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Wildness and Wild Spaces in Residential Yards: Changing Neighborhood Norms to Support Pollinator Populations

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Abstract: Insect pollinator populations, critical to the global food supply, are declining. Research has found robust bee communities in cities, which are supported by diverse urban habitat and foraging resources. Accounting for 35–50% of urban green space, U.S. private residential yards can serve as important forage and nesting sources for pollinators. Incorporating *wild* attributes and *wildness*, such as native vegetation and less intensive yard-management practices, is key. However, urban vegetation, and its effects on local native bee populations, is shaped by social and cultural preferences, norms, aesthetics, values, and identities. The *perfect lawn* ideal of a highly manicured turfgrass yard dominates neighborhood landscapes and is often at odds with the habitat needs of pollinators. As part of a three-year study investigating the sociocultural drivers of residential vegetation choices in St. Louis, MO, USA, we interviewed 85 decisionmakers in order to understand choices about private residential yard maintenance. This paper presents an emergent finding concerning how residents conceptualize and talk about the urban-yard aesthetic, using the terms “wild” and “wildness”, which reflect a range of levels in the demand for urban wild spaces in their neighborhoods. The discourse of wildness offers a nontechnical route for understanding the connections between the ecological consequences of urbanization, with human attitudes towards nature that shape the biological functioning of human-generated habitats.

Keywords: conservation; environmental narratives; environmental discourses; native plants; sustainability science; urban green spaces; insect pollinators; policy



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“I am more concerned about ‘is there food for insects? Is there food for birds? Is there food for us?’ I don’t care if my grass is a half inch taller than everybody else’s”. (Urban Resident 2017)

1. Introduction

Cities are anthropogenic landscapes [1] and urban vegetation, in both public spaces and privately owned residential yards, reflects the ideologies and preferences of the people who live there. Urban green spaces, the vegetated patches within the urban landscape, provide a range of social and ecological benefits for human wellbeing and biodiversity [2–7]. Although highly modified by humans [8], urban environments can host species populations across managed and unmanaged ecosystems with the same biological diversity as nearby rural ones [5,9,10]. For example, insect pollinator populations, critical to global food production [11,12] are declining because of land uses that cause habitat loss and reduced foraging and nesting resources [13,14]. Still, diverse and abundant native bee communities have been discovered in cities [15–21]. For insect pollinators, urban areas containing native flowers, structurally complex vegetation understories, patches of bare ground, and adequate tree canopies provide functional habitats for foraging, nesting, and breeding [20,22–26].

Urban vegetation management as habitat has most often been studied in a “portfolio of places” [27] (p. S62), such as green roofs, vacant lots, public gardens, and utility right-of-ways [28], but less studied in residential yards [29–31]. In the U.S., residential yards comprise ~41% of urban lands [32] and offer the potential to support substantial native bee populations [15,33]. However, turfgrass yards, which are often intensively managed and devoid of natural habitat attributes, such as native plants and weedy flowering plants (e.g., clover, dandelions, yarrow), are widespread in the U.S. [34,35]. These idealized “perfect lawns” are shaped by sociocultural drivers (e.g., socioeconomics, aesthetics, norms, institutions, culture, ethnicity, and identity) [8,36–38], but provide poor wildlife habitat and foraging resources [39,40]. Implementing less intensive lawn management practices, such as reduced mowing frequency and chemical use, provides spaces that are less manicured and wilder, which can benefit bee populations by allowing spontaneous weedy vegetation to return [41,42].

With so much land allocated to urban yards, understanding the demand for less manicured green spaces in cities and neighborhoods is challenging [4,37,43]. How spaces that provide wilder vegetation are conceived, managed, perceived, and communicated influences their appeal [44] in both residential and public landscapes. Demand is affected by the sociocultural factors that influence human behavior [45] and, ultimately, how biodiversity-supporting vegetation is structured in urban environments [46]. Attitudes and preferences vary toward vegetation configuration (e.g., from freely growing and native to manicured turfgrass), and negative or positive valuations (e.g., wild versus natural) are attributed to green spaces based on differences in the vegetation makeup [47–51]. Attitudes and preferences are also influenced by a lack of opportunities to access and encounter urban wildness, as well as by the historically infrequent inclusion of natural vegetation in official city planning [52].

