers throughout the city for many years.¹²³

Aside from being illegal on its face, several potential problems are created by the practice of tapping fire hydrants. The two most significant issues are a loss of pressure in the system,¹²⁴ and user's failure to properly drain the hydrant on completion.¹²⁵ Loss of pressure in the system, caused by too much water being released from the hydrant, decreases or even destroys its functionality for fighting fires.¹²⁶ Failure to properly drain hydrants after they have been opened creates a major problem in Michigan winters, when the backed-up water freezes and breaks the hydrants.¹²⁷

120. *In Detroit, City-backed Water Shut-offs 'Contrary to Human Rights,' Say UN Experts*, UN NEWS CTR. (OCT. 20, 2014), <http://www.un.org/apps/news/story.asp?NewsID=49127#.WJDsGIUrKM8>.

121. Brandon Loomis, *Water Could Transform Rust Belt into Blue Belt*, DETROIT FREE PRESS (OCT. 27, 2015), <http://www.freep.com/story/news/nation/2015/10/27/southwest-water-midwest-drought/74696826/>.

122. *Green Infrastructure*, CITY OF DETROIT, MICH., <http://www.detroitmi.gov/Government/Departments-and-Agencies/Water-and-Sewerage-Department/Green-Infrastructure> (last accessed Mar. 23, 2017).

123. Anonymous interviews with urban farmers conducted between mid and late 2015 (on file with the authors).

124. *Detroit Firefighters Injured While Battling Fire with Low Water Pressure*, WXYZ DETROIT (July 8, 2015, 5:56 PM), <http://www.wxyz.com/news/region/detroit/detroit-firefighters-injured-while-battling-fire-with-low-water-pressure>.

125. *With Lives, Homes at Risk, Detroit Aims to Fix Hydrants*, DETROIT FREE PRESS (Mar. 16, 2015), <http://www.freep.com/story/news/local/2015/03/16/detroit-promises-action-frozen-fire-hydrants/24822069/>.

126. WXYZ DETROIT, *supra* note 124.

127. Steve Neavling, *About Half of Detroit's Hydrants are Defective – and That's Only Part of the Problem*, MOTOR CITY MUCKRAKER <http://motorcitymuckraker.com/2015/12/30/about-half-of-detroit-hydrants-are-defective-and-thats-only-part-of-the-problem/> (“Hydrants freeze when water leaks into the barrel through a broken valve beneath the frost line, a problem that led to significant fire damage last

Fire hydrant tapping for irrigation on urban farms remains common practice in Detroit.¹²⁸ While most, if not all, urban farmers engaging in this practice would like to find a legal irrigation method, doing so is typically extremely expensive or impossible as a practical matter.

According to the Motor City Mapping project¹²⁹ completed in 2014, there are 114,033 vacant lots in the city of Detroit.¹³⁰ Vacant lots—prime space for urban agriculture—typically do not have running water. Depending on how these lots became vacant, they rarely have functioning or accessible water lines.¹³¹ The cost of connecting to the city’s water can range from \$3,500 to \$8,000 on average.¹³² Those farms or gardens that are lucky enough to already have access to water or that are willing and able to pay to connect to the city’s water system still face the obstacle of the lack of a legal mechanism to obtain a water meter on a lot without a structure.¹³³ This means that urban farms that can afford to obtain water legally are often still barred from doing so.

Like most other U.S. municipalities, Detroit lacks a non-potable water supply accessible for irrigation.¹³⁴ As a result, even when these above-listed hurdles have been overcome, a farm accessing the city water supply for irrigation must pay for water at the same rate as a residential household, which can quickly become cost-prohibitive. A study in Cleveland, Ohio—a city comparable in many ways to Detroit (particularly regarding agriculture)—found that basic water costs for urban farms, depending on their size, typically ranged from \$589 to \$2,201.54.¹³⁵ These costs did not include fixed costs like connection fees (a minimum of \$600 in Detroit),¹³⁶ installation costs (up to \$8,000),¹³⁷ or sewer costs, costs which have the potential to more than double the expense.¹³⁸

winter. This year, firefighters found more than 12,000 hydrants that needed to be pumped of water that was above the frost line.”).

