Floodplain Buyouts: How Local Governments Can Maximize Community Benefits, Habitat Connectivity, and Resilience

by Rebecca Kihslinger and David Salvesen

Rebecca Kihslinger is a Senior Science and Policy Analyst at the Environmental Law Institute and directs ELI's Wetlands Program. David Salvesen, Ph.D., is a Research Associate and Director of the Sustainable Triangle Field Site at the University of North Carolina's Institute for the Environment.

Summary

Since 1993, FEMA's Hazard Mitigation Grant Program has funded the acquisition of over 37,000 flood-damaged properties. On these purchased properties, existing structures must be removed and the land dedicated to open space, recreational, or wetland management uses. Communities can restore and permanently protect these properties to provide natural habitats and help conserve biodiversity, while also providing amenities and improving resilience. Local governments usually oversee these buyouts, and ultimately take on the ownership of the sites with little or no funding for restoration or management, or guidance on maximizing long-term benefits. This Article highlights communities across the country that have established programmatic and management structures for floodplain buyouts to make the most of acquired properties. It offers practical, implementable recommendations on how to optimize use and management of buyout properties to provide habitat and improve community resilience.

The expected impacts of climate change will increasingly put communities at risk from flooding, intense storms, and other hazards and conditions. According to a 2013 Federal Emergency Management Agency (FEMA) study on climate change impacts, the nation's flood-prone area is likely to increase by 40%-45% over the next 90 years.[1] Historically, flood hazard mitigation strategies have primarily focused on building flood control works, such as dams, seawalls, and levees, and designing and applying building construction practices for residential, commercial, and industrial structures. More recently, more emphasis has been placed on nonstructural hazard mitigation solutions, including the restoration of natural habitats, as cost-effective alternatives for flood hazard mitigation that also help achieve conservation goals like maintaining biodiversity.

One such solution is to fully leverage the potential value of properties acquired under federal hazard mitigation grant programs and other grant programs that fund voluntary acquisitions of flood-prone properties. Since 1993, FEMA's Hazard Mitigation Grant Program (HMGP) has funded the acquisition of more than 37,000 properties to prevent future natural disaster-related damages—mostly resulting from flooding.[2] For example, following Superstorm Sandy, many properties in the affected region have been, or will be, acquired under the HMGP and other federal programs (e.g., U.S. Department of Housing and Urban Development (HUD) Community Development Block Grant). Under the FEMA acquisition program, once properties are acquired and existing structures removed,

Authors' Note: This Article is adapted from Floodplain Buyouts: An Action Guide for Local Governments on How to Maximize Community Benefits, Habitat Connectivity, and Resilience *(2017), produced by the University of North Carolina-Chapel Hill's Institute for the Environment (UNC-IE) and the Environmental Law Institute (ELI). ELI staff contributing included Amy Streitwieser, Michael Lerner, Nora Moraga-Lewy, and Kelsey James-Kavanaugh, and UNC-IE staff contributing included John Anagnost, Tait Chandler, Candace Foster, and Shanwen Liu. Funding for the original report was provided by a U.S. Environmental Protection Agency (EPA) Wetland Program Development Grant, the New York Community Trust, and the McKnight Foundation; the contents do not necessarily represent the views of these funders, and no official endorsement of our findings should be inferred.*

1. AECOM, The Impact of Climate Change and Population Growth on the National Flood Insurance Program Through 2100, at ES-6 (2013), *available at* http://www.aecom.com/content/wp-content/uploads/2016/06/Climate_Change_Report_AECOM_2013-06-11.pdf.
2. Based on data in David A. Lieb & Jim Salter, *FEMA Flood Buyouts Top $2 Billion Since 1993*, Times Free Press, July 13, 2011, http://www.timesfreepress.com/news/local/story/2011/jul/13/fema-flood-buyouts-top-2-billion-1993/53820/. FEMA, *FEMA HMGP Closed Property Acquisitions*, https://www.fema.gov/media-library/assets/documents/85455 (last updated Nov. 14, 2017).

the land must be dedicated to open space, recreation, or wetland management uses.[3] Thus, these properties can offer opportunities to restore and permanently protect natural habitats and help conserve biodiversity, while also improving community resilience and providing other community benefits.

Local governments typically oversee these floodplain buyouts, using primary funding from one or more state-administered federal grant programs and matching funds provided by state and local governments for the acquisitions. However, local governments often take ownership of these sites with little or no funding for, or guidance on, post-acquisition restoration, long-term management, and maximization of community benefits. Although some buyout properties have been converted to parks or restored to natural habitats, many of these properties remain unimproved empty lots. In such cases, there is an untapped opportunity for communities to leverage the potential benefits of these properties. These benefits may be especially important for the residents of vulnerable and disadvantaged communities who remain in these locales.

Properties acquired under voluntary hazard mitigation programs can be small and dispersed across the landscape, but the restoration of these lands to natural habitats can increase the quality and functionality of natural habitats and help preserve native biodiversity—in addition to providing various resiliency benefits. Biological connectivity can be restored, human community amenities improved, and multiple benefits achieved, especially where hazard planners work together with habitat managers, soil and water conservation districts, watershed groups, and others to prioritize property acquisitions in areas that line up with existing conservation and other watershed priorities. In this way, buyout properties could provide valuable environmental health, recreation, education, and community engagement benefits to local residents.

The Environmental Law Institute (ELI) and the University of North Carolina-Chapel Hill's Institute for the Environment (UNC-IE) have examined approaches and best practices for leveraging floodplain acquisition programs for community and environmental benefits. In the course of the project, ELI and UNC-IE identified a number of representative communities across four states and in various regions to serve as case studies.[4] We visited buyout properties in person and conducted interviews with local officials (e.g., emergency planners and wetland managers), in addition to working with state hazard mitigation offices to better understand how each state's HMGP is administered and how acquired properties typically are managed. To complement the case study research, ELI and UNC-IE conducted an additional study focused on the target states' local governments that have been involved in a voluntary floodplain buyout program. The study revealed trends and diverse experiences in various topics, including the size of acquisitions; funding; current management; selection criteria; incentives to encourage willing sellers; social costs and benefits; and administration.

This Article highlights these communities across the country that have established programmatic and management structures for floodplain buyouts to make the most of acquired properties. We offer practical, implementable recommendations for communities on how to optimize use and management of buyout properties to provide habitat and improve community resilience. We also note opportunities for organizations or agencies interested in conservation or wetland restoration to be valuable partners for local governments in the floodplain buyout process.

The Article does not provide an exhaustive checklist of steps that should be taken to successfully complete a habitat restoration project on acquired flood-prone properties. Rather, it is a guide for thinking through various available management options that maximize the benefits of floodplain acquisition programs and for considering challenges before they arise. Part I explains how FEMA's HMGP works in relation to voluntary property acquisitions, or floodplain buyouts; this part introduces the concept of leveraging multiple (nonfederal) funding sources for different parts of the acquisition and post-buyout project. Part II introduces various considerations for determining the best-fit post-buyout project, and presents habitat- and community-friendly options based on factors ranging from open-space requirements to the geographical layout of the acquired properties. Part III addresses the practical questions that must be asked when planning, presenting, and executing post-buyout projects, ranging from funding and maintenance responsibility to ensuring community buy-in and successful partnerships. Part IV concludes.

I. Acquiring Property in the Floodplain: Buyout Programs

In 1993, floodwaters from the Mississippi and Missouri Rivers covered 30,000 square miles of the upper Midwest.[5]

3. 42 U.S.C. §5170c(b)(2); 44 C.F.R. §80.19(a).
4. ELI and UNC-IE conducted case studies on the following communities: Austin, Minnesota; East Grand Forks, Minnesota; Montevideo, Minnesota; Moorhead, Minnesota; Pequannock, New Jersey; Sayreville, New Jersey; Wayne, New Jersey; Clyde, North Carolina; Kinston, North Carolina; Rocky Mount, North Carolina; Jefferson County, Wisconsin; Kenosha County, Wisconsin; and Pierce County, Wisconsin. The full case studies are available at ELI, *Floodplain Buyout Case Studies*, https://www.eli.org/sustainable-use-land/floodplain-buyout-case-studies (last visited Nov. 14, 2017).
5. Rebecca Lindsey, *High Water: Building a Global Flood Atlas*, NASA Earth Observatory, Apr. 6, 2005 (adapted from Laura Naranjo, *Flood Hunters*, *in*

By most measures the largest flood in U.S. history since 1927, the Great Flood of 1993 killed dozens of people and caused $15-$20 billion dollars in property damages and recovery costs.[6] The flooding damaged tens of thousands of homes, inundated millions of acres of farmland, and induced entire towns to relocate to higher ground.[7]

In response, the U.S. Congress amended the Robert T. Stafford Disaster Relief and Emergency Assistance Act of 1988 (Stafford Act).[8] The 1993 legislation authorized increased federal funding for long-term hazard mitigation measures, including the acquisition of flood-prone properties, incentivizing communities to undertake hazard mitigation planning and activities in advance of future disasters.[9] Under new provisions in §404, FEMA implemented the innovative and ambitious HMGP.[10]

The HMGP has provided funding assistance for thousands of damaged properties since 1993: more than 10,000 voluntary property acquisitions were closed from 2004-2015 alone.[11] The hazard mitigation benefits of these acquisitions range from reductions in property damage to reductions in societal losses including deaths, injuries, and homelessness.[12] In addition to mitigating numerous risks, many communities have found creative uses for acquired properties that provide additional benefits. For a town like East Grand Forks, Minnesota, where the town budget was $4 million in a year that saw a flood with damages over $400 million, FEMA's HMGP was a critical funding source for the acquisition of 507 properties that were devastated by repetitive flooding.[13] Acquired property now makes up a portion of the Red River State Recreation Area campground, which generates revenue through tourism, and an expanded greenway developed with input from a range of public and private entities.[14]

A. *Hazard Mitigation Assistance Grant Programs*

FEMA administers three separate Hazard Mitigation Assistance (HMA) grant programs: the HMGP, the Pre-Disaster Mitigation (PDM) Program, and the Flood Mitigation Assistance (FMA) Grant Program.[15] All three HMA initiatives are intended to reduce and eliminate, where possible, the long-term flood risk of structures including those insured by the federal National Flood Insurance Program (NFIP).[16] The ultimate goal of the program is to reduce the number of claims paid by the NFIP. The three HMA programs were authorized by separate legislative actions, and each is slightly different in purpose and scope.[17]

The HMGP: This grant program helps states, tribes, and local communities reduce the loss of life and property from natural disasters and enables the implementation of mitigation measures following a presidential disaster declaration.[18] The HMGP funds voluntary actions that protect either public or private property in accordance with priorities set out in state, tribal, or local hazard mitigation plans. Although hazard mitigation is defined broadly as "any sustained action taken to reduce or eliminate the long-term risk to human life and property from hazards," many HMGP activities are related specifically to flood hazards.

In general, HMGP funds make up 15%-20% of the total amount of federal aid provided to a state, territory, or tribe after a major disaster.[19] Under federal cost-sharing rules, when mitigation measures are approved for HMGP funding, FEMA may contribute up to 75% of the cost of the project.[20] The remaining nonfederal share is the responsibility of the property owner, the state and/or local government, or other funding sources, and may be valued in cash, in-kind services, or materials.[21]

HMGP grants support a variety of mitigation measures, including floodproofing, elevation, reconstruction, retrofitting projects, and voluntary acquisitions, or "buyouts."[22] Acquisition projects involve the purchase of flood-prone properties from willing sellers and the subsequent demolition or relocation of related structures. As a result, peo-

Supporting Earth Observing Science (NOAA 2004)), http://earthobservatory.nasa.gov/Features/HighWater/.

6. Interagency Floodplain Management Review Committee, Sharing the Challenge: Floodplain Management Into the 21st Century (1994), *available at* https://fas.org/irp/agency/dhs/fema/sharing.pdf.
7. Lee W. Larson, The Great USA Flood of 1993, Presentation at IAHS Conference Destructive Water: Water-Caused Natural Disasters—Their Abatement and Control (June 24-28, 1996), http://www.nwrfc.noaa.gov/floods/papers/oh_2/great.htm.
8. Hazard Mitigation and Relocation Assistance Act of 1993, Pub. L. No. 103-181, §404, 107 Stat. 2054 (codified at 42 U.S.C. §5170c).
9. Interagency Floodplain Management Review Committee, *supra* note 6.
10. 44 C.F.R. §201.1.
11. FEMA, *OpenFEMA Dataset: Hazard Mitigation Grant Program Property Acquisitions—V1*, https://www.fema.gov/openfema-dataset-hazard-mitigation-grant-program-property-acquisitions-v1 (last updated Apr. 23, 2015).
12. Adam Rose et al., *Benefit-Cost Analysis of FEMA Hazard Mitigation Grants*, 8 Nat. Hazards Rev. 98 (2007), *available at* http://earthmind.org/files/risk/Nat-Haz-Review-2007-CBA-of-FEMA-Grants.pdf.
13. ELI & UNC-IE, East Grand Forks, Minnesota 3, 6 (2016), *available at* https://www.eli.org/sites/default/files/eli-pubs/eastgrandforksmn.pdf.
14. *Id.*
15. FEMA, *Hazard Mitigation Assistance*, http://www.fema.gov/hazard-mitigation-assistance (last updated Mar. 29, 2017).
16. FEMA, *Mitigation: Fact Sheets*, https://www.fema.gov/mitigation-fact-sheets (last updated Aug. 1, 2017).
17. FEMA, Hazard Mitigation Assistance Guidance: Hazard Mitigation Grant Program, Pre-Disaster Mitigation Program, and Flood Mitigation Assistance Program 26 (2015) [hereinafter Hazard Mitigation Assistance Guidance], *available at* http://www.fema.gov/media-library-data/1424983165449-38f5dfc69c0bd4ea8a161e8bb7b79553/HMA_Guidance_022715_508.pdf.
18. FEMA, Homeowner's Guide to the Hazard Mitigation Grant Program (2017) [hereinafter Homeowner's Guide], *available at* https://www.fema.gov/media-library-data/1478272128411-2eca27a89d418b-b73e817edfb702cc15/HMA_HO_Brochure_508.pdf. *See also* 44 C.F.R. §201.1.
19. *See* 42 U.S.C. §5170c and 44 C.F.R. §206.432(b). *See also* FEMA, *supra* note 15. Once the total amount exceeds $2 billion dollars, the fixed percentage decreases to 10%; if the total exceeds $10 billion, the percentage decreases to 7.5%. A state with an approved enhanced state mitigation plan in effect before the disaster declaration is eligible for HMGP assistance up to 20%. 44 C.F.R. §206.432(b).
20. 44 C.F.R. §206.432(c).
21. FEMA, Hazard Mitigation Grant Program (2015), *available at* https://www.fema.gov/media-library-data/1437513326617-c124385de1b-6061509f775a164c9aabd/FEMA_HMA_HMGP_tri_2015_508.pdf.
22. *See*, *e.g.*, Christine Klein & Sandi Zellmer, *Mississippi River Stories: Lessons From a Century of Unnatural Disasters*, 60 SMU L. Rev. 1471, 1496 (2007) (noting that following the program's authorization in 1993, "[b]uy-outs became the most popular option, taking nearly ninety percent of the available funds").

ple are moved out of the floodplain and the risk of future structural damage in the flood-prone area is reduced.[23] In the aftermath of the 1993 floods, the program facilitated the acquisition of thousands of vulnerable properties.[24] In the decades since, the HMGP has continued to prioritize property acquisitions, which have accounted for 38% of total HMA grants through 2013.[25] Between April 2000 and January 2016, more than $649 million of HMGP funds were used to acquire 10,248 properties in 42 states and territories, with a median payout of $50,293.[26]

The HMGP application process is fairly lengthy (often 18 months or longer) and several steps are required before HMGP funds are released for the acquisition of a specific flood-prone property (see Figure 1). First, the president must declare a "major disaster" within the jurisdiction of a state, territory, or tribal government, activating federal funds held in reserve for disaster assistance.[27] Once a disaster has been declared, individual disaster victims—for example, homeowners within the affected area—can begin working with a point of contact in their local government (e.g., the local emergency management department), referred to in the law and regulations as the "subapplicant" entity, to decide whether to apply for HMGP assistance. (A state agency or certain private nonprofit organization also may be the subapplicant under the HMGP; however, typically and for purposes of this Article, local governments are the subapplicants that interact directly with individual victims.[28])

Governments may advertise buyout opportunities in the community, through town hall meetings, local media, and/or the Internet, or it may be that homeowners approach the government to initiate the process. Regardless, participation in the buyout program is strictly voluntary, and individual property owners must actively support the application.[29]

