

# Environmental Law From the Inside: Local Perspective, Local Potential

by Keith Hirokawa

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## Summary

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Perception and experience are important to understanding the relevance and effectiveness of how we relate to and regulate our natural surroundings. This Article uses the term “insider” environmental law to distinguish local environmental governance capacity and suggests that local needs should serve more of a driving role in the formulation of environmental law and policy. It first introduces the insider environmental perspective by observing the ways that the environment is experienced, which facilitates an understanding of why ecosystems are regulated differently by different levels of government. Second, it distinguishes the value of insider environmental law from the more traditional understanding of local ecosystem governance as local protectionism. Third, it explores the concept of ecosystem services to show how local perspective can be motivated by an open and honest consideration of the costs of environmental governance. Insider environmental law is concerned with identifying an objective description of environmental quality that is consistent with a real and felt sense of place.

There are these two young fish swimming along, and they happen to meet an older fish swimming the other way, who nods at them and says, “Morning, boys, how’s the water?” And the two young fish swim on for a bit, and then eventually one of them looks over at the other and goes, “What the hell is water?”<sup>1</sup>

The physical environment itself has an effect on perception. People who live in a “carpenter” world are susceptible to different kinds of allusion from those who live in an environment lacking in orthogonality. It is seldom possible to relate environmental characteristics to perceptual biases as cause to effect: culture mediates.<sup>2</sup>

The environment is always the setting for what we see in nature, how we interact with it, and how we value ourselves and surroundings within this context. Because of the diversity of environments, there will be a diversity of perceptions. But it is difficult to articulate the different strains. We live and learn in an allusion to nature, subject to a bit of mediation by cultural priorities to direct *what* we are experiencing.<sup>3</sup>

The thrust of this observation is, for purposes of this Article, that perception and experience are important to understanding both the relevance and effectiveness of how we relate to and regulate our natural surroundings. Referred to here as “insider” environmental law, the term is intended to distinguish local environmental governance capacity on grounds of how the environment is experienced. I suggest that local needs should serve more of a driving role in the formulation of environmental law and policy.

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*Author’s Note: The author would like to voice a special appreciation to his friend Prof. Jonathan Rosenbloom for his consistent and searching dialogue on the ideas presented in this Article, and to Jay Oddi, Linnea E. Riegel, and Mary Jane Morley for their insightful comments and research.*

1. David Foster Wallace, *This Is Water: Some Thoughts, Delivered on a Significant Occasion, About Living a Compassionate Life*, Commencement Address at Kenyon College (May 21, 2005), [https://web.archive.org/web/20080213082423/http://www.marginalia.org/dfw\\_kenyon\\_com-mencement.html](https://web.archive.org/web/20080213082423/http://www.marginalia.org/dfw_kenyon_com-mencement.html).

2. Yi-Fu Tuan, *TOPOPHILIA: A STUDY OF ENVIRONMENTAL PERCEPTION, ATTITUDES, AND VALUES* 246 (1974) [hereinafter *TOPOPHILIA*]. Yi-Fu Tuan goes on to remark that the effect is pervasive:

We can say that the development of visual acuity is related to the ecological quality of the environment . . . Environment necessarily provides the major building blocks of autochthonous cosmologies and two world views: the contrasts between Egyptian and Sumerian world views in the frame of their individual environments are revealing.

*Id.*

3. This is largely the point of social constructivists. See PETER BERGER & THOMAS LUCKMANN, *THE SOCIAL CONSTRUCTION OF REALITY: A TREATISE IN THE SOCIOLOGY OF KNOWLEDGE* 16 (1966); Keith H. Hirokawa, *Dealing With Uncommon Ground: The Place of Legal Constructivism in the Social Construction of Nature*, 21 VA. ENVTL. L.J. 387 (2003); ENVIRONMENTAL LAW AND CONTRASTING IDEAS OF NATURE: A CONSTRUCTIVIST APPROACH (Keith H. Hirokawa ed., Cambridge Univ. Press 2014).

To accomplish this task, this Article is intended to identify the footings and lay the foundation for local ecosystem governance based on the way communities regulate their environments locally as insiders to ecosystems. First, it introduces the insider environmental perspective by observing the ways that the environment is experienced. This discussion helps in grasping how a perception of nature derives from experiences with it. This discussion also facilitates an understanding of why ecosystems are regulated differently by different levels of government.

Second, the Article distinguishes the value of insider environmental law from the more traditional understanding of local ecosystem governance as local protectionism. On the one hand, a relationship between local government and local environments might be depicted only as a means of thriving with the greatest economic benefits. From there, we could interpret local laws as protectionist policies regarding natural resource allocation. Nonetheless, I propose a perspective of ecosystems that is an alternative to the competitive concerns of political boundaries and economic risk. The act of being in an ecosystem prioritizes the notion that ecosystem governance is co-extensive with local governance, where community identity, economy, equity, and human well-being are fundamentally linked to the location and ecological place of community.

Third, the Article introduces the concept of ecosystem services to grasp the manner in which local perspective can be motivated by an open and honest consideration of the costs of environmental governance. The ecological economics of ecosystem services posits that where ecosystems fail, humans, and particularly humans situated in communities, suffer real, calculable harm. Flooding, water and air quality concerns, noise pollution, hazardous waste exposure, and climate control are felt locally, even if acknowledged on a regional or federal basis. Insider environmental law is, to its credit and confusion, concerned with the difficulties of identifying an objective description of environmental quality that is consistent with a real and felt sense of place.

## I. Space, Place, and Perspective

To the casual visitor, the limits of the village domain are not evident in the landscape. The villages themselves are evident, each surrounded by an apron of fields. To the local people, sense of place is promoted not only by their settlement's physical circumscription and space; an awareness of other settlements and rivalry with them significantly enhance the feeling of uniqueness and identity.<sup>4</sup>

To provide a foundation for considering the efficacy of local control over ecosystems, this part concerns the reverence for "place": what is the relevance of location to the governance priorities and values we attribute to the environment? This question has become increasingly more important under the regulatory hesitancy of the current administration, and has come into focus with the clear emergence of serious thought about the importance of ecosystems to our homes and communities. This part considers what it means to be local, borrowing from other disciplines<sup>5</sup> to discuss the foundations and scope of sense of place.<sup>6</sup> This understanding dives into the "why" of the relationship between community and ecosystem and is grounded in the idea that community identity is personal,<sup>7</sup> experienced, and always in an ecological context. I attempt to find the best way to frame the relationship between environment and location in a way that unlocks the potential of communities to manage ecosystems. Here, the ideas of community and ecosystem cannot be considered in isolation.

As Rick Su states, "[A]lthough it is easy to generalize about space at an abstract level, there is no substitute for close analysis of a specific community at a particular point in time."<sup>8</sup> Thus, we begin with local declarations of community and ecology. These are self-characterizations.<sup>9</sup> In

5. There seems to be no shortage of disciplinary counterparts for sense of place. This Article focuses on lessons from land use planning, geography, and psychology.

6. It should be noted that the terms "space" and "place" are not used interchangeably in this Article. Tuan explains:  
"Space" and "place" are familiar words denoting common experiences. We live in space. There is no space for another building on the lot. The Great Plains look spacious. Place is security, space is freedom: we are attached to the one and long for the other. There is no place like home.

SPACE AND PLACE, *supra* note 4, at 3. Tuan goes on to note the relationship between the two: "When space feels thoroughly familiar to us, it has become place." *Id.* at 73.

7. This Article does not take a position on the question of whether the conceptual focus of policy should be the person or the place. See Susan S. Fainstein & Ann Markusen, *The Urban Policy Challenge: Integrating Across Social and Economic Development Policy*, 71 N.C. L. REV. 1463, 1465 (1993) (discussing the "desultory intellectual debate over whether policies should be aimed at places, like inner cities and depressed rural areas, or at people").

8. Rick Su, *Locating Keith Aoki: Space, Geography, and Local Government Law*, 45 U.C. DAVIS L. REV. 1637, 1647 (2012).

9. The term "sense of place" has seen a variety of competing definitions. For instance, Nicholas Fromherz describes sense of place as a personal connection to a particular piece of land, rather than a shared picture of a common environment:

As I use the term, a "sense of place" is a bond felt by a person or community toward a particular piece of land. The person associates the place with memories (good and bad), family or community well-being, and hope for the future. The person cannot think upon her past without thinking of this place, much less envision a future in its absence.

Nicholas A. Fromherz, *The Case for a Global Treaty on Soil Conservation, Sustainable Farming, and the Preservation of Agrarian Culture*, 39 ECOLOGY L.Q. 57, 80 (2012).

Melissa Berry argues that sense of place is in the decline in urban areas due to three disconnections:

4. YI-FU TUAN, SPACE AND PLACE: THE PERSPECTIVE OF EXPERIENCE 166 (1977) [hereinafter SPACE AND PLACE].

places, it becomes clear that there is a moment at which community and ecology become indistinguishable. An exercise may help to introduce some helpful clues: which of the following descriptions of places might be better found in a local government declaration, and which are more uniquely characteristic of a federal perspective?

- “In our vision of 2020, [this] County is a community widely recognized for its high quality of life, sense of tradition and competitive spirit.”<sup>10</sup>
- “We are a destination community . . . for innovation, education, commerce, and living—a place where you belong.”<sup>11</sup>
- “Our children have inherited a livable, vibrant and economically diverse community.”<sup>12</sup>
- “[This law declares a] policy which will encourage productive and enjoyable harmony between man and his environment; to promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man.”<sup>13</sup>
- “Community residents share a sense of place and take great pride in their established and emerging neighborhoods which are culturally and economically diverse.”<sup>14</sup>

First, urban residents are generally more disconnected from nature than their rural counterparts. Second, due to Americans’ mobility and the sheer number of residents in cities, combined with the fact that cities have more strangers and anonymity, urban dwellers have less connection to their community. Third, urban living also can lead to a feeling of complacency and disconnection with government. Together, these disconnections lead to a loss of a sense of place.

Melissa M. Berry, *Thinking Like a City: Grounding Social-Ecological Resilience in an Urban Land Ethic*, 50 IDAHO L. REV. 117, 141 (2014). This Article diverges from Berry’s conclusion by defining the sense of place to include both the built and natural environments. The approach taken here is akin to Whitney Stohr’s argument about building sense of place through an integrated, comprehensive planning process:

Traditional strategies designed to promote city livability, for example, reduce suburban sprawl, improve public transportation options, enhance the aesthetic appearance of the city, and increase social interaction among residents by providing, inter alia, walkable down towns, urban parks and green space, and civic institutions. While certainly vital to the planning process, such strategies alone fail to capture the inherent identity of the local people and the culture unique to the region. Stated another way, by promoting urban livability in an isolated manner, divorced from cultural relevancy, city planners fail to create a desired sense of place.

Whitney G. Stohr, *The Local Identity of Smart Growth: How Species Preservation Efforts Promote Culturally Relevant Comprehensive Planning*, 43 ELR 10024, 10024-25 (Jan. 2013).