The demand for more natural or wild urban vegetation may be influenced by the increasing attention on the decline in global insect pollinators, which is widespread even among the general public. Residential lands are increasingly recognized as functional landscapes supporting the biological communities that humans depend on for food [15,31,53,54]. The pollination activities of native bees support home and community gardens, as well as the berry, nut, and fruit forage availability for other urban wildlife. Healthy populations of native bees are shown to spill over to nearby farmlands [55], extending the benefits of pollination beyond the city itself. Therefore, the quality and availability of habitat and foraging resources, such as native plants and spontaneous vegetation, are important promoters of pollinator communities [56,57].

Private owners of vegetated urban residential spaces have an opportunity to contribute to vital biodiversity conservation [15,58–61]. However, the acceptance of, and demand for, new urban vegetation aesthetics is underexamined [25,30,62]. Empirical investigations of the human dimensions, such as documenting the active discourses shaping decisions around residential vegetation, are needed to support urban residential landscape reform [63] and to aid in the engagement of educators, city planners, and researchers in more participatory and inclusive approaches to conserving biodiversity [64,65]. Empirical social research can support the efforts of municipal governments in promoting pollinator communities through policy innovations, effective marketing to communicate the value of native vegetation, and partnerships with conservation organizations to provide educational opportunities for residents.

In this study, we examined how urban residents who manage private yards talk about yard maintenance and vegetation management. We examined: (1) How urban residential yard managers discuss the yard aesthetics of their neighborhoods, and what changes have resulted from the growing public awareness of insect pollinators’ habitat needs; and (2) In what ways they talk about vegetation management relevant to insect pollinator habitats. We identified active discourses (common words, themes, and concepts circulated within groups) to understand the changing perceptions of the value of urban residential yards and to identify the salient messages that align ecological and social values [66]. We also

linked these discourses to the levels of demand for wild and natural urban landscapes as a way to characterize the degree to which urban residential land managers avoid, or seek to facilitate, ecological function (via, e.g., native vegetation and wildlife habitat) as they manage their own small parcels of urban green space.

2. Methods

This study was part of an interdisciplinary research project in St. Louis, MO, USA, to examine the sociocultural drivers of resident land use and the decision-making practices that affect local native bee populations. St. Louis was selected because of our collaboration with researchers gathering city-wide long-term native bee monitoring data from sites spanning a range of socioeconomic and cultural characteristics [67–70]. The larger long-term project explores how high native bee diversity in St. Louis interacts with economic and sociocultural processes and seeks to identify the sociocultural drivers of urban residential land-use decision making [67].

On the basis of the long-term native bee monitoring data of 15 St. Louis neighborhoods [70], we identified two neighborhoods with the lowest bee-species diversity and abundance (target neighborhoods). These two neighborhoods were middle-income urban-core neighborhoods, with houses built mostly in the 1920s, and lot sizes of approximately 500 m². We wanted to explore the potential land-use decision-making practices that could be linked with a relatively low habitat quality for bees, and to assess the residents' awareness of insect pollinators. To answer our research questions, we used interviews and focus groups with social actors in the two target neighborhoods across two field seasons to identify the patterns of meanings that individuals and groups ascribe to private yard-care practices, and the discourses used to communicate about those practices [71]. To examine multiple perspectives, we interviewed two different pools of participants: (1) Local experts on regional insect pollinator health research and outreach programming who were familiar with the study site; and (2) Residents in and near the two target neighborhoods.

We used targeted recruitment methods to identify and recruit study participants. We identified local expert participants through professional networks and snowball sampling. To recruit residents near the target neighborhoods, we mapped all residential addresses (~2100) and, in July 2016, sent postcards to a portion of those addresses that displayed evidence of gardening and lawn-care behaviors ($n = 145$), announcing the project, project website, science-education workshops on pollinators, and that included a solicitation to participate in interviews about residential yard management and insect pollinators. We also recruited interview and focus group participants using a sign-up form on the project website and at four science-education workshops we hosted in the target neighborhoods. When scheduling interviews via phone, we asked participants to invite their neighbors and inquired about their willingness to host a focus group. Because residents self-selected to participate in our study, the data overly reflect the perspectives of residents interested in gardening, insect pollinators, or both, as well as their neighbors recruited through snowball sampling. We, therefore, refrain from any counts or statements about prevalence for this nonrepresentative sample.