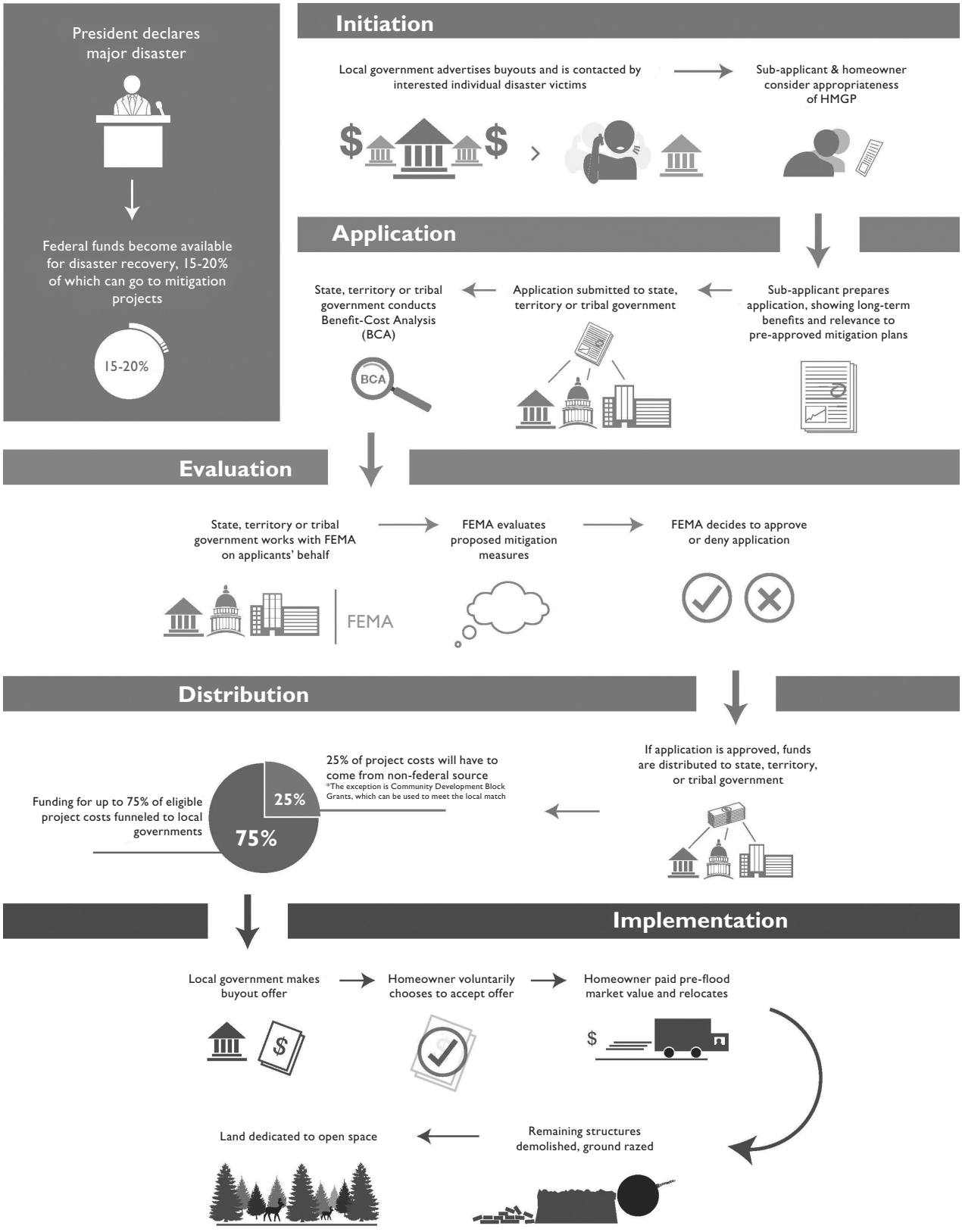
The local government then develops an HMGP application for the property and submits it to the state, territory, or tribal government, which administers the program and will work directly with FEMA on local governments' and individuals' behalf. Since total mitigation funds are limited, the state agency must evaluate how a proposed acquisition project aligns with priorities described in their pre-approved hazard mitigation plan and decide whether to forward each application to FEMA.[30] In almost all cases, FEMA is responsible for final review and approval of buyout applications.[31]

To be approved, an acquisition project must provide a long-term solution to a problem and result in greater future savings than costs.[32] State (or territory) applicants are required to conduct a formal benefit-cost analysis as part of the HMGP application in order to demonstrate eligibility and cost-effectiveness.[33] Once approved by FEMA, an HMGP grant is awarded to the state, territory, or tribal agency, which channels funds back through the local government to pay up to 75% of the project's eligible costs.[34] Eligible costs include compensation for the value of structures, for their relocation or demolition, for associated land, and associated costs.[35] A review of HMGP grants awarded between 1993 and 2003 found that the average benefit-cost ratio for FEMA floodplain acquisition grants was about 5.1 to 1.[36]

After a property is acquired and the previous owners have relocated, all remaining buildings, structures, and pavements or impervious surfaces on the property are demolished or moved and the land is graded. A set of deed restrictions must be attached to the property title, which is held by a public entity, such as a local government, or by a conservation organization, to ensure no further development occurs and the property is maintained in perpetuity for uses compatible with open space, recreation, or wetlands management practices.[37] In general, permissible "open-space" uses include nature preserves, outdoor recreation,

23. *Id.*
24. *E.g.*, Norbert Schwartz, *FEMA and Mitigation: Ten Years After the 1993 Midwest Flood*, 130 J. Contemp. Water Res. & Educ. 36-40 (2005), *available at* http://opensiuc.lib.siu.edu/cgi/viewcontent.cgi?article=1069&context=jcwre.
25. Consideration of Environmental Benefits in the Evaluation of Acquisition Projects Under the Hazard Mitigation Assistance (HMA) Programs, FEMA Mitigation Policy—FP-108-024-01 (June 18, 2013) [hereinafter FEMA Mitigation Policy], http://www.fema.gov/media-library-data/20130726-1920-25045-4319/environmental_benefits_policy_june_18_2013_mitigation_policy_fp_108_024_01.pdf.
26. Raw data from FEMA, *supra* note 2.
27. 44 C.F.R. §§206.200-.228.
28. Hazard Mitigation Assistance Guidance, *supra* note 17, at 26.
29. Homeowner's Guide, *supra* note 18.
30. The selection criteria that states are required to use in selecting HMGP mitigation measures are listed at 44 C.F.R. §206.435.
31. The Sandy Recovery Improvement Act of 2013 (SRIA) added §429 to the Stafford Act, directing the development of an expedited and unified interagency environmental and historic preservation (EHP) review process, also known as unified federal review, to ensure that federal agencies coordinate EHP compliance for projects. SRIA amends the Stafford Act, which authorizes HMGP, and provides FEMA with the authority to implement the provisions of Program Administration by States (PAS) as a pilot program. As a result, states or federally recognized tribes wishing to participate in the PAS pilot may be delegated certain implementation responsibilities traditionally fulfilled by FEMA. *See* Hazard Mitigation Assistance Guidance, *supra* note 17, at 99.
32. *See* 44 C.F.R. §206.434(c)(5). For a full list of HMGP eligibility criteria, see *id.* §206.434(c).
33. FEMA, *Benefit-Cost Analysis*, https://www.fema.gov/benefit-cost-analysis (last updated Nov. 9, 2017).
34. Homeowner's Guide, *supra* note 18.
35. 44 C.F.R. §80.9. *Note regarding homeowner compensation for acquired property*: If the property was flooded in the *past year*, the community can offer pre-flood fair market value (FMV), which is not always given. If the property has not incurred a *recent* flood then compensation is usually just FMV, even if the property has had to be repaired or has suffered from flooding in the past.
36. Adam Rose et al., Manuscript No. 22398 NHR, Benefit-Cost Analysis of FEMA Hazard Mitigation Grants 13 (2006) (finding that based on a sample of 22 multi-property grants for buying out repeatedly flooded properties, all individual flood grants had benefit-cost ratios greater than 1.0, with an average benefit-cost ratio of 5.1, a minimum of 3.0, a maximum of 7.6, and a standard deviation of 1.1), http://agecon2.tamu.edu/people/faculty/shaw-douglass/fema.pdf. Note that if the acquisition cost including site restoration is $276,000 or less per property (or average of all properties in the project), the project is cost-effective and does not have to undergo the traditional benefit-cost analysis. *See* Memorandum From David L. Miller, Associate Administrator, Federal Insurance and Mitigation Directorate, to Regional Administrators, Regions I-X, FEMA (2013) (Cost Effectiveness Determinations for Acquisitions and Elevations in Special Flood Hazard Areas Using Pre-Calculated Benefits), https://www.fema.gov/media-library/assets/documents/85014.
37. *See* 44 C.F.R. §206.434(e).

Figure 1



cultivation, grazing, buffer zones, and camping (where there is adequate warning time to allow evacuation).[38] To ensure the natural values[39] of floodplains and/or wetlands are maintained, only unpaved parking lots can be used, and any structures other than a public restroom must be open on all sides and related to the open-space use.[40]

After HMGP funds have been approved to acquire a property, that property becomes ineligible for most additional and/or future federal benefits for flood assistance, including insurance under the NFIP. If the property is not maintained in compliance with the deed restrictions, the federal government may terminate the project agreement and demand immediate repayment of HMGP funds used for the project.[41]

In addition to avoided future costs, property acquisition for flood risk mitigation can also provide positive benefits for the community, including habitat and biodiversity, food production, water supply, recreation opportunities, nutrient regulation, soil and sediment regulation, disturbance and natural hazard regulation, and aesthetic cultural values. As FEMA recognized in its revised benefit-cost analysis methodology, the creation of open green space and wetlands represents considerable, lasting value.[42] Figure 1 indicates the key steps in the HMGP property acquisition process described in detail above.

B. Other Relevant Funding Programs

The PDM Program: In addition to the HMGP, FEMA administers two additional HMA programs: the PDM and the FMA. Like the HMGP, applications to the PDM and the FMA are made by states, tribes, or territories on behalf of the subapplicant, a local or state agency[43]; grants may cover up to 75% of eligible project costs with a 25% nonfederal match[44]; and a state or community must have a FEMA-approved flood risk mitigation plan in place to be eligible to receive grants.[45] Both PDM and FMA grants may be used for property acquisition and structure demolition/relocation projects.[46]

Section 203 of the Stafford Act authorizes grants under the PDM program, which may be used for mitigation projects and mitigation planning activities.[47] Like the HMGP, PDM grants assist states, territories, tribes, and local communities with implementing cost-effective predisaster hazard mitigation projects. Unlike the HMGP, availability of PDM grants is not triggered by a specific disaster event; the total amount of PDM funds is determined each year by Congress through appropriations to the National Pre-Disaster Mitigation Fund ($90 million in fiscal year (FY) 2016).[48]

PDM grantees can use funds to reduce disaster losses through property acquisition and other activities before disasters strike as well as to raise risk awareness.[49] Also, when PDM subapplicants apply for funds for an eligible mitigation activity, they may specifically request funds (up to 10% of total subapplication cost) to be used for information dissemination activities, including public awareness and education, that are directly related to the proposed project.[50]

Proposals are reviewed according to a set of criteria including, but not limited to, the extent and degree of the hazards, the degree of commitment of the state or local government to reduce damages from future natural disasters, and the degree of commitment by the state or local government to ongoing nonfederal support for the hazard mitigation measures to be carried out.[51] Eligible projects may include structure elevation, floodproofing, minor flood reduction projects, retrofitting projects, and property acquisition, among other projects.[52] The same FEMA regulations for property acquisition and relocation for open space (40 C.F.R. Part 80) govern all property acquisition projects carried out under all FEMA HMA programs; as such, requirements (e.g., open-space restrictions, allowable costs) for PDM grants are the same as those described previously for HMGP projects.

The FMA Program: The FMA program, authorized by §1366 of the National Flood Insurance Act, funds projects that reduce or eliminate the risk of flood damage to buildings insured under the NFIP.[53] The FMA funds two types of activities: planning and projects. Planning grants may be used to assess flood risks and prepare flood mitigation plans. Project grants may be used to implement measures to reduce or prevent flood losses, including acquisition, demolition/relocation, or elevation of NFIP-insured structures. Like PDM funds, FMA funds are not contingent on a disaster declaration; the total amount of FMA funds is

38. *Id.*
39. As defined in federal regulations:
> Natural Values of Floodplains and Wetlands means the qualities of or functions served by floodplains and wetlands which include but are not limited to: (a) Water resource values (natural moderation of floods, water quality maintenance, groundwater recharge); (b) living resource values (fish, wildlife, plant resources and habitats); (c) cultural resource values (open space, natural beauty, scientific study, outdoor education, archeological and historic sites, recreation); and (d) cultivated resource values (agriculture, aquaculture, forestry).

Id. §9.4.
40. *See id.* §206.434(e). *See also* FEMA, FEMA Model Deed Restriction (2012), *available at* http://www.fema.gov/media-library-data/20130726-1848-25045-1210/fema_model_deed_restriction.pdf.
41. Green Acres Program, N.J. Admin. Code §7:36 (2011), http://www.state.nj.us/dep/greenacres/pdf/regs.pdf.
42. FEMA Mitigation Policy, *supra* note 25.
43. Hazard Mitigation Assistance Guidance, *supra* note 17, at 5.
44. *Id.* at 27. The federal share may be up to 90% for PDM projects in small, impoverished communities. *Id.* at 114.
45. 42 U.S.C. §4104c.
46. Hazard Mitigation Assistance Guidance, *supra* note 17, at 33.
47. 42 U.S.C. §5133.
48. *Id. See also* Hazard Mitigation Assistance Guidance, *supra* note 17, at 26. *See also* Fact Sheet, FEMA, Federal Insurance and Mitigation Administration—FY 2016 Pre-Disaster Mitigation (PDM) Grant Program (2016), https://www.fema.gov/media-library-data/1455711373912-17d561d-b31cc299667dc5c60811165d1/FY16_PDM_Fact_Sheet.pdf.
49. Hazard Mitigation Assistance Guidance, *supra* note 17, at 114.
50. 42 U.S.C. §5133. *See also* Hazard Mitigation Assistance Guidance, *supra* note 17, at 114.
51. 42 U.S.C. §5133(g).
52. Hazard Mitigation Assistance Guidance, *supra* note 17, at 33.
53. 42 U.S.C. §4104c.

determined each year by Congress through the appropriations process ($199 million in FY 2016).[54]

Properties eligible for acquisition by states and communities with FMA funds are properties (including public properties) located in areas having special flood hazards or other areas of flood risk and properties substantially damaged by floods. In order to be eligible for an FMA grant, the property must be acquired "for public use, as [FEMA] determines is consistent with sound land management and use in such area."[55] The FMA program specifically gives increased Federal Cost Share to repetitive loss structures.[56]

Other Federal Programs: Grants provided under all three of the HMA programs administered by FEMA are subject to restrictions on receipt of similar benefits under other federally funded programs. In general, the nonfederal cost-share requirement for HMA grants may not be met with funds from other federal agencies. Exceptions are explicitly stated in authorizing statutes; any federal funds that meet these criteria must still meet the purpose and eligibility requirements of both the federal source program and the HMA grant program.

An example of federal funding that may be used to supplement HMA grants is the Community Development Block Grant for Disaster Recovery (CDBG-DR) program. CDBG-DR funds may supplement, but cannot duplicate, funding available from FEMA or other federal agencies,[57] and must be approved by Congress. These flexible grants, administered by HUD, can be used to assist disaster recovery and resilience efforts by local governments, states, or tribes.[58] CDBG funds can be received by states, which determine the amount set aside for emergency assistance, but are also given directly to entities with populations of 50,000 or more.

The CDBG may be used to fund a broad range of activities so long as they meet at least one of three national objectives: (1) benefit low- and moderate-income persons, (2) help prevent or eliminate slums or blight, or (3) address urgent risks that pose a serious and immediate threat to the health and wealth of the community where other financial resources are unavailable. The acquisition of properties damaged by disaster and relocation of residents to safer areas is an example of addressing urgent risks in resource-scarce communities.[59] CDBG funds can also be used to construct or rehabilitate public facilities—which include neighborhood centers and infrastructure such as water, sewer, and drainage systems—after disasters.[60] The department's HUD Exchange website further details eligible grantees, activities, and beneficiaries, and provides resources for identifying local CDBG-DR administrators and specialists.[61]

State and Local Programs: While most floodplain buyouts are carried out under the HMGP, several state and local grant programs also provide funding for voluntary acquisition of flood-prone properties. The acquisition and management criteria for these programs can differ in timing or focus from those of the HMGP.

II. Managing Floodplain Acquisitions to Maximize Habitat and Resilience Benefits

A federally funded acquisition project is considered complete upon post-demolition grading, at which time the acquired parcels typically become the responsibility of the local government (i.e., subapplicant). In many cases, the newly vacant land is left as an empty lot for which local officials and managers have no specific post-acquisition use plan in place. However, by working together, local and state natural hazard planners and habitat managers can align property acquisition priorities with existing conservation priorities in their watersheds. Buyouts can improve wildlife habitat, enhance ecosystem services, and provide much-needed open space and recreational facilities to a community, as described below.

