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Floodplain Buyouts: Challenges, Practices, and Lessons Learned

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Cover Photo: FEMA

EXECUTIVE SUMMARY

Floods are the most expensive disaster in the United States and one of the most common. The number of homes experiencing repeated flood damage has doubled in the last two decades. To reduce the number of homes exposed to flooding, over 1,100 counties across 49 U.S. states have used voluntary property acquisition programs ('buyouts') to purchase and demolish flood-prone homes. The National Institute of Building Sciences estimates that buyouts save $5 to $9 for every $1 spent. However, buyouts can also be difficult to administer. Buyout programs have been critiqued for being slow, expensive, and possibly inequitable. This report draws on case studies and interviews with experienced buyout administrators to understand why buyout programs are challenging and to identify how administrators have managed to reduce or overcome challenges.

Expert buyout administrators and additional staff increase the number of properties that can be bought out and the services that can be provided to support residents. They avoid penalties and delays, streamline processes, reduce costs, leverage collaborations, and pursue a variety of creative funding sources. State programs to offer funding and technical assistance can be critical in enabling towns and counties to pursue buyouts for the first time. State and local sources of funding provide buyout administrators with greater flexibility than federal funding sources, and this enables them to tailor buyouts to meet local conditions and to pursue long-term strategies that benefit the community. Buyouts that use state and local funding may be 2-3 years faster than those that use federal funds.

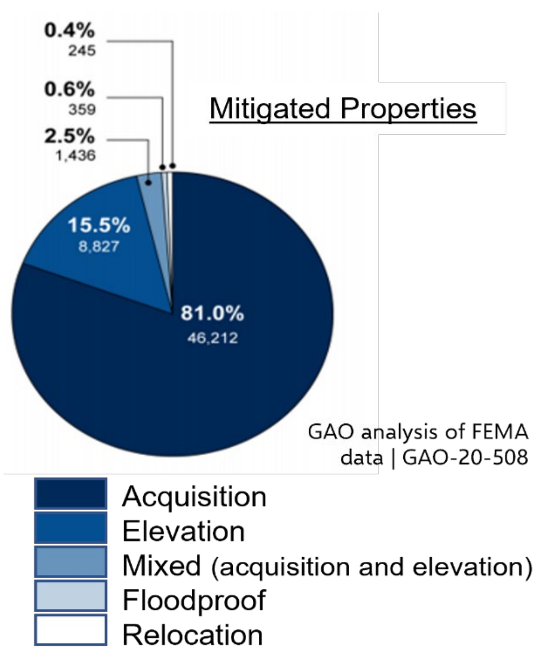
Over the last three decades, there has been substantial variation in how buyouts have been administered. This is due to creativity on the part of buyout administrators and changing state and federal policies. Inconsistent interpretations of federal policy continue to create confusion and lead to variations in buyout administration. These variations appear to have important consequences for participants (e.g., in how much they are compensated and what additional services they receive) and for communities (e.g., program expense and permitted uses of acquired lands), but we do not have enough information about how participants fare long-term to know how differences in administration affect participant well-being or communities over time.

Buyouts often require administrators to make difficult value-laden decisions, and the administrators' personal values, as well as their understanding of local context, play a significant role in how they approach these decisions. Decisions about, for example, where to offer buyouts, how to value homes being purchased, and whether to pursue relocation assistance for participants require administrators to balance competing values and priorities. Much of the variation appears to be in response to local conditions (e.g., property values, housing availability, demographics). There is unlikely to be one 'best' way to administer buyouts across these contexts. This report therefore presents a range of variations so officials and communities can think about what is appropriate in their context.

INTRODUCTION

The number of U.S. homes facing repetitive flood damage has almost doubled in the last two decades to 229,000 (*1*). One strategy to reduce repetitive flood loss is to remove homes and other buildings from the floodplain. Over 1,100 local governments in 49 states have purchased and relocated or demolished flood-prone homes through voluntary property acquisition programs, often called 'buyouts' (*2*, *3*). In fact, about 80% of properties that have had their repetitive flood risk mitigated using funds from the Federal Emergency Management Agency (FEMA) were bought out (*1*). The National Institute of Building Sciences estimates that buyouts save $5 to $9 for every $1 spent (*4*). Nevertheless, some local governments are reluctant or unable to use buyouts because they pose political and administrative challenges.