Our field seasons included interviews and focus groups. In 2015, we interviewed local experts through semistructured interviews ($n = 39$, verbatim quotes labeled "EX 2015"). Their comments provided the background and city-wide context for engaging residents. In the summer and autumn of 2017, we conducted 11 semistructured focus groups ($n = 46$), and 9 interviews ($n = 9$), with urban residents from the target neighborhoods (verbatim quotes labeled "UR 2017") to examine the management discourses that could influence parcel-scale yard-management practices.

We used the methodology of naturalistic inquiry [71,72] to elicit, observe, and document how residents spoke in natural settings about yard management and insect pollinators. To that end, all individual interviews and focus groups were conducted in the participants' homes and yards, and at times convenient to them, to maximize participation and ensure their comfort [73]. We explored a range of topics with participants, including neighborhood

yard, lawn, and garden management, the evolution of neighborhood yards over time, the perceptions of local homeowner associations, municipal ordinances regulating residential lawns and vegetation, and insights into resident communication and knowledge-sharing practices. The focus groups lasted from 60 to 120 min.

The expert and resident focus groups and interviews were digitally recorded, transcribed, and analyzed in QSR's NVivo 10. We used a deductive coding scheme, derived from our interview questions, with inductive coding to identify emergent new themes related to our research questions see [67,74]. After identifying emergent themes, we ran stemmed text queries to identify pertinent references. We then analyzed all references to the emergent themes from both the expert and resident interviews. We triangulated the neighborhood residents' focus group and interview data with artifact data [71] of the participants' yards via Google Street View [68].

3. Results and Discussion

There was substantial convergence in the participants' characterizations of yards and vegetation, with field observations across interviews with regional experts and the target neighborhood residents. We identified the emergent themes of *wildness* and *wild* as meaningful terms used by the nonscientist residents to describe the structure of residential yard vegetation and the resulting implications of ecological functioning in terms of wildlife, and specifically insect pollinator, habitats. These terms were also used by urban farmers, who described improvements in pollination and fruit sets linked to wild-looking neighboring areas. The concepts of "wildness" and "wild" are subjective, dynamic, and context-dependent, and their use as either a positive or negative attribute yields insights into the acceptance of, and demand for, new urban vegetation management practices [37,43,75]. These terms also enabled participants to articulate tensions around conforming to the perfect lawn ideal or choosing to structure a lawn as habitat.

Participants used wildness to characterize a variety of vegetation management styles in residential spaces that depart from the manicured norms. These wild yards spanned from unmanaged weedy spaces to intentional native plantings of varied heights for flower and vegetable plantings. Preferences for the aesthetic of natural characteristics were voiced along a continuum, and the perceptions of residents aligned around three conceptions of urban wildness: unwelcome wildness; ambivalently wild and native; and embracing wildness (Figure 1). Overall, the participants discussed the sociocultural drivers influencing neighborhood vegetation and the associated challenges and opportunities about navigating neighborhood norms. However, how participants defined the challenges and accompanying opportunities varied substantially because of their different perspectives, shaped by the sociocultural factors of aesthetics, norms, values, culture, and shared identities.

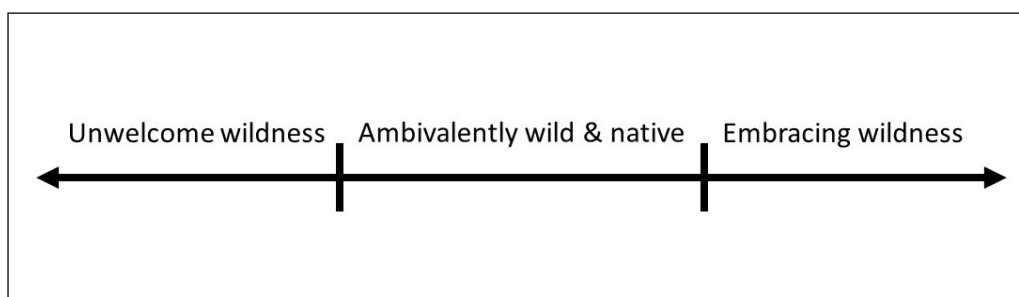


Figure 1. Continuum of aesthetic preferences for naturalness of urban residential yards.