Habitat Benefits: By restoring or enhancing habitat, local land and water conservation projects (including projects carried out on parcels acquired through buyouts) can provide important plant and wildlife benefits, even in urban landscapes. Properties acquired under voluntary hazard mitigation programs may be small and/or dispersed across the landscape, but the restoration of these lands to natural habitats can still increase the quality and functionality of natural habitats and help preserve native biodiversity, in addition to providing resilience benefits. Urban habitats support habitat connectivity within ecological landscapes and serve as a refuge for species impacted by urbanization.[62] Research shows that even disperse habitats can help preserve native species.[63]

54. *Id.* FMA grant funds are appropriated to, and made available from, the National Flood Mitigation Fund. *See also* Fact Sheet, FEMA, Federal Insurance and Mitigation Administration—FY 2016 Flood Mitigation Assistance (FMA) Grant Program (2016), https://www.fema.gov/media-library-data/1455710459301-048a67862580037b30cd640a802a9053/FY16_FMA_Fact_Sheet.pdf.
55. 42 U.S.C. §4104c.
56. FEMA, Hazard Mitigation Assistance Guidance (2015), *available at* https://www.fema.gov/media-library-data/1424983165449-38f5dfc69c0bd4ea8a161e8bb7b79553/HMA_Guidance_022715_508.pdf.
57. Fact Sheet, HUD, Community Development Block Grant Disaster Recovery (CDBG-DR), https://www.hudexchange.info/resources/documents/CDBG-DR-Fact-Sheet.pdf.
58. HUD, *Community Development Block Grant Disaster Recovery Program*, https://www.hudexchange.info/programs/cdbg-dr/ (last visited Nov. 14, 2017).
59. HUD, "CDBG-DR Eligibility Requirements," 2016, https://www.hudexchange.info/cdbg-dr/cdbg-dr-eligibility-requirements.
60. *Id.*
61. HUD, *supra* note 59.
62. *See*, *e.g.*, Hillary Rudd et al., *Importance of Backyard Habitat in a Comprehensive Biodiversity Conservation Strategy: A Connectivity Analysis of Urban Green Spaces*, 10 Restoration Ecology 368 (2002), *available at* http://onlinelibrary.wiley.com/doi/10.1046/j.1526-100X.2002.02041.x/full. *See also* Todd S. Bridges et al., U.S. Army Corps of Engineers, Use of Natural and Nature-Based Features (NNBF) for Coastal Resilience 409 fig. 83 (2015) (ERDC SR-15-1), *available at* http://cdm16021.contentdm.oclc.org/cdm/ref/collection/p266001coll1/id/3442.
63. Paul Beier & Reed F. Noss, *Do Habitat Corridors Provide Connectivity?*, 12 Conservation Biology 1241-52 (1998), *available at* http://onlinelibrary.wiley.com/doi/10.1111/j.1523-1739.1998.98036.x/full. *See also* Bridges et al., *supra* note 62, at 409.

Ecosystem Services Benefits: FEMA's recent recognition of ecosystem services' value for purposes of benefit-cost analysis[64] is part of a larger, emerging emphasis by governments and citizens on restoring ecological processes, functions, and services in developed areas. Ecosystem services are the benefits that people derive from nature,[65] and recent studies suggest the importance of the urban ecosystem services provided by both "green spaces" (e.g., parks, urban forests and trails, gardens, yards, open space) and "blue spaces" (e.g., streams, ponds, artificial swales, stormwater retention ponds) in densely populated areas.[66] These ecosystem services translate into tangible benefits including public health benefits, climate resilience benefits, and lower costs for energy, wastewater treatment, and other community needs.[67]

Community Benefits: Restoration and conservation projects can connect our growing urban and suburban populations with nature, and even small projects can provide valuable green space to neighborhoods where it is lacking. The range of community benefits (e.g., increased property values, recreation space, community gathering space, neighborhood beautification) provided by such spaces can enhance the physical, mental, emotional, and financial well-being of not only individual neighbors and users, but also the community as a whole.[68]

A. Compatible Land Uses

The laws and regulations establishing the HMGP and other FEMA buyout programs mandate that after properties are acquired and existing structures are removed, the land must be dedicated in perpetuity to open space, recreation, or wetland management uses.[69] These use restrictions are important for local governments or nonprofit organizations to consider when planning and prioritizing projects that can benefit both ecosystems and the community.

To ensure that flood hazard mitigation benefits are achieved (e.g., avoiding future flood damage to structures), virtually no new development is permitted on sites acquired with FEMA funds. Development is prohibited if it alters the area's natural appearance, impedes the area's ability to convey flood flows, reduces the area's capacity to store floodwaters, increases downstream velocities, or restricts access into and out of the area.[70] Commercial inventory storage (e.g., automobiles) and cemeteries are not allowed. Other uses and activities that are generally prohibited include walled buildings, levees, dikes, floodwalls, paved roads, highways, bridges, landfills, storage of hazardous or toxic materials, above- or below-ground pumping or switching stations, above- or below-ground storage tanks, paved parking, off-site fill, or other uses that obstruct the natural and beneficial functions of the floodplain.[71]

Even given those restrictions, the "compatible uses" that *are* allowed on the property present a wide range of opportunities to leverage multiple benefits for the community. Some examples of how buyout properties can be used include, but are not limited to:

- Wetland management
- Nature reserves
- Managed habitat
- Parks
- Community gardens (or residential gardens)
- Grazing
- Buffers
- Greenway/urban trails
- Outdoor recreation
- Camping
- Wildlife habitat
- Pollinator habitat
- Educational centers or outdoor classrooms[72]

Communities can also find ways to maximize community benefits by combining any of the above uses. For example, in Kinston, North Carolina, the community turned frequently flooded land purchased with federal funds into the multi-use Neuseway Nature Center—a nature park that features nature trails, educational exhibits and programs, community ponds for fishing and kayaking, a playground, a campground, and a climbing wall.[73] In Rocky Mount, North Carolina, the Parks and Recreation Department has turned buyout parcels into parks that feature dog-friendly areas and athletic fields.

To facilitate these uses, FEMA does allow construction of public restrooms, as well as certain other public structures that are "functionally related" to one of the

64. FEMA, Hazard Mitigation Assistance Program Digest 35 (2015), *available at* https://www.fema.gov/media-library-data/1444240033001-518cdc8d447ef79a1360763e3145d17e/HMA_Program_Digest_508.pdf.
65. National Wildlife Federation, *Ecosystem Services*, https://www.nwf.org/Educational-Resources/Wildlife-Guide/Understanding-Conservation/Ecosystem-Services (last visited Nov. 14, 2017).
66. Thomas Elmqvist et al., *Benefits of Restoring Ecosystem Services in Urban Areas*, 14 Current Opinion Envtl. Sustainability 101, 101 (2015), *available at* http://www.fs.fed.us/nrs/pubs/jrnl/2015/nrs_2015_elmqvist_001.pdf.
67. Bridges et al., *supra* note 62, at 202-10.
68. *Id.* at 202. *See also* Economy League of Greater Philadelphia et al., Return on Environment: The Economic Value of Protected Open Space in Southeastern Pennsylvania 15, 25, 44, 57 (2011), *available at* http://www.dvrpc.org/reports/11033A.pdf.
69. 44 C.F.R. §80.19.
70. FEMA, Property Acquisition Handbook for Local Communities IV-4 (1998) [hereinafter Property Acquisition Handbook], *available at* https://www.fema.gov/media-library/assets/documents/3117.
71. 44 C.F.R. §80.19.
72. List derived from Property Acquisition Handbook, *supra* note 70, at IV-3.
73. ELI & UNC-IE, Kinston, North Carolina (2016), *available at* https://www.eli.org/sites/default/files/eli-pubs/kinstoncasestudy.pdf. *See also* Kinston, North Carolina, *Neuseway Nature Park*, http://www.neusewaypark.com (last visited Nov. 14, 2017). Kinston purchased the flood-prone land with funds from a CDBG in 1980.

designated uses, provided they are wet-proofed and open on all sides.[74] For example, picnic shelters that are open pavilions would likely be allowed in a park, and docks and boat launches have been permitted to facilitate water recreation. The regional FEMA director has the authority to grant additional exceptions, but only if they are compatible with open space and conserve the natural function of the floodplain, and any other structure must be approved by the regional director in writing prior to construction.[75]

The open space deed restrictions required under federal regulations are minimum restrictions on use of the land. In some cases, communities may impose additional land protection instruments in the form of deed restrictions or easements to further limit the ways the land can be used. For example, a community might grant a conservation easement over the property to a land trust or other conservation organization that prohibits one or more of the uses allowed under HMGP regulations.

B. Management and Maintenance Responsibility

Federal grants for acquisition projects do not include funding for any subsequent costs. Therefore, the subapplicant (local government) is responsible for all costs incurred in connection with use (or nonuse) of the land after acquisition.[76] The community's responsibilities include maintaining the property consistent with open-space uses. This maintenance responsibility includes periodic monitoring to make sure there are no violations of deed restrictions (or other protective easements).[77]

Responsibility for long-term maintenance and management requires planning and consideration of available funding sources and capacity to carry out these tasks. Some communities have found various creative solutions for funding these requisite activities that can serve as models. Other communities have chosen to transfer responsibility for long-term management by transferring title or leasing the property (keeping deed restrictions intact) to another government entity or conservation organization. In these cases, the parties should pay careful attention to how future responsibilities and liabilities are allocated under the terms of any real estate documents.

C. Management Options After the Buyout

Post-buyout management options will vary by site, depending on the location, adjacent land uses, funding available, and capacity of local governments and/or organizations to restore and maintain the property. And, perhaps most importantly, a community's post-buyout opportunities will be determined to a large extent by the "completeness" of the buyout.

The individual properties that are acquired using a voluntary hazard mitigation grant might be:

- Dispersed across the landscape (patchwork)
- Moderately connected with a few remaining homes and infrastructure (holdouts)
- Contiguous and removed from other buildings and infrastructure (comprehensive)

While there are no hard-line distinctions between these categories, they are presented here as a helpful starting point for considering which types of post-acquisition projects are possible, appropriate, and likely to succeed in achieving multiple benefits. The restoration of any site or sites to natural habitat has the potential to increase the quality and functionality of total habitats and help preserve native biodiversity, in addition to providing hazard mitigation and resilience benefits, regardless of which category the buyout may fall into.

1. Patchwork Distribution: Making the Most of Small Parcels

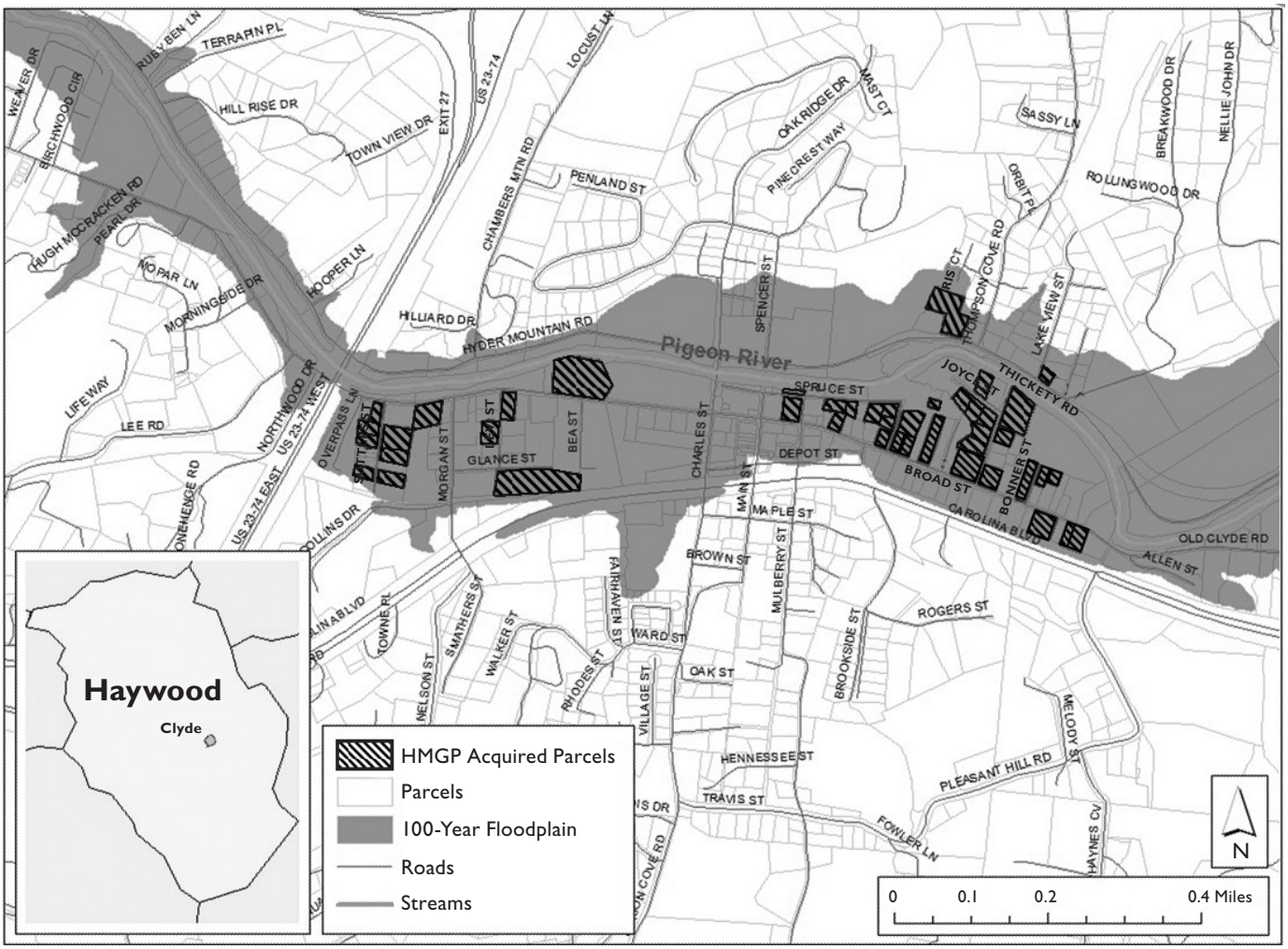
Sometimes buyout properties will be unevenly distributed across a neighborhood. Following a disaster, one property owner may decide to accept a voluntary buyout while surrounding property owners decide to stay. In these cases, the community finds itself facing a patchwork distribution of acquired parcels—one acquired property sandwiched between two remaining homes, a few adjacent acquired properties in a neighborhood where most homes and infrastructure remain, or several clusters of properties at various points along a waterway.

A patchwork distribution of buyouts is fairly common, given the voluntary nature of floodplain buyout programs, the complex nature of individual decisions about whether to sell, the limited amount of funding to purchase properties, the time it takes for funding to come through, and the small proportion of communities that have prioritized possible acquisitions in advance of disasters. Nonetheless, in patchwork situations, the noncontiguous nature of the buyout parcels poses some challenge to restoring floodplains and habitat area and improving connectivity of habitats on a larger scale. In urban environments, patchwork distributions are likely to be particularly challenging. In many cases, the buyout parcels in patchwork neighborhoods are either (1) mowed by neighbors or city landscapers, or (2) passively managed and left fallow, letting preexisting and surrounding vegetation return. In both cases, the resulting outcome is likely to derive only some associated benefits from, or otherwise minimally resemble, the land's historic ecology.

However, there are opportunities for projects that improve wildlife habitat, provide ecosystem services, and offer community benefits—or a combination thereof—even at this smaller scale. There is a growing literature on the habitat potential of vacant land, particularly vacant lots

74. 44 C.F.R. §80.19(a).
75. *Id.*
76. Property Acquisition Handbook, *supra* note 70, at IV-3.
77. 44 C.F.R. §80.19(d).

Figure 2. Map illustrating a patchwork distribution in Clyde, North Carolina.



Source: Clyde case study.

in urban environments,[78] and many of the lessons can be applied analogously to noncontiguous buyout parcels. This part identifies four examples of management opportunities involving small-scale projects for the patchwork context: gardens, pollinator habitats, small-scale green infrastructure, and pocket parks. Many of these examples derive from other patchwork acquisition programs, but apply as well to HMGP buyout lands.

❑ *Community Gardens*: Community gardens, where neighbors gather to grow vegetables, fruit, flowers, or other plants, present excellent opportunities to use a small piece of land to provide multiple benefits to community residents and the ecosystem. A growing body of research shows that community gardens promote healthier eating, physical activity, and community engagement in the neighborhoods where they are located.[79] Community gardens have been

78. *See*, *e.g.*, Robert A. Pierce II et al., University of Missouri Extension, Assessing Wildlife Habitats and Natural Resources in Neighborhoods and Urban Environments (2013) ("When individual residential lots are managed in concert with the larger landscape—which can include vacant lots, parks, areas alongside streams and small woodlots—not only do wildlife communities benefit, but humans do as well."), *available at* http://extension.missouri.edu/explorepdf/miscpubs/mp0927.pdf. *See also* Susannah B. Lerman & Nancy F. Sonti, *U.S. Forest Service and Partners Deliver Urban Wildlife Research in Support of Conservation and Management*, 8 Cities & Env't (CATE) art. 2 (2015), *available at* http://www.fs.fed.us/nrs/pubs/jrnl/2015/nrs_2015_lerman_001.pdf. *See also* Thomas G. Barnes & Lowell Adams, University of Kentucky College of Agriculture, A Guide to Urban Habitat Conservation Planning (1999), *available at* http://www2.ca.uky.edu/agc/pubs/for/for74/for74.pdf. *See also* Peleg Kremer et al., *A Social-Ecological Assessment of Vacant Lots in New York City*, 120 Landscape & Urb. Plan. 218-33 (2013). *See also* Steward T.A. Pickett & Mary L. Cadenasso, *Linking Ecological and Built Components of Urban Mosaics: An Open Cycle of Ecological Design*, 96 J. Ecology 8-12 (2008), *available at* http://www.caryinstitute.org/sites/default/files/public/reprints/Pickett_and_Cadenasso_J_Ecol.pdf. To learn about the many research projects conducted in connection with the long-term Baltimore Ecosystem Study, visit https://beslter.org.

