**INTRODUCTION**

How can we better understand, recognize, and support the role of local civic groups in environmental governance? Natural resource management often begins with a perspective that focuses on public authorities’ formal jurisdictions and properties, e.g., federal, state, and local agencies, as well as private property owners and the parcels they manage. Through research focused on adaptation and collaboration in governance, environmental governance is recognized to be composed of collaborative arrangements and polycentric networks of actors working across sectors and scales (Dietz et al. 2003, Folke et al. 2005, Sabatier et al. 2005, Koontz and Thomas 2006, Ostrom 2010, Connolly et al. 2013; see also Davies 2011). At the local level, greater attention is needed on the role of formal and informal civic actors in these networks, not only as property owners or land managers, but as stewards who engage in acts of caretaking and claims-making across public and private lands (Barthel et al. 2005, Andersson et al. 2014). Recognition of the role local stewards play in urban environmental governance (Colding et al. 2006) emerged from the concept of adaptive co-management (Olsson et al. 2004, Berkes 2009), advanced as part of the Millennium Ecosystem Assessment. At the same time, research focused on community-based resource management in the United States expanded to focus on urban ecosystem management (Burch and Grove 1993, Westphal 1993), with a focus on the civic sector (Svendsen and Campbell 2008). From these related branches of inquiry, we find a larger universe of study that explores place-based stewardship as a critical component and, perhaps, an emergent driver of environmental governance and practice.

As the study of stewardship has advanced, the nature of stewardship has been described and theorized. Many civic groups have missions that span different domains of environmental protection and community development, where stewardship (or civic ecology) is used to advance local quality of life (Connolly et al. 2014, Krasny and Tidball 2015). As such, stewardship practices can be undertaken by diverse groups, and individuals, with different foci on youth, seniors, social services, housing, arts, and immigration. These stewardships can work independent of government; in collaborative and hybrid arrangements; and/or through contestation, activism, and advocacy. Recent scholarship offers one broad definition of environmental stewardship as conservation, management, monitoring, education, advocacy around, and transformation of the local environment, including land, air, water, waste, and toxics (Svendsen and Campbell 2008, Fisher et al. 2012, Landau et al. 2019). Others theorize stewardship through the domains of knowledge, care, and agency (Andersson et al. 2017) and have proposed social-ecological stewardship frameworks drawing on multiple scales and methodological approaches (Romolini et al. 2016, Muñoz-Erickson et al. 2016, Bennett et al. 2018, Plummer et al. 2020). In light of global environmental change, scientists have extended this concept of stewardship to planetary or Earth stewardship (Chapin et al. 2011, Steffen et al. 2011), whereby all humans are considered parts of global assemblages (Ogden et al. 2013), but here our focus is on local stewardship. Further integration of perspectives from urban environmental stewardship, civic engagement, adaptive co-management, and rural-based ecosystem management could contribute to advancing stewardship theory, by highlighting the role of context in shaping stewardship actors’ relationships and actions.

Many ongoing questions about stewardship require a comparative approach; most research to date has focused on a single or small set of cases. Much remains to be understood about where, why, and how these stewardship groups emerge, persist, and, in some cases, professionalize in governance networks. How do stewardship practices vary across uneven and patchy landscapes, which differ in terms of social, political, and biophysical characteristics? Where do we see greater capacity to engage in stewardship work, and where are there gaps? What explains the strategies and tactics these groups pursue independently and via social networks? How do resources flow through networks leading to the types of collaborative ties that can strengthen community capacity? Thinking beyond civic actors as solely group-level entities, how do individuals steward and interact with civic groups in collectively stewarding places? What does stewardship contribute to place-making and place-keeping? Finally, what kind of impact do these groups have on the transformation of social ecological systems?