Where the participants fell along the continuum of the conceptions of urban wildness corresponded to their demand for wildness in urban vegetation. First, participants who viewed wildness as unwelcome in residential spaces had a low demand for wild attributes, preferring a highly manicured landscape. Second, those who spoke of the growing demand for wildness and for introducing less-intensive lawn practices and native plantings into

their yards expressed some hesitation and self-regulation when responding to neighborhood norms and pressures to conform. Finally, residents with a strong demand for wildness actively managed their yards for an urban wildness aesthetic, “walked the talk” with their neighbors, and described withstanding a range of social control measures meant to bring their yards back into compliance with perfect yard norms.

3.1. Unwelcome Wildness

Some residents perceived wildness and wild spaces in their neighborhood negatively. These participants articulated wildness and wild yards as the antithesis of the perfect lawn ideal, violating preferences tied to personal and neighborhood aesthetics, norms, and identities. One resident summarized the highly manicured versus wild yard dichotomy by saying, “I like the well maintained. I don’t like the wild, scraggly look” (UR 2017). Yards containing wild attributes, such as less frequently mown grass, and less intensively managed shrubs, flower beds, and weeds, were mentioned consistently. One interviewee, questioning a neighbor’s yard-management intentions, said, “It’s just kind of wild to me. Honestly, even though it’s interesting, I don’t like it because it’s very haphazard. It just looks overgrown and [like] somebody is trying to pass it off as a gardener” (UR 2017).

In addition to personal preferences, fear and risk were reported as reasons for avoiding wild or natural-looking yards. Broader sociocultural drivers were cited as promoting a fear of wildness, while also limiting public interactions with nature and the opportunities for residents to support wildlife. A regional expert reflected, “Maybe the public mindset about aesthetics and fear of things living in it; ‘cause [sic] people like things trimmed, orderly, and without risk of wildlife breeding inside of it [laughter]” (EX 2015). A neighborhood community gardener described how risk-based perspectives can apply when selling a home because of the aesthetic preferences of home buyers. They described an example of a nearby front yard that deterred potential buyers when the home was placed for sale (Figure 2): “[Their] entire front yard was xeriscape and a butterfly garden. It was amazing. Then they tried to sell the house. Everybody who came in [said] ‘The house is good, but I don’t like, don’t want this front yard.’” Despite support from both the participant and surrounding neighbors, the persistent negative feedback from prospective purchasers ultimately resulted in homeowner capitulation. “So they ripped out the whole thing and put in grass. I was really sad about it” (EX 2015).



Figure 2. The yard on the far right is an example of what could be considered unwelcome wildness in a neighborhood. Photo: Google Street View, October 2009.

Another factor driving the negative perceptions of wildness in yards was caretaking practices. Alternately known as “cues to care”, these practices are the physical indicators of the neighborhood aesthetics, norms, and values, signaled by neat orderly properties with mown turfgrass, trimmed bushes, and well-maintained flower beds. Some participants linked proper lawn maintenance (mowing, trimming, weeding, spraying) with indicating care to neighbors: “Sometimes the yard might have too much [landscaping], but I think as long as they take care of it, keep it trimmed, and not let it go wild, that’s what’s important to me” (UR 2017). Another resident stated that local perceptions of yard vegetation directly impact his front-yard planting practices: “I don’t want stuff in my front yard that’s a lot of maintenance, because if I don’t get to it, and it gets overgrown or dies, then you look like you’re not taking care, you don’t care.” He explained, “I don’t want people on the street saying that [I don’t take care of it], so I stay away from growing flowers in the front yard” (UR 2017).

Backyards were also scrutinized, despite typically being considered private spaces where individual choices are exercised away from neighborhood aesthetics, norms, and values. Interviewees recounted how backyard vegetation is not immune to public-facing landscape standards, implying that backyard spaces reflect neighborhood identities too. One participant spoke of unwelcome wildness from her neighbor’s perspective: “My neighbor hates my backyard. It’s wild and crazy, and she’s like, ‘where is your grass and your sidewalk?’ [Laughter] And she just cannot get past that” (UR 2017).

Some participants noticed the impacts of manicured lawns on beneficial insects. One community gardener described this effect in terms of urban pollinators: “I’ve noticed [in] urban, rough areas, things just overgrown, and I see more butterflies, more bees . . . I myself am meticulous about my lawn—I see a lot less butterflies, a lot less diversity” (EX 2015). A farm manager with multiple sites across the city observed, “The South Farm has very little wildness of any sort close by, and we have found that pollination is bad” (EX 2015).