79. *See*, *e.g.*, Gareth Davies et al., Garden Organic & Sustain, The Benefits of Gardening and Food Growing for Health and Wellbeing (2014), (reviewing scientific literature showing that gardening and food growing improve multiple aspects of physical and mental health), *available at* http://www.farmtocafeteriacanada.ca/wp-content/uploads/2014/06/GrowingHealth_BenefitsReport.pdf; Katherine Alaimo et al., *Fruit and Vegetable Intake Among Urban Community Gardeners*, 40 J. Nutrition Educ. & Behav. 94-101 (2008) (finding in a Flint, Michigan, study that "adults with a household member who participated in a community garden consumed fruits and vegetables 1.4 more times per day than those who *did* not participate, and they were 3.5 times more likely to consume fruits and veg-

linked to increased property values, reduced crime, and better air quality.[80] Additionally, even a garden intended for growing produce can provide habitat benefits for birds, beneficial insects, and other pollinators.

An example of acquired property being used for these purposes is the Happy Hill Community Garden in Rocky Mount, North Carolina. The garden is located on land purchased in a buyout program following Hurricane Floyd.[81] The garden aims to improve the sense of community and is accessible to citizens of Rocky Mount. The city of Rocky Mount maintenance staff provides the initial tools and mulch for garden tenants.[82]

For these reasons and more, community gardens can be a good choice for buyout properties in the patchwork context. However, there are important questions to consider that may influence a particular lot's chance of success, as follows:

- Is there enough interest among neighborhood residents to create and sustain a community garden in that location?
- Who will be responsible for maintaining its use as a community garden? Does it make sense for these parties to enter a formal agreement (e.g., lease)? Is liability insurance required?
- Does the property get enough sunlight for the types of plants being considered?
- Is there access to water at the site? Is permission to use the water required (e.g., from a water utility, another property owner, or the state water resources agency)?
- Does someone involved in planning and/or managing the garden have knowledge of appropriate irrigation methods?

It is also important to keep in mind that in the case of buyout properties, the open-space deed restrictions may limit the use of garden infrastructure such as raised beds, fences, and storage sheds, since all infrastructure must be compatible with conserving the natural functions of the floodplain, must conform with any applicable floodplain management policies and plans, and may require approval from a floodplain manager. When communities have decided it makes sense to create a community garden on a particular property, the process might start with forming a committee to make decisions and allocate responsibilities.

Another related management option is to lease the parcel to an individual neighbor or business for use as a residential garden. Similar to community gardens, residential gardens help beautify empty lots while also providing environmental services to residents. Unlike community gardens, residential gardens are taken care of by the specific resident(s) that decided to "adopt" the vacant lot. Residential gardens are typically easier to manage because there are fewer people involved in the decisionmaking process and overall maintenance.

Pollinator or Multi-Use Habitats: Parcels can be used to provide habitat for fauna that can provide several benefits to humans. For example, humans rely on the ecosystem service of pollination to survive: approximately 1,000 plant species that we currently use for food, medicine, textiles, and other products require pollination by bees, bats, butterflies, moths, beetles, birds, or other animals.[83] In the United States alone, pollination by bees and other native insects is responsible for billions of dollars in human products annually.[84] Bees, which are generally the most efficient, versatile, ubiquitous, and economically valuable pollinators, are also among the most reliant on near-natural and semi-natural habitats, and fragmentation and degradation of natural habitat has had significant impacts on bee populations.[85] As bees' and other pollinators' populations decline in North America and around the world, managing open space to establish or restore pollinator habitat and bolster pollinator populations can provide easily perceived economic and societal benefits, in addition to habitat, biodiversity, and aesthetic benefits.

Restoration or establishment of near-natural pollinator habitat increases the availability of the natural resources (pollen and nectar) pollinators need, adds potential nest locations, and provides refuge from pesticides.[86] The exact composition of plants in a pollinator habitat will vary based on factors like an area's native flora, climate, and surround-

etables at least 5 times daily"), *abstract available at* http://www.jneb.org/article/S1499-4046(06)00854-2/abstract; Sarah Wakefield et al., *Growing Urban Health: Community Gardening in South-East Toronto*, 22 Health Promotion Int'l 92-101 (2007) (finding community gardens were perceived by gardeners to provide numerous health benefits, including improved access to food, improved nutrition, increased physical activity, and improved mental health), https://academic.oup.com/heapro/article/22/2/92/558785; Ellen Teig et al., *Collective Efficacy in Denver, Colorado: Strengthening Neighborhoods and Health Through Community Gardens*, 15 Health & Place 1115 (2009) (concluding that "social organizational underpinnings of gardens give rise to a range of social processes, including social connections, reciprocity, mutual trust, collective decision-making, civic engagement and community building, all important processes associated with improving individual health and strengthening neighborhoods"); Vicki Been & Ioan Voicu, New York University Law and Economics Working Paper No. 46, The Effect of Community Gardens on Neighboring Property Values (2006) (finding that "a community garden has a statistically significant positive impact on [value of] residential properties within 1000 feet of the garden"; "the impact increases over time"; and "gardens have the greatest impact in the most disadvantaged neighborhoods"), *available at* http://lsr.nellco.org/nyu_lewp/46/.

80. *See*, *e.g.*, Been & Voicu, *supra* note 79.
81. E-mail From Kelvin Yarell, Director, Rocky Mount Parks and Recreation Department, to ELI Authors (Mar. 29, 2017).
82. For more information, see Rocky Mount, North Carolina, *Community Garden*, http://rockymountnc.gov/departments___services/parks___recreation/parks/community_garden/ (last visited Nov. 14, 2017).
83. Pollinator Partnership, *Pollination*, http://www.pollinator.org/pollination.htm (last visited Nov. 14, 2017).
84. Mace Vaughan & Mark Skinner, Natural Resources Conservation Science Plant Data Center et al., Technical Note No. 78, Using Farm Bill Programs for Pollinator Conservation (2008), *available at* http://plants.usda.gov/pollinators/Using_Farm_Bill_Programs_for_Pollinator_Conservation.pdf.
85. Alexandra-Maria Klein et al., *Importance of Pollinators in Changing Landscapes for World Crops*, 274 Proc. Royal Soc'y B 303-13 (2007) ("Conservation of natural- and semi-natural habitats . . . to increase and protect bee's resources may be useful to improve pollination services."), *available at* http://rspb.royalsocietypublishing.org/content/274/1608/303.
86. Vaughan & Skinner, *supra* note 84.

ing land uses, but in general, pollinator habitats are composed of native plants and are flower-rich.[87] Different types of flowering plants may attract different pollinators—for example, hummingbirds prefer tubular flowers, while bats and moths are attracted to flowers with an intense fragrance—but in general, an area with a concentration of flowering plants will provide habitat for some type of pollinator. Bees, the pollinators on which humans are most reliant, are versatile pollinators that use flowers of most shapes, sizes, and colors.[88]

A great example of turning unused land into pollinator habitat is the Flight Path Project at Sea-Tac Airport. A joint effort by the Port of Seattle, Common Acre (a regional nonprofit organization), and the Urban Bee Company, the project implemented a "pollinator improvement plan" on a large area of unused "scrub" land by replanting the area with a special seed mix of wildflowers and other native plants that support pollinators.[89] Because that project was so successful, Seattle's City Light agency developed a plan to create a "pollinator pathway" in the utility's transmission line right-of-way along 14 miles of power line corridor.[90] According to its designer, the pathway project will "connect the current fragmentation of ecosystems with planned connections between existing green spaces, designing ecological exchange into these systems"—an approach that could be replicated in other communities with a patchwork of unused land parcels.[91]

And while pollinator habitat can be the primary goal of a restoration project, it can also be incorporated into other uses of acquired properties. Borders with perennial or annual flowering plants, hedgerows of flowering shrubs, and grass buffer strips supplemented with wildflowers are all measures that increase the ecological fitness of local pollinators and are compatible with many other management options.[92] Pollinator habitat may take some time to establish, and many plantings will need some degree of ongoing long-term maintenance.[93] (And in cases where project managers undertake establishment of a bee colony, Wildlife and Sport Fish Restoration Program grants can fund pollinator conservation projects.[94])

Other examples of habitat-friendly projects include the construction of bat or bird houses on acquired properties. These projects can help mitigate the loss of habitat due to nearby demolition or infrastructure projects.[95] Native bats and birds can play an important role in an ecosystem. Additionally, projects that encourage local species to occupy rehabilitated or reestablished habitats can provide educational opportunities for the surrounding community.

Green Infrastructure: Green infrastructure projects incorporate the natural environment into water management by protecting, restoring, or reproducing features of the natural water cycle.[96] According to the U.S. Environmental Protection Agency (EPA):

> At the scale of a city or county, green infrastructure refers to the patchwork of natural areas that provides habitat, flood protection, cleaner air, and cleaner water. At the scale of a neighborhood or site, green infrastructure refers to storm water management systems that mimic nature by soaking up and storing water.[97]

Specific green infrastructure opportunities will vary by site, but in general, green infrastructure projects provide multiple benefits at a relatively low cost.[98]

The stormwater management benefits of green infrastructure can include reduced stormwater volume, decreased and/or delayed peak discharge, filtration and pollution prevention, and groundwater recharge. In some communities, it may be possible for acquisition project managers to collaborate with stormwater managers to help address green infrastructure objectives in an existing stormwater management plan. Financial benefits for the community can include reduced energy costs, reduced maintenance costs, and lower water bills.

Green infrastructure also contributes to urban climate resilience: it can reduce local temperatures in summer, sequester greenhouse gases, and reduce energy needs (e.g., for air conditioning).[99] Community benefits include, but are not limited to, improved physical and mental health, aesthetic improvements, and increased recreation opportunities—particularly where a green infrastructure project incorporates more than one public use (i.e., parks, greenways, public education opportunities, etc.).[100]

87. Stephen D. Wratten, *Pollinator Habitat Enhancement: Benefits to Other Ecosystem Services*, 159 Agric., Ecosystems & Env't 112-22 (2012), *abstract available at* http://www.sciencedirect.com/science/article/pii/S0167880912002460.
88. *See*, *e.g.*, Pollinator Partnership, The Simple Truth: We Can't Live Without Them, *available at* http://www.fs.fed.us/wildflowers/pollinators/documents/simpletruthbrochure.pdf.
89. *See* Common Acre, *Flight Path*, http://commonacre.org/field-work/flight-path/ (last visited Nov. 14, 2017).
90. *Seattle City Light and the Office of Arts and Culture Announce Partnership With the Pollinator Pathway*, Powerlines, Aug. 19, 2015, http://powerlines.seattle.gov/2015/08/19/seattle-city-light-and-the-office-of-arts-culture-announce-partnership-with-the-pollinator-pathway/.
91. *Id*.
92. Vaughan & Skinner, *supra* note 84.
93. *See* C. Sheena Sidhu & Neelendra K. Joshi, *Establishing Wildflower Pollinator Habitats in Agricultural Farmland to Provide Multiple Ecosystem Services*, 7 Frontiers Plant Sci. 363 (2016), *available at* http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4806296/.
94. U.S. Fish and Wildlife Service, Wildlife and Sport Fish Restoration Program, *WSFR—Assisting States With Monarch Butterfly and Pollinator Conservation*, http://wsfrprograms.fws.gov/Subpages/Pollinators/Pollinators.htm (last updated Jan. 23, 2017).
95. Dave Johnston et al., H.T. Harvey and Associates, California Bat Mitigation Techniques, Solutions, and Effectiveness (2004).
96. American Rivers, *What Is Green Infrastructure?*, http://www.americanrivers.org/initiatives/pollution/green-infrastructure/what-is-green-infrastructure/#sthash.dfOT1XY4.dpuf (last visited Nov. 14, 2017).
97. U.S. EPA, *What Is Green Infrastructure?*, https://www.epa.gov/green-infrastructure/what-green-infrastructure (last updated Aug. 14, 2017).
98. American Rivers, *supra* note 97.
99. Susan Cook-Patton, USDA Forest Service, Urban Research: Urban Resilience (2015), *available at* http://www.fs.fed.us/research/docs/urban/urban-resilience.pdf.
100. Amy Rowe & Michele Bakacs, Rutgers New Jersey Agricultural Experiment Station, Cooperative Extension Fact Sheet FS1197, An Introduction to Green Infrastructure Practices (2012), http://njaes.rutgers.edu/pubs/fs1197/intro-to-green-infrastructure.asp.

Examples of green infrastructure projects that can be implemented on small scales and/or that may work well in a patchwork distribution include (but are not limited to):

- *Rain gardens/bioretention cells*: shallow depressions that utilize soil and plants to filter pollutants and infiltrate runoff
- *Bioswales*: shallow, vegetated channels that convey, slow down, and infiltrate runoff
- *Tree planting*: activity that reduces runoff by intercepting rainfall, as well as by improving stormwater infiltration in soils
- *Restoration of riparian areas and/or wetlands*: practice that slows down and infiltrates runoff[101]

Using buyout properties for any of these (or other) green infrastructure projects can create jobs and revenue for the community while also providing habitat and ecological services benefits.

Pocket Parks: Turning vacant lots into "pocket parks" is a way to create a usable and visually appealing green space for a community. Pocket parks are small-scale open spaces, generally in urban settings that are often smaller than one-quarter of an acre in size.[102] Parks provide refuge for local wildlife, typically increasing the number of pollinators in the area. Even small parks can provide multiple ecosystem services, and oftentimes there are opportunities to incorporate green infrastructure elements (e.g., floodable parks or park areas, bioswales). And even small, oddly shaped lots can be good locations for pocket parks.[103] Compared with parks that are larger and/or feature structures or facilities, pocket parks require less maintenance; therefore, they may be a good management option for communities facing a patchwork of buyout properties with limited resources.

2. Holdouts: Working Around Remaining Owners and Existing Infrastructure

In some neighborhoods that have experienced flood disasters, the local government has acquired many of the properties, but a few owners—holdouts—have chosen to remain. This results in an uneven distribution of buyout properties. Such a distribution, with "holdouts," may result from a community acquiring a majority of the neighborhood's properties in the immediate aftermath of a single disaster, or it may result from a community continuing to make progress on acquisitions in a target area over multiple flood events or as new funding becomes available.

Depending on the situation, a holdout distribution can limit opportunities for restoration and land management. In such cases, the opportunities described in the preceding section—such as gardens, small parks, and green infrastructure projects—may be good options. However, in other cases where there are a large number of contiguous properties acquired and only a few scattered holdouts, there may be opportunities to use the vacant lands for habitat restoration or to provide significant habitat value. There may also be an opportunity to provide larger scale community amenities, such as linear parks or large recreation areas (e.g., Frisbee golf courses, soccer fields).

❑ *Restoration Opportunities:* Wherever there are a number of contiguous acquisitions there may be a real opportunity for meaningful habitat conservation. Habitat restoration or management projects can provide new habitat for native species, form new connections among dispersed habitat areas in the region, or both. The type of habitat to be restored will depend on surrounding landscape and land use, historic habitat types, community needs, and funding available.

Examples of valuable habitat types that a community might restore include floodplain/riparian habitat; wetlands habitat; native prairie/grassland habitat; or upland forest habitat. For example, in Montevideo, Minnesota, the city incorporated many of the buyout properties into its Lowland Prairie Project, where native grasses have been seeded to enhance wildlife habitat. Other areas were converted to wetlands or detention ponds. Similarly, Moorhead, Minnesota, proposed to restore wildlife habitat in properties it acquired along the Red River.

The following section addresses (and Table 1 summarizes) a range of restoration activities that communities may choose to undertake, from "no intervention" or "minimal action," to "rehabilitation," all the way to "reestablishment." This list of categories is not exhaustive, and the lines between categories are not firm; however, these categories are useful as a starting point for thinking about options, including what some of the pros and cons of each approach might be, as well as helpful for defining a restoration project's goals.[104] As Table 1 reflects, the potential habitat and ecosystem service values vary significantly across the range of options—as do restoration costs, the capacity needed to accomplish the intervention, and ongoing maintenance requirements. This section describes these four broad categories of restoration activities and highlights examples from case study communities.

For purposes of this discussion, our restoration categories, in order of management intensity, include:

101. *See id*.

102. National Recreation and Park Association, Issue Brief: Creating Mini-Parks for Increased Physical Activity, *available at* https://www.nrpa.org/uploadedFiles/nrpaorg/Grants_and_Partners/Recreation_and_Health/Resources/Issue_Briefs/Pocket-Parks.pdf.

103. Timon McPhearson, *Vacant Land in Cities Could Provide Important Social and Ecological Benefits*, Nature of Cities, Aug. 21, 2012, http://www.thenatureofcities.com/2012/08/21/vacant-land-in-cities-could-provide-important-social-and-ecological-benefits/.

104. These terms are used for purposes of this Article. Other scholars and practitioners may use different terms to describe the same level of restoration activity or intervention. *See generally* Richard J. Hobbs et al., *Intervention Ecology: Applying Ecological Science in the Twenty-First Century*, 61 BioScience 442 (2011) (commenting that with respect to the "differences between restoration per se and other activities such as rehabilitation . . . **the terminol**ogy remains confusing and inconsistently used" in the literature), *available at* https://academic.oup.com/bioscience/article/61/6/442/224911.