128. Interview with Kibibi Blount-Dorn, Detroit Food Policy Council, April 28, 2015.

129. MOTOR CITY MAPPING, <https://www.motorcitymapping.org/>.

130. DETROIT BLIGHT REMOVAL TASK FORCE, EVERY NEIGHBORHOOD HAS A FUTURE . . . AND IT DOESN'T INCLUDE BLIGHT 51 (2014), <http://s3.documentcloud.org/documents/1173946/detroit-blight-removal-task-force-plan-may-2014.pdf>.

131. Interview with Kibibi Blount-Dorn, *supra* note 128.

132. *Water*, URBANAGLAW.ORG, <http://www.urbanaglaw.org/water/>.

133. Interview with Detroit Water and Sewer Authority (Nov. 2015) (on file with authors).

134. URBANAGLAW.ORG, *supra* note 132.

135. BARBARA LUND ET AL., CITY OF CLEVELAND, OHIO, FINAL REPORT TO FRAN DIDONATO, URBAN AGRICULTURE, WEATHERHEAD SCHOOL OF MANAGEMENT, CASE WESTERN RESERVE UNIVERSITY 8 (2009).

136. *City of Detroit Water Rates*, CITY OF DETROIT, MICH. ARCHIVES, http://archive.dwsd.org/downloads_n/customer_service/rate_schedules/2015_detroit_water_rates.pdf.

137. URBANAGLAW.ORG, *supra* note 132.

138. LUND ET AL., *supra* note 135, at 8.

These hurdles only come into play after urban farmers have obtained legal title to the land they are farming. This requirement is usually the first, and often a completely insurmountable, barrier to the legal acquisition of water for irrigation. Acquisition of land with clear title remains challenges establishing a stable urban agriculture system in Detroit. Despite the well-publicized, low prices for these parcels,¹³⁹ there are significant difficulties associated with clearing their titles,¹⁴⁰ particularly in the case of obtaining city-owned land (a process so lacking in formality that it may not even qualify for the term “process”). While there has been a concerted effort in the city to remedy some of these process challenges, such efforts are largely dependent on the type of use for which the land is being acquired. If that use is agriculture, Detroit currently lacks in any effective method to deal with the sale since agriculture isn’t one of the available use categories under which the city processes the sales.¹⁴¹ And while we do not seek to engage in a lengthy assessment of the problem surrounding title-clearing for urban farmland, it suffices to say that it can be a difficult and time-consuming process for urban gardeners.¹⁴²

For farms unable to connect to the municipal water system through a regular water line, fire hydrant tapping remains standard practice.¹⁴³ This non-legal self-help method continued to be largely ignored by authorities even after the adoption of the Detroit Urban Agriculture ordinance. Fire hydrant tapping for business purposes is not without precedent in Detroit. As recently as 2014, Detroit’s Water and Sewerage Department (“DWSD”) itself “jerry-rigged” a hose from a fire hydrant to provide water to a downtown coffee shop because the blighted buildings nearby made it too dangerous for a water main to be repaired.¹⁴⁴

In fact, many of the urban farms that use the fire hydrants for irrigation do so with the knowledge and implied consent of various city authorities.¹⁴⁵ In some cases, the local fire house has opened the hydrant for

139. <http://www.businessinsider.com/buying-cheap-property-in-detroit-2013-7>

140. For more detailed information on the touted “cheap” tax foreclosure properties in Detroit, see generally MARGARET DEWAR, *THE EFFECTS ON CITIES OF “BEST PRACTICE” IN TAX FORECLOSURE: EVIDENCE FROM DETROIT AND FLINT* (2009), <http://closup.umich.edu/files/closup-wp-2-tax-foreclosure.pdf>.