Overall, we found that incorporating wild vegetation for improved pollinator habitats was hindered by neighborhood social norms around unwelcome wildness. Residents who fell into this section on the wildness-acceptance continuum strongly supported the existing perfect lawn paradigm. They considered vegetation and landscapes that differed from the idealized perfect lawn as signaling a lack of care and a rejection of group membership. Furthermore, despite acknowledging the effects on habitat value to insect pollinators, these participants both experienced and exerted social control, through direct and indirect confrontation, with the intent to return nonconforming yards to compliance with neighborhood norms.

3.2. Ambivalently Wild and Native

Departing from the perfect lawn ideal, informants who took incremental steps towards a wilder yard—by including native plants, changing mowing regimens, or supporting others who took similar actions—expressed ambivalence as they negotiated between neighborhood expectations and personal preferences. For example, when asked to describe distinctive yards (positive or negative) in their neighborhoods, a resident professed conflicting preferences for both the prevailing aesthetics and more natural-looking plant attributes by saying, “You know, there’s several [stand-out yards]. They all look nice because they are well-kept, trimmed, and everything, but some tend more towards wild things, which I like” (UR 2017). During a focus group, the residents discussed a local yard that differed from their preferred yard standards, but that was not unwelcome: “I mean, [the yard is] a little bit messier than I typically like, but I like the wildness of it.” Another pointed out, “It’s a very good elimination of grass [laughter]” (UR 2017). Another focus group member added:

Our [yard] is probably one that’s, I don’t want to say it’s wild, because it’s managed. When I walk around, some [yards] are wild too. I don’t know if they are meant to be wild, have a managed look like us, or if they are just more wild. [However] there’s a lot of people who just cut their grass. (UR 2017)

This quote is especially salient because it differentiates between purposely managed “wild” and unintentionally “just more wild,” and it illustrates the perceived levels of effort put into different styles of lawn maintenance.

One property in particular was mentioned by multiple participants because of the homeowner’s alternative vegetation choices (Figure 3). The comments ranged from uncertainty to endorsement: “I was like ‘what is it?’ We got up close to it one time when we were out walking. We were a little afraid, actually. Like ‘what are they growing?’ It was clearly some kind of cucumber thing” (UR 2017). This focus group discussed the property in terms of curiosity and mild trepidation. However, a different focus group described the same property as a standout, but positively: “I’m gonna derail things, the yard we didn’t mention. Corner yard, [everyone murmurs in agreement], high fence, dead pine tree used as a trellis, and the entire thing is covered with bitter cucumbers.” A second participant added, “His yard is a farm,” to which a third confirmed, “It absolutely is” (UR 2017). When viewed and labeled as a farm, the yard was viewed less negatively. There are different aesthetic rules for productive lands, such as farmlands, and residents spoke about this yard in terms of production even though it was managed well outside of community preferences.

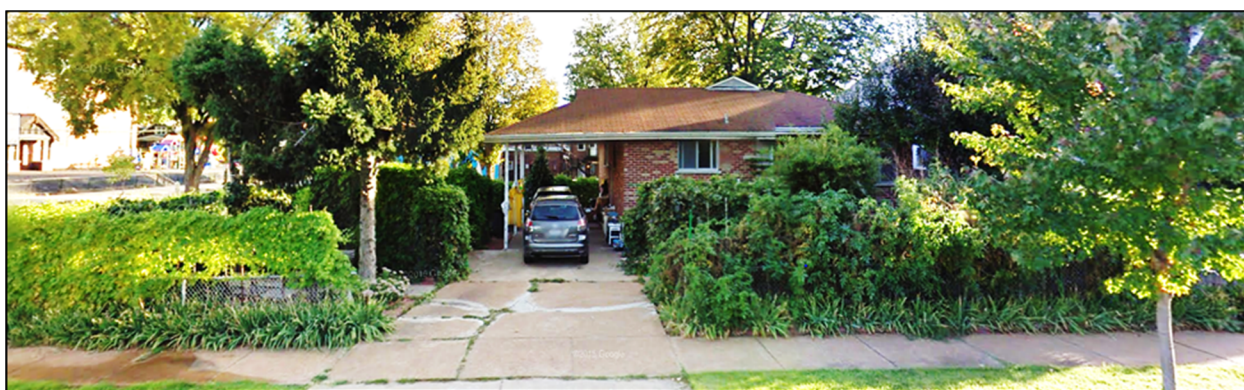


Figure 3. The neighborhood yard growing bitter cucumbers. Photo: Google Street View, September 2014.