10. SABAK, WILSON & LINCO, INC., GLENVIEW AREA NEIGHBORHOOD PLAN (2010), available at [https://louisvilleky.gov/sites/default/files/advanced\\_planning/glenview.pdf](https://louisvilleky.gov/sites/default/files/advanced_planning/glenview.pdf).
11. LABERGE GROUP, TOWN OF NORTH GREENBUSH FINAL COMPREHENSIVE PLAN (2009), available at [http://www.townofng.com/wp-content/uploads/2013/03/TNG\\_ComprehensivePlan\\_FINAL\\_20091210.pdf](http://www.townofng.com/wp-content/uploads/2013/03/TNG_ComprehensivePlan_FINAL_20091210.pdf).
12. EHI CONSULTANTS, CANE RUN ROAD NEIGHBORHOOD REVITALIZATION PLAN (2016), available at [https://louisvilleky.gov/sites/default/files/advanced\\_planning/cane\\_run\\_road\\_neighborhood\\_plan\\_final3\\_5.2.pdf](https://louisvilleky.gov/sites/default/files/advanced_planning/cane_run_road_neighborhood_plan_final3_5.2.pdf).
13. National Environmental Policy Act, 42 U.S.C. §4321.
14. UNIVERSITY OF LOUISVILLE URBAN AND PUBLIC AFFAIRS, CALIFORNIA NEIGHBORHOOD PLAN (2011), available at [https://louisville.edu/upa/programs/mup/files/PLAN652\\_2011\\_California.pdf](https://louisville.edu/upa/programs/mup/files/PLAN652_2011_California.pdf).

- “Our urban form also reflects the fact that Minneapolis is a Winter City. Utilizing climate sensitive design strategies adapted to our northern environment can create and enhance year round urban livability by making the winter environment more safe, comfortable and enjoyable at the pedestrian realm.”<sup>15</sup>
- “Every neighborhood is a safe place to live.”<sup>16</sup>
- “The [plan] is nothing less than the best of the past merged with the best of the future, creating a community where all residents can grow and prosper.”<sup>17</sup>
- “It is not enough to simply preserve and be surrounded by this resource—it is necessary for the built and natural environment to coexist spatially and visually.”<sup>18</sup>

There is a notable difference between local vision statements (e.g., statements from the vision element of the Cornerstone 2020 comprehensive plan) and the statements made by the U.S. Congress in the National Environmental Policy Act (NEPA). The divergences are not random, and they are not oversights. Throughout NEPA, the environment is portrayed as an object. In stark contrast, the local statements talk about “we” and “our place.” These are local statements, made in the course of local governance of the surroundings, of the community, of home, and of place. As Mark Sagoff notes, “Our community is bounded not by race, ancestry, or religion but by the history, natural and cultural, of the land we inhabit.”<sup>19</sup>

This is an important observation. “We” is important to how the environment is governed. “We” can emerge from communities—as it pertains to people, ecology, industry, or other. “We” means something different when it comes from the federal government. There is no “here” in the federal “there.”

When communities confront the law and policy of ecosystems, they do so through a very personal process, one that involves community self-searching and self-knowledge. This sentiment is echoed in the U.S. Court of Appeals for the First Circuit’s discussion in the *Steel Hill Dev., Inc. v. Town of Sanbornton* case, in which the court considered the authority of the community to limit

the construction and integration of hundreds of new homes which would have an irreversible effect on the area’s ecological balance, destroy scenic values, decrease open space, significantly change the rural character of this small town, pose substantial financial burdens on the

15. COMMUNITY PLANNING & ECONOMIC DEVELOPMENT, THE MINNEAPOLIS PLAN FOR SUSTAINABLE GROWTH (2009), available at [http://www.ci.minneapolis.mn.us/cped/planning/cped\\_comp\\_plan\\_update\\_draft\\_plan](http://www.ci.minneapolis.mn.us/cped/planning/cped_comp_plan_update_draft_plan).
16. BTM ENGINEERING GROUP, FAIRDALE NEIGHBORHOOD PLAN (2006), available at [https://louisvilleky.gov/sites/default/files/advanced\\_planning/fairdale\\_approvedplan.pdf](https://louisvilleky.gov/sites/default/files/advanced_planning/fairdale_approvedplan.pdf).
17. See *id.*
18. FLAGSTAFF REGIONAL PLAN 2030: PLACE MATTERS VIII-2 (2014), available at <http://www.flagstaff.az.gov/DocumentCenter/View/49295>.
19. Mark Sagoff, *Settling America or the Concept of Place in Environmental Ethics*, 12 J. ENERGY NAT. RESOURCES & ENVTL. L. 349, 351 (1992) (“We become Americans by becoming native to this place.”).



town for police, fire, sewer, and road service, and open the way for the tides of weekend “visitors” who would own second homes.<sup>20</sup>

The burdens referenced by the court are all important community interests. Although there may be priorities, they are grouped together from the local point of view. In the *Steel Hill* case, the community sought to avoid financial, rural, and ecological impacts, all of which were deemed sufficiently relevant to community ideals to justify limitations on property use.

In this reading of the opinion, the *Steel Hill* court may be suggesting that there is no clear line between community and its environment. This is critical: when we talk about sense of place, we are discussing an insider’s view of the environment. The insider’s perspective embodies an identity process, in which communities do not further their sense of place by studying about it in a book, taking pictures, or visiting. Sense of place does not arise from ownership or objectification. Sense of place comes from involvement and depends on place-based and context-specific decisionmaking.<sup>21</sup>

Of course, communities are ecologically situated and ecosystems themselves are place-based. Ecosystems in the arid West differ substantially from Midwest ecosystems, as well as those environments situated along the northern borders of the United States, or in cities, or among forested mountainous watersheds. Likewise, glacial ecosystems function at a different pace and character than rain forest or desert ecosystems. We can understand differently situated communities in light of their contexts. As Keith Aoki has noted, “[T]he world is increasingly the same, yet the world is increasingly filled with difference.”<sup>22</sup>

In different regions, communities embrace their surroundings in unique ways because they are ecologically situated: some communities prioritize their competitive advantage of local resources, some capitalize on regional resource advantages, and others rely on the non-use values of local ecosystems. Consider the ways that nature provides cultural resources that are significant locally:

- Religious icons and attachments to nature
- Recreational opportunities
- A sense of place and identity
- Psychological influences on our emotional well-being found in nature

These ties are often intangible, yet they are very local.

Evidence of these ties arises in land use planning documents, like those identified at the beginning of this part.<sup>23</sup>

As described by Whitney Stohl, the land use planning process also creates a more tangible sense of place, driving pride and public support, evidencing its cultural and political significance:

Identifying local cultural values and successfully incorporating the sociocultural element into the planning framework creates a sense of place and civic pride among residents, increasing public support for future planning strategies and land use regulations. Regional “cultural indicators”—those commonly held community ideals and values—thus serve as a catalyst from which other land use and community development decisions evolve.<sup>24</sup>

Such cultural indicators are easy to locate. Consider the greenspace efforts in Louisville, Kentucky. Louisville boasts the “Louisville Loop,” a 100-mile city trail that will eventually encircle the city, link parks and neighborhoods, and provide a transportation alternative.<sup>25</sup> The mission of the Louisville Loop is “[t]o connect people to a greener healthier community.”<sup>26</sup> The vision is striking:

1. Enhance economic activity/opportunities in the loopshed
2. Encourage sustainable development
3. Provide safe and accessible opportunities to engage in active lifestyles
4. Connect neighborhoods to each other, schools, work, retail businesses, and parks
5. Promote the protection and appreciation of natural assets, culture, and history
6. Enhance and improve air quality and the natural environment<sup>27</sup>

In support of the project, Louisville Mayor Greg Fischer articulated the benefits as follows:

The Louisville loop will not only set us apart as a desirable city, it will bring us together as a community . . . it will be a wedding ring for our city . . . joining neighborhoods . . . helping connect people to recreation, to their work and to the places they do business.<sup>28</sup>

In one sense, the Louisville Loop is simply an example of progressive grey infrastructure. The Loop provides the benefit of reducing traffic congestion by making bike and

protection for salmon, a species of cultural significance to the locality).

24. See *id.* at 10028.

25. City of Louisville, Kentucky, *Louisville Loop*, <https://louisvilleky.gov/government/louisville-loop> (last visited Oct. 6, 2017).

26. City of Louisville, Kentucky, *History of the Loop*, <https://louisvilleky.gov/government/louisville-loop/history-loop> (last visited Oct. 6, 2017).

27. *Id.*

28. LOUISVILLE METRO PARKS DEPARTMENT, LOUISVILLE LOOP STRATEGIC PLAN (2011), available at [https://louisvilleky.gov/sites/default/files/parks/planning\\_and\\_design/louloopstrategicplan\\_11.pdf](https://louisvilleky.gov/sites/default/files/parks/planning_and_design/louloopstrategicplan_11.pdf); see also LOUISVILLE AND JEFFERSON COUNTY PLANNING COMMISSION, CORNERSTONE 2020 COMPREHENSIVE PLAN 5 (2000) [hereinafter CORNERSTONE 2020], available at [https://louisvilleky.gov/sites/default/files/planning\\_design/general/cornerstone\\_2020\\_comprehensive\\_plan.pdf](https://louisvilleky.gov/sites/default/files/planning_design/general/cornerstone_2020_comprehensive_plan.pdf).

20. *Steel Hill Dev., Inc. v. Town of Sanbornton*, 469 F.2d 956, 3 ELR 20018 (1st Cir. 1972).

21. See Timothy Beatley & Richard Collins, *Americanizing Sustainability: Place-Based Approaches to the Global Challenge*, 27 WM. & MARY L. & POL’Y REV. 193, 213 (2002).

22. Keith Aoki, *Space Invaders: Critical Geography, the “Third World” in International Law, and Critical Race Theory*, 45 VILL. L. REV. 913, 915 (2000).

23. See Stohl, *supra* note 9, at 10034-46 (discussing the effective linkages between comprehensive land use planning in Seattle, Washington, and habitat

pedestrian travel safer and more accessible.<sup>29</sup> It will serve environmental benefits as open space and will commit the land to a particular purpose.<sup>30</sup> It is likely to increase property values by making the city appear “more livable.”<sup>31</sup> At base, divorced from the political rhetoric, the Louisville Loop is just a paved path. However, to understand the relevance of the Loop as a relevant place, we turn to an examination of why the environment involves personal, self-searching inquiry.

The first thing to notice is that the city of Louisville’s approach is not taken in the abstract; here, community governance concerns engaged knowledge of place. As geographer Yi-Fu Tuan stated, “Place is a special kind of object. It is a concretion of value, though not a valued thing that can be handled or carried about easily; it is an object in which one can dwell.”<sup>32</sup> We know—perhaps not so consciously—that we are engaged with our surroundings. For many environmental resources, value is not objective, but instead surfaces at the moment we realize the relevance of our place.

We will return to this claim later. First, consider empirically significant claims:

This is where we live.

We picnicked in this pasture.

We climbed this tree.

We swam in this creek.

These are very simple, factual descriptions of events that occur at or in a special space. But these statements have meaning that goes far beyond the words. These events as described include the speaker’s perception of very personal experiences. These are experiences to which the speaker attributes value and to which he or she credits very significant importance to his or her identity and sense of self.<sup>33</sup> These events took place in the world, and, more importantly, in a particular place.

Objectively, the same can be acknowledged of an understanding of other people. Tuan states, “Wherever we can point to human beings, there we point to somebody’s *home*—with all the kindly meaning of that word.”<sup>34</sup> To look at a person and to see the person in context involves the following: a person in place; the person, taken together with the person’s environment; the person’s cradle to grave; the person’s influences; and how the person identifies self as a result of those experiences.