**THIS SPECIAL FEATURE**

This special feature focuses on conceptualizing, analyzing, and supporting environmental stewardship across different contexts and scales. While recognizing that these foci are mutually constitutive and overlapping, we adopt these three lenses to advance stewardship thinking in terms of: theoretical concepts, methodological innovations, and novel ways forward to support stewardship practices. As principal investigators of the Stewardship Mapping and Assessment Project (see https://www.nrs.fs.fed.us/STEW-MAP/), we organized this special feature out of a series of 2018 American Association of Geographers conference sessions of the same name, with the intent to identify “fellow travelers” with further examples and concepts of stewardship. In setting forth both the call for panelists and the
subsequent call for papers, we did not expressly foreground the local scale. Yet, we were surprised to find that an abiding focus on place-based stewardship nonetheless emerged. This response affirmed to us that even in light of the Anthropocene and global challenges to our biosphere and human health, from climate change to COVID-19, that the local matters. For, in these local interventions lie the building blocks of care, collaboration, and shared work that are necessary to transform our institutions and practices at broader scales. In this feature, we present a set of cases which address local stewardship in multiple cultures, across rural and urban landscapes, and at multiple scales, from the individual to place-based stewardship networks. We include six research articles and three insight articles, which highlight both original empirical research and theoretical advancements in this field.

CONCEPTUALIZING STEWARDSHIP

This set of articles takes a variety of approaches to conceptualizing stewardship. A number of papers in this special feature refer to existing concepts of stewardship (Fish et al. 2012, Bennett et al. 2018, Enqvist et al. 2018) that focus on stewardship as action. Other papers focus on stewardship as a value or frame. Piso et al. (2019), in their research on urban agriculture, draw on Brodt et al. (2006), which identified individual farmers as environmental stewards, characterized by their prioritization of sustainability and cooperation with nature. Warner (2019), relying on Bennett et al. (2018), frames environmental stewardship as an environmental narrative separate from community concerns. Both Jasny et al. (2019) and Cockburn et al. (2019) focus on stewardship as collaboration, with Jasny et al. analyzing empirical collaboration networks and considering the role of space in collaboration formation. Cockburn et al. (2019) unpack collaboration in the context of weak governance and a heterogeneous landscape, creating a conceptual model of barriers and enablers of collaborative stewardship, identifying structural, relational, and individual aspects. Carretta (2020) draws upon Enqvist et al. (2018)’s concept of stewardship as knowledge-care-agency, in her examination of women stewards, focusing on stewardship as care.

Other papers in this special feature shine their spotlight onto a particular conceptualization of stewardship in relation to broader social and ecological theories. Blanc (2019) conceptualizes stewardship as ordinary environmentalism, which considers the relations between human individuals and groups with nonhumans, how they renew the local environment and spaces, how these relations affect ecological quality, and that these groups are of a public character. McMillen et al. (2020) reflect on how their interactive workshops and community of practice, where local and Indigenous types of ecological knowledge are exchanged, are rooted in biocultural stewardship, which conceptualizes stewardship not only of natural resources but as a system of practices that cares for the larger network of relationships within the social-ecological system. Filip (2020) focuses on the structural aspects of urban environmental stewardship as a social-ecological system (Fisher et al. 2012, Connolly et al. 2013), considering areas of interest (turf), participants (stewards), their activities, modes of operation, and governance roles.

ANALYZING STEWARDSHIP

How individuals perceive and value the environment can affect their behavior related to stewardship. Our special feature’s first article, “Types of urban agricultural stakeholders and their understandings of governance” (Piso et al. 2019) addresses stewardship from the lens of individual farmers in Lansing, Michigan and their perceptions of governance. Piso et al. find stakeholders fall into four categories of motivation: urban agricultural stewards, risk managers, food desert irrigators, and urban agricultural contextualists. Our second article, “Explaining political polarization in environmental governance using narrative analysis” (Warner 2019), examines the role of politics in affecting river governance after flooding from Hurricane Irene, in rural New England, United States. Warner points to stakeholders holding one of two narratives of either environmental stewardship or community protection and perceiving them as separate, not interconnected. Warner notes that the process leading to these separate narratives does not allow for compromise or novel governance schemes for addressing stakeholders’ concerns.

Collaboration among individuals and groups is a critical aspect of stewardship capacity and social innovation. “Working together: the roles of geographic proximity, homophilic organizational characteristics, and neighborhood context in civic stewardship collaboration networks in Philadelphia and New York City” (Jasny et al. 2019) examines how stewardship organizational networks vary in two northeastern U.S. cities, to identify commonalities and differences. Cockburn et al. (2019)’s paper on “Collaborative stewardship in multifunctional landscapes: toward relational, pluralistic approaches” focuses on a case study in the Langkloof region of South Africa and points out that individual and social-relational factors may be the critical pieces that enable collaboration, in addition to other studied factors (political-historical, contextual, institutional). In “Homosocial stewardship: the opposed and unpaid care work of women water stewards in West Virginia, USA,” Caretta (2020) draws attention to the role of women in stewarding water in a coal mining region in West Virginia, USA, pointing to how women organize and work together in a homosocial, e.g., single gendered, manner.