Table 1. Restoration Approaches in Order of Management Intensity

	No Intervention	Minimal Action (Enhancement)	Rehabilitation	Reestablishment
Management approach	• No action taken to restore or maintain the sites	• Small-scale actions to maintain the site, resulting in modest alterations	• Restore elements of structure or function (ecosystem services) to an ecological system, without attempting complete restoration	• Return an ecosystem to a close approximation of its condition prior to disturbance or of a reference site nearby; restoring ecosystem services to the area
Potential restoration activities	• Allow natural vegetation to return • Prohibit mowing, etc.	• Some invasive species removal • Some native species planting	• Reestablish dominance of native plant community • Total revegetation of the site • Invasive species management	• Floodplain reestablishment • Wetland reestablishment • Wildlife habitat reestablishment
Pros	• Low cost • Little staff time required • Some habitat value	• Low cost • Little staff time required • More habitat value • Opportunity to engage and educate community	• More habitat value • Increased biodiversity and native species • Some ecosystem values returned • Relatively low cost • Opportunity to engage and educate community	• Habitat value maximized • Ecosystem value maximized • Opportunity to engage and educate community
Cons	• Habitat value may not be maximized • Ecosystem service value not maximized • Neighbors may object (e.g., want to mow)	• Habitat value may not be maximized • Ecosystem service value not maximized • Easy for neighbors to interfere	• More expensive than no and minimal action • Requires capacity and/or partners • Habitat not returned to historic conditions	• Expensive • Requires capacity and/or partners • Could preclude other uses (e.g., recreation)
Community example	Pierce County, Wisconsin	Jefferson County, Wisconsin	Montevideo, Minnesota	N/A

- *No intervention*: Passively allowing natural processes (and natural disturbances) to develop without management intervention
- *Minimal action (enhancement)*: Small-scale actions resulting in modest alterations of a site; may restore limited ecosystem services to the site
- *Rehabilitation*: Some manipulation of physical, chemical, or biological characteristics of a site, with the goal of returning some elements of habitat structure or function (ecosystem services)
- *Reestablishment*: Actively rebuilding the natural habitat, or "return of an ecosystem to a close approximation of its condition prior to disturbance"[105]

❑ *Communities Letting Nature Back In—No Intervention or Minimal Action*: In many communities after a buyout, the local government has no plan for further interventions on acquired properties. Often, that means allowing natural vegetation to "reclaim" the land. This is usually an unplanned, unmanaged process—however, it is a process that can achieve some habitat benefits for native species while keeping costs and maintenance time low. At a slightly more involved level, communities may take minimal action to help manage a habitat enhancement process that nature is performing mostly on its own.

For example, communities may engage in invasive species control, weeding, or small native plantings, with the goal of returning some ecosystem services. Although this is generally a low-cost approach, which can make it an attractive option, the habitat value of these sites may not be maximized, and opportunities to functionally connect contiguous parcels may be lost. Moreover, unless monitoring policies or outreach strategies are in place, neighbors may continue to interfere on the properties and may even reverse the minimal actions the community has taken toward restoration.

A common challenge with zero or minimal management intervention is that neighbors may object to allowing native vegetation—and the "pests" that might come with it—to grow unchecked in a neighboring lot. Often, that situation results in neighbors taking it upon themselves to

105. U.S. EPA, *Wetlands Restoration Definitions and Distinctions* (quoting National Research Council, Restoration of Aquatic Ecosystems (1992)), https://www.epa.gov/wetlands/wetlands-restoration-definitions-and-distinctions (last updated Oct. 6, 2016).

mow or otherwise maintain the acquired property, even if that is against the policy of the local agency overseeing the acquisition. This issue has proved particularly challenging for some buyout neighborhoods in New Jersey, where many properties were acquired following Superstorm Sandy in 2012.

In Sayreville, New Jersey, the post-Sandy buyout resulted in the acquisition of around 180 parcels in low-lying, flood-prone land. The land procured in the buyout is currently simply used as open space, and the vacant lots are unmanaged by the city. State officials want the land to revert to its natural state; however, the remaining residents in the neighborhoods want the lots planted with grass and regularly mowed, and are doing so themselves.

Three communities in Wisconsin (Jefferson County, Kenosha County, and Pierce County) have also opted to "let nature back in" on acquired properties:

- In Jefferson County, 115 properties on Blackhawk Island have been acquired since 1994, totaling about 60% of homes on the island. The county has required that these properties, now managed by the county's Parks Department, be allowed to return to a natural state, or that natural vegetation is allowed to regrow. Some neighbors, however, have continued to mow adjacent properties. The Parks Department does some management, including monitoring and invasive species control, but no further habitat restoration efforts are underway at this time. Among the reasons for this is the fact that there are still many holdouts left on the island and fewer contiguous properties upon which to construct projects.
- In Kenosha County, 108 properties have been purchased since 1993, which is around 58% of the properties that the Southeastern Wisconsin Regional Planning Commission had originally identified for purchase. Many of the acquired properties have been allowed to revert to natural vegetation, although neighbors regularly mow some of the lots. Kenosha County does not closely monitor what is being done at the sites, other than to ensure the land is still vacant, there are no new structures, and off-road vehicles are not used.
- In Pierce County, 73 properties were purchased and returned to open space after a major flood impacted Trenton Island in 1993; the relocated residents made up about 65% of the island's total population. Today, much of Trenton Island is maintained as open space and has been allowed to return to a floodplain forest ecosystem. The township does some monitoring to ensure that there has not been any new development and that wildlife is left undisturbed.

Monitoring and outreach may be necessary in order to keep neighbors on board with a community's goals for the buyout properties, and a community might expect to see a correlation between increasing the level of management activity—even from zero to little—and the approach's ultimate success. If wildlife habitat value is a community's goal, it is likely to require some level of monitoring, neighbor outreach, and/or other public education—or additional restoration actions, as described below.

❑ *Rehabilitation of Natural Habitat*: In some situations, dedicating additional resources to restore habitat and ecosystem services on vacant properties can provide not only meaningful wildlife habitat, but also resilience and community benefits (e.g., educational opportunities) for the remaining residents and the community as a whole. Rehabilitation is defined as restoration of some elements of structure or function (e.g., water quality or flood mitigation function) to an ecological system, without attempting complete restoration of all aspects of historic habitat conditions.[106] In some cases, the result may be a habitat or ecosystem that was not there originally, but that provides a productive ecosystem type that provides desired ecosystem services.[107] These types of projects generally give communities flexibility to do what is feasible, cost-effective, and easy to maintain, while still providing habitat for native species.

Rehabilitation activities might include:

- Total revegetation of the site
- Reestablishment of native plant community dominance
- Invasive species management
- Wetland restoration

An example of a community that has taken the rehabilitation approach is Montevideo, Minnesota, where the community restored 26 acres of native prairie grass on floodplain acquisition parcels. The restored area wraps around, and through, the properties of several remaining homes. The restoration was completed as part of a larger project required by state and federal agencies to compensate for impacts that resulted from levee construction. The community restored the flood buyout lands along the Chippewa River to lowland shrub, wooded, and riverside prairie, doubling the required replacement ratio to 4 to 1.[108]

This project also aims to promote wildlife and provide the benefits of open space. Prairie grasses successfully reclaimed the land acquired in floodplain buyouts for the first time in 2015.[109] Other floodplain buyout areas in Montevideo were reestablished as wetlands—a process

106. Martha J. Groom et al., Principles of Conservation Biology 480 (3d ed. 2003). *See also* U.S. EPA, *Section 404 of the Clean Water Act—Compensatory Mitigation Methods*, https://www.epa.gov/cwa-404/compensatory-mitigation-methods (last updated Sept. 15, 2016).

107. Groom et al., *supra* note 106.

108. Minnesota Senate: Environment, Economic Development, and Agriculture Division, City of Montevideo, Minnesota Flood Hazard Mitigation Program, *available at* http://www.senate.mn/committees/2013-2014/3063_Environment_Economic_Development_and_Agriculture_Division/levee-testimony.docx.

109. *Id.*

that may require different and more intensive effort than habitat rehabilitation.[110]

❑ *Reestablishment of Natural Habitat*: Reestablishment is defined as "the process of intentionally altering a site to establish a defined, indigenous, historic ecosystem. The goal of this process is to emulate the structure, function, diversity and dynamics of the specified ecosystem."[111] In other words, the goal of a reestablishment project is to bring the site back to original or historic conditions. Reestablishment is the attempt to reconstruct an ecosystem, returning it to the original species composition and structure.[112]

Examples of reestablishment projects on acquired properties might include:

- Floodplain restoration
- Riparian buffer restoration
- Wetland restoration
- Wildlife habitat restoration
- Forest restoration

Restoration projects may be more challenging in the holdout context, where people still inhabit remaining homes and there may be remaining infrastructure that cannot be removed, than in areas where no structures remain (e.g., comprehensive buyouts below). Remaining infrastructure can include roads and sidewalks as well as telephone lines and utility poles. However, even where infrastructure has not or cannot be removed entirely, small-scale restoration efforts can still take place.

In addition to providing habitat for native species, restored sites can also provide other community benefits including educational opportunities for the community.

❑ *Recreation Areas and Other Amenities*: The second major category of management opportunities provided by buyout properties in this holdout context is recreation areas and other community amenities. These kinds of uses can provide flood mitigation benefits while also providing a community gathering space, specific recreation opportunities, and many other social and cultural benefits.

Examples of recreation areas and other amenities that may be developed on acquired properties include:

- Linear parks/greenways
- Parks and playgrounds
- Athletic fields
- Other recreation (e.g., Frisbee golf)
- Gathering spaces
- Education centers or outdoor classrooms

In Rocky Mount, North Carolina, for example, after parcels were acquired with buyout funds following the flooding from Hurricane Floyd in 1999, the city turned the properties over to the Parks and Recreation Department. In 2003, the Tar River Trail, a public greenway, opened for use by cyclists and pedestrians. By 2004, the Farmington Disc Golf Course was completed. It was followed by another disc golf course at Sunset Park in 2007. Within the past two years, a dog park, barbecue park, and a community garden have also been established in the land purchased by the city. The city also manages two large areas of contiguous parcels as community forests. These sites remain unused for active recreation because they are in areas well-served by existing parks.

Rocky Mount has made great strides in making use of the land it acquired after the flood, but the Parks and Recreation Department continues to work toward fully utilizing the parcels. For example, the city's current master plan emphasizes increasing the connectivity of the greenway and walking trail systems. Under that plan, much of the buyout land forms large, nonlinear spaces that eventually will be converted into contiguous parks. The remaining parcels along the river channel will be used to better arrange trails. And the city's community forestry program will provide scenic, natural areas for adjacent communities. In addition to the master plan, the Parks and Recreation Department has outlined a plan for a mixed-use district along the river that skirts the northern edge of Rocky Mount. This area, dubbed River Falls Park, would link several parks and public facilities with the Historic Mill District and wildlife conservation areas using a network of greenways and pedestrian trails.[113]

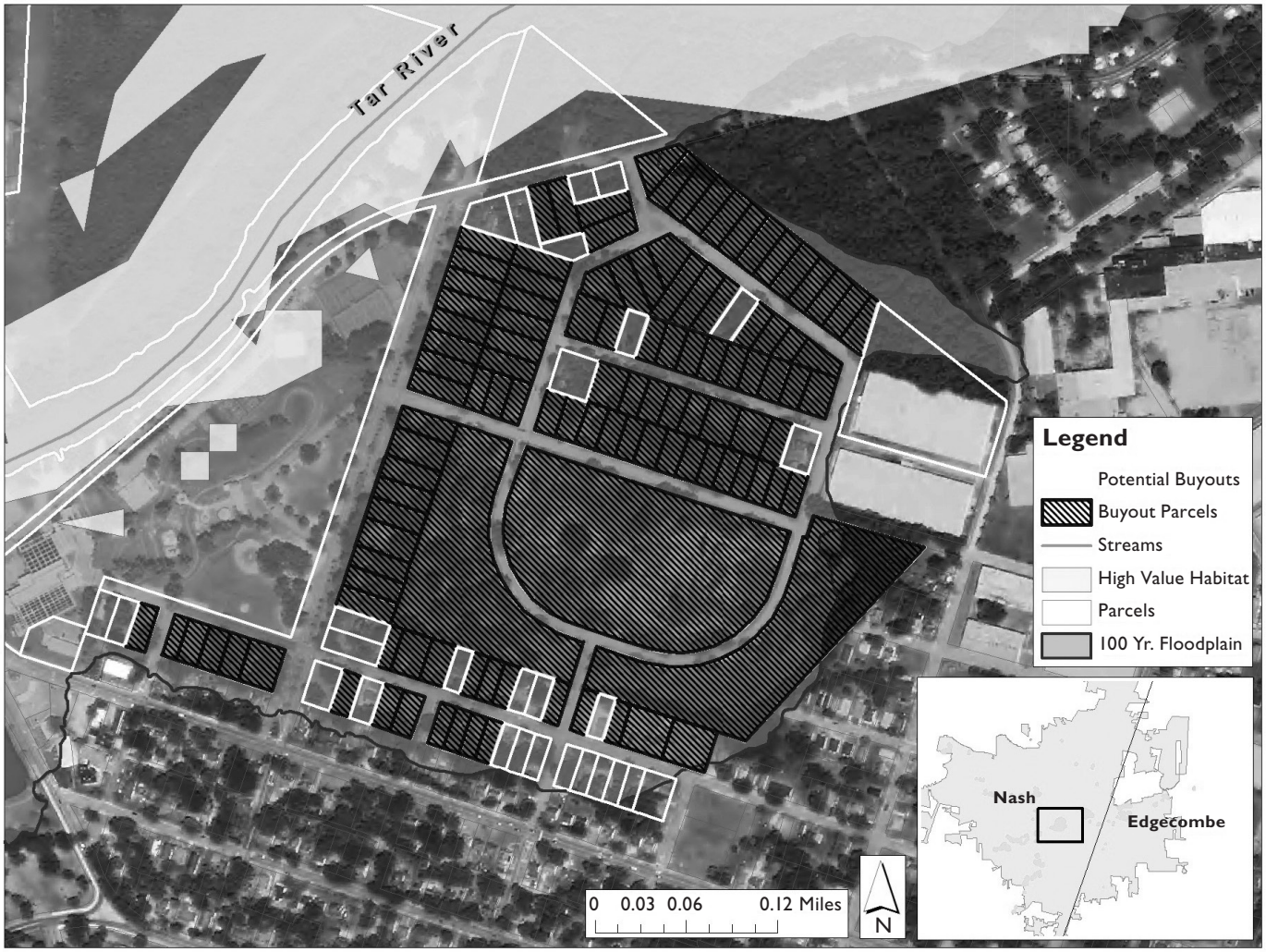
3. Comprehensive Buyouts: Opportunities for Larger Scale Habitat Restoration

In some cases, all of the homeowners in a neighborhood will decide to leave, and the community is left with a large, contiguous area of acquired properties. In these cases, larger scale habitat reestablishment projects may be possible. In general, the different types of restoration opportunities are similar to those outlined above; however, some of the challenges noted above may be less problematic, or even eliminated, when there are no holdouts. For example, in the context of a comprehensive buyout, the community can remove existing utilities and roads that would have otherwise prevented a restored habitat from achieving its natural or near-natural state. Or, if no neighbors remain in the area to undertake mowing, then this challenge is eliminated.

❑ *Restoration of Habitat on a Large Scale*. Species, natural communities, and ecosystems are influenced by habitat factors at several spatial scales. Many of the habitat restoration opportunities described in the previous sections

110. *Id.*
111. U.S. EPA, *supra* note 106.
112. *Id.*
113. ELI & UNC-IE, Rocky Mount, North Carolina 10 (2016), *available at* https://www.eli.org/sites/default/files/eli-pubs/rockymountnccasestudy.pdf.

Figure 3. Buyout Clustering in Rocky Mount, NC



provide good opportunities to benefit local, small-scale habitat features and habitat connectivity. Comprehensive buyouts can present opportunities to restore the larger or watershed-scale habitat features that are also important for sustaining populations, natural communities, and ecosystems. Local governments and communities interested in habitat restoration should answer various questions as they begin planning in order to ensure that the project is feasible and will be completed successfully.

Restoration plans are necessary for all restoration projects, but especially for large-scale projects. A restoration plan helps to ensure that a project aligns with the community's vision for the acquisition site, sets attainable and benefit-producing goals, and outlines the restoration and long-term management activities that will occur on the site. If there is no in-house capacity for this planning effort, the local government may consider hiring an outside consultant or expert to write the plan.

In addition to providing space for native species, ecosystem services for the community (e.g., additional flood storage) and a healthier community, large-scale habitat restoration could also provide an educational opportunity for the community and a place for school groups and the public to learn about local ecosystems and native habitats. Federal regulations allow for the development of some supportive structures (e.g., restrooms, open-walled structures, signage, boardwalks, etc.) on buyout properties that could provide infrastructure for an outdoor classroom or other community learning opportunities.

Given that funding sources are often a major impediment to restoration efforts, partnerships may be key in some communities. Thinking big will require conservation experts, planners, designers, and others, some of which may be available in-house, some not. Many states have habitat restoration programs that have expertise in restoring and managing the types of habitats that may be prevalent in acquired properties (e.g., floodplains, wetlands, streams, and so on). Nonprofit organizations, consulting firms, and other groups also have active restoration programs.

❑ *Large Parks and Other Larger Scale Amenities*. Another opportunity for a community that has undergone a comprehensive buyout is the development of a large-scale park or trail system on the acquired floodplain properties. In

the case of a large, comprehensive buyout, it is possible that the community might have acquired a significant area on which to develop a large park that could become a centerpiece of the community and a place for residents to gather.