Hence, there is something special about place as it pertains to knowledge and values that feed into creating and maintaining community: my memories and my perceptions are important contextually, and ecology is the context. It makes as much sense to say, “I am ecologically situated.”<sup>35</sup> People in place are ecologically situated.

Being ecologically situated means that we experience our environment in a simple event of recognizing our own identity in the world. The environment is the place where jobs, education, and families are lived. It is the place where people learn about themselves and the world, all through a specific, place-based lens. “Differences of culture, scale, and architectural vocabulary all contribute to making cities particular. . . . Fundamental to developing a sense of place is the art of recognizing and seizing upon the very special, sometimes subtle, features over which an urban diagram is laid.”<sup>36</sup>

Moreover, it is because people experience in a situated way that they have made particular choices about how to adapt to their surroundings. Such adaptations include whether to wear a coat when leaving the house, whether to become a fisherman, whether to plant cacti or willows, or whether to put storm windows on the house. This process of self-reflection and self-knowledge relies upon (and becomes trivially, even tragically true) a particular context.<sup>37</sup> As planner Zoe Hamstead states, “Because people hold moral, spiritual, educational, aesthetic, place-based, and other nonmaterial values toward the urban environment, cultural [ties to nature] represent many of the most intimate interactions that urbanites have with nature.”

As a result, self-reflection within a context produces a particular kind of knowledge.<sup>38</sup> Tuan states, “Feeling for place is influenced by knowledge, by knowing such basic facts as whether the place is natural or man-made

29. IMAGINE LOUISVILLE APPLICATION FOR PARTICIPATION IN “BEYOND TRAFFIC: THE SMART CITY CHALLENGE,” available at [https://louisvilleky.gov/sites/default/files/advanced\\_planning/louisville\\_smart\\_city\\_proposal\\_final\\_lr\\_2.pdf](https://louisvilleky.gov/sites/default/files/advanced_planning/louisville_smart_city_proposal_final_lr_2.pdf).

30. METRO LOUISVILLE, LOUISVILLE LOOP MASTER PLAN: CONNECTING PEOPLE TO A GREENER HEALTHIER COMMUNITY (2013), available at [https://louisvilleky.gov/sites/default/files/parks/planning\\_and\\_design/loopmasterplan\\_draft\\_041813sm\\_0.pdf](https://louisvilleky.gov/sites/default/files/parks/planning_and_design/loopmasterplan_draft_041813sm_0.pdf).

31. See *id.*

32. See SPACE AND PLACE, *supra* note 4, at 12.

33. Tuan states, “To experience is to learn; it means acting on the given and creating out of the given. The given cannot be known in itself. What can be known is a reality that is a construct of experience, a creation of feeling and thought.” *Id.* at 9.

34. TOPOPHILIA, *supra* note 2, at 101.

35. As Edward Soja states:

All social relations become real and concrete, a part of our lived social experience, only when they are spatially “inscribed”—that is, concretely represented—in the social production of social space. Social reality is not just coincidentally special, existing “in” space, it is presuppositionally and ontologically special. There is no unspecialized social reality. There are no aspatial processes.

EDWARD SOJA, THIRDSPEACE: JOURNEYS TO LOS ANGELES AND OTHER REAL-AND-IMAGINED PLACES 46 (1st ed. 1996) (arguing that reality is contextualized by social space, and not without such space).

36. MOSHE SAFDIE & WENDY KOHN, THE CITY AFTER THE AUTOMOBILE: AN ARCHITECT’S VISION 104 (1997).

37. Aoki states:

Aesthetic theory—in particular, postmodern architectural theory—provided the main thrust of the critical geographers’ analysis of the politics of everyday life: what might the ways that the spaces we live and recreate in, and traverse daily from the home to the workplace, tell us about our sense of self and our place in social hierarchies of nation, class, and gender?

Aoki, *supra* note 22, at 919.

38. Aoki also concludes:

Spacial distance or proximity can be used to create affinities among people as well as to create and maintain social distance, such as the distance between those living in decaying areas of our inner cities and those in the posh suburbs ringing those cities. In turn, posh suburbs, high-tech office parks, deteriorated inner cities and dense urban centers produce a sense of place for their inhabitants that are often extremely divergent.

*Id.* at 918.

and whether it is relatively large or small.”<sup>39</sup> These types of knowledge will be experienced—they are judged, based on observations and interactions. But they are always embedded, and being embedded means having access to the knowledge gained from a particular experience. Being embedded, or being an insider, produces an insider’s view and an engaged experience.<sup>40</sup>

Notably, this description bears few commonalities with an outsider’s view, which matters immensely for purposes of governance. Local governance always concerns the places that are experienced. In stark contrast, there is no federal counterpart to this type of governance. That is, our federal government does not have the capacity to regulate in such a way that concerns ecosystems. Tuan states, “The modern nation as a large bounded space is difficult to experience in any direct way; its reality for the individual depends on the ingestion of certain kinds of knowledge.”<sup>41</sup>

The difficulty of a vast space is that patriotism requires a special kind of knowledge; something conceptual, but not experienced and not engaged. Hence, people may rally around a flag or other symbol, but not something known personally, and not something that people have an actual relationship to. Knowledge of neighborhood is personal, but knowledge of nation is largely symbolic:

The city-state was small enough that most of its citizens could know it personally. The modern nation-state is far too large to be thus experienced. Symbolic means had to be used to make the large nation-state seem a concrete place—and not just a political idea—toward which a people could feel deep attachment. . . . To be a modern nation, local attachments based on direct experience and intimate knowledge have to be overcome.<sup>42</sup>

In this vein, Tuan concludes that a sense of place “rings false when it is claimed for a large territory. . . . Affection cannot be stretched over an empire. . . .”<sup>43</sup>

Arguably, governance from outside of an area—outside of the community—is done without the insider’s perspective. Tuan states, “The visitor’s evaluation of environment is essentially aesthetic. It is an outsider’s view. The outsider judges by appearance, by some formal canon of beauty. A special effort is required to empathize with the lives and values of the inhabitants.”<sup>44</sup> Such a view does not evidence the types of knowledge gained from an insider’s interaction with the ecosystem. The outsider’s view is that of a visitor who objectifies, even while interacting. Even the land use planner struggles to think in this insider’s context:

The planner’s idea of neighborhood rarely coincides with that of the resident. A district well defined by its physical characteristics and given a prominent name on the city

plan may have no reality for the local people. The words “neighborhood” and “district” tend to evoke in the outsider’s mind images of simple geometrical shape, when in fact the channels of neighborly act that define neighborhood may be extremely intricate and vary from small group to small group living in close proximity. . . . “Neighborhood” would seem to be a construct of the mind that is not essential to neighborly life; its recognition and acceptance depend on knowledge of the outside world.<sup>45</sup>

From the perspective of sense of place, community identity is personal, experienced, and in an ecological context. This helps us understand what we are doing in local environmental governance. This is not what we do in federal environmental law. Community identity has a different method and a different purpose.

## II. The Law of Place

Zoning laws change in response to changing community values, and the community’s cultural values are affected by the structures that an earlier era of zoning laws first permitted and then discouraged. The process is synergistic. The process by which the city decides which icons it will save and how it will save them is a process in community self-searching and self-knowledge.<sup>46</sup>

Physically, communities grow and change. The advent of the automobile, elevator, Internet, and sewage treatment inspired new, adapted development and street layouts. Developers could envision larger developments farther from town, larger buildings in town, and fundamentally different types of land uses. In the meantime, these changes variously drove tangible adaptations in the appearance, operations, and interaction of the community. Each change brought a host of new challenges to community ideals and status quo, and each required some balancing between the old and the new. Yet through all of the consequences of social, economic, and environmental change, communities and community governance has laid at the center of how such changes were perceived.<sup>47</sup>

This part considers how local governance of the environment addresses the sense of place. In questioning the capacity of local governments to govern local environments, this part recognizes that communities do not regulate the environment in the same way that ecological resources are regulated at the federal level. Locally, environmental law means something different.<sup>48</sup> This part stresses that because community identity is arguably co-extensive with local governance, and community identity is place-based, the local

39. SPACE AND PLACE, *supra* note 4, at 32.

40. “Place can acquire deep meaning for the adult through the steady accretion of sentiment over the years. Every piece of heirloom furniture, or even a stain on the wall, tells a story.” *Id.* at 33.

41. TOPOPHILIA, *supra* note 2, at 101.

42. SPACE AND PLACE, *supra* note 4, at 176-77.

43. TOPOPHILIA, *supra* note 2, at 101.

44. *Id.* at 64.

45. *Id.* at 210.

46. Lea S. VanderVelde, *Local Knowledge, Legal Knowledge, and Zoning Law*, 75 IOWA L. REV. 1057, 1075 (1990).

47. Place does undergo change. Tuan states, “Wilderness, to American settlers of the early colonial period, was viewed primarily as a threat, a place to be reclaimed and redeemed from the predations of Indians and demons. One’s social and educational background made little difference to this outlook.” TOPOPHILIA, *supra* note 2, at 63.

48. See generally Keith H. Hirokawa, *Sustaining Ecosystem Services Through Local Environmental Law*, 28 PACE ENVTL. L. REV. 760 (2011).



perspective directs the prioritization for and character of environmental law. Place-based environmental regulation is insider environmental law.

### A. *Land Use Law as a Tool to Protect Sense of Place*

Because social, economic, and environmental changes have the potential to disrupt stability and certainty in communities and neighborhoods, local governments have met them on the regulatory battlefield. Building upon their police power authority, zoning and other land use regulations communicate the most appropriate types and density of new development before the land use changes can have adverse impacts. The first significant opinion on such authority is in the U.S. Supreme Court's 1926 decision in *Village of Euclid v. Ambler Realty Co.*<sup>49</sup> In this case, the plaintiff property owner challenged the village's cumulative zoning ordinance on grounds that the restriction on free use of property—restrictions that resulted in massive property value loss—exceeded the village's authority and clouded property title. Rather than entertain the allegation of property intrusion, the Court refined the question as one of the authority of the village to create a livable community.<sup>50</sup>

Like elsewhere, the village of Euclid was already struggling to accommodate automobile traffic and the recent invention of the elevator (vertical steam engine). Across the nation, new buildings went up. Buildings became taller and urban land increased in density. Communities stretched out across the landscape as technology made it easier to travel long distances to get to work.<sup>51</sup> In large part, cities were unprepared for such new stresses on their infrastructure assets such as sewer, water, and roadway systems. The village of Euclid sought to manage social, economic, and environmental challenges by prioritizing local needs. Its zoning scheme arranged property uses in a rational fashion across the jurisdiction, focusing on infrastructure capacity and quality of life.<sup>52</sup>

The Supreme Court approved of Euclid's land use scheme as an appropriate way to adjust to a changing world. The Court focused on the breadth of the police power, which, although limited to pursuing the public health, safety, welfare, and morals, was nonetheless a flexible tool. The Court approved of this form of local regulation despite its novelty, recognizing that "[r]egulations, the wisdom, necessity, and validity of which, as applied to existing conditions, are so apparent that they are now uniformly sustained, a century ago, or even a half century ago, probably would have been rejected as arbitrary and oppressive."<sup>53</sup> Times and values and priorities change, and must change, to face new reali-

ties. The *Euclid* Court construed the police power to allow (even encourage) the local government's authority to manage unwanted growth.