This report summarizes lessons learned by buyout administrators and practitioners and how they have overcome or reduced several common challenges, such as how to: (a) finance buyouts, (b) improve speed and efficiency, and (c) increase uptake of buyout offers among residents. Lessons are drawn from program evaluations, case studies, academic research, and interviews with program administrators. Throughout the report, we note concerns about equity and identify where actions taken by state or federal agencies could support local efforts. The report is far from a complete account of all significant findings in buyout policy research; rather, it represents a critical starting point for leaders seeking to guide future buyout programs toward more equitable and effective outcomes.



BACKGROUND

Those familiar with the process may wish to skip ahead to the lessons learned (starting p8). For those unfamiliar with buyouts, this section provides a brief introduction.

WHAT IS A BUYOUT?

Buyouts are a specific type of property acquisition program in which government[1] purchases private property from a willing seller, demolishes or relocates the structures on the property, and retains the land as open space. It is the retention of land as open space – rather than allowing re-development – that distinguishes a buyout from a more general acquisition (*5*). The voluntary nature of the procedure distinguishes buyouts from eminent domain or condemnation proceedings (although concerns have been raised that some buyout programs are technically voluntary but coercive in practice) (*6*, *7*).

WHY BUYOUTS?

Buyouts reduce risk permanently – at least in theory. People who move away from highly hazardous areas are safer. There are no floodwalls that may be overtopped or that require raising and maintenance to

[1] We focus on the role of governments herein because buyouts are primarily administered and funded by government agencies.

remain effect. There are no elevated homes that may leave residents isolated or exposed to toxic waters in flooded roads (*8*). Offering buyouts provides people with the option to relocate. People often become fed-up with repeat disasters and the emotional and financial stresses that disasters cause, but people living in risk-prone places may not be able to sell their home on the private market (or may be able to sell only at a significant financial loss) or they may not want to sell and expose another family to the same risk they have decided to leave (*9*, *10*).

> *'"We've been in this house for 26 years and we have flooded, I stopped counting at 14 flooding events. I just stopped counting."*
>
> *[He] won't sell it for just another family to deal with, so he said the only way out is a buyout'*
>
> *Resident Socastee, South Carolina, quoted in (10)*

The open land created by buyouts has numerous benefits. It can absorb flood waters, mitigate wildfires, reduce heat, improve air quality, and provide recreation for people or habitat for endangered species. Grand Forks, North Dakota, created a large river-front park with trails and sports fields to help absorb flood waters and provide recreational opportunities (*11*). Land in Houston, Texas, has been turned into 'pocket prairies' that provide green spaces in the city and habitat for endangered sage grouse (*12*). On coasts, open land provides space for the beach to roll inland, allowing the ecosystem to preserve itself and allowing the public to continue to access the coast.

HOW DO BUYOUTS WORK?

Programs can vary significantly in how they are administered, even programs that use the same funding source. A 'typical' buyout is outlined here (and see Table 1). Usually this begins with a disaster: either a major event (a hurricane, flood, or wildfire) or a series of minor events (e.g., nuisance floods). New Jersey's Blue Acres buyout program, for example, acquires both properties that were damaged by Superstorm Sandy and properties that have experience chronic flooding along the Passaic River. Buyouts, in this respect, are often "reactive" – they are occurring because a hazard already presents challenges to residents. It is possible that buyouts could be more "proactive" – used to help people relocate before they experience any harm or inconvenience, but it is unusual for residents to want to relocate before they experience some level of threat. Nevertheless, all buyouts are in some respect proactive in that they seek to prevent the next disaster.

Once a disaster occurs or a hazard is identified, someone in the community decides buyouts might be a good option. This could be (a) the local government, (b) a community organization or group of property owners, or (c) an individual property owner who wants to move. If it is a community or individual, they approach the local government to express interest in a buyout. If a local government opposes buyouts, the community or individual could approach the state, as there are some state programs that implement buyouts – e.g., New York State administered buyouts on Staten Island after the City refused (*13*). However, this is rare. More often, if the local government opposes buyouts, no buyout will occur. In New Jersey, the Blue Acres state program will not purchase homes in towns without the local government's consent. Federal agencies do not provide funding directly to homeowners. Sometimes this means residents will need to petition or advocate for buyouts.