Stewardship can also be examined via a social-ecological systems approach. In “Context matters: influence of organizational, environmental, and social factors on civic environmental stewardship group intensity,” Johnson et al. (2019) analyze stewardship groups across four cities in the U.S. (Baltimore, Chicago, New York City, and Seattle), to understand the role of social-environmental context and organizational landscapes. They find organizational factors have a stronger association with the number of stewardship groups working in an area than social and ecological contextual factors like amount of open space and neighborhood demographics. Nathalie Blanc’s insight paper “From ordinary environmentalism to the public environment: theoretical reflections based on French and European empirical research” offers a critical geographic examination of how individuals engage in “ordinary environmentalism” in their caring for public spaces in Paris and elsewhere in Europe. McMillen et al. (2020) in their paper “Biocultural stewardship, Indigenous and local ecological knowledge, and the urban crucible” point to urban systems as a crucible where concepts of biocultural stewardship can be formed, tested, and shaped, drawing linkages between Hawaiian cultural concepts and the urban environment of New York City.
SUPPORTING STEWARDSHIP
Research efforts increasingly consider the research-practice interface. Two papers in our special feature in particular highlight this exchange between research and practice. McMillen et al. (2020) explore how diverse knowledge systems and colearning engagements can strengthen a community of practice and enrich our stewardship efforts. In “Local institutions of culture as urban stewards: in pursuit of hybrid governance in Warsaw, Poland,” Filip (2020), as an embedded researcher in a cultural institution, examines how local cultural institutions can serve as urban stewards. He highlights the legal requirements and resources needed to enable public institutions to form a coalition and have a seat at the table for public space planning in Warsaw, a context where this sort of collaborative arrangement is emergent and novel.

CONCLUSION
Through the curation of this work, our intention is to amplify ideas around local, civic environmental stewardship, both as a concept itself and as it relates to other aspects of social-ecological systems. The authors in this special feature have given us new insights into the driving factors that influence environmental stewardship by a wide range of actors; the result is a set of cases demonstrating a variety of forms that stewardship can take. Beyond a conceptual framework, this compendium of empirically grounded cases helps us to better situate and understand how place-based stewardship happens. Notably, many authors have shown a way forward by offering suggestions for supporting stewardship research and practice. Warner (2019) points to being reflexive as researchers when studying environmental governance. Others point to the opportunities and outcomes of coproduction and research-practice collaborations (Filip 2020, McMillen et al. 2020). Critical work has already begun to understand the role and form of stewardship in regimes with different arrangements and research-practice collaborations (Filip 2020, McMillen et al. 2020). The result is a set of cases demonstrating a variety of forms that stewardship can take.

Responses to this article can be read online at:
http://www.ecologyandsociety.org/issues/responses.php/11970

Data Availability:
No data or code were used in the writing of this Guest Editorial.