For purposes of this Article, the *Euclid* decision should be read as an exercise in deference to expertise: courts are not in a position to second-guess a community's vision of re-value community assets. The Court refused to interfere with the local realization of those physical and intangible characteristics that are locally cherished or otherwise contribute to quality of life. The deference granted in the *Euclid* decision implies that the Court will defer to local prerogative even when local actions are contrary to the national common goals or common pool resources, such as by protecting significant externalities. External economic, social, and environmental threats to community identity justified the exercise of governance authority.<sup>54</sup> Such threats are included in Prof. Lea VanderVelde's "self-searching and self-knowledge" description of local governance and efforts to face new social and economic challenges, preserve local values, and exist in the landscape.<sup>55</sup> As such, courts defer to land use laws because land use laws necessarily entail the deep exercise of an identity process that is beyond the hard look of the courts.

Other, more contemporary cases illustrate the reach of the police power and its exercise in protecting sense of place. In *Kolesnik v. Woodbury Planning Commission*,<sup>56</sup> the town sought to establish protections for the significant topography and the ecosystem services that the region provided to the town residents. As summarized by the court, the resulting plan identified the following priorities:

[T]he challenge of the Plan of Development is to preserve, in the face of regional growth pressures, that special "sense of place" which exists in Woodbury. The Plan reflects that the Town has been shaped by its topography, most notably a series of ridges and brook valleys running north-south. "Significant environmental features include steep slopes, inland wetlands and floodplains, aquifers and their recharge areas and fragile soil characteristics, including depth to bedrock and the water table, and soil permeability." Because all of Woodbury's drinking water comes from groundwater supply, and a significant portion from the Pomperaug River aquifer, aquifer protection is recognized as critical to the Town. Woodbury has no centralized sewer system and depends almost entirely on septic systems.<sup>57</sup>

In denying a challenge to the new regulatory requirements for subdivisions and open space set-asides, the court held that such regulations, even if they were merely based on aesthetic considerations, were justified under the town's police power authority.

49. 272 U.S. 365 (1926).

50. *Id.* at 386.

51. *Id.* ("Such regulations are sustained, under the complex conditions of our day, for reasons analogous to those which justify traffic regulations, which, before the advent of automobiles and rapid transit street railways, would have been condemned as fatally arbitrary and unreasonable.")

52. *Id.* at 379-84.

53. *Id.* at 386.

54. *Id.*

55. VanderVelde, *supra* note 46, at 1075.

56. No. CV980145589S, 2002 WL 31415378 (Conn. Super. Ct. Oct. 2, 2002) (unpublished).

57. *Id.* at \*2.

In *Surfrider Foundation v. Zoning Board of Appeals*,<sup>58</sup> the court reviewed a challenge to a variance approval granted by the local government from a “coastal setback” ordinance. The ordinance established protected areas and building standards designed to maintain visual access to and sanctity of the coastline resource. The development applicant, Kyo-ya Hotels & Resorts LP, owned an existing beachfront hotel resort consisting of three hotel buildings. Kyo-ya applied to redevelop the site with substantially expanded capacity. Among other things, Kyo-ya sought a variance to relieve the project of the restrictions from the coastal height setback. Finding hardship, the planning director approved the request.

As was made clear in the ordinance, and reinforced in the court’s review, the “Coastal Height Setback uniquely affects the preservation of Waikiki’s Hawaiian sense of place.”<sup>59</sup> The court explained the role of sense of place in the ordinance:

“Just as there is no universally accepted definition of ‘aloha,’ there is no universally accepted definition of a Hawaiian sense of place.” Although there is no universal definition of “Hawaiian sense of place,” the [Design Guidebook] contains the following discussion of what “Hawaiian sense of place” means within the context of development in the [Waikiki Special District]:

The concern that Waikiki has lost some of its appeal as a tropical beach resort raises many questions about its future. A common opinion is that Waikiki needs to improve its physical attractiveness and enjoyment for residents, employees and visitors, by restoring the images and experiences which make it unique. A Hawaiian sense of place is not just a particular architectural style which echoes our historical past, but is also a reflection of attitudes, experiences, place, spaces and symbols which we have embraced as reminders of and contributors to a uniquely Hawaiian experience.

In particular, “[d]esign in Waikiki should compose spaces and elements in a way that encourages experiencing the natural environment.”<sup>60</sup>

The court reversed the approval, holding that the planning director failed to adequately address “whether the proposed 74 percent encroachment would protect, retain, and enhance a Hawaiian sense of place by restoring the experiences, places, and spaces that make Waikiki unique.”<sup>61</sup>

These cases, and hundreds like them, illustrate the relevance of sense of place to local governance. A visitor may care whether the toilet flushes, but not whether the toilet deposits into a public sewer or private septic system. A visitor may search the Internet for quaint coffee shops in town, but he or she is less likely to be concerned with the most

convenient place to get coffee on the way to work.<sup>62</sup> Local governments are vested in insider considerations.

## B. Land Use Law as a Tool—Heat Islands, Drought, Temperature, and Land Use Development

Not all communities are the same, of course. As discussed above, communities are ecologically situated and, as such, respond to each challenge (even if the challenge must be faced across the nation, by all communities) on an individual community basis, from an individual community approach, driven by individual community values and priorities.

Consider the challenges that the state of Kentucky and the city of Louisville in particular face from the anticipated climatic changes to the environment.<sup>63</sup> The U.S. Environmental Protection Agency (EPA) reports that rising temperatures will result in significant decreases to river and groundwater availability, droughts will interfere with energy production and riverbound transportation, and aquatic ecosystems will fail under warmer weather due to lower levels of dissolved oxygen and algae blooms.<sup>64</sup> Agriculture will see reduced crop and livestock yields due to severe droughts and more hot days.<sup>65</sup> In urban areas, heat and urban heat islands will threaten human health by causing heat stroke and dehydration, and cardiovascular and nervous system impacts.<sup>66</sup> Deaths from extreme heat are expected to grow by 300 more people each year until 2040, after which we may see 460 additional deaths each year.<sup>67</sup> Extreme and variable heat waves will continue to affect work productivity, likely costing the state economy up to \$770 million each year.<sup>68</sup> Extreme heat drives reliance on air conditioning use and the state’s electrical infrastructure, driving up the costs to the consumer.

Many of the climate change-related events the report described will begin happening within five years.<sup>69</sup> In addition, Louisville faces the same growth challenges that many cities do: urban sprawl, a felt need for quality of life, and environmental deterioration. In response to these challenges, local governments have been experimenting with a wide array of approaches and specific regulations. Louisville has been engaged in community vision at least since

62. Tuan states:

An object or place achieves concrete reality when our experience of it is total, that is, through all the senses as well as with the active and reflective mind. Long residence enables us to know a place intimately, yet its image may lack sharpness unless we can also see it from the outside and reflect upon our experience. Another place may lack the weight of reality because we know it only from the outside—through the eyes as tourists, and from reading about it in a guidebook.

SPACE AND PLACE, *supra* note 4, at 18.

63. See U.S. EPA, WHAT CLIMATE CHANGE MEANS FOR KENTUCKY (2016) (EPA 430-F-16-019), available at <https://19january2017snapshot.epa.gov/sites/production/files/2016-09/documents/climate-change-ky.pdf>.

64. See *id.*

65. See *id.*

66. See *id.*

67. See *id.*

68. See *id.*

69. See *id.*

58. 358 P.3d 664 (Haw. 2015).

59. *Id.* at 689.

60. *Id.*

61. *Id.* at 690.



its comprehensive plan in 1979.<sup>70</sup> The city eventually realized that the 1979 plan failed to dive deeply enough into a variety of essential considerations, namely “design compatibility in the context of preferred forms and patterns of development and the potential impacts of development on transportation systems and environmental resources.”<sup>71</sup>

More recently, Louisville, in coordination with Jefferson County, has been deeply engaged in redesigning the law policies and development code used to address new environmental, economic, and social challenges facing the city. The city reviewed substantial research on population and economic development forecasts, community facilities capacity, land use patterns, and transportation infrastructure effectiveness.<sup>72</sup> The city has collaborated with the community in watershed planning and park planning, and has developed several collaborative planning documents. The resulting Cornerstone 2020 comprehensive plan addressed the three required plan elements (community form/land use, mobility/transportation, and community facilities) and two additional plan elements (marketplace and livability/environment). Notably, Cornerstone 2020 envisioned form-based zoning<sup>73</sup> as a potential solution to the pervasive problems of urban sprawl and challenges to pedestrian safety and historic resources.<sup>74</sup>

Sustain Louisville, adopted in 2000, is Louisville’s first comprehensive sustainability plan.<sup>75</sup> The plan was prepared by the Office of Sustainability with the collaborative input of city government and the community. The plan is intended to be visionary, far-reaching, and fluid. The objectives of Sustain Louisville are broad but local: protect the environment and reduce Louisville’s carbon footprint; ensure the health, wellness, and prosperity of all citizens; and create a culture of sustainability.<sup>76</sup> To accomplish these tasks, the plan addresses six focus areas: energy, environment, transportation, economy, community, and engagement.<sup>77</sup> The plan refers to national benchmarks and local issues, prioritizing the needs of Louisville. The plan identi-

fies a variety of initiatives, including the following, among other things: establishing green infrastructure incentives; incorporating sustainability into the land development code; increasing urban forest canopy; developing the local food system; encouraging cool roofs and green roofs; developing clean energy opportunities; implementing a Go Green Loan program; and identifying and encouraging brownfields redevelopment.<sup>78</sup>

Louisville has also invested in parks and watershed planning. In 2012, Louisville released its master plan for A.B. Sawyer Park.<sup>79</sup> As a coordinated open space planning effort, the A.B. Sawyer Park master plan was crafted to serve recreational, cultural, and transportation needs. Because the park was intended to meet the Federal Highway Administration guidelines for the implementation of a greenway trail, the master plan for A.B. Sawyer Park in Louisville was accompanied by an environmental assessment. An ecological assessment was also conducted to determine the presence and/or absence of listed species, natural habitats, and water/wetland resources.<sup>80</sup> The assessment found that the creek represents a potential habitat for Louisville crayfish and for a species of evening bat. The park also has geologic features called karsts and the karsts are part of a system that flows as a conduit toward the creek.<sup>81</sup>

Notably, Beargrass Creek runs through A.B. Sawyer Park. The Beargrass Creek watershed contains more than 30% impervious surfaces. As such, stormwater transports pollutants from the ground directly into the creek. The impervious surfaces prevent percolation. In response, the Kentucky Waterways Alliance has created the Every Drop program to capture the stormwater.<sup>82</sup> The program teaches best management practices to help homeowners install rain barrels, rain gardens, trees, and native gardens to capture the water. The goal in capturing the water is to lessen the runoff and help clean up Beargrass Creek. The short-term goal of the program is to create a cost-share program within the Beargrass Creek watershed. The long-term goal is to improve the water quality of the creek, reduce stormwater runoff across the watershed, and promote stormwater-friendly landscaping across the watershed. In addition to the watershed benefits of park planning, a historic/cultural assessment for the park revealed that the creek has a high potential for intact cultural and archaeological deposits because the area was found to be mapped as natural Crider silt loam deposit.<sup>83</sup>

There are other parks efforts in Louisville. The Parklands of Floyds Fork was designed to link four major parks, an urban trail system, and a water trail, all of which are

70. Kentucky has provided statutory authority for the development of the comprehensive plan. KY. REV. STAT. ch. 100 (1994) provides for a method of development of the comprehensive plan. This methodology prescribes that the plan should be based upon research and analysis of the community including:

1. The general distribution of past and present population and a forecast of the extent and character of future population;
2. An economic survey and analysis of the major existing public and private business activities, and a forecast of future economic levels, including a forecast of anticipated necessary actions by the community to increase the quality of life of its current and future population through the encouragement of economic development; and;
3. The nature, extent, adequacy and the needs of the community for the existing land and building use, transportation, and community facilities in terms of their general location, character and extent.