Although local governments most often administer buyouts, funding may come from local, state, or federal sources or a combination of all three. At the federal level, the Federal Emergency Management Agency (FEMA), Department of Housing and Urban Development (HUD), US Army Corps of Engineers (USACE), and US Department of Agriculture (USDA) are common sources of funding for buyouts (see p.9). Many, though not all, of these programs require some portion of the funding to come from state or local sources (a cost-share or match requirement). State and local governments use a variety of sources of funding for their cost-share, or they may fund buyouts completely independently of federal funding (see p.11). Charlotte-Mecklenburg, North Carolina, uses stormwater management fees to support their local buyout program. New Jersey allocates a portion of their corporate business tax revenues to the Blue Acres program. If a local government decides to pursue federal funding, there are numerous steps involved in the application (e.g., environmental inspections, cost-benefit analysis) and the process may take several years (*14*). State and local sources of funding generally have less bureaucracy and are faster (see discussion p.20). Securing funding quickly is important because it reduces the financial and emotional burden on participants, who are required to continue to pay mortgage and flood insurance premiums on the damaged property, even if it is so damaged that they must also buy or rent a second livable home.

Once funding is secured, the local government makes purchase offers to property owners. If the buyout was instigated by community members, offers are usually made to those community members. If the buyout was instigated by the local government, the government typically identifies a set of criteria it uses to prioritize where to make offers (e.g., prioritize offers to homes that experienced the most damage, parcels close together to make land use after acquisition simpler and more effective, cost-effectiveness) (see p29). These vary from place to place and are rarely made explicit or public (*7*, *15*). Most often, offers are made to a small number of households, and programs end up acquiring just 5-15 properties (*2*, *14*).

Purchase offers are usually made at the pre-disaster fair-market value, meaning the value the home would have sold for on the private market before it was damaged (although there is some variation in how people calculate fair market value and whether it is more appropriate to use pre-disaster or post-disaster, current market value, as discussed on p.16). The government hires an appraiser to determine the fair market value of the property and makes an

Photo: FEMA, Franklin VA

offer based on this price. The owner may object to the appraised value and hire an independent appraiser to provide a second opinion (at the owner's expense). The state then provides a third appraiser who reconciles the two initial estimates and determines the fair market value of the home. Sometimes the program has a policy that if the two values are less than 15% apart, they will offer the higher value. Once the fair market value is determined, the homeowner may accept or reject the offer, but there is generally little or no negotiation.

Some programs provide additional financial incentives or services to raise participation or to help participants find replacement housing after the buyout. New York offered an additional 10% on top of the fair market value for homes located in extremely hazardous locations, a 5% bonus for owners who relocated within the city, and a 10% bonus for neighbors who agreed to move as a group (thereby avoiding checkerboarding), although the last bonus was eventually dropped (*7*). The Harris County Flood Control District, Texas, offers up to $35,000 to assist low- and moderate-income households in purchasing a new home outside of the floodplain and outside of Houston in Harris County, and a $19,875 lump-sum payment as an incentive to purchase a home outside the floodplain and within Harris County (*16*). FEMA and HUD may also provide additional funding (up to $31,000 for FEMA-funded buyouts) to assist buyout participants to purchase new homes outside of the floodplain.

At any point in the process, the property owner may decide not to sell. Only the property owner has authority to make the decision. If the property is a rental, the decision is made by the landlords, not the tenants. Tenants receive relocation assistance according to the requirements of the Uniform Relocation Act, although some practitioners still note concerns that such assistance may not be sufficient (e.g., six months of rental assistance may not support a resident who needs to find stable housing outside of the floodplain) (*17*). Relocation assistance is mandated for rental tenants and property owners who are forcibly displaced (forced by government action, not by a natural hazard), but homeowners who participate in a voluntary buyout are rarely offered the same aid. Several practitioners described a reluctance to work with rental properties, either because of the additional workload involved or the potential for the buyout process to inadvertently harm tenants. They recognize that the buyout process may harm tenants if they do not receive sufficient relocation assistance, but practitioners also described scenarios in which landlords used the process as a way to illegally displace tenants or to try to receive benefits as both the tenant and property owner. Oversight and enforcement to protect tenants can therefore become an important aspect of buyouts involving rental properties.