LITERATURE CITED
Andersson, E., S. Barthel, S. Borgström, J. Colding, T. Elmqvist, C. Folke, and A. Gren. 2014. Reconnecting cities to the biosphere: stewardship of green infrastructure and urban ecosystem services. Ambio 43:445-453. https://doi.org/10.1007/s13280-014-0506-y
Andersson, E., J. Enqvist, and M. Tengö. 2017. Stewardship in urban landscapes. Pages 222-238 in C. Bieling and T. Plieninger, editors. The science and practice of landscape stewardship. Cambridge University Press, Cambridge, UK. https://doi.org/10.1017/9781316499016.023
Barthel, S., J. Colding, T. Elmqvist, and C. Folke. 2005. History and local management of a biodiversity-rich, urban cultural landscape. Ecology and Society 10(2):10. https://doi.org/10.5751/ES-01568-100210
Bennett, N. J., T. S. Whitty, E. Finkbeiner, J. Pittman, H. Bassett, S. Gelcich, and E. H. Allison. 2018. Environmental stewardship: a conceptual review and analytical framework. Environmental Management 61:597-614. https://doi.org/10.1007/s00267-017-0993-z
Berkes, F. 2009. Evolution of co-management: role of knowledge generation, bridging organizations and social learning. Journal of Environmental Management 90(5):1692-1702. https://doi.org/10.1016/j.jenvman.2008.12.001
Blanc, N. 2019. From ordinary environmentalism to the public environment: theoretical reflections based on French and European empirical research. Ecology and Society 24(3):33. https://doi.org/10.5751/ES-11166-240333
Brodt, S., K. Klonsky, and L. Tourte. 2006. Farmer goals and management styles: implications for advancing biologically based agriculture. Agricultural Systems 89(1):90-105. https://doi.org/10.1016/j.agsy.2005.08.005
Burch Jr, W. R., and J. M. Grove. 1993. People, trees and participation on the urban frontier. Unasylva 44(173):19-27.
Caretta, M. A. 2020. Homosocial stewardship: the opposed and unpaid care work of women water stewards in West Virginia, USA. Ecology and Society 25(2):29. https://doi.org/10.5751/ES-11555-250229
Chapin III, F. S., S. T. A. Pickett, M. E. Power, R. B. Jackson, D. M. Carter, and C. Duke. 2011. Earth stewardship: a strategy for social-ecological transformation to reverse planetary degradation. Journal of Environmental Studies and Sciences 1:44-53. https://doi.org/10.1007/s13412-011-0010-7
Cockburn, J., G. Cundill, S. Shackleton, M. Rouget, M. Zwinkels, S. Cornelius, L. Metcalfe, and D. van den Broeck. 2019. Collaborative stewardship in multifunctional landscapes: toward relational, pluralistic approaches. Ecology and Society 24(4):32. https://doi.org/10.5751/ES-11085-240432
Colding, J., J. Lundberg, and C. Folke. 2006. Incorporating green-area user groups in urban ecosystem management. Ambio 35 (5):237-244. https://doi.org/10.1579/05-A-098R.1
Connolly, J. J., E. S. Svendsen, D. R. Fisher, and L. K. Campbell. 2013. Organizing urban ecosystem services through environmental stewardship governance in New York City. Landscape and Urban Planning 109(1):76-84. https://doi.org/10.1016/j.landurbplan.2012.07.001
Connolly, J. J. T., E. S. Svendsen, D. R. Fisher, and L. K. Campbell. 2014. Networked governance and the management of ecosystem services: the case of urban environmental stewardship in New York City. Ecosystem Services 10:187-194. https://doi.org/10.1016/j.ecoser.2014.08.005
networks in Philadelphia and New York City.

neighborhood context in civic stewardship collaboration

proximity, homophilic organizational characteristics, and

Redmond. 2019. Working together: the roles of geographic

Jasny, L., M. Johnson, L. K. Campbell, E. Svendsen, and J.

Enqvist, J. P., S. West, V. A. Masterson, L. J. Haider, U. Svedin,

and M. Tengö. 2018. Stewardship as a boundary object for

179:17-37. https://doi.org/10.5751/ES-00683-090402

Filip, A. J. 2020. Local institutions of culture as urban stewards: in pursuit of hybrid governance in Warsaw, Poland. Ecology and Society 25(2):7. https://doi.org/10.5751/ES-11512-250207

Fisher, D. R., L. K. Campbell, and E. S. Svendsen. 2012. The organisational structure of urban environmental stewardship. Environmental Politics 21(1):26-48. https://doi.org/10.1080/0964-4016.2011.643367

Folke, C., T. Hahn, P. Olsson, and J. Norberg. 2005. Adaptive governance of social-ecological systems. Annual Review of Environment and Resources 30:441-473. https://doi.org/10.1146/annurev.energy.30.050504.144511

 Jasny, L., M. Johnson, L. K. Campbell, E. Svendsen, and J. Redmond. 2019. Working together: the roles of geographic proximity, homophilic organizational characteristics, and neighborhood context in civic stewardship collaboration networks in Philadelphia and New York City. Ecology and Society 24(4):8. https://doi.org/10.5751/ES-11140-240408

Johnson, M., D. H. Locke, E. Svendsen, L. Campbell, L. M. Westphal, M. Romolini, and J. Grove. 2019. Context matters: influence of organizational, environmental, and social factors on civic environmental stewardship group intensity. Ecology and Society 24(4):1. https://doi.org/10.5751/ES-10924-240401