CORNERSTONE 2020, *supra* note 28, at 5.

71. *Id.*

72. *See id.* at app. tbl. 1.

73. *See id.* at 6.

74. *See id.*

75. *Id.* at 2.

76. *Id.*

77. *Id.*

78. City of Louisville, Kentucky, *Sustain Louisville*, <https://louisvilleky.gov/government/sustain-louisville/economy> (last visited Oct. 6, 2017).

79. LOUISVILLE METRO PARKS DEPARTMENT, MASTER PLAN: A.B SAWYER PARK (2010), available at [https://louisvilleky.gov/sites/default/files/parks/planning\\_and\\_design/ab\\_sawyer\\_full\\_report\\_edit.pdf](https://louisvilleky.gov/sites/default/files/parks/planning_and_design/ab_sawyer_full_report_edit.pdf).

80. *Id.* at 8.

81. *Id.* at 10.

82. Kentucky Waterways Alliance, *Every Drop: A Stormwater Capture Program*, <https://kwalliance.org/what-we-do/watershed-planning/current-projects/beargrass-creek-alliance/every-drop-program> (last visited Oct. 6, 2017).

83. LOUISVILLE METRO PARKS DEPARTMENT, *supra* note 79, at 7.

adjacent to Floyds Fork.<sup>84</sup> The Parklands boasts a 19-mile canoe trail, accessible fishing holes, and canoe launches, among other amenities. Its projected environmental benefits include the preservation or enhancement of around 80% of the natural landscape and improvements to air and water quality.<sup>85</sup> The system will link urban habitat to rivers and forests, and the Parklands will enhance the landscape for a variety of species of plants and animals. The Parklands will ultimately help to preserve approximately 3,800 acres of open space, which includes forestland, native meadowlands, wetlands, restored stream banks, as well as the conversion of almost 400 acres to support sustainable agriculture. Louisville envisions that the Parklands will enhance the quality of life and help the community to grow in a sustainable, healthful, and enjoyable way.<sup>86</sup>

Louisville is illustrating the breadth and vision of local environmental law. As a community that is taking ownership of those circumstances that chip away at the underpinnings of their own visions of self—housing, over-appropriation and deterioration of natural resources, congestion, inadequate infrastructure, and even the aesthetic sense of place—Louisville is stepping up its governance capacity to protect its valuable cultural assets from major threats.

### C. Local Environmental Law

Until recently, the idea of local environmental law has not been taken seriously.<sup>87</sup> Local government has been touted as the failed branch of environmental control, in large part because of its susceptibility to parochialism and protectionist regulation. Local governments, it has been argued, are responsible for leaving large gaps in the environmental protection agenda.

In contrast, I argue that local governments can be, and often are, highly effective at maintaining function-

ing ecosystems. As discussed above, communities are in constant interaction with their surroundings and are active in determining the character of their local environments. This means that local governments are vested in finding solutions to flooding events, sustaining fish and wildlife populations (even in non-fishing-dependent communities), protecting views and special places, providing safe drinking water, and reducing noise and other forms of pollution. Communities are concerned about environmental quality. When their local governments govern environmental quality, they are protecting community values.

From this perspective, communities and their local governments are essential players in environmental regulation. Local governments may approach environmental quality with a different focus, different methods, and a different purpose. However, when local governments address the problems caused by industry, development, and growth, they wield tools that are uniquely situated locally and designed to assist local governments in protecting local values. Such tools prioritize the most appropriate use of land and arrange land uses to implement the vision of the community.<sup>88</sup>

Although the regulatory result does not look like the federal environmental program, there is something very important happening at the local level. Local governments create intentional communities and protect them. This is something that communities know how to do. This is a power that communities know how to wield. This is local governance of community, environment, and economy, all of which fall into the subject matter of sense of place. And it is this sense of place to which the courts appropriately defer.<sup>89</sup>

The process of acting on community self-searching and self-knowledge produces the kind of knowledge that could situate our values and make us appreciate ourselves in the context of our surroundings. This is local environmental governance. Community identity is the basis and the measure. This is not what we do in federal environmental law—local governments operate by a different method and for a different purpose. Yet, local knowledge is a special kind of knowledge about ourselves within a community of natural and built environments, and it reflects on the ways that our experienced values are shared and quite local. When we regulate to protect a place, such as in land use regulation, we regulate to protect those values.<sup>90</sup>

84. The Parklands of Floyds Fork, *The Vision*, <http://www.theparklands.org/the-vision.html> (last visited Oct. 6, 2017).

85. Floyds Fork watershed is 284 square miles and more than 180,000 acres. The watershed is experiencing stream impairments from elevated levels of nutrients, organic enrichment, dissolved oxygen, fecal coliform, sedimentation, and aquatic plants. There are ongoing efforts to improve the health of the watershed. See Kentucky Energy and Environment Cabinet Department of Environmental Protection, *Division of Water: Floyds Fork*, <http://water.ky.gov/watershed/pages/floydsfork.aspx> (last visited Oct. 6, 2017).

86. Before the Parklands plan was put into place, metro government hired consultants to study the Floyds Fork area, including 73 square miles of “an area bisected by Floyds Fork and dotted with homes, farms, steep slopes and karst terrain.” The ultimate recommendation was to strike a balance between preserving some of the land and using other areas for development. But, that plan was not addressed, “gather[ed] dust,” and many feel that as a result there is no vision for the 3,500-acre park project that is near completion in an area that would otherwise be ripe for subdivision. There is hope that the city will address this in the comprehensive Cornerstone 2020 land use plan because there are still sewer and transportation issues within the Parklands of Floyds Fork. See Marcus Green, *Costly Floyds Fork Plan Ignored as Parklands Open*, WDRB, Apr. 4, 2016, <http://www.wdrb.com/story/31624074/sunday-edition-costly-floyds-fork-plan-ignored-as-parklands-open>.

87. As Prof. Dan Tarlock states, “[Land use regulation] remains the weakest link in modern environmental law. . . . In the main, we continue to develop and abuse land, regardless of environmental stresses that development causes.” A. Dan Tarlock, *Land Use Regulation: The Weak Link in Environmental Protection*, 82 WASH. L. REV. 651 (2007).

88. I have elsewhere referred to this description as the “pollution location” mode, as opposed to the “pollution prevention model” employed at the federal level. See Hirokawa, *supra* note 48, at 760.

89. Challenges to “sense of place” regulations have been upheld against the charge of unconstitutional vagueness. *Kruse v. Town of Castle Rock*, 192 P.3d 591, 599 (Colo. Ct. App. 2008):

Although Kruse argues that “unusual,” “uncommon,” “character and sense of place,” and “several” are vague because they are not defined, not every word or phrase in an ordinance must be specifically defined. Terms may be given their generally accepted meaning. . . . “Character and sense of place” “takes clear meaning from the observable character of the district to which it applies.”

90. All of this palaver about place-based environmental governance does not resolve the normative questions pertaining to the superiority of federalism,

### III. Ecosystem Services and the Very Local Value of the Environment

[T]he benefits we derive from a functioning environment become visible at the local level. If we adopt a focus on ecosystem services, their relation to municipal service delivery becomes evident. For example, cities are often responsible for the provision of clean water to their citizens. A focus on the ecosystem services relevant to water provision can help identify the water purification capacity of, for example, nearby forests. The preservation of the forests can therefore become an integral part of the strategy to provide clean water to local residents.<sup>91</sup>

Having established the uniqueness of the place-based view, and having examined the legal authority for local governments to regulate place, we must address the tie-up question: why would local governments be concerned with regulating the environmental aspects of place? One answer to this question concerns an economic understanding of local environmental governance. Local governments are structurally equipped to govern communities and their ecosystems through a systemic evaluation of the costs and benefits of both grey and green infrastructure. The approach depends heavily on the ecological economics known as ecosystem services.

It may help to return to the local environmental law story developing in Louisville, Kentucky. Although much of Louisville's current circumstances are the predictable consequence of unplanned growth,<sup>92</sup> a recent initiative

suggests major changes. The county, city, and community have been working together to envision a sustainable future for the region and have produced a variety of far-reaching, searching planning tools that go to the heart of local quality of life.<sup>93</sup> Several of those plans were discussed above. However, the efforts taken to combat loss of urban forest uniquely illustrate how environmental governance from an insider's perspective can be politically persuasive and even fiscally responsible.

In 2015, the Davey Resource Group completed an urban forest canopy assessment for the city of Louisville.<sup>94</sup> According to the assessment, the region's urban forest presents a significant challenge and a strategy for Louisville.<sup>95</sup> In this process, Louisville learned about the value of ecosystems in place, or the ecosystem services.

The challenge may have appeared quite remarkable, even insurmountable. Louisville had been losing about 820 acres of tree canopy (54,000 trees) annually.<sup>96</sup> Such losses resulted in a depletion from 40% canopy cover in 2004 down to 37% in 2012, almost entirely from new development.<sup>97</sup> This figure did not even account for the loss of ash trees to the emerald ash borer.<sup>98</sup> It was projected that in the absence of steps taken to reverse the downward trend, Louisville's tree canopy could decline to 21% by 2052.<sup>99</sup>

Why does this matter? When such losses are characterized as irresponsible, the need for action becomes clearer. An economic assessment suggested that irresponsibility was at the root. The assessment reports that, at its current level of service, Louisville's urban forest provides \$330 million in ecosystem benefits annually.<sup>100</sup> Among other things, the urban forest intercepts approximately 18 billion gallons of stormwater and captures air pollutants like carbon monoxide, sulfur dioxide, ozone, and particulate matter.<sup>101</sup> In the meantime, the city's urban trees over their lifetime store \$230 million in carbon.<sup>102</sup> The report further estimates the following:

localism, and bioregionalism. Jon Cannon summarizes the debate, in part, as follows:

Those favoring local or regional empowerment discount the strength or legitimacy of the interests of those outside the watershed, particularly to the extent those interests are in the form of psychological or "existence" values. They argue the virtues of public participation at the local level, which serves democratic values (in the Jeffersonian sense of direct participation). They also point to the tendency of interactions among citizens in stable communities to create "social capital"—norms of reciprocity and trust—that support cooperative behavior. For bioregionalists and other place-based theorists, this social capital is intimately connected to the place inhabited by the community. It includes an awareness among citizens of their common interest in the place (e.g., a watershed) and norms of environmental stewardship or shared "sense of place values." Bryan Norton and Bruce Hannan contend that sense of place value, strengthened by local autonomy, will yield environmentally protective decisions at the local level and cooperative ("bottom-up") solutions among localities on environmental matters of regional interest.

Jon Cannon, *Choices and Institutions in Watershed Management*, 25 WM. & MARY ENVTL. L. & POL'Y REV. 379, 385-86 (2000).