Once the sale is finalized, the residents relocate, if they have not already done so, and the structures are either relocated (rare) or demolished (common). The empty land is maintained as open space. In some places this means it becomes a park, garden, wetland, flood buffer, or wildlife habitat, but in many places the land just becomes a vacant lot because the local government has too few resources to pay for its conversion or restoration (*18*). Empty land may still provide flood mitigation benefits, by absorbing future floodwaters, but it misses an opportunity to do something even more beneficial with the land. Often, the acquired land is publicly accessible (this is a requirement of some federal programs), but in other cases, the land may be leased to the neighbors for their use in exchange for maintaining the land (as is sometimes done in Charlotte, North Carolina, to reduce the maintenance costs imposed on the town).

Photo: National Park Service, Nisqually River

As noted above, one of the main distinctions between a general 'acquisition' and a 'buyout' is that the land is not redeveloped. This distinction can appear confusing because some funding sources will fund both acquisitions and buyouts and some locations use both acquisitions and buyouts at the same time. For example, after Superstorm Sandy, New York State administered both buyouts and acquisition-and-redevelop programs (*5*). HUD Community Development Block Grants - Disaster Recovery (CDBG-DR) allow redevelopment for 'acquisitions' but not 'buyouts.' Acquisitions are intended to help with economic development whereas buyouts are intended to reduce risk from natural hazards. For this report, we will focus exclusively on buyouts, where redevelopment of the land with businesses or homes is not permitted.

This overview has described a 'typical' buyout process, to the extent that is possible, but there are numerous variations and numerous ways for local decisions to tailor buyout programs to their circumstances. Some of these variations, and some of the fairness and equity concerns that arise at each stage, are highlighted in Table 1. Further variations are discussed in the lessons learned section (starting p. 8).

Typical Step	Hazardous event	Local government acquires funds	Local government offers buyouts using pre-disaster fair market value	Property owners decide whether to accept the offer; if they accept, they move out	Building moved or demolished; Land maintained as public open space
Variations	Sudden disaster (e.g., wildfire, hurricane) or recurring damage (e.g., nuisance floods)	Local funds (e.g., stormwater management fee), state programs, or federal grants	State may also administer but most often county; Purchase price may be current, post-disaster value or include bonuses and incentives	Rental tenants must move if the property owner accepts a buyout; Residents may already have moved post-disaster	Some programs permit re-development; Some use land to benefit community (e.g., as parks or gardens); More often land remains open but unused
Concerns	Who is most affected? Whose homes are most damaged? Low-income and minority communities at greater risk, experience more damage, may be less able to afford private actions	Which governments have capacity? Wealthy, urban municipalities have more political power, financial resources, and personnel to acquire funds and administer buyouts	Who receives offers? (Who should receive offers?) Are offers sufficient? Fair market value may not be sufficient to pay for comparable quality housing outside the hazard area	What influences decisions? Where do residents go? Property owners may face financial or social pressure to accept; Finding safe replacement housing may be difficult; Loss of property revenue may affect those who remain	Who benefits from open space? Wealthy communities more likely able to convert land to a beneficial use (e.g., park, habitat, flood buffer); Green amenities may contribute to gentrification
Sources	Mileti 1999 (19); Martinich et al. 2013 (20); Knighton et al. 2021 (21)	Mach et al., 2019 (2); Elliott et al., 2019 (3); Siders 2018 (15)	Weber & Moore 2019 (14); McGhee et al. 2020 (22); Kraan et al. 2021 (23); Siders & Keenan 2019 (24); Tate et al. 2016 (25)	Robinson et al. 2018 (26); DeVries & Fraser 2012 (27); Bukvic et al. 2018 (28); Loughran et al. 2019 (29); Koslov et al. 2021 (30); Binder et al. 2020 (31)	Keenan et al. 2018 (32); Shokry et al. 2020 (33); Zavar & Hegelmann 2016 (18); Atoba et al. 2021 (34)

Table 1. Typical buyout process steps, variations, and concerns.

CHALLENGES

Buyouts are often critiqued for being slow, expensive, politically controversial, and possibly inequitable. This section describes why these challenges are important, and the next section collects tips and lessons learned by practitioners who have overcome these challenges.

Slow.

In an analysis of FEMA-funded buyouts, the Natural Resources Defense Council (NRDC) found that the average time between a disaster and buyout grant closing was 5 years (*14*). This is likely longer than the buyout process as experienced by a homeowner (from the day someone decides to pursue a buyout to the day when the purchase is finalized or the home is demolished) since buyouts sometimes begin years after a disaster and administrators may wait to close the grant paperwork until every home in the buyout program has been purchased and demolished. When federal funds are used, administrators estimate that buyouts take 2-3 years longer than when local or state sources of funding are used.