 Koontz, T. M., and C. W. Thomas. 2006. What do we know and need to know about the environmental outcomes of collaborative management? Public Administration Review 66:111-121. https://doi.org/10.1111/j.1540-6210.2006.00671.x

Krasny, M. E., and K. G. Tidball. 2015. Civic ecology: adaptation and transformation from the ground up. MIT Press, Cambridge, Massachusetts, USA. https://doi.org/10.7551/mitpress/9780262-028653.001.0001

Landau, L., L. K. Campbell, M. Johnson, E. Svendsen, and H. Berman 2019. STEW-MAP in the New York City region: survey results of the Stewardship Mapping and Assessment Project. General Technical Report NRS-189. U.S. Forest Service, Northern Research Station, Newtown Square, Pennsylvania, USA. https://doi.org/10.2737/NRS-GTR-189

McMillen, H. L., L. K. Campbell, E. S. Svendsen, K. Kealilikanaakoelehaaliini, K. S. Francisco, and C. P. Giardina. 2020. Biocultural stewardship, Indigenous and local ecological knowledge, and the urban crucible. Ecology and Society 25(2):9. https://doi.org/10.5751/ES-11386-250209

Muñoz-Erickson, T. A., L. K. Campbell, D. L. Childers, J. M. Grove, D. M. Iwaniec, S. T. A. Pickett, M. Romolini, and E. S. Svendsen. 2016. Demystifying governance and its role for transitions in urban social-ecological systems. Ecology 7(11): e01564. https://doi.org/10.1002/ecs2.1564

Ogden, L., N. Heynen, U. Oslander, P. West, K. A. Kassam, and P. Robbins. 2013. Global assemblages, resilience, and Earth stewardship in the Anthropocene. Frontiers in Ecology and the Environment 11(7):341-347. https://doi.org/10.1890/120327

Olsson, P., C. Folke, and T. Hahn. 2004. Social-ecological transformation for ecosystem management: the development of adaptive co-management of a wetland landscape in southern Sweden. Ecology and Society 9(4):2. https://doi.org/10.5751/ES-00683-090402

Ostrom, E. 2010. Polycentric systems for coping with collective action and global environmental change. Global Environmental Change 20(4):550-557. https://doi.org/10.1016/j.gloenvcha.2010.07.004

Piso, Z., L. Goralnik, J. C. Libarkin, and M. C. Lopez. 2019. Types of urban agricultural stakeholders and their understandings of governance. Ecology and Society 24(2):18. https://doi.org/10.5751/ES-10650-240218

Plummer, R., J. Baird, S. Farhad, and S. Witkowski. 2020. How do biosphere stewards actively shape trajectories of social-ecological change? Journal of Environmental Management 261:110139. https://doi.org/10.1016/j.jenvman.2020.110139

Romolini, M., J. M. Grove, C. L. Ventris, C. J. Koliba, and D. H. Krymkowski. 2016. Toward an understanding of citywide urban environmental governance: an examination of stewardship networks in Baltimore and Seattle. Environmental Management 58:254-267. https://doi.org/10.1007/s00267-016-0704-4

Sabatier, P. A., W. Focht, M. Lubell, Z. Trachtenberg, A. Vedlitz, and M. Matlock. 2005. Swimming upstream: collaborative approaches to watershed management. MIT Press, Cambridge, Massachusetts, USA. https://doi.org/10.7551/mitpress/6577.001.0001

Steffen, W., Å. Persson, L. Deutsch, J. Zalasiewicz, M. Williams, K. Richardson, C. Crumley, P. Crutzen, C. Folke, L. Gordon, et al. 2011. The Anthropocene: from global change to planetary boundary condition. Ambio 40:739. https://doi.org/10.1007/s13280-011-0185-x

Svendsen, E., and L. K. Campbell. 2008. Urban ecological stewardship: understanding the structure, function and network of community-based urban land management. Cities and the Environment (CATE) 1(1):4.

Warner, B. P. 2019. Explaining political polarization in environmental governance using narrative analysis. Ecology and Society 24(3):4. https://doi.org/10.5751/ES-10999-240304

Westphal, L. M. 1993. Why trees? Urban forestry volunteers’ values and motivations. Pages 19-23 in P. Gobster, editor. Managing urban and high-use recreation settings. General Technical Report NC-163. U.S. Forest Service, North Central Forest Experiment Station, St. Paul, Minnesota, USA.