141. Interview with Nick Leonard, Staff Attorney at Great Lakes Environmental Law Center (2015).

142. *Id.*

143. Interview with Kibibi Blount-Dorn, *supra* note 128. See Remarks of Janell O’Keefe, *supra* note 109.

144. Robert Allen, *Fire Hydrant Hookup Keeps Downtown Café Percolating*, DETROIT FREE PRESS (Oct. 2, 2014), <http://www.freep.com/story/news/local/michigan/detroit/2014/10/02/jury-rigged-fire-hydrant-keeps-downtown-caf-percolating/16564903/>.

145. Interview with Nick Leonard, *supra* note 141.

nearby farmers, and, for at least one farm (the operator of which has chosen to remain anonymous), the local firefighters have filled up the farm's rain catchment system during times of light rainfall.¹⁴⁶ This cooperation between experienced city workers and urban farmers reduces the chances of hydrants used for irrigation losing pressure,¹⁴⁷ being improperly drained,¹⁴⁸ or being otherwise disabled.¹⁴⁹ One reason authorities have looked the other way, or even assisted with sourcing water from hydrants, is that urban farmers are aware of the risks of improper hydrant tapping and—since continued effective operation of the hydrants is necessary for continued operation of their gardens/farms—take all necessary measures to properly care for the hydrants.

Currently there is no data available on whether any urban farming operations have ever been ticketed for fire hydrant tapping.¹⁵⁰ So, like so many other urban farming practices, fire hydrant tapping is a transgressive practice that has taken place with implied city and community consent. While this has worked relatively well in the short term, a stable urban agricultural system clearly requires a more regularized solution. This legal vacuum can be filled in a variety of ways, but the best solution for the immediate future is a permit system for the tapping of fire hydrants specifically for urban agriculture. Such permits already exist for contractors involved in residential and commercial demolition (costing \$370 and \$1390, respectively). Ideally, the proposed permit system would be put into place as part of a larger plan incorporating some of the suggestions that follow; as a start, however, permits would also be an effective stand-alone measure.

The determination of the fee for such a permit can be accomplished in a variety of ways. An estimate of actual costs based on average amounts of water used by Detroit's urban farms charged at the already existing rates could determine a base fee per acre per year.¹⁵¹ Based on similar calcula-

146. Anonymous interview with Detroit firefighter (2015).

147. Neavling, *supra* note 127.

148. *Id.*

149. *Id.*

150. Anonymous interview with representative of the Detroit Police Department records department (Nov. 2015). The interview revealed there is no record kept of such tickets.

151. These amounts were calculated for the City of Cleveland, Ohio by the Weatherhead School of Management, Case Western Reserve University. See generally LUND ET AL., *supra* note 134. In their *Final Report to Fran DiDonato on Urban Agriculture*, they found that, in Cleveland, where water is billed by quarter in thousands of cubic feet (MCFs), a garden requires two inches of water per week, or twenty-four inches of water per quarter for a growing area of 16,335 square feet (the average medium urban garden in their study). *Id.* at 6. This result was then modified according to the varied requirements of the growing seasons in four different quarters, ultimately determining that 63.50 MCF of water is needed for one year for a medium urban garden. Based on Cleveland's water rates of \$8.69 for the first MCF and \$18.59 for each thereafter, the annual water cost in Cleveland would be \$1,161.49. *Id.*

tions used in Cleveland, OH, the fee would be approximately \$3000 per acre per year.¹⁵²

To address the risks concerning hydrant functionality, either individuals seeking such permits should be required to receive training and proper tools to maintain hydrant pressure and properly drain for winter, or the local fire department should conduct the initiation and disconnection of the taps. The hydrant permits available for demolition do not include such requirements, and, when coupled with a lack of care on the part of the contractors when tapping the hydrants, have resulted in many disabled hydrants.¹⁵³

While permits for fire hydrant tapping would help ameliorate some of the most wasteful behavior associated with urban farming, ultimately, they are not a long-term solution to the water issues surrounding urban agriculture in Detroit. They are merely a first step. An overarching plan should address several possible methods of obtaining water as well as disposal of excess water.