As an example, the city of Austin, Minnesota, has acquired 240 properties since 1978. The properties have been turned over to the city's Parks and Recreation Department and are in a variety of uses, including parks, restored habitats, and unmaintained open space. With many of the acquired properties, the city has developed a very successful linear park and trail system. The plan for the park was developed around 1993. The Comprehensive Linear Park System was developed to manage the acquired flood-prone properties so all citizens can enjoy the open space. The project provides multiple services to Austin; acquired plots now provide stormwater runoff retention areas, open space for wildlife management, and means for expanding the existing trail system so that the region's parks and recreation areas are connected.[114]

D. Making Informed Decisions and Taking Action

The best use for acquired properties—be it habitat restoration, recreation, or another community amenity—will always depend on the ecology of the acquisition site, the surrounding land use, local policies and regulations, funding, and community desires for the neighborhood. In many cases, local land use, hazard mitigation, or other plans can help inform a community's decision. This section sets out a basic decisionmaking process for identifying what to do with the acquired properties after title has been transferred. Key steps in the process include: (1) gathering information on the site and surrounding areas; (2) evaluating and mapping the possibilities; (3) getting community input; (4) defining goals for the site; and (5) developing and implementing a final plan for how the site will be restored and/or used.[115] FEMA's *Property Acquisition Handbook for Local Communities* also lays out a multi-objective planning process for open-space management of acquired sites.[116]

Step 1: Gather Information. The first step is to gather information about the site and the surrounding landscape. This information will inform community goals for the site and help determine what uses and activities are possible and what constraints might exist. This information-gathering step can be done in advance of meeting with community members and other stakeholders so that residents are well-informed about a site's characteristics, opportunities, and limitations before they start thinking through community wants and needs for the properties.

Information Required: In general, the following types of information are likely to be relevant to a project decision: natural and cultural properties of the site; information about adjacent areas and their use; and information on existing and planned community amenities (see Table 2 for details).

How to Find Information: There are a variety of resources available for gathering the necessary information. A good place to start is to contact the local (including county) and/or state agencies responsible for land use planning, natural resource management (e.g., floodplain management, water resources, coastal resources, fish and wildlife), and parks and recreation planning in the area. Local and state agencies typically can help locate information such as historic and current aerial photographs, local and/or regional management plans, and maps. The local resource conservation district may also be able to provide information. In some cases, federal agencies (e.g., U.S. Fish and Wildlife Service, U.S. Geological Survey, U.S. Army Corps of Engineers (ACOE), National Oceanic and Atmospheric Administration, Natural Resources Conservation Service (NRCS)) will be able to provide maps and technical information about the area or certain natural resources that fall under their programs. Nongovernment resources like local watershed groups, consulting firms, and academic institutions can be helpful as well.

It is possible that some of the needed information was previously compiled for purposes of applying for a hazard mitigation grant or other funding or other community planning efforts, so it might be useful to be in touch with the original state and local acquisition project managers and other local planners. The body of information gathered as a basis for planning will continue to grow as the project evolves and should be updated as appropriate throughout the process. This information may also support future ongoing management and monitoring.

Legal and Regulatory Landscape: It is also important at this stage to review applicable laws, regulations, and policies to identify existing criteria, actual or potential conflicts, and opportunities for comprehensive planning and collaboration. Many sites will be subject to local ordinances and land management policies, which local agencies and community partners can identify. State natural resource agencies can provide information about any statewide regulations and policies that might apply to the project. Local, county, and state regulators may also be able to identify federal agencies with jurisdiction over the site's natural resources. The types of laws, regulations, and policies that may apply to restoration projects or other open-space uses might include (but are not limited to):

- Local land use plans
- Grazing maps
- Local floodplain regulations and policies

114. FEMA, Loss Avoidance Study 4 (2013), *available at* https://dps.mn.gov/divisions/hsem/hazard-mitigation/Documents/Austin%20Loss%20Avoidance%20Study%202013.pdf.

115. FEMA has published a handbook summarizing some of the best practices used by communities around the country to successfully acquire properties and convert them into open space while taking into account "multi-objective planning, the goal of which is to use open space to fulfill as many of a community's objectives as possible." *See* Property Acquisition Handbook, *supra* note 70, at IV-1.

116. The handbook is available at https://www.fema.gov/media-library/assets/documents/3117.

Table 2. Information Relevant to Project Decisions

Type of Information	Corresponding Details	Importance and Relevance to Project Planning
Natural resources and features	• Current and historic ecology and natural features (e.g., hydrology, topography, soil type and quality, flora and fauna) • Critical resources (e.g., wetlands, coastal zones, wild and scenic rivers, drinking water aquifers, endangered or threatened species and their critical habitat)	• Helps the lead agency and stakeholders understand the site's present values and sensitivities
Cultural resources and features	• Historic, archeological, and culturally significant features • Existing infrastructure (e.g., roads, utility rights-of-way) that may constrain restoration or other uses of the site	• Helps the lead agency and stakeholders understand the site's values and sensitivities and plan for constraints
Adjacent land uses	• Connection or proximity to existing, functioning habitat • Connection or proximity to existing protected areas, identified priority conservation or restoration areas • Surrounding land uses (e.g., residential, industrial) • Owners of adjacent or nearby properties	• Helps the lead agency and stakeholders understand the landscape in which the project is situated (e.g., proximate habitats can provide a seed source and a corridor for wildlife to travel to and from newly restored areas)
Existing and planned community amenities	• Existing and planned recreation areas and other community amenities, including information about proximity to the site being considered • Any known "gaps" in amenities that might exist in the neighborhood or community surrounding the site	• Helps the lead agency and stakeholders identify the potential for the site to fill existing "gaps" • Helps inform the types of uses that residents are likely to need, want, and support as the project moves forward

- Local and state hazard mitigation plans
- Coastal zone management plans
- State and federal wetlands regulations and policies
- State and federal conservation, wildlife, and endangered species protection laws

For more information on permitting and approval requirements, see Part III below.

Identifying Possible Partners: The final component of this first step is to identify possible partners and their potential role in the planning, implementation, and/or management of the project. Often, these groups will also be important sources of information being compiled at this stage. Some examples of potential partners are:

- Local land trusts
- Watershed groups
- Community groups
- Conservation organizations (including resource conservation districts and private nonprofits)
- Local agencies responsible for natural resources, recreation, land use planning, and so on
- State agencies
- Colleges or universities (including student researchers, academic experts, and interest groups)
- Companies or corporations (with interest in volunteering or donating time)

Community agencies should seek to identify the aspects of a potential project in which possible partners are interested, what they are able to do, and what capacity exists. In addition to helping with information-gathering, these groups may be able to help engage with community stakeholders (and identify additional partnership opportunities), plan and design restoration projects or community amenities, implement projects, and fund, maintain, manage, and monitor sites into the future. It may make sense to set up an initial meeting to gauge interest and to gather information from these groups upfront.

Step 2: Map the Site in Relation to Surrounding Land Uses. As noted in the first step, it is important to know where sites are in relation to other buyout sites, potential buyout sites, and other habitat areas. Visualizing where the parcels are in relation to existing protected areas or conservation lands or areas identified as priorities for conservation or restoration can provide insight into the type of restoration or management activities that would be most successful. Mapping can help to identify opportunities to connect habitat areas. It may also help in identifying the best partners for a project. For example, if many acquired properties are near or adjacent to state-owned land, the state may be able to help with management or funding.

Step 3: Get Community Input. Community input is important for determining potential uses of acquired properties that will be feasible, fundable, sustainable, and valued by citizens. Without support from neighbors and community members, community amenities might

go unused and restoration areas might eventually fail due to improper maintenance.[117] Community buy-in is especially important in situations where there are still people living throughout the neighborhood (e.g., patchwork and holdout contexts) or adjacent to the project area, since the new use of the site will be part of the daily life of those local residents.

When reaching out to the community for input, important stakeholders to engage may include, but are not limited to, neighbors, community groups, local government staff, conservation professionals, and others. The process for gathering and utilizing community stakeholders' input might involve:

- Performing outreach to make the public aware of the planned project at the site
- Conducting a community workshop to describe opportunities and gather community opinions/wants/needs
- Developing draft plans based on input gained at the workshop
- Presenting proposed plans to the community

An initial community workshop might include providing, exchanging, and discussing information on, for example, the acquisition site (including current use, existing infrastructure, natural features, and surrounding land use); existing and planned community facilities and programs (e.g., recreational, cultural, natural) in the vicinity of the buyout area; and nearby habitat areas or areas identified as priorities for conservation. Goals, objectives, or restrictions set out in local regulations, policies, and plans may affect use of the land and should be reviewed.

This workshop could also include presentation of any mapping that has been done for the site (as described above). The maps might show the current use of the site, other potential buyout properties, and the location of buyout properties in relation to wetland habitats, wildlife habitats, and areas identified as habitat protection and restoration priorities. The second half of the meeting might include a discussion of priorities—both collective and of different stakeholders—and a strategy to structure and design acquired properties to provide multiple benefits.

Important questions to ask community members during the workshop might include:

- What do community members want?
- What are the existing gaps and needs?
- What uses are possible on the site?
- What uses are feasible/practical (given restrictions in deeds, existing policies, or ordinances, etc.)?
- Is there funding available?
- Who will maintain the site going forward?

The initial workshop will help identify potential management/use opportunities for the site, illustrate what the property could look like under different scenarios, identify potential funding sources for restoration and management activities, and develop guidance for prioritizing properties for future acquisition. It will also signal to neighbors and other stakeholders that their participation in the decision-making process is valued and help them feel more invested in the project's success. It may be useful to hold one or more follow-up meetings throughout the process to provide updates, encourage ongoing communication among stakeholders, and avoid surprises.

Step 4: Develop Goals and Objectives. A floodplain buyout vision and development plan provides a clear purpose and broad goals and guidelines for the project. The framework it sets out will serve as the basis for developing more focused and specific plans for implementation, management, and monitoring.

Define Goals and Objectives: Based on what is learned in the information-gathering and community input stages, the next stage is to define goals and objectives for the new use of the acquired properties. The goals and objectives should be feasible and sustainable and should align with criteria in local plans and policies and with community wants and needs. In communities where project areas are spread out across the community, the goal-setting could be done on a site-by-site basis or on a holistic basis.

Goals should be integrated with other community goals to the greatest extent feasible. For example, restoring natural conditions and functions of the native ecosystem may be consistent with a locality's comprehensive plan. Examples of integrated goals may include:

- Sustain native species
- Minimize flood damage to public and private property
- Reduce response and recovery costs
- Improve sense of community among residents/positive community image
- Improve community health
- Improve community resilience

Objectives are the defined implementation steps needed to achieve the identified goals. They are specific and measurable. Example objectives are:

- Restore wetland or wildlife habitat
- Restore natural floodplain functions
- Provide additional community amenities
- Provide additional ball fields for community recreation programs
- Increase green space in underserved neighborhoods

117. *See*, *e.g.*, Property Acquisition Handbook, *supra* note 70, at IV-10.

A project with well-articulated goals and objectives is more likely to succeed and to garner public support. A common method for setting effective goals and objectives is to keep in mind that each one should be "SMART": specific, measurable, achievable, realistic, and time-bound.[118] Once goals and objectives are defined, they need to be prioritized.

Develop a Draft Use and Management Plan: The draft plan will identify potential management/use opportunities for the site, illustrate what the buyout areas could look like under different scenarios and how those relate to the identified goals and objectives, identify potential funding sources for restoration and management, and provide guidance for prioritizing properties for future acquisition.

Elements of the conceptual plan might include:

- A summary of the ideas that were identified in information-gathering and community input steps
- The goals and objectives that have been identified
- Concept diagrams to clearly represent the overall intent of the project and the land's potential uses
- A conceptual map or maps that illustrate what the acquired properties could look like under different scenarios

When developing concepts for the plan, aspects that need to be considered include accessibility, existing infrastructure, and public safety. It may be necessary or advisable to bring in police, fire officials, an attorney, local planners, or other experts to ensure that the conceptual plan conforms with local codes, ordinances, policies, and best practices before it is finalized. (The next section addresses some of these considerations in more detail.)

Gather Input on Draft Plan: A second community meeting will provide an opportunity to present the findings and gather more input from stakeholders. Some cases may require making significant changes to the concept plan based on their input.

Step 5: Finalize and Implement the Plan for the Site's New Use. At this point, the lead community agency is ready to finalize, and then implement, a plan for the site's new use or management approach.

Finalize the Development Plan: This plan is more focused and specific than the conceptual plan, and its content will depend on project-specific factors like what use(s) are chosen and the guideposts set out in the conceptual plan. For example, if habitat restoration will occur on the site, then a specific restoration plan will be needed. The development plan should include adaptive management or contingency plans in case anything goes wrong or something unexpected occurs during implementation.

Identify Necessary Permits: The final plan should clearly identify any permits or approvals that are required for developing community amenities or starting restoration work at the site. Permits that may be necessary will vary widely by project type and location. The regulatory programs that trigger permit requirements are administered by a variety of local, state, or even federal agencies, and it is important to identify them and plan accordingly. In general, permits/approvals must be obtained prior to beginning work at the site, and some permitting programs have ongoing reporting or renewal requirements that should be worked into the plan as well (more information on permits is provided in Part III below).

Develop a Long-Term Monitoring and Maintenance Plan: Once the development plan is finalized, a monitoring and maintenance plan should be developed to ensure that the use is sustained. This plan should identify a party or parties who will be responsible for maintaining and monitoring the site over the long term. In some cases, properties may be transferred to a third party (a conservation-oriented organization) or may be leased to neighbors or another third party. The implementation plan should identify what is required of any third-party transferees or lessees in terms of monitoring and maintenance and how much it might cost.

Identify the Players Involved: The plan should identify partners, including staff, contractors, and volunteers. Who will be involved in the development/restoration of the site? What are their specific roles? The final plan should identify all the players that will be involved from the early planning and construction stages through monitoring and ongoing maintenance.

Finalize the Budget: The final plan should include a budget. The budget needs to include all the costs of restoration or use development. Long-term management and maintenance costs should be included, as well as any funds that may be necessary to implement the adaptive management or contingency plan. The plan should also identify funding sources for all the costs in the budget.

Develop an Outreach Plan: Lastly, the final plan should include an outreach plan to ensure that community members and neighbors understand the plans for the site and how it will improve community resilience, health, and appearance.[119] The outreach plan should provide for engagement with local conservation groups, homeowners' associations, students, neighbors, and the general public.

Implement the Plan: After working through all the steps in the decisionmaking process, it is time for implementation (and then long-term management) of the carefully planned project. Community staff may need to hire contractors, oversee partners, participate in construction, monitor restoration, reach out to community members, and so on. Once the project itself is complete and the site's new use or management approach has been established, the community will need to ensure that long-term manage-

118. There are many resources available that provide tips for writing goals and objectives. One example is *Tips for Writing Goals and Objectives*, available from the University of Southern California at https://practicum.usc.edu/docs/pm596tipsforwritinggoalsandobjectives.doc.

119. *See*, *e.g.*, U.S. EPA, *Water Topics*, https://www.epa.gov/environmental-topics/water-topics#our-waters (last updated Sept. 11, 2017).

ment and maintenance is funded and commences according to plan.

In some cases, the community will decide to turn over the deed (or a lease) to another entity, whether it occurs immediately after a project is complete (prior to the start of the long-term management phase) or at some time in the future (after long-term management already has begun). Federal programs allow the community to turn over acquired properties to other government agencies, but also to groups with a conservation mission. Such organizations may include local watershed groups, land trusts, conservation organizations, or other similar groups.

To the extent that a community already knows that it intends to turn the property over to another agency or group after the project is complete, and which agency or group it will be, that entity should be engaged from as early in the process as possible. In addition to making sure expectations stay aligned, they may have expertise and/or funding that may be useful for the restoration effort.

III. Making It Happen: Challenges and Issues to Consider When Determining What Can Be Done With a Property

Our detailed case studies of communities participating in floodplain acquisition programs and supporting research have identified examples of programmatic and management structures that have been successfully employed. We have also learned that communities face many challenges in prioritizing and financing buyouts and managing acquired properties to provide multiple benefits. In this part, we identify some common challenges that may arise in connection with a post-acquisition restoration or management project, as well as some basic information and resources that can assist communities in meeting them.

A. How to Fund a Large Restoration Project

One of the primary obstacles to restoring habitat or natural floodplain functions to acquired properties on a larger scale is lack of funding.[120] Federal floodplain acquisition programs (e.g., the FEMA HMA programs) provide funding to *acquire* the property and remove structures, but not for subsequent *restoration* or ongoing *management* of the sites.[121] Generally, allowable expenses for structure demolition and relocation under federal acquisition programs include removal of demolition debris and household hazardous wastes; abatement of asbestos and/or lead-based paint; removal of septic tanks; permitted disposal of fuel tanks; removal of structure foundation and basement walls to at least one foot below finish grade; filling of basements with clean fill; termination of abandoned utilities; capping of all wells; and grading or leveling of demolition sites.[122]

Funding for any restoration or development on acquired properties falls on the subrecipient, often the local government. Therefore, if a community would like to do something on the land, such as restoring habitat or developing community amenities, it must find other sources of funding. The cost of restoring habitat or developing community amenities on the site will depend on the scale and scope of the project.