Internal conflict about yard maintenance choices also extended to the participants’ feelings about making aesthetic choices for their own properties. One resident stated, “I don’t have a green thumb, but I love vegetation, plants, and stuff. I like prairie type [vegetation], and that doesn’t go well in the city” (UR 2017). Another participant acknowledged tensions between the need to control vigorous native plantings and the strong desire to support urban pollinator populations: “If [the milkweed] gets too wild, I feel like I have to keep it under control. Then I’m so guilt-ridden for hacking it up ‘cause I’ve got 8000 creatures on it. So it’s a constant battle in your head” (UR 2017). Participants acknowledged a range of tensions between personal intentions and aesthetics, norms, and culture that they strive to balance. At one focus group, a participant expressed, “It’s balance of, you want it sustainable, to be in nature, wanting to have as much wildlife as you can. But at the same time, I’m from the scrubby Dutch German background, and I like order too” (UR 2017).

Some participants distinguished between the more public and more private portions of their yards, with one neighbor saying, “Yeah, the front yard we don’t really use that much. The backyard we want it to just be more wild than the front, because the front everybody sees” (UR 2017). The residents articulated ambivalent feelings about the unspoken pressure to maintain the backyard native landscaping and to not let it go wild: “It’s like ‘will they ever cut that stuff back?’ That’s what I feel [my neighbors think]. I also like it to look pretty too. If it goes too far, you can’t sit in the backyard because . . . ” A second participant inserted, “[laughter] If it’s wild you think, ‘geez, I need to weed that’” (UR 2017). Another resident reflected on the mixed results she had when transitioning to a less managed pollinator-friendly backyard: “What was I thinking? So reckless. We were going for a long,

wild [look]. I went back there and the bees were all over that mint. It also was a jungle.” She went on to explain her ambivalence: “That’s part of the challenge. You want to have all these things for the [pollinators], but then it also becomes a visual issue because it gets too wild. You feel like you are the bane of your neighbors [laughter]” (UR 2017). Many are uncertain whether their neighbors respect their decisions: “If it’s in my backyard and doesn’t get cared for or look pristine, I hope people will respect that, and I can live with that” (UR 2017).

Although some may assume that native plants are low-maintenance, several participants who viewed wildness as aesthetically pleasing noted how creating and maintaining wild yards requires extensive knowledge, commitment, and effort. One commented, “I like how wild [the yard] looks. I don’t know if I want that to be mine, but I like to look at it the best. It looks like I’d have to do a whole lot [of work]” (UR 2017). A resident who had recently converted a small portion of his backyard to native plants expressed both an appreciation for a neighboring all-native front yard, and uncertainty about the labor needed to maintain it: “Natives can easily turn into—it takes effort. Sometimes you walk by [the native front yard] and it’s pretty impressive. Sometimes, I look and [think], ‘how much time are they in there trimming all that stuff?’” (UR 2017). Another resident challenged the premise that native plants are sustainable, self-sustaining, and low-maintenance: “Oh, I weed a lot [laughter]. The [yard has] lots of natives. I am not sure what [experts] mean by sustainable. It’s sustainable, it’s not going anywhere, but it’s high-labor, labor-intensive for sure” (UR 2017). The extent of the work involved in maintaining native plantings was highlighted as an additional obstacle to planting pollinator-friendly yards: “The biggest barrier I see is that [native plants are] a whole lot of work. People like the idea, but people don’t want to do the work” (EX 2015).

Beyond yards, the participants actively managing more public spaces located within the neighborhoods also expressed ambivalence. A community gardener reasoned aloud:

Maybe the wildness, of letting the wild things grow a little bit in an area or a garden. Granted, you can make space for your vegetables and trim back things that don’t need to be there, but maybe [wildness] is something that is actually good. While it may look a little wild, it may be important for this ecosystem to really function properly. (EX 2015)

This quote illustrates the increased demand for wildness in daily life and everyday spaces through a growing realization that wildness and wild vegetation, such as spontaneous vines and the weeds nearby, may be important both to the productivity of her plot and the larger urban ecosystem. Another gardener described creating a pollinator-friendly space in an otherwise highly manicured and predominantly turfgrass local park: “It’s a formal park with our native plant garden. So that makes it kind of a wild, but kind of a formal, and then we’re going to put up a sign that identifies all the plants” (EX 2015). In addition to widely promoting the native garden prior to installation, signage was used here as an outreach strategy for park visitors. The sign signaled caretaking via intentionally managed native vegetation for conservation purposes, effectively normalizing wildness in an everyday landscape and demonstrating its function as an ecologically productive space.