B. Storm Water Management

Stormwater management is a significant issue in Detroit,¹⁵⁴ as it is in many cities. But agricultural runoff, which can include fertilizer, pesticides, and manure, is a problem for Lake Erie and the other eastern Great Lakes.¹⁵⁵ An effective plan for water disposition in Detroit must address both of these issues.

One of the primary concerns raised at public meetings leading up to the adoption of the Urban Agriculture Ordinance was a strong preference for a prohibition on pesticides, both because of immediate public health concerns, and because of concerns about runoff into the municipal water system and natural waterways. And while the Ordinance addresses manure and livestock related run-offs, it remains silent on this issue out of deference to state and federal regulations on the topic.

In Detroit, such issues are also explicitly addressed in the city's Sewage, Drainage, Industrial Waste Control, and Surcharge Rates. Three of the substances of highest concern in pesticide runoff are individually tested and billed for the following: Biochemical Oxygen Demand for each pound

152. *Id.*

153. Neavling, *supra* note 127.

154. Samuel Molnar, *Detroit Company Poised to Revolutionize How Cities Manage Stormwater*, MODEL D MEDIA (Aug. 18, 2015), <http://www.modeldmedia.com/features/parjana-081815.aspx>.

155. David Biello, *Deadly Algae Are Everywhere, Thanks to Agriculture*, SCI. AM. (Aug. 8, 2014), <https://www.scientificamerican.com/article/deadly-algae-are-everywhere-thanks-to-agriculture/>.

more than 275 mg/L costs \$0.477; total suspended solids for each pound more than 350 mg/L cost \$0.483; and phosphorus for each pound over 12 mg/L costs \$7.129. These charges provide an incentive to avoid and tightly control use and runoff of these substances. They fall short, however, of addressing all problematic potential runoff issues. To comprehensively address the issue, a more inclusive list should be composed with fees commensurate with both risks and costs to the city of disposing of included substances.

VI. TRANSITION

As in many cities, the failure to decouple water charges from sewage charges provide significant cost hurdles to urban farms.¹⁵⁶ Detroit has partially (though inadvertently) addressed this issue as part of its storm water management initiative. In Detroit, non-residential lots can decrease their sewage surcharges by undergoing an imperviousness survey. Properties with greater percentages of porous surfaces qualify for lower sewage rates—a difference of up to \$600 per month per acre. This could amount to significant savings for urban farms and gardens, which are typically nearly 100% porous (unlike sidewalks or driveways).

Detroit can supplement reforms like this by mimicking other cities' urban farm initiatives including adopting incentives for rain catchment systems,¹⁵⁷ rainwater harvesting systems,¹⁵⁸ and greywater systems.¹⁵⁹ Similar systems are already in use on several urban gardens and farms in Detroit. Encouraging their future use by both urban agriculture operators and by single family residents has the potential to save the city of Detroit significant tax revenues that otherwise would have to be devoted to storm water control.¹⁶⁰ Tax incentives both for the purchase and installation of the systems, as well as general tax incentives for properties utilizing these sys-

156. See Remarks of Janell O'Keefe, *supra* note 109.

157. LYDIA RAE LEVINSON & SAM BUTLER, GREENFILL DEVELOPMENT, A GUIDE TO REPURPOSING VACANT LOTS FOR FLOWER FARMING ENTERPRISES 6 (2016), <http://michigancommunity.org/wp-content/uploads/2016/01/Greenfill-Development.pdf>.

158. *Id.*

159. *Gray water*, MERRIAM WEBSTER, <https://www.merriam-webster.com/dictionary/gray%20water> (“household wastewater (as from a sink or bath) that does not contain serious contaminants (as from toilets or diapers)”).