91. TEEB—ECONOMICS OF ECOSYSTEMS AND BIODIVERSITY, TEEB MANUAL FOR CITIES: ECOSYSTEM SERVICES IN URBAN MANAGEMENT 5 (2011), available at [http://www.teebweb.org/wp-content/uploads/Study%20and%20Reports/Additional%20Reports/Manual%20for%20Cities/TEEB%20Manual%20for%20Cities\\_English.pdf](http://www.teebweb.org/wp-content/uploads/Study%20and%20Reports/Additional%20Reports/Manual%20for%20Cities/TEEB%20Manual%20for%20Cities_English.pdf).

92. James Bruggers, *Louisville Ranked Poorly in Sprawl Study*, COURIER-J., Apr. 11, 2014, <http://www.courier-journal.com/story/watchdog-earth/2014/04/11/louisville-sprawl-smart-growth/7589255/>. Former Gov. Paul Patton was reported to have said:

Kentucky is developing its farmland at a rate that's ranked third in the nation. Many of our communities are seeing the high cost of unplanned growth. This is an issue that we must begin to address or the Kentucky we know and love today will not be the Kentucky we leave to our grandchildren.

Patrick Crowley, *Kentucky Takes Steps Against Sprawl*, CINCINNATI ENQUIRER, Jan. 7, 2001, [http://enquirer.com/editions/2001/01/07/loc\\_kentucky\\_takes\\_steps.html](http://enquirer.com/editions/2001/01/07/loc_kentucky_takes_steps.html).

93. Crowley, *supra* note 92.

94. DAVEY RESOURCE GROUP, LOUISVILLE URBAN TREE CANOPY ASSESSMENT (2015), available at [https://louisvilleky.gov/sites/default/files/sustainability/pdf\\_files/louisvilleutreport-24march2015.pdf](https://louisvilleky.gov/sites/default/files/sustainability/pdf_files/louisvilleutreport-24march2015.pdf).

95. *Id.*

96. *Id.* at IV.

97. *Id.*

98. Ash trees may account for about 10% to 17% of the suburban and rural forests, according to the Kentucky Division of Forestry, meaning that thousands of trees in and around the city will be lost in the next few years. *Id.*

99. *See id.* at IV.

100. *Id.* at VI.

101. For more efforts with urban forest capture of air pollutants, see Leanna Garfield, *China Is Building a Smog-Eating "Forest City" Filled With Tree-Covered Skyscrapers*, BUS. INSIDER, June 27, 2017, <http://www.businessinsider.com/stefano-boeri-forest-city-liuzhou-china-2017-6/#the-forest-city-will-be-constructed-in-the-mountainous-region-of-liuzhou-china-by-2020-1>.

102. *See DAVEY RESOURCE GROUP, supra* note 94.



Stormwater	Runoff reduced: 18,835,266,390 gallons	\$62,909,790
Energy	Savings from avoided cooling: 67,649,325 kilowatt hours	\$5,463,356
Property	Increases in property values:	\$239,969,791
Air	Carbon monoxide removed: 149,120 pounds	\$99,078
Air	Nitrogen dioxide removed: 517,780 pounds	\$219,678
Air	Ozone removed: 4,366,940 pounds	\$7,932,540
Air	Sulfur dioxide removed: 622,280 pounds	\$78,727
Air	Dust, soot, other particles removed (particulate matter, PM <sub>10</sub> ): 1,242,280 pounds	\$3,879,821
	Carbon sequestered: 444,112 tons	\$8,599,490
	Total:	\$329,152,271 <sup>a</sup>

Carbon storage over canopy's lifetime (not an annual benefit): 11,941,333 tons, \$231,224,066  
Total benefits overall: \$560,376,337<sup>b</sup>

<sup>a</sup> DAVEY RESOURCE GROUP, LOUISVILLE URBAN TREE CANOPY ASSESSMENT (2015), at 40.

<sup>b</sup> *Id.*

Under these circumstances, the assessment reports that investments in the urban forest would pay off over the long run. The proposed solution was to increase the canopy cover of the urban forest.<sup>103</sup> In response, Louisville adopted several strategies:

1. Establishing “no net loss” of trees in five years
2. Adopting a plan to increase canopy coverage to 40% or 45%. The assessment sets out several scenarios for achieving higher canopy coverage. To achieve 40% canopy would require 7,319 acres of canopy cover; 45% would be 20,041 acres of canopy cover
3. Hiring the city's first urban forester, Erin Thompson
4. Helping to establish Trees Louisville, a nonprofit working to plant and care for the city's trees
5. Attempting to address planting trees on private property<sup>104</sup>

Louisville's urban forest program illustrates the capacity of communities to engage in functional environmental governance. Here, Louisville has transformed its thinking from trees as a liability (as an obstacle to development) to thinking about functional forests as assets. Louisville's new approach values trees not as commodities (timber), but for the real, valuable benefits provided to the city and county residents. Louisville has adopted an ecosystem services approach.

The study of ecosystem services has reframed our understanding of how values accrue in natural resources.<sup>105</sup> Ecosystem services is an approach to ecology and economics that focuses on ecosystem functionality. Although we typically focus attention on the commodity values of goods

taken from ecosystems (e.g., lumber, bananas, fish, etc.), ecosystem services focuses on the services provided by ecosystems that we cannot live without.<sup>106</sup> As such, the term “ecosystem services” has been defined as “measurable benefits that people receive from ecosystems.”<sup>107</sup> The term is also defined as “the wide range of conditions and processes through which natural ecosystems, and the species that are part of them, help sustain and fulfill human life.”<sup>108</sup>

From the perspective of ecosystem services, it is important to recognize that our natural resource decisions (whether they are directly or indirectly affecting the environment) should be accountable for both the benefits and the losses sustained.<sup>109</sup> In the past, these services typically were not acknowledged in the decisionmaking process, and, as such, have largely been invisible to the policymaking process.<sup>110</sup>

106. As J.P. Schmidt et al. explain:

The issue of lost environmental amenities as a countervailing cost to the expected benefits of development has received increasing attention with the emergence of ecosystem services as an organizing principle. As a concept, “ecosystem services” addresses the need to adequately represent the value to humans and human society of vital functions performed by natural systems when, for example, making decisions that determine future land use.

Schmidt et al., *supra* note 105, at 57.

107. EARTH ECONOMICS, A NEW VIEW OF OUR ECONOMY: NATURE'S VALUE IN THE SNOQUALMIE WATERSHED 15 (2010), available at [http://www.earthecconomics.org/FileLibrary/file/Reports/Puget%20Sound%20and%20Watersheds/Earth\\_Economics\\_Report\\_on\\_the\\_Snoqualmie\\_Watershed\\_compressed.pdf](http://www.earthecconomics.org/FileLibrary/file/Reports/Puget%20Sound%20and%20Watersheds/Earth_Economics_Report_on_the_Snoqualmie_Watershed_compressed.pdf).

108. Gretchen C. Daily, *Ecosystem Services: Benefits Supplied to Human Societies by Natural Ecosystems*, 2 ISSUES ECOLOGY 1, 2 (1997).

109. The mere fact that an ecosystem service has value at a particular location may not, by itself, lead to the protection of the conditions that facilitate the service: “The value of ecosystem services at a locality may be very high, but in the absence of some form of payment representing that value to local decision-makers, the value ecosystem service flows may not determine development outcomes.” Schmidt et al., *supra* note 105, at 66. Likewise, it has been noted that:

When “externalities” exist—impacts that affect people other than the decision maker—information alone will not suffice. For example, a farmer may learn that applying fertilizer causes water quality problems downstream but continue to do so because it leads to higher crop yields and the resulting water quality problem affects others.

Emily McKenzie et al., *Incorporating Ecosystem Services in Decisions*, in NATURAL CAPITAL: THEORY AND PRACTICE OF MAPPING ECOSYSTEM SERVICES 339, 344 (Peter Kareiva et al. eds., Oxford Univ. Press 2011). In some cases, the public and even private value must be incorporated into the marketplace, perhaps by initiating a payment for ecosystem services program in which the protection of ecosystem functionality is compensated for loss of other market opportunities. That said, in many cases, compensation is neither necessary nor prudent, and it is these circumstances that are the focus of this Article.

110. Adopting an ecosystem services approach takes public dialogue in a different, more productive direction. For instance, consider one study in which the authors reviewed 10 cases “where the recognition, quantification and valuation of ecosystem services have significantly contributed to strategic decision making. In all cases, the use of the ecosystem services concept supported decision making by providing better information on the consequences of new policies or planned developments.” ROEL SLOOTWEG & PIETER VAN BEUKERING, NETHERLANDS COMMISSION FOR ENVIRONMENTAL ASSESSMENT, VALUATION OF ECOSYSTEM SERVICES AND

103. *Id.*

104. *Id.* at VI.

105. James Salzman et al., *Protecting Ecosystem Services: Science, Economics, and Law*, 20 STAN. ENVTL. L.J. 309, 327 (2001). “Broadly, we may define ecosystem services as products of nature that directly benefit humans.” J.P. Schmidt et al., *Integrating Ecosystem Services and Local Government Finances Into Land Use Planning: A Case Study From Coastal Georgia*, 122 LANDSCAPE & URB. PLAN. 56, 57 (2014).

The problem is that the commodity-based valuation of our environmental resources invariably ignores the real cost of a future ecosystem unable to reproduce the services and goods.<sup>111</sup> As J.B. Ruhl notes, “One does not have to purchase photosynthesis or the radiation screening effects of the ozone layer, and therefore no data on market price are available for them.”<sup>112</sup>

We value trees for lumber, and animals for pelts and sport, but in either case we fail to wonder whether the loss of an individual critter or community of trees would disrupt ecosystem functionality.<sup>113</sup> We envision dry, buildable land without accounting for the loss of wetland services, such as filtering contaminants out of water, absorbing storm surges and flooding, and providing habitat for a variety of species of animals and plants.<sup>114</sup> Because these services will have to be replaced<sup>115</sup> (e.g., by building and operating a water filtration plant because we cannot live without potable water),

STRATEGIC ENVIRONMENTAL ASSESSMENT: LESSONS FROM INFLUENTIAL CASES 1 (2008), available at [http://content-ext.undp.org/aplaws\\_publications/2078079/Ecosystem%20valuation%20and%20SEA.pdf](http://content-ext.undp.org/aplaws_publications/2078079/Ecosystem%20valuation%20and%20SEA.pdf). Among other things, the authors found that integration of ecosystem services analysis enhanced engagement and transparency and facilitated consideration of distributional issues.

111. As Janet Neuman notes, “This short-sighted approach is akin to spending down the principal of an endowment instead of limiting spending to the interest income. Pretty soon, there is no more income, and the principal itself is gone.” Likewise, the author and Prof. Jonathan Rosenbloom have made this point:

Ecosystem services thinking demands a break from commodity-based valuation. By focusing attention on the market values of goods that can be taken from ecosystems, without also accounting for the methods of sustaining the production of those goods or the loss of production in the future, we have expedited the decline of functionality throughout the natural system. Both consumption and the corresponding inattention to ecosystem functions that occurs in the commodification of nature have limited the ability of ecosystems to regenerate and sustain themselves, requiring the production of substitutes.

Keith H. Hirokawa & Jonathan Rosenbloom, *Thinking Ecosystems, Providing Water: The Water Infrastructure Imperative*, in CONTEMPORARY ISSUES IN CLIMATE CHANGE LAW AND POLICY 45, 55 (Robin Kundis Craig & Stephen Miller eds., Envtl. L. Inst. 2016).