Even the relatively short timelines of state and local programs (3-18 months on average) can pose challenges for participants. Primarily, residents must decide where to live while the buyout process is ongoing. If their home has been substantially damaged, residents may rebuild or they may decide to find alternative housing. If the resident rebuilds using federal funds or payments from the National Flood Insurance Program (NFIP) and then the government purchases the home, the government could end up paying twice: once to rebuild and once to purchase and demolish the building (also see Duplication of Benefits box on page 15). On the other hand, if the house is unlivable, and residents move somewhere else, they must still pay the mortgage (if they have one) on the damaged home and pay the NFIP premium (if they have a policy) while the buyout is being processed. This means they could end up paying for two mortgages (or mortgage and a rent) for years. Some people simply cannot afford the double-payments and end up dropping out of the buyout program after initially expressing interest. This is also a problem for administrators and may lead to less efficient acquisitions and checkerboarding.

Expensive.

Many local governments struggle to pay for municipal services (e.g., schools, roads, emergency services) and there never seems to be enough money. Finding additional funds to pay for buyouts may require creativity, and in some cases it is seen as a political impossibility. Federal programs often require a local cost-share (although state funds can remove or reduce this burden), and securing federal funds often requires an investment in staff that many local communities are unable to make. This is one reason why buyouts primarily take place in wealthier, denser counties across the United States – they have more staff and more resources to hire expertise or to pay for cost-shares and participant incentives (*2*, *3*).

Paying the fair market value for risk-prone homes may also make buyouts prohibitively expensive in areas with extremely high property values. For example, one reason buyouts often occur on rivers and estuaries rather than oceanfront beaches is that beach-front property is expensive. Some programs place caps on the amount that may be paid for any home, and others declare homes above a certain value to be ineligible for buyouts, due to a belief that government buyouts are not intended to benefit wealthy property owners. Often these caps are based on flat rates despite the differences in real estate prices across the country.

Finally, if a buyout program is successful in removing homes from a hazardous area, the property tax base of the local government may be reduced if buyout participants do not relocate locally and if no additional housing is developed in conjunction with the program. Buyout programs have the potential to reduce local expenditures – through disaster prevention and recovery costs avoided and reduced municipal services – but these are rarely achieved because programs rarely acquire enough homes to abandon an entire road or utility service (*35*). Wapello, Iowa, represents a significant exception: the entire levee district agreed to participate in a land swap and buyout, which enabled the USACE to stop maintenance on a local levee and local land trusts to turn the once flood-prone farms into a wildlife preserve (*36*). While buyouts are designed around individual properties, community relocations – where an entire community, town, or village moves to a different location together – have also been used to manage retreat and have, in some cases, enabled towns to revitalize their populations and economies (*37–39*).

Politically controversial.

Buyouts involve people leaving their homes, and this can be a controversial decision (see, e.g., (*28*, *40–42*). Politicians have sometimes been afraid to discuss buyouts for fear of how their constituents would react. Local community groups have sometimes actively petitioned for buyouts, because their local governments were not willing to discuss the issue. In a Canadian case, local politicians were surprised when residents expressed the most interest in discussing managed retreat from flood-prone areas. In short, politicians' views of how their constituents feel about buyouts may be inaccurate. Nevertheless, broaching the subject of managed retreat can be a difficult task, and even in communities where some residents want to be bought out, conversations about how many properties should be acquired, what additional protective measures should be taken, who should be prioritized, and how the land should be used can be divisive (*43*, *44*).

Photo: USGS, Midwest Floods

Inequitable.

Academic studies suggest that nationally buyouts are taking place more often in wealthy counties but in lower-income neighborhoods within those counties (*2*, *3*). In some cases, this raises concerns that Black, Indigenous, or other communities of color might be adversely affected (*42*, *45*). Other studies, however, suggest buyouts are predominantly taken by white residents, perhaps to leave neighborhoods that are becoming increasingly racially diverse (*29*, *46*) (see further discussion on equity p. 39). Federal programs that prioritize cost-effectiveness over addressing social inequities may exacerbate these challenges (*25*). Several Indigenous communities have struggled to receive funding for buyouts or to maintain local control over the relocation process, and federal programs have been criticized for an over-reliance on European conventions of individualism and property ownership that disadvantage Indigenous communities (*41*). Buyout administrators are generally aware of the potential equity challenges that buyouts may involve, and they want to avoid programs that inadvertently exacerbate social injustices, but individual administrators all have different ideas about how to achieve these goals, as we will discuss (p. 39).