3.3. Embracing Wildness

Several participants embraced alternative lawn practices in residential spaces, either as supporters or architects of unconventional planting. They articulated a strong demand for wildness and different notions of what constitutes a perfect lawn, expressed positive perceptions about more wildlife-friendly yards, and detailed the actions they take to include and support wildness. These residents also described offering enthusiastic support for other residents who make stepwise changes in neighborhood yards. The participants who embraced wildness used the terms “wild”, “native”, and “nature” as positive ways to describe a range of front yard practices: “As far as my [lawn management] practices, very unstructured, I’m increasingly into wild and native” (UR 2017). Another told us about a nearby standout yard, “Well, there’s one [yard] on that side of the road, they have a lot

of tall phlox, just overgrown, looks fabulous, I love it!" (UR 2017). Another informant described, "It's a battle because [natives] want to run wild, this is their area, and they thrive. But [natives] can also look good and satisfy the needs of the neighborhood if approached correctly. It can be done and look nice" (UR 2017). Incorporating natives and meeting the neighborhood's aesthetic framework are not mutually exclusive, as described by one focus group participant about a neighbor's yard: "One of my neighbors actually segregated everything, and it just looks like a really well-maintained wild garden. It is quite cute. She has a tiny little front yard, so it is very manageable for her" (UR 2017).

Still, most of the wild yard advocates adhered to the normative differences between front yard and backyard planting. Front yards are still contested spaces when private choices vary from neighborhood standards. A resident explained:

You got two camps here [that] cannot live in the same space without compromise from both sides. I can let [my yard] run riot, but people are not going to like that, and I'm respectful of that. You paid good money for this house, you want your yard to look like this, and spend a lot of time and energy to make it look that way. Okay, ditto for me. So, I'm going to keep mine as wild as I can without offending you, but still neat in places where it matters. (UR 2017)

She went on to detail the challenges of having a wild yard full of natives with no turfgrass situated between two intensively managed turfgrass yards. The neighbors filed more than 20 complaints with city authorities when the front yard was transitioned from turfgrass lawn to predominantly native plants. She attested that navigating the differences and negotiating common interests with neighbors and city officials was possible, despite the difficulties and extra effort required to achieve cooperation.

Despite local pressure to conform, participants embraced wildness in backyards: "It's [laughter] hippie, a little crazy. It's not real organized. I like to have pretty things, but I don't want to spend a lot of time. I do Missouri natives because they [don't] need as much maintenance [or] watering" (UR 2017). Another focus group member expressed satisfaction with the backyard wildness aesthetic: "I like the backyard to be trimmed and to look nice, but by July with the coneflowers and just everything, [it's] kind of wild right now and looks fine" (UR 2017).

Several participants described modeling environmentally beneficial behaviors by incrementally incorporating native vegetation and changing management practices, such as mowing, to support wildlife. One resident linked her front yard grass height to her role in the functioning of larger ecosystems: "A buzz word, but sustainability. I am more concerned about 'is there food for insects? Is there food for birds? Is there food for us?' I don't care if my grass is a half inch taller than everybody else's" (UR 2017). Another interviewee also discussed the implications of providing native habitats at broader scales: "I remember reading something about wildlife corridors, and this [yard] is certainly one . . . So, in an urban atmosphere, you provide that for [wildlife] because they really don't have anywhere else to go. It's urban or nothing, you know?" (UR 2017). Participants described applauding the efforts of others and affirming environmentally beneficial practices. For example, one participant observed a neighbor's simple management change and its effect on bees: "Well, [he] hasn't put down anything on his yard to prevent clover, so they have just big patches of clover, and bees are all over the place. It's wonderful!" (UR 2017).