112. J.B. RUHL ET AL., THE LAW AND POLICY OF ECOSYSTEM SERVICES 57 (2007).  
 113. The range of dependencies that humans have on functioning ecosystems is made plainer when we consider the range of ecosystem services proposed in the Millennium Ecosystem Assessment, including: “provisioning services such as food, water, timber, and fiber; regulating services that affect climate, floods, disease, wastes, and water quality; cultural services that provide recreational, aesthetic, and spiritual benefits; and supporting services such as soil formation, photosynthesis, and nutrient cycling.” WALTER V. REID ET AL., MILLENNIUM ECOSYSTEM ASSESSMENT, ECOSYSTEMS AND HUMAN WELL-BEING 5 (2005), available at <https://www.millenniumassessment.org/documents/document.356.aspx.pdf>.  
 114. As noted by Christopher Lant, “[T]he root of the problem for ecosystem services has been the law’s utilitarian premise that developing natural resources invariably puts land to higher and better uses and maximizes social welfare where both are measured in monetary terms.” Christopher L. Lant, *The Tragedy of Ecosystem Services*, 58 BIOSCIENCE 969, 972 (2008).  
 115. Hence, Ruhl’s cautionary note, that “without ecosystem services, we all die,” is nothing less than an incontrovertible, unassailable fact. RUHL ET AL., *supra* note 112, at 25. We rely on functioning ecosystems in ways that undermine the blissful ignorance of development. In like manner, *Earth Economics* reports that

[i]n many cases . . . built capital cannot replace natural capital. When water becomes polluted and natural systems are not available to filter it, it is possible to build a water filtration plant so that drinking water is still available. In many cases, however, built capital cannot replace natural capital. If a species becomes extinct, their genetic variance will be lost forever.

EARTH ECONOMICS, *supra* note 107, at 19.

this failure to account for the losses that will be suffered throughout an ecosystem causes real, financial harm.<sup>116</sup>

Ecosystem services analysis thrusts to the forefront an accounting and recognition of the services value of functioning ecosystems. As Gretchen Daily notes, “The promise of ecosystem service analyses is that they will make explicit the costs and benefits of alternative actions to people. Economic valuation methods take changes in the supply of ecosystem services as input and translate these into changes in human welfare, in monetary terms.”<sup>117</sup> Through this approach, natural resource allocation decisions expose a real, even if only limited, view of the costs of development. The further we develop a functional understanding of the value of working ecosystems, the more we see that unplanned development poses significant risks of loss.<sup>118</sup> At the least, such development risks squandering (otherwise free) ecosystem services through transformation, displacement, and destruction of ecosystems to a point at which the ecosystems cannot continue to deliver services. And, of course, replacing these services comes at a high cost.

Ecosystem services analysis seems like a reasonable approach in any circumstance.<sup>119</sup> Nevertheless, the perspective is applicable to insider environmental law in unique ways—ways that do not have a direct counterpart in federal environmental governance. Here, the analysis builds off of both the importance of sense of place and the tradi-

116. “All ‘built capital’ is made of natural capital, including cars, buildings and food. An economy also requires hurricane protection, a stable climate, waste assimilation and other natural services. No economy can function without nature’s provision of economic goods and services.” DAVID BAKER ET AL., EARTH ECONOMICS, GAINING GROUND—WETLANDS, HURRICANES, AND THE ECONOMY: THE VALUE OF RESTORING THE MISSISSIPPI RIVER DELTA 7 (2010), available at <https://drive.google.com/file/d/0ByzlUWI76gWVXzLDNm5MRGRjckk/view>.

117. Gretchen C. Daily et al., *Ecosystem Services in Decision Making: Time to Deliver*, 7 FRONTIERS ECOLOGY & ENV’T 21, 23 (2009). As noted by the author and Prof. Elizabeth Porter:

Ecosystem services is intended to further inform the regulatory process by giving a fuller value of resources by reference to ecosystem processes and the role that any particular ecosystem component might serve to the functionality of the system. That is, ecosystem services information is better information: ecosystem services information provides better baseline information for understanding changes to ecosystems by facilitating the valuation of those changes. The ecosystem services approach does not merely assess the value of goods and services produced by converting natural resources to commodities, it also demands an accounting of the goods and services that are produced by the natural resources themselves and the value of production over time.

Keith H. Hirokawa & Elizabeth J. Porter, *Aligning Regulation With the Informational Need: Ecosystem Services and the Next Generation of Environmental Law*, 46 AKRON L. REV. 963 (2013).

118. “Adoption of an ecosystem-services approach is one way to organize potential effects of an action within a framework that explicitly recognizes the interconnectedness of environmental, social, and, in some cases, economic considerations, and fosters consideration of both quantified and unquantified information.” Memorandum from the Office of Management and Budget, to the Executive Office of the President 2 (Oct. 17, 2015), <https://obamawhitehouse.archives.gov/sites/default/files/omb/memoranda/2016/m-16-01.pdf>.  
 119. “An ecosystem-services approach can: (1) more completely inform planning and decisions, (2) preserve and enhance the benefits provided by ecosystems to society, (3) reduce the likelihood of unintended consequences, and, (4) where monetization is appropriate and feasible, promote cost efficiencies and increase returns on investment.” *Id.*

tional, grounded manner in which communities engage in self-governance.

### A. *The Quality and Quantity of Ecosystem Benefits Is Relevant to the Identity of Community*

As discussed above, sense of place is an engaged, insider's view.<sup>120</sup> People experience their ecosystems and identify with that experience as their knowledge of how the community is ecologically situated. In essence, community is a question of the shared situatedness of identity, subject to local environmental constraints and cultural influences. Because identity is ecologically situated, and because situated communities always benefit (in varying degrees) from their ecosystems, the ecosystem services approach suggests that functioning ecosystems are always relevant to local identity.

Consider some quite common region-specific circumstances.<sup>121</sup> Forested areas often host logging communities. Fisheries, wildlife, desert, and coastal communities are similarly interactive with their environments. Community is ecologically situated, and, to ecologically situated communities, the loss of ecosystem function can be costly.<sup>122</sup> A loss of water flow or pollinators in an agricultural community requires replacements for the lost ecosystem goods and services. The loss of flood control or climate control in urban areas requires investments to absorb storms and mitigate excessive heat.

I do not mean to suggest that the insider's views and values should necessarily preempt a more objective and distanced view, or that the federal approach is not also essential to the project of environmental quality. However, the

insider's understanding of the relationship between community and ecosystem functionality should be recognized as a productive driver. As Stanley Asah notes:

The framework of ecosystem services is important for natural resource management, in part, because it lends itself to understanding the relationship between ecosystems and human behavior. Because ecosystem services are benefits, according to the psychological theory of motivational functionalism, they are, therefore, motivations—the personal and social processes that initiate, direct and sustain human actions toward ecosystems. That is, the perceived benefits that people get from ecosystems are the reasons why they might likely engage (or not) in behaviors that ensure the continuous supply of desired ecosystem services.<sup>123</sup>

The experiential character of sense of place involves a different inquiry than the objective, outsider's view of place. From the outside, we might observe that floodwaters can cause injury. The insider is aware of what those injuries might be, how those injuries cause displacement, and how recovery will hurt as much as the flood itself. In large part, the point is that local governments are ecologically situated. The capture of ecosystem benefits (and managing them) overlaps with governance at the local level.

Because ecosystem services focuses on beneficiaries, it often focuses on very local issues—for instance, providing physical support for the surface (including vegetation), nutrient cycling, hydrological regulation, waste disposal, and organic decomposition, all of which concern the maintenance of soil productivity. Grading for a driveway, clearing vegetation, or preparing for a significant storm may cause erosion and loss of soils. The loss of productive soils (resulting in failing vegetation and agriculture, loss of soil functions relating to groundwater, etc.) in one region may be negligible on a national scale, but such losses make governments accountable at the local level. Hence, Bruno Djossa found that “[t]he perception of the local peoples is important because when they decide themselves to conserve natural resources the impact is noticeable.”<sup>124</sup> Locally, changes to ecosystem function affect expectations in social, economic, and environmental ways, in large part the cultural attachment, and even dependencies on the continuing flow of ecosystem services.<sup>125</sup>

Ecosystem services also illustrates how ecosystem services analysis can be a motivator. Asah states:

The existence and delivery of ecosystem services motivates human behavior with important ramifications for ecosystem sustainability because deteriorating ecosystems and biodiversity loss are primarily caused by human behavior. For example, people who harvest ber-

120. See *supra* notes 4 through 19, and accompanying text.

121. Emily McKenzie et al. explain:

Our constant challenge is to ensure that science and practice are effectively integrated, by working across disciplines and political boundaries, and sharing ideas and experiences. Ecosystem service science needs to be grounded in sound theory but, to be most effective, it must always keep the final application—the “practice”—firmly in mind.

McKenzie et al., *supra* note 109, at 352.

122. Potential problems of scale may suggest that specific services should be addressed at a larger, regional, state, or even federal scale. Researchers have found, on occasion, that

an additional issue relates to the potential mismatch between opportunity costs and benefits of ecosystem services that are often managed at a local scale yet valued more at statewide/regional, national or global scales. For example, the protection of nursery habitat for fisheries may require local planning efforts, but the value may accrue to a larger regional or statewide group of stakeholders. Therefore, while attention may focus on the value of natural amenities to stakeholders defined broadly, these benefits may not be sufficient to influence local policy or development decisions which are often determined by vested interests, and incentives or benefits (perceived or actual) that apply locally.

Schmidt et al., *supra* note 105, at 57. This Article focuses on the role that local identity plays as an incentive to influence policy development, rather than how to deal with specific policy dilemmas that transcend local boundaries. Notably, the authors of the above study found that “rural lands generated more revenue to county government—through payments in lieu of taxes, property taxes and sales taxes from timber sales—than they required in services from the county,” suggesting that conversion of rural lands to urban and suburban land uses could be calculated at a loss from an ecosystem services perspective.

123. Stanley T. Asah et al., *Perception, Acquisition, and Use of Ecosystem Services: Human Behavior, and Ecosystem Management and Policy Implications*, 10 *ECOSYSTEM SERVICES* 180, 181 (2014).

124. Bruno A. Djossa et al., *Local Perception of Ecosystem Services Provided by Bats and Bees and Their Conservation in Bénin, West Africa*, 6 *INT'L J. BIOLOGICAL & CHEMICAL SCI.* 2034, 2040 (2012).

125. *Id.*



ries, a direct provisioning service, from ecosystems are likely to engage in invasive species removal if they believe invasive species interfere with the production of berries. Conversely, berry harvesters may engage in the suppression of other social-ecologically important species if they believe that those species suppress berry production and harvest. Thus, the capacity of the ecosystem to provide a wide range of benefits beyond berries also depends on the behaviors of those who value and act toward securing the provision of berries.<sup>126</sup>

Locally, ecosystem changes are more apparent because they disrupt the receipt of ecosystem services benefits. The impact of ecosystem displacement is felt locally in an acute manner.