Many communities will have prior experience with developing parks and other recreational facilities, and will likely have some understanding of the related costs. Many state and local governments may have established standards with pricing estimates for various recreational uses.[123] For example, the State of Colorado Small Community Park and Recreation Planning Standards provide a good range of cost estimates for a variety of recreational uses, from baseball fields to general parks, including annual maintenance costs.[124]

Habitat restoration standards and/or pricing estimates may be less common. The local government departments that are responsible for the floodplain acquisition program and for managing acquired sites often do not have the expertise or funding to restore habitat and manage for ecological outcomes. Furthermore, it is likely to be more difficult for project planners to find information on generalized or widely applicable restoration costs, because restoration projects vary so widely depending on setting and scope.

In general, restoration costs will include plan development, staff time, large equipment rental, plants, soils, signage, fences, equipment or temporary structures, and so forth, and the budget should reflect all of these costs to the greatest extent possible. If there is no in-house capacity for taking on habitat restoration projects, communities should reach out to local or state conservation groups, local resource conservation districts, state agencies, and consulting firms, all of which may have useful information and/or be willing to assist communities in planning to restore acquired sites.

In some cases, local funding will be available to complete projects. In other cases, additional funding sources will be necessary. Potential funding sources may include:

- Federal grants
- State grants

120. *See generally* The Nature Conservancy & Ducks Unlimited, Accelerating Wetland Restoration in the Chesapeake Bay Watershed: Obstacles and Solutions (2015), *available at* http://www.aswm.org/pdf_lib/accelerating_wetland_restoration_%20interview-report_final.pdf.

121. The list of activities to which federal funds can be dedicated is detailed in FEMA, Hazard Mitigation Assistance Guidance Addendum: Hazard Mitigation Grant Program, Pre-Disaster Mitigation Program, and Flood Mitigation Assistance Program (2015) [hereinafter FEMA Addendum], *available at* http://www.fema.gov/media-library-data/1424983165449-38f5dfc69c0bd4ea8a161e8bb7b79553/HMA_Addendum_022715_508.pdf.

122. *Id.* at 6. The guidance specifies that aesthetic improvements and landscaping are non-allowable costs.

123. *See, e.g.*, Northern Arizona University, *Cost Analysis & Financial Strategies: On-Line Lesson* (citing Wirth Design Associates, Long Range Master Plan for Park & Recreation Planning Standards (1997)), http://www.prm.nau.edu/prm423/cost_analysis_lesson.htm (last visited Nov. 14, 2017).

124. RPI Consulting, Inc., State of Colorado—Small Community Park & Recreation Planning Standards (2003), *available at* http://hermes.cde.state.co.us/drupal/islandora/object/co%3A3238/datastream/OBJ/view.

- State appropriations/other state funding or financing
- Local funds
- Foundation grants
- Community fundraising
- Corporate sponsorships
- Partnerships[125]

Every state, community, and project has access to a unique combination of funding opportunities. Some projects may leverage multiple funding sources.

B. How to Get Buy-In From Neighbors

Community participation is a vital component of any project, whether it involves site-scale volunteer maintenance of a community garden by neighbors or a community-scale participatory planning process to determine the best use of a site. As noted in the previous section, engaging community members in the decisionmaking process should be a key priority for local governments (or other project proponents) planning a project on acquired properties.

There are a number of existing resources that can help a community develop an outreach plan and raise support for projects on acquired properties, some of which are identified here:

- *Getting in Step* (2010): EPA's "Getting in Step" guides for watershed outreach campaigns are a good place to start.[126] The stakeholder engagement guide provides conceptual guidance as well as logistical tips and specific strategies for considerations ranging from generating initial interest, to engaging stakeholders, to properly equipping stakeholders for productive participation.[127] The watershed outreach guide sets out a "step-by-step approach to social marketing and outreach planning and implementation" to help communities "determine the most effective vehicle to reach [their] target audience and motivate behavior change."[128]
- *IAP2 Spectrum of Public Participation* (2007): The International Association of Public Participation has developed guidance to help a community define its public participation goals and identify specific techniques to reach them.[129]
- *Public Participation Guidelines for Park Planning* (2012): The Department of Parks, Recreation, and Cultural Resources for the city of Raleigh, North Carolina, has effectively organized its public participation policy and guidelines around four "pathways" for public participation—outreach, information exchange, feedback and consultation, and consensus-seeking. These pathways may serve as a useful example for communities seeking specific best practices and strategies to strengthen their public participation framework.[130]
- *Decision-Making Guidelines for Vegetation Management, San Mateo County Parks* (2006): Habitat restoration projects are successful when they are appropriately maintained over time, and neighbors and visitors to the site will be an important factor in the site's future maintenance. There are steps project managers can take to increase the probability that neighbors, visitors, and local volunteer groups will make positive contributions toward long-term management goals (or at least not detract from stewardship efforts). The San Mateo Country Parks and Recreation Department clearly defined the objective of "encouraging park stewardship" as part of its *Decision-Making Guidelines for Vegetation Management*.[131] Specific strategies to further the objective are found in the guidelines and may serve as a useful reference for communities seeking ways to encourage or improve neighborhood stewardship.

C. How to Find the Right Partners

Partners can play important roles in any project on acquired land, including helping to plan for future acquisitions, helping sellers navigate the buyout process, planning management activities, fundraising, restoring sites, and providing long-term management and maintenance.[132]

125. For more on these types of grants, see ELI & UNC-IE, Protecting Wetlands and Wildlife Habitat While Reducing Flood Losses: A Guidebook on Interagency Collaboration in the Mississippi River Basin (2012), *available at* http://www.eli.org/sites/default/files/eli-pubs/d22-06.pdf.

126. *See* Office of Water, U.S. EPA, Getting in Step: A Guide for Conducting Watershed Outreach Campaigns (3d ed. 2010) (EPA 841-B-10-002) [hereinafter Guide for Conducting Watershed Outreach], *available at* https://cfpub.epa.gov/npstbx/files/getnstepguide.pdf; Office of Water, U.S. EPA, Getting in Step: Engaging Stakeholders in Your Watershed (2d ed. 2013) (EPA 841-B-11-001) [hereinafter Engaging Stakeholders], *available at* https://cfpub.epa.gov/npstbx/files/stakeholderguide.pdf.

127. *See* Engaging Stakeholders, *supra* note 126.

128. Guide for Conducting Watershed Outreach, *supra* note 126, at 1.

129. *See* International Association for Public Participation, IAP2 Public Participation Spectrum (2007), *available at* http://www.fgcu.edu/Provost/files/IAP_Public_Participation_Spectrum.pdf.

130. *See* L. Steven Smutko & Mary Lou Addor, Public Participation Guidelines for Park Planning—Department of Parks and Recreation, City of Raleigh, North Carolina (2012), *available at* https://www.ncsu.edu/nrli/decision-making/projects/documents/FinalPublicParticipationGuidelines05-14-12.pdf.

See also Department of Parks, Recreation, and Cultural Resources, City of Raleigh, North Carolina, Public Participation Policy for Park Planning (2014 Update), *available at* https://gsa.raleighnc.gov/viewer/index.jsp?start=0&proxy=%2F&sessionid=d51e1ec0-f00a-4048-ac83-133982e08400.

131. Parks and Recreation Department, County of San Mateo Environmental Service Agency, Decision-Making Guidelines for Vegetation Management (2006), *available at* https://parks.smcgov.org/sites/parks.smcgov.org/files/documents/files/Vegetation%20Management%20Guidelines.pdf.

132. For more about how a city recognized as a national leader in flood management, Tulsa, decided to identify partners instead of undertaking a project alone, see John D. Flanagan et al., R.D. Flanagan and Associates & HNTB Corporation, Mooser Creek Greenway: Restoration and

In general, many community and environmental groups are unaware of the potential opportunities for restoring or redeveloping floodplain buyout sites, but these groups may be able to contribute a range of experience, skills, resources, and relationships that will help the project succeed. As a first step, the community agency may identify particular implementation needs—such as technical expertise, a strong volunteer network in the area, or access to funding—and then target outreach to potential partners accordingly. (For more on developing and implementing outreach strategies, see the above discussion of neighborhood buy-in.)

There are a number of different agencies or groups that could be interested in some aspect of the project. The following broad categories and accompanying examples may be useful for identifying some of possible partners, as well as their potential roles.

Local, State, and Federal Agencies: While partnering with another government entity might mean the project generates additional process-based requirements, government agencies may have useful powers and tools, such as providing opportunities to acquire or connect additional land adjacent to buyout properties, granting approvals and permits, and providing opportunities for additional public funding.

Government partners may also be able to assist the community with long-term management of a buyout site. For example, in East Grand Forks, Minnesota, many acquired properties were converted to a large greenway system that is now managed cooperatively by the city of East Grand Forks (which owns the land), the Minnesota Department of Natural Resources, and the Grand Forks Park District, with help from the Greenway and Trail Users Advisory Group. Another example is Wakenda, Missouri, where the NRCS took over management of buyout sites as part of a larger project to reduce the potential for flooding in the watershed.[133]

Broadly speaking, the kinds of agencies a community might consider partnering with include, but are by no means limited to:

- *Federal*: NRCS, ACOE, National Parks Service, Bureau of Reclamation, Fish and Wildlife Service, U.S. Forest Service, EPA, FEMA
- *State*: Departments, agencies, and programs in areas such as natural resources, environmental protection, wildlife/fish and game, floodplain management, water resources management, coastal resources, transportation, commerce
- *Local*: City, county, or town entities or programs responsible for public works, land use planning, parks and recreation/open space, urban development, tourism, flood and/or stormwater management, port authority, historical or archaeological resources; local resource conservation districts can also be good options

Nongovernmental Organizations: Large national or regional nonprofit organizations with conservation and habitat restoration missions, like The Nature Conservancy, Ducks Unlimited, the National Audubon Society, and American Rivers, can help communities with whom they partner by providing expertise, funding, and an existing network of relationships with conservation professionals, agencies, and community groups.

In Washington State, for example, the state Department of Ecology has partnered with The Nature Conservancy to lead the "Floodplains by Design" partnership.[134] The mission is "carrying out integrated projects that improve flood protection for towns and farms, restore salmon habitats, improve water quality, and enhance outdoor recreation," and Puget Sound communities are leveraging the resources available through this public/private partnership. In King County, the community partnered with Floodplains by Design to plan a project that will acquire up to 15 floodplain properties (and remove up to 15 homes) to add flood storage, improve climate resilience, and restore salmon habitat in the Cedar River corridor.[135] While the Floodplains by Design partnership is neither affiliated with nor receives funding from FEMA's HMGP, the planning and implementation processes as well as the development of partnerships in various sectors can serve as a useful model for similar projects.

Partnering with a *local* nonprofit organization has also proven very effective for some communities. A local organization may be interested in working with a buyout site's new owner to restore or use the land to further its specific, localized mission (consistent with flood mitigation and open-space uses). The Forest Service is developing a resource for environmental stewardship organizations to be able to seek out other entities working toward similar goals in overlapping regions, but local guides or directories may also serve as starting points for identifying potential nonprofit or nongovernmental partners.

Other potential partners include:

- Local or state land trusts (to find land trusts in the area, visit the Land Trust Alliance website)[136]
- Local watershed groups/councils
- Other community groups (e.g., fitness and/or recreation organizations, historical societies, faith-based organizations)

Preservation of a Historic Pristine Stream (2004), *available at* http://www.rdflanagan.com/Mooser/Mooser.pdf.

133. Missouri State Emergency Management Agency, Stemming the Tide of Flood Losses: Stories of Success From the History of Missouri's Flood Mitigation Program 71.

134. The Nature Conservancy, *Floodplains by Design*, http://www.nature.org/ourinitiatives/habitats/riverslakes/floodplains-by-design.xml (last visited Nov. 14, 2017).

135. Floodplains by Design, *Science*, http://www.floodplainsbydesign.org/old-webpages/science/ (last visited Nov. 14, 2017).

136. Land Trust Alliance, *Find a Land Trust*, http://www.findalandtrust.org (last visited Nov. 14, 2017).

Companies or corporations that can sponsor or donate volunteer time to projects that might reflect or support their mission or help their visibility in a particular community

Colleges or universities (student researchers, academic experts, and interest groups)

Reaching out to potential partners and creating new relationships can be productive even outside of forming a formal partnership. For example, Rocky Mount, North Carolina, sent city officials to visit other North Carolina cities that had implemented a FEMA buyout in the past. Officials from Greenville and Goldsboro were able to provide Rocky Mount planners with insights on how to implement and manage an acquisition project, including inspecting and assessing damaged homes and using a geographic information system (GIS) to track acquisitions, which helped Rocky Mount navigate and expedite the lengthy application process.[137]

D. Project Permits

Permitting, and the fees and time associated with the process, are often perceived as significant obstacles to implementing a project that alters the landscape or land use. It is true that most projects taking place in flood-prone areas will require some type of permit, notification, or approval, even when they are small in scale and/or designed to have a positive impact on the environment. On the other hand, some of the agencies overseeing the relevant permitting programs have carved out exemptions or streamlined the process for habitat restoration projects meeting certain criteria. Here, we discuss some of the permits that a habitat restoration or other open-space development project is most likely to need, noting common requirements and ways agencies have found to make the process simpler and less burdensome for restoration projects with net benefits.

As noted earlier, it is important to take full inventory of the legal and regulatory landscape in the early stages of a project; the sooner potential permit/approval/notification requirements are identified, the more likely it is to achieve compliance in time to keep the project on schedule (e.g., within the time frame required for funding). Regulatory agencies with jurisdiction over a project, or over one or more of its components, might include any combination of federal, state, county, city, town, or other agencies, so it is important to understand the different (and sometimes overlapping) requirements at each level. The following summaries note some of the permitting and approval requirements typically associated with certain resources and project activities, but it is important to consult with state and local regulators to verify which requirements apply to a particular project.

Work in or Affecting Waterways or Wetlands: Given potential effects on water quality, navigation, and fish and wildlife, many projects in or near public waterways or wetlands will trigger one or more of the federal, state, and/or local regulations that guarantee certain minimum protections for these resources. If the project involves placing any material into, removing any material from, or otherwise disturbing a waterway or wetland, there is a good chance it will require a permit from ACOE, the state water quality agency, or both.

ACOE Permits: A federal permit from ACOE is required for any "dredge and fill" activity in the "waters of the United States."[138] Large-scale projects may need an individual Clean Water Act §404 permit.[139] However, ACOE has adopted a set of general permits called nationwide permits (NWP) that function as a sort of blanket authorization for certain activities that will result in minimal individual and cumulative impacts.[140] Notably, NWP 27 covers aquatic habitat restoration, establishment, and enhancement activities, authorizing many activities associated with habitat restoration projects in wetland and riparian areas with the condition that such activities "result in net increases in aquatic resource functions and services."[141] Often, the proponent of a project covered by this (or any) NWP still needs to submit a preconstruction notification to the local ACOE office to verify the authorization.[142]

Also, if a project will affect species or habitat listed under the Endangered Species Act, ACOE will have to consult with the Fish and Wildlife Service or the National Marine Fisheries Service before the NWP authorization or other permit can take effect.

State Permits for Streambed Alteration, Wetlands Restoration, Etc.: Whether or not a dredge and fill permit is required from ACOE, it is common for states to have their own permitting or prior approval requirements for activities affecting wetlands and aquatic habitats (e.g., public waters, streambeds, lakes).[143] To help streamline the process, the state may allow applicants to fill out a joint application for state and federal permits (although they will still need to receive permits from both agencies). Also, §401 of the Clean Water Act requires states and tribes to review all federal permit applications that might result in a discharge

137. ELI & UNC-IE, *supra* note 113.

138. ACOE administers these permit programs pursuant to §404 of the Clean Water Act and §10 of the Rivers Harbor Act. U.S. waters include navigable coastal and inland waters, including lakes, rivers, streams and their tributaries; interstate waters and their tributaries; and wetlands adjacent to navigable and interstate waters. Isolated wetlands and lakes, and intermittent streams, are also regulated by ACOE if their degradation could adversely affect interstate commerce. ACOE's jurisdiction extends to the ordinary high water or high tide line. *See* 33 U.S.C. §1344.

139. Association of State Wetland Managers, Permits for Voluntary Wetland Restoration: A Handbook, *available at* http://www.aswm.org/pdf_lib/permits_for_voluntary_wetland_restoration_handbook.pdf.

140. *See* ACOE, *2012 Nationwide Permit Information*, http://www.usace.army.mil/Missions/CivilWorks/RegulatoryProgramandPermits/NationwidePermits.aspx (last visited Nov. 14, 2017).

141. *Id.*

142. ACOE, Nationwide Permit Reissuance: Questions and Answers (2012), *available at* http://www.usace.army.mil/Portals/2/docs/civilworks/nwp/NWP2012_qa_15feb2012.pdf. Note: Division engineers can add regional conditions to NWPs to restrict their use and ensure those activities result in minimal adverse effects. ACOE's district offices can determine if there are any additional conditions for the NWPs in a region.