Urban farmers largely advocated for wild plantings and wildness in both neighborhoods. One urban farmer advised changing the local vegetation matrix to improve the pollinator populations in the area: "Let it go wild wherever you can. That's probably the most important thing" (EX 2015). He observed contrasts in neighborhood vegetation wildness between his two farms, located in different geographic areas of St. Louis, that translated to differences in the pollination quality and farm output: "The north [urban farm], we don't worry about . . . there's so many places that things can create habitat up there. It's literally gone wild right adjacent to the farm" (EX 2015). He contrasted the north farm with the south farm neighborhood, which had limited wildness and correspondingly poor pollination. He also noted that the farmworkers working the two farms,

recent immigrants to the U.S. from Southeast Asia, found wildness familiar and often incorporated it into their plots: “[Farmers who] come from other countries are accustomed to the wildness. In fact, a lot of them will intentionally leave certain parts of their plots wild” (EX 2015). Another urban farmer expressed frustration with the city municipal codes regulating vegetation height and attributed the slow adoption rate of wild and native plantings into residential landscapes to weed ordinances: “We could definitely have less stringent municipal codes about nuisance vegetation, anything taller than seven inches that’s not a bush or a tree. It would be wonderful if we had front yard prairies instead of just front yard turfgrass” (EX 2015).

All of the interviewed experts also advocated for wildness in urban spaces. One expert highlighted the importance of native landscape projects in urban green spaces, such as cemeteries, public parks, and greenways: “[Native landscape projects] tie into our ever-changing notions of aesthetics. [They] give a more wild feel and add something else to the landscape” (EX 2015). The recent urban green space projects had been received positively by a variety of recreationists, sports teams, and historical reenactment groups. She added, “To me that’s an optimistic sign [when residents] respond well” (EX 2015). This example offers insight into how the opportunity to experience wildness in familiar neighborhood spaces might both challenge the residents’ perceptions of natural areas, and align preferences towards more natural settings, fostering an increased demand for wildness.

The residents who embraced wildness acknowledged that sociocultural drivers are a constant force shaping residential vegetation, but they also believed that reaching out to other residents could lead to increasing the neighborhood incorporation of wild vegetation for improved pollinator habitats. Respecting and reflecting the diversity of local preferences and choices in the neighborhood vegetation matrix was suggested as an opportunity to improve access to nature and a propensity towards wildness in residential spaces, and to enhance pollinator habitats and resources. They also described a hope that more exposure to native plantings and lower-maintenance yards will redefine the active cues to care to encompass more sustainable yardscapes.

4. Broader Implications and Conclusions

For urban planning and conservation practitioners, the terms that emerged from this study, “wildness” and “wild”, can be used as a conceptual frame to structure conversations that showcase ecological functioning, nature’s benefits to people, and how the private residential yard can best align with ecological functioning and social values. Two barriers to increasing wildness in urban yards were the desire to keep yards within the boundaries of neighborhood norms and aesthetics, and the interpretation of wildness as a lack of care. We found that most of the participants who perceived wildness as unwelcome were still open to small incremental changes in order to improve habitat and foraging resources, as long as these changes did not put their yards outside the locally acceptable standards. However, these residents desired reciprocity in terms of knowledge (landscaping advice, plant expertise), time (planting), and means (plants or financial incentives). Personal conversations are needed in order to best develop individualized strategies for enhancing yard vegetation to benefit pollinators while building lines of communication and relationships among neighbors.

Another strategy identified for encouraging incremental steps toward wilder residential yards is incorporating signage into existing pollinator-friendly yards. Signage helps neighbors recognize the intentionality of landscape design (i.e., care) and the desired ecological responses and outcomes [76,77]. Behind a sign, wild-looking becomes careful and intentional design, a neighborly nod to both pollinators and people. Gradual shifts in acceptable vegetation with educational signage about wildlife habitats, pollinator foraging, and food production can change community norms, and even outdated municipal ordinances, directing lawn aesthetics.

People create personal visions of nature [4] and translate them into routine yard practices [78]. In cities, vegetation wildness and wild spaces are shaped by human preferences

and management, providing valuable social, cultural, and ecological benefits for both people and biological communities [5]. Global threats to insect pollinator populations can, unexpectedly, be mitigated by vegetation-management choices made by regular citizens in urban landscapes [17]. For the perfect lawn aesthetic to evolve away from intensively manicured turfgrass, the demand for urban wildness will need to be cultivated in individual cities on the basis of a knowledge of place [79], and with an awareness of the geographically specific cues to care. The discourse of wildness in urban green spaces offers a salient point of entry for discussing opportunities for urban residential yards to simultaneously serve both social and ecological functions.

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