Louisville's urban forest canopy assessment provides an excellent example. The city studied the services provided by trees in the urban area to inform and guide future land use decisions. The analysis measured the attractiveness (e.g., property value and tourism) and function (e.g., stormwater retention, shade, erosion control, and pollution mitigation) of the city's urban forest. The analysis established a positive correlation between urban trees and property value, as well as substantial value in stormwater control services retention capacity and pollution sequestration potential. The stormwater function of the urban forest saves the city from having to construct expensive water treatment facilities. The shade function of the canopy cover saves residents from high electricity bills from artificial cooling, and Louisville's trees provide a distinct sense of place. Not surprisingly, the analysis suggests that if the city increases the reach (and effectiveness) of the urban forest (i.e., if the urban forest is treated as an asset), the urban forest will continue to produce economic benefit. In short, saving (and planting) more trees means saving city dollars.

When we quantify the value of ecosystem health, it is easier to understand why ecosystem processes should be maintained. It is easier to understand that ecosystem investments, as alternatives to grey infrastructure, produce valuable city assets. It should not be surprising at all that Louisville is so interested in urban forest services.

Securing these ecological benefits is already within the realm of what local governments do. The governmental structure and capacity (land use controls) already exist. Local governments capture the benefits of productive soils, beautiful landscapes, and productive fisheries, and such capture is not different from governance of communities.

### **B. Community Identity (Sense of Place) Makes Local Governments Essential for Information on Ecosystem Functionality**

Many natural resource decisions, including development of land in the orderly growth of communities, are made without regard for the important trade offs made in ecosystem functionality. In part, this is due to our history of

economic growth and treatment of the environment as a commodity-based resource. Ecosystem services provides information that changes the decisionmaking process by accounting for the important services that may be lost. Notably, as addressed here, the information gathered must address the prioritization of trade offs,<sup>127</sup> but must also be disseminated effectively. "Because people often fail to connect their wellbeing to ecosystem conditions, there is a need to build public awareness about this linkage before we can expect the public to hold decision-makers accountable."<sup>128</sup>

Communities have local knowledge about the land and its management. An insider's view illustrates the close connection between local perspectives and participation in use of the land. Local knowledge and understanding matter. The EPA Science Advisory Board found that, even in the risk assessment process of site remediation (an inherently complicated process), integrating ecosystem services analysis into risk assessment yields results that highlight local values and priorities.<sup>129</sup> This is essentially the process of self-identity: self-reflection that encompasses sense of place.

Moreover, local knowledge is not only accessible; local knowledge makes the difference between a local priority and an outsider's view:

The perception of the local peoples is important because when they decide themselves to conserve natural resources the impact is noticeable. Recent work has shown that communities' own conservation efforts probably equate to forested areas currently within formal protected area networks and that many communities spend more per hectare on conservation than national governments. The local communities usually take advantage of traditional wisdom and religious beliefs to give sacred value to different natural resources such as trees, forests, lakes, rivers, etc. they found important to conserve. Silori (2001) reported from India that such attitudes of locals have helped to restrain the level of anthropogenic pressures in the Nanda Devi Biosphere Reserve.<sup>130</sup>

127. "A modelling framework that captures impacts on multiple ecosystem services over alternative scenarios [and] enables stakeholder to weigh tradeoffs can serve as a basis for negotiation. Without such information, decision makers tend to use intuitive or heuristic approaches that ignore ecosystem service values and distributional issues." McKenzie et al., *supra* note 109, at 339.

128. *Id.* at 344.

129. The Science Advisory Board found that, in past experiences, "[w]hen the ecosystem services that matter to people are well-defined and when ecological risk assessments are coupled with these services, the remediation and redevelopment plan can target what matters to the local community." OFFICE OF THE ADMINISTRATOR, EPA SCIENCE ADVISORY BOARD, VALUING THE PROTECTION OF ECOLOGICAL SYSTEMS AND SERVICES 89 (2009) (EPA-SAB-09-012) [hereinafter VALUING THE PROTECTION OF ECOLOGICAL SYSTEMS AND SERVICES]. The report summarized the lessons by noting that "even the most rudimentary dialogue about future use can lead to an outcome with greater service to the community." *Id.* at 91.

130. Djossa et al., *supra* note 124, at 2040. Djossa and his co-authors remind, however, that knowledge is quite important:

It appears that when locals don't perceive the necessity to conserve a given natural resource, even if they show superficial agreement, there is frequently lack of cooperation between resource users and managers, and this is known to be source of conflict that is detrimental to the conservation of the resources.

126. Asah et al., *supra* note 123, at 181.

As the direct beneficiaries of ecosystem services, local governments can implement meaningful insights into the manner in which functioning ecosystems serve very local, social needs. Hence, when we pay attention to ecosystem services values,

[i]nformation on ecosystem services can tell us how and which services are relevant to our goals, whether important services are at risk, where services are provided, who is affected, and the trade-offs of different choices; all key pieces of information for the design and implementation of a broad set of policy mechanisms.<sup>131</sup>

The beneficiary approach to local environmental governance focuses on the costs of governance.<sup>132</sup> Local governments are generally responsible for providing infrastructure. However, many infrastructure responsibilities—such as water, sewer, and transportation systems—are services that are already provided by the environment. Those ecosystem services that are not directly thought of as counterparts to gray infrastructure are no less important, particularly to the extent that losses of such services will result in costs, such as increased flooding and diminished water quality from loss of wetlands and significantly deteriorated air quality from loss of contaminant-capturing vegetation. The costs of providing gray infrastructure services are substitutes for benefits that can be delivered by functioning ecosystems.

Local governments are accountable for these costs in ways not felt at other levels of government. Recognizing such costs and the benefits of ecosystem investments is a local accountability issue, and, as such, dealing with ecosystem services is “governance” at the local level. Federal environmental law is similarly lofty, but the federal pro-

gram fails on the important problem of connecting governance to those governed. There is no “here” in the federal environmental program.<sup>133</sup> The federal program lacks sense of place motivations to ground rational, progressive environmental policy and law.

#### IV. Conclusion: Communities and the Insider Environmental Perspective

Insider environmental law proposes that we think very seriously about the potential of communities and their local governments in understanding, mitigating, and even avoiding the consequences of unplanned growth. From the insider's perspective, significant changes to ecosystems are often co-extensive with loss of the relevant features of sense of place. This is harm, and it is often avoidable harm.

First, this Article explored the relevance of place to understand the relationship between place and local identity. The analysis was founded on the importance of the ways that individuals and their communities interact with and experience local environments. Because life and community occur within an environmental context, I asserted that the close identification that people make with their environment sheds light on the reasons local governments are relevant to the dialogue on environmental protection.

Second, the Article reviewed the tools that local governments wield to meet new challenges. It posited tools that further a legal embodiment of community self-realization and asserted that community identity, otherwise referred to as sense of place, is regulated locally because community identity is experienced in an ecological context. Ecology matters locally.

Finally, the Article employed the ecological economics of ecosystem services to understand how the value of local environments can be quantified. The ecosystem services approach suggests that communities are the beneficiaries of working ecosystems because communities are embedded in their ecosystems, and that local governance may require valuation of functioning ecosystems. The ecosystem services value of local, functioning ecosystems appears as a local benefit, and local is where ecosystem losses are felt.

From these insights, we can draw a few conclusions. First, communities are equipped to face environmental, economic, and social challenges. However, local governments do not face such challenges in the ways that we

*Id.* (pointing out the importance of determining whether communities have a sophisticated grasp of the causal relationships between ecosystem services and local reliance on such services).

131. McKenzie et al., *supra* note 109, at 339.

132. Although ecosystem services has gained considerable popularity in the past two decades, the approach has faced communicative struggles in acceptance in public and governmental arenas. “The language surrounding ecosystem services projects is a jargon—rich, dense amalgam of scientific, financial, regulatory and conservation parlance. Those working to advance ecosystem services projects struggle to articulate what they’re trying to do, and wider approach is more effective and efficient.” RESOURCE MEDIA, ECOSYSTEM SERVICES MESSAGING: NEEDS ASSESSMENT AND INITIAL MESSAGING RECOMMENDATION 2 (2012), available at [http://www.carangeland.org/images/Ecosystem\\_Services\\_Messaging\\_Needs\\_Assessment\\_072512.pdf](http://www.carangeland.org/images/Ecosystem_Services_Messaging_Needs_Assessment_072512.pdf). The report continued:

The phrase “ecosystem services” is fairly well-accepted within the nonprofit, scientific and academic communities. But, public opinion research commissioned by The Nature Conservancy and performed by the polling firm FM3 in 2010, coupled with Resource Media’s experience working on conservation issues throughout the country, suggests there are some downsides to the phrase.

An ecosystem is an abstract concept at best and has little to do with the average American’s day-to-day life. Very few Americans think of themselves as living in an ecosystem. And while Americans strongly value the many benefits provided by nature and natural systems, they resist use of the term “services” to capture those benefits insofar as it suggests nature’s primary value is in the services provided to people. To put it another way, “services” offends our expansive sense of the incalculable and intangible benefits nature provides.

*Id.* at 8. This Article provides an alternative approach to the notion that “services” language offends, at least because of the manner in which these services coincide with community identity and local governance.

133. EPA has recognized that its role does not include an outcome valuation that may be felt locally:

The Environmental Protection Agency makes many decisions at the local level, including the issuance of permits (air, water, and waste), policies that influence the boundaries for establishing permits (e.g., impaired water bodies designations), and administrative orders related to environmental contamination. The social and ecological implications of such decisions, like the decisions themselves, generally are local in nature, affecting towns, townships, and counties rather than entire states or regions. Therefore, the decision processes need to rely on valuation approaches that also are local in nature and are robust enough to adapt to a range of local ecological conditions and public interests.

VALUING THE PROTECTION OF ECOLOGICAL SYSTEMS AND SERVICES, *supra* note 129, at 87.

expect of the federal government. This is not meant to imply that one type of governance is wrong or worse, but it does suggest that the federal and local governments govern in different ways. Second, although the federal government may be equipped to address certain types of concerns, we would not rely on the federal government to take seriously our sense of place. Third, in our policymaking capacity, prioritization in communities will focus on the local as the beneficiary of governance. Because environment is a factor in the decisionmaking process, local governance will always involve ecosystem functionality. Finally, I conclude that we are not likely to garner local participation in environmental protection if we cast our environmental problems as pollution control or other concepts that only make sense at the federal level.

To illustrate these conclusions, consider again the planning efforts of the city of Louisville. Louisville touts its high quality of life, sense of tradition, and competitive spirit.<sup>134</sup> It has created a vibrant and economically diverse community for its children.<sup>135</sup> It recognizes that local environmental character defines our heritage and enhances the livability of the community.<sup>136</sup> Louisville is proud of the shared sense of place and neighborhoods, with their differences in heritage and culture. This is a place where “every neighborhood is a safe place to live.”<sup>137</sup> Louisville is set to the task of “creating a community where all residents can grow and prosper.”<sup>138</sup> Louisville shows that where the community engages its ecosystem, it governs well. The residents of Louisville are embedded, ecologically situated, and vested. They interact with the environmental challenges and assets the way that they do all things.

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134. SABAK, WILSON & LINCO, INC., WOLF PEN BRANCH NEIGHBORHOOD PLAN (2016), available at [https://louisvilleky.gov/sites/default/files/advanced\\_planning/wolf\\_pen\\_branch.pdf](https://louisvilleky.gov/sites/default/files/advanced_planning/wolf_pen_branch.pdf).

135. *Id.* at 5.

136. *Id.*

137. *Id.*

138. *Id.*