143. Twenty-five states have some sort of aquatic resource permitting. *See* ELI, America's Vulnerable Waters: Assessing the Nation's Portfolio of Vulnerable Aquatic Resources Since *Rapanos v. United States* (2011), *available at* https://www.eli.org/sites/default/files/eli-pubs/d21-06.pdf.

of pollutants, including sediment, to state or tribal waters/wetlands to ensure the project complies with state water quality standards. The state has the authority to approve, condition, or deny this request for water quality certification, and projects might be required to incorporate additional measures to address likely impacts (e.g., sediment, stormwater runoff, spills, disturbance to fish and wildlife, etc.) during the construction phase and/or for the duration of the site's use.[144]

Restoration and management of native vegetation is a key component of habitat restoration, so it is worth noting that some states require special permits for activities affecting plant life in public waters or wetlands. If a project involves activities like removing, planting, or otherwise manipulating aquatic vegetation (e.g., cattails, bulrush) or using herbicides or pesticides in public waters, it might need an additional or supplemental permit or authorization.

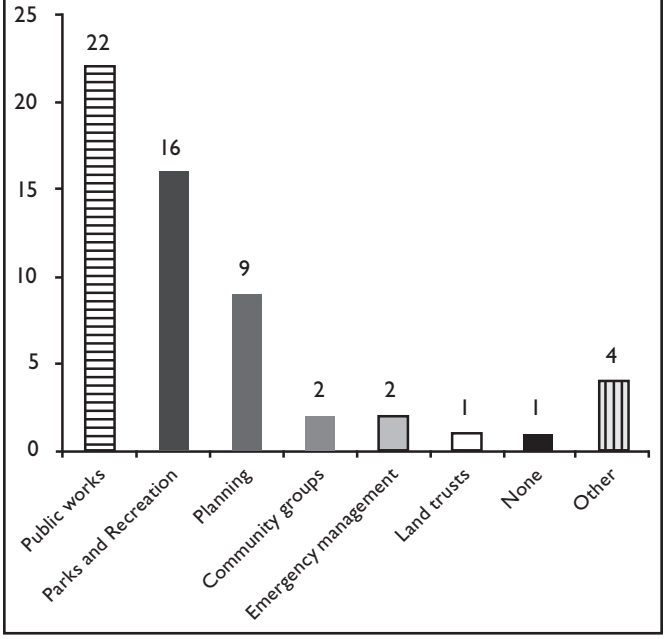
Local Requirements for Erosion and Soil Slippage: It is common for local governments to place restrictions on and/or require permits for projects affecting steep slopes or bluffs (e.g., excavation, cutting or clearing plants) with potential to worsen or accelerate erosion. When contacting local land use and planning officials to discuss a proposal, it is a good idea to inquire whether the project could trigger any such regulations and, if so, what steps must be taken to comply.

Work in Floodplains and Floodways: Local and/or state floodplain authorities are responsible for making sure activities in the floodplain conform to their standards and existing management plans. When a project is located within or encroaches on a designated floodplain or floodway, as is typically the case with a voluntary buyout, it may require a floodplain permit or approval. In California, for example, these are called "encroachment permits" and are issued by regional flood protection boards.[145]

Other Regulatory Considerations: Above, we have identified some of the permitting programs most likely to apply to a habitat restoration project (or other development) on buyout property. Other permits, licenses, and approvals that should be considered, depending on a project's location and design, range from zoning requirements to air quality regulations. Regulations in various jurisdictions (i.e., local, state, federal) are important to consider in planning phases so that the project complies with requirements and is able to proceed without unanticipated costs.

Environmental Assessments: Depending on a range of project-specific factors, such as state law, agency partnerships, sources of funding, land ownership, and design details of the project, a project may require an environmental impact assessment under the National Environmental Policy Act (NEPA) or the state's equivalent. Acquisitions of property using federal grants are generally exempt from NEPA, but subsequent projects that alter conditions at a site may trigger federal or state impact assessment laws anew. Most of the time, requirements under these laws are procedural, designed to ensure governments or project sponsors give thorough consideration to a project's impacts rather than establish substantive restrictions; however, when a project requires an environmental assessment, agencies responsible for granting permits and approvals typically cannot do so until the process is completed.[146]

Figure 4. Entities That Oversee Acquired Properties (Findings from ELI Outreach Study, 2015)



ELI's 2015 study collected information about the acquisition of property in floodplains to help determine best practices. Forty community representatives across North Carolina, Wisconsin, and Minnesota shared their experiences, which helped ELI understand gaps between actual use of acquired properties and their potential to foster multiple community and environmental benefits.

E. Responsibility for Ongoing Maintenance and Management

Restored habitats may require long-term management and maintenance in order to be successful over the long term.[147] Long-term management and maintenance responsibilities will vary depending on the needs of the site, but could range from more intensive activities (e.g., habitat management, invasive species control) to more minimal activities (e.g., maintaining fences and signs). In some cases, local governments will have the capacity and funding to take on these responsibilities themselves. In

144. Clean Water Act §401.

145. *See* F. Thomas Griggs, River Partners, California Riparian Habitat Restoration Handbook 36 (2d ed. 2009), *available at* http://www.river-partners.org/documents/Restoration_Handbook_Final_Dec09.pdf.

146. Procedural requirements can range from one relatively simple step (e.g., finding of no likely impact) to a series of more complicated and expensive ones (e.g., in-depth study and analysis, public notice and hearing).

147. *See generally* Hobbs et al., *supra* note 104.

other cases, local governments will look to outside groups to aid with these tasks.

In many cases, management of acquired properties tends to be the responsibility of a local government agency. In small communities, there may be an elected official or city staff member in charge of all such properties. In larger communities, parks and recreation, public works, planning/zoning, or emergency management agencies may manage floodplain buyout properties. In a study conducted by ELI, respondents noted the entities that currently oversee acquired properties. The responses, ranging from public works departments to community groups, are highlighted in Figure 4.

In some cases, these local agencies are well-equipped already to manage restored habitats and/or community amenities. Parks and recreation departments, for example, will have expertise in the maintenance of parks and other outdoor recreational facilities. In other cases, the department holding the acquired properties will have neither the capacity nor the funding to monitor and maintain the sites over the long term. Monitoring properties and/or managing habitat just may not be part of the mission or day-to-day activities of some of these agencies. For that reason, some communities have had success involving more than one agency in a site's ongoing management.

For habitat restoration projects, as with many other uses that provide multiple benefits, there is often a long list of potential management and maintenance responsibilities—all of which must be defined and allocated among future site managers and/or land stewards. A long-term management/maintenance plan can help to accomplish this as early as possible in a project's life cycle, in order to avoid making management decisions on the fly after a community has already started (or finished) a project. The more clearly the ongoing management tasks are set out in the plan, the easier it will be to determine the costs over the long term. When designing a maintenance plan, keep in mind opportunities to leverage existing resources and/or provide multiple benefits—in Tulsa, Oklahoma, for example, the government's management and maintenance trails double as nature trails open to the public.

Management and maintenance can be expensive, and these expenses must be factored into funding decisions upfront. How much money will be needed to manage sites? Project managers should carefully determine these costs to ensure that money is available for management and maintenance over the long term.[148]

During the planning process, a community can try to identify ways to meet project goals that are most cost-effective in the long term. In Springfield, Missouri, for example, maintenance considerations were kept in mind when project designers made landscaping decisions on the greenway created using buyout properties:

> The underlying turf is buffalo grass—a native grass chosen for its hardiness and low-maintenance. The selection of native plants leads toward a future reduction in maintenance costs and negative environmental impacts because natives have been proven to require less maintenance, water, fertilizer and pesticides. Tree species included native willows, redbuds, witch hazels and serviceberries.[149]

Communities have found ways to finance improvements and maintenance of properties through public mechanisms. In East Grand Forks, Minnesota, for example, maintenance and management of the greenway system is funded through an annual utility fee. Similarly, the city of Tulsa finances improvements to its urban greenway with stormwater fees assessed on new construction projects.

In addition to relying on governmental management and funding, local governments might look to community groups and the public to help manage and maintain sites. These groups could include community organizations, schools, watershed groups, land trusts, and other local or regional conservation groups. In addition to helping the government meet the property's ongoing needs, community-led management helps ensure buy-in from neighbors and the public for the management of the site, increases chances of use, and helps to sustain the restoration or use over the long term.

In some situations, community-led management initiatives can be established and maintained through a fairly informal framework, like a volunteer program. However, other times, it is helpful to establish a formal arrangement—such as a memorandum of agreement, contract, or subcontract—to clearly establish the responsibilities of each party and help increase accountability. It may even make sense to formally transfer ownership or use/occupancy rights to a qualified third party having appropriate management capacity and resources; this can relieve the government of ongoing maintenance responsibilities related to the land while engaging the broader community in habitat or public amenity management. The following section points out some issues for a community to think about if or when a property transfer is being considered.

F. Transferring the Property to Another Organization

After a buyout, the property's open-space deed restrictions attach in perpetuity, but the community may lease the property to a new user or outright transfer the property

148. ELI & Land Trust Alliance, Wetland and Stream Mitigation: A Handbook for Land Trusts (2012), *available at* http://www.eli.org/research-report/wetland-and-stream-mitigation-handbook-land-trusts. *See also* The Nature Conservancy, Long-Term Stewardship Calculator: Accompanying Handbook (2016), *available at* https://www.conservationgateway.org/ConservationPlanning/ToolsData/Documents/Long-Term%20Stewardship%20Calculator%20Handbook.pdf. The long-term calculator tool can be found at Nature Conservancy Conservation Gateway, *Stewardship Calculator and Handbook*, http://www.conservationgateway.org/ConservationPlanning/ToolsData/Pages/stewardshipcalculator.aspx (last updated Apr. 18, 2016).

149. City of Springfield, *Jordan Creek*, https://www.springfieldmo.gov/2139/Jordan-Creek (last visited Nov. 14, 2017).

to a qualified public or nonprofit owner. A lease or title transfer may make sense for reasons related to management responsibilities, stakeholder participation/support, legal liability, or other considerations. Both leases and transfers must have FEMA approval prior to the transaction.[150] Whether or not money is involved in the transaction, the new user or owner would become responsible for the property and adhering to the deed restrictions.[151] This includes, for example, responsibility for the three-year open-space certification required for open-space monitoring.[152] Here, we note some of the ways that buyout properties can be transferred to facilitate new uses and some of the considerations involved.

Transferring Title to a Public Entity or a Conservation Organization: Under the FEMA HMA programs (including the HMGP), subrecipients are allowed to transfer their interest in the property after the acquisition is complete—but only to certain entities, and only with the prior approval of the FEMA regional administrator.[153] Organizations to which full title can be transferred are limited to: (1) another public entity; or (2) a nonprofit organization with a conservation mission.

Especially in situations where properties border other public lands (e.g., a park, nature preserve, conservation area), an agency that owns and maintains other land in the area may be well-suited to acquire some or all of the site.[154] This could be a state entity like a state natural resource agency, or it might be a different local agency, like a municipal parks department. Regional conservation districts are also an option, and it may even be possible in some cases to transfer the land to a different federal agency.

FEMA's handbook, *Property Acquisition Handbook for Local Communities*,[155] emphasizes the importance of considering adjacent land uses when developing a plan for acquisitions. If federal funding is limited, acquiring properties near existing conservation or recreation areas that are managed by other agencies could make it easier to transfer post-buyout management responsibilities and expand ongoing, sustainable uses of a community's land. During initial stakeholder outreach and while exploring possible partnerships, a community may want to explore the possibility of identifying another agency that would be willing and able to take over responsibility for the site's management and maintenance.

Other than public entities, the FEMA HMA programs may authorize transfer of acquired properties to qualified, private nonprofit organizations with a conservation mission.[156] There are criteria as to what qualifies as a conservation organization.[157] It might make sense to transfer properties permanently to a conservation organization like a land trust through a full title transfer, where the acquisition of floodplain property may align with the organization's own goals and objectives. It is also possible that transferring title of the property to a private nonprofit partner could be a way to enable the community to leverage other sources' funding for the project.

A conservation easement may also be used to transfer interest in the property to a land trust or other qualified group. These organizations are likely to have stewardship and monitoring protocols in place for their existing land, allowing them to coordinate the necessary management and maintenance efforts, be it by their staff or community volunteers, more efficiently. Having another organization (or agency) be the easement holder is a way to allocate responsibility to the other entity for maintaining and keeping competing uses away from the property. It is also possible that additional public or private funding sources are available, but are limited to projects on private land; in this situation, transferring title of the property to a private nonprofit partner could enable an ambitious project to leverage the funding it requires.[158]

Leasing the Property to a Private Individual or Entity: In some situations, the community will want to retain ownership of the acquired property while still granting other parties the right to use it. While governments may have informal arrangements already with neighbors and community groups allowing use of the land for activities like gardening or recreation, a formal agreement in the form of a lease may help the potential new user(s) feel more secure in their right to the property and more willing to invest their own resources to maintain the property for that use. Properties acquired with federal mitigation funds may be subsequently leased to public or private entities or individuals for uses consistent with open-space deed restrictions with prior FEMA approval.[159] The owner does not need to receive market value for the lease—indeed, it is common for community leasing programs to use nominal fees such

150. *See* FEMA Addendum, *supra* note 121, at 10, §A.4.5.

151. *Id. See also* Florida Department of Community Affairs, Handbook for Floodplain Acquisition and Elevation Projects (2001), *available at* http://www.floridadisaster.org/publications/FloodplainAcqElevProj.PDF.

152. *Id.*

153. *See* FEMA Addendum, *supra* note 121, at 10, §A.4.5.

154. *Id.*

155. Property Acquisition Handbook, *supra* note 70, at IV-8 to IV-9.

156. A qualified conservation organization is an organization whose purpose has been conservation for at least two years before the opening of the application period that resulted in the transfer of the property interest to the subapplicant, pursuant to §170(h)(3) and (4) of the Internal Revenue Code of 1954, as amended, and the applicable implementing regulations. The transferee must document its status as a qualified conservation organization where applicable.

157. *See* FEMA Addendum, *supra* note 121, at 10, sec. A.4.5.

158. For land acquisition/easement guidance through the National Fish and Wildlife Foundation, see *Guidance to Applicants Requesting Funds for the Acquisition of Interests in Real Property*, http://www.nfwf.org/whatwedo/grants/applicants/Pages/acquisitions-easements.aspx (last visited Nov. 14, 2017). For information about easements through the Nature Conservancy, see *Conservation Easements*, http://www.nature.org/about-us/private-lands-conservation/conservation-easements/all-about-conservation-easements.xml (last visited Nov. 14, 2017). Pennsylvania's Department of Conservation and Natural Resources and the Pennsylvania Land Trust Association serve as excellent examples of easements for conservation. For more information, including sample easements and tools for deal-making, see Pennsylvania Land Trust Association, Conservation Tools, *Acquiring Land & Easements*, http://conservationtools.org/guides/category/2-acquiring-land-easements (land visited Nov. 14, 2017).

159. 44 C.F.R. §80.19(b)(2).

as $1.[160] Leases can be flexible in duration to suit both parties' needs, ranging from short-term for a pilot project, to a longer term commitment or lease-to-own arrangement.[161]

Where buyout parcels are adjacent to remaining homes or other privately owned parcels in the neighborhood, it may be mutually beneficial to lease properties to nearby property owners who are interested in maintaining the additional open space. Wyoming County, West Virginia, which acquired a number of riverfront properties through the HMGP, leases each site to neighboring landowners for $25 per year. The lessees take care of the properties, and according to FEMA, "[w]here houses once stood, horses now graze, gardens flourish, and open green space is abundant."[162] For a community that wants more flexibility in who can legally occupy the land and for what duration, a lease can be a good option for formally assigning management responsibilities to another person or organization.

IV. Conclusion

Buyouts create opportunities for communities to create public assets while restoring the ecological integrity of the floodplain and strengthening the community's resilience to future disasters. Communities have put lands acquired as part of a buyout to a variety of uses, including community gardens, dog parks, greenways, and restored wetlands. Understanding the legal and practical requirements of HMGP-funded floodplain acquisitions is fundamental to maximizing the potential benefits of acquired parcels. Considering habitat and conservation opportunities in addition to community resilience can maximize the benefits of floodplain buyout projects.

Once properties have been acquired, a community must decide how it will maintain and monitor the land. Different management options entail varying degrees of investment and attention. Choosing the best-fit project for a community requires consideration of various factors:

- Local, state, and federal laws and regulations
- Geographical layout or distribution of acquired property and the broader landscape
- Available resources, including funding, knowledge, and capacity for planning and executing a successful project
- Community interests and needs (since we have an entire section on community engagement, we should include something here about community interests or goals)

Communities can take certain steps to avoid obstacles and address the challenges that come with voluntary floodplain acquisitions as well as post-buyout projects. Obstacles include getting owners to sell property, deciding on the best management option for patchwork distributions, and funding the acquisition and projects.

Well-informed planning, community input, and clear goals and objectives are important for the long-term success of a project. Partnerships can reduce certain planning burdens on the local government (or HMA applicant) and engage diverse groups in the local community or region. Management and maintenance responsibility can be distributed strategically in a similar fashion. Ultimately, the HMGP and other hazard mitigation funding programs provide an opportunity for smart growth and management of ecosystems in a way that maximizes environmental and community benefits.

160. For example, families adjacent to two properties acquired with HMGP funds are paying GreenBrier County a token rent of $1 to use the land for family gardens in West Virginia. *See* FEMA, Mitigation Works: Mitigation Best Practices 17 (2011), *available at* http://nhma.info/uploads/bestpractices/2011%20-%20Best%20Practices%20-%20Acquisitions%20Buyouts.pdf.

161. In order for lease-to-own to be an option, the lessee still must be an entity qualified to take title under the HMGP restrictions described previously.

162. FEMA, *supra* note 160, at 26.