160. Kate Abbey-Lambertz, *Record Flood Fills Detroit Freeways as Drivers Abandon Their Cars*, HUFFINGTON POST (Aug. 13, 2014), http://www.huffingtonpost.com/2014/08/12/detroit-flooding-michigan-freeways-photos_n_5671147.html.

tems, are practical inducements to their use. The city could solicit grants to develop these initiatives from myriad sources.¹⁶¹

Creating a guide for urban farmers to such resources of funding would be a valuable endeavor to encourage water management in the city. Finally, many locations are creating legal requirements that all new developments must contain rainwater harvesting or similar systems.¹⁶² On a larger scale, some areas like the East Bay Municipal Utility District in Oakland, California have a separate, non-potable water system used primarily for irrigation. While initial costs of creating such a system are likely to be substantial, the overall, long-term benefits would be significant.

In sum, to maximize effective management of water in Detroit, and in keeping an eye toward urban agriculture, the city should adopt an overarching master plan. Such a plan should include high-level infrastructure changes such as an adoption of a non-potable water system for irrigation and other appropriate uses. Laws and regulations should be promulgated and appropriately adjusted to maximize the effectiveness of the master plan, and incorporate the following: enacting mandatory rainwater harvesting and creating porous surfaces for all new construction or new use; outlining detailed fees associated with all likely forms of agricultural and commercial runoff; adopting tax and grant incentives for additional rain catchment systems and other rainwater diversion methods; installing non-potable water systems where practicable; and a permitting system for fire hydrant tapping for urban agriculture. It is important to note that, over the lengthy development of this article, Detroit has taken many steps toward these suggestions and goals, such adopting equitable drainage billing.¹⁶³

VI. CONCLUSION

Economic and demographic changes from the middle of the twentieth century left Detroit with a smaller population and a substantial quantity of vacant land. This void was filled by a variety of agricultural activities, which increased sharply in recent decades. Many urban farms were operating contrary to existing laws in a variety of ways, including prohibitions

161. Nina Ignaczak, *Detroit Future City, Michigan Community Resources Mini Grants Spur Green Infrastructure Projects*, MODEL D MEDIA (Nov. 8, 2016), <https://detroitfuturecity.com/2016/11/detroit-future-city-michigan-community-resources-mini-grants-spur-green-infrastructure-projects/>.

162. *International Water-Harvesting and Related Financial Incentives*, RAINWATERHARVESTING.ORG, http://www.rainwaterharvesting.org/policy/legislation_international.htm#aus.

163. *DWSD to Add New Parcels for Equitable Drainage Billing*, CITY OF DETROIT, MICH. (Aug. 19, 2016), <http://www.detroitmi.gov/How-Do-I/Find/DWSD-Alerts-and-News/ArticleID/969/DWSD-to-Add-New-Parcels-for-Equitable-Drainage-Billing>.

against trespass, violations of zoning ordinances, and self-help in acquiring needed water. These violations were generally ignored by law enforcement unless neighboring property holders complained. While many individuals engaged in urban farming in Detroit have led the campaign for well drafted ordinances and the legitimacy they provide, decades of unfettered operation resulted in resistance to expectations that urban farmers change their practices to conform to these laws. Managing this transition is challenging because effective regulation requires buy-in from both regulated actors and the community.

The experience in Detroit, both because of the size of the urban agriculture community and the extended period of unfettered action, provides a useful case study for communities dealing with similar, if smaller scale, transitions. The Detroit example is notable for two reasons. First, for the thorough research and defined methodology employed in devising what has the potential to be the most complete and encompassing ordinance of its kind in the United States. Second, for the fact that, even in the face of such thorough work and public engagement, the exercise remains at its core, one of merely codifying existing practices, and that the larger task is creating appropriate municipal procedures and mechanisms to enforce compliance with new legal requirements.