PROGRAM VARIATIONS AND LESSONS LEARNED

Over 1,100 counties across 49 states have used buyouts in the last three decades (*2*). While many of these programs have used FEMA or HUD funding sources, they have administered their programs very differently in their details. The diversity of approaches suggests that buyouts can be creatively tailored to meet a variety of local contexts and that practitioners are actively seeking to improve their programs. Diversity in practice also means that the experience, capacity, and personal beliefs of individual local officials can significantly shape buyout program processes. Variations in practice can have important consequences for the program and for participants, and understanding which variations lead to which outcomes in a given context remains a crucial area of research and policy learning.

When addressing the challenges described above (financing, timelines, equity), there is unlikely to be one practice that is the best answer in all situations. Rather, certain practices will be most appropriate in certain contexts and other practices will be preferred in other contexts (e.g., practices may differ in urban and rural environments, when addressing flood and fire). We are not, therefore, advocating for any of the individual lessons learned identified below. Rather, our goal is to present them as a menu of options, a starting point for practitioners to consider what might work in their context or to generate new innovative approaches. Future collaborations between practitioners and academics will be needed to help assess which practices in a given context lead to particular outcomes.

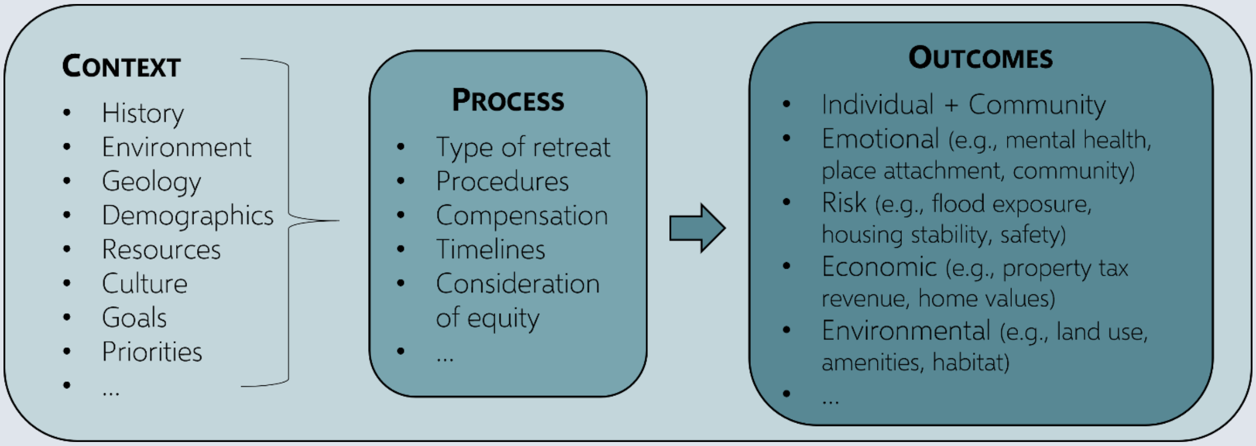


Figure 1. Local context will shape what processes are appropriate and how well those processes are able to achieve a range of different outcomes (e.g., social, economic, environmental). The purpose of this report is not to advocate for any particular process but to provide a range of options for practitioners to consider what makes sense in their context.

FINANCING

Funding for buyouts often involves a mix of federal, state, and local funding sources. Buyout administrators tend to rely on federal funding streams, but although large, these funding sources are still insufficient to meet demand for buyouts, and federal funds come with additional requirements that may prolong buyout processes or constrain buyout program flexibility.

Federal Funding Streams

Buyouts are commonly funded by the Federal Emergency Management Agency (FEMA), the Department of Housing and Urban Development (HUD), the U.S. Army Corps of Engineers (USACE), and the U.S. Department of Agriculture (USDA). Of these, FEMA and HUD are most used. FEMA grant programs, which include the Hazard Mitigation Grant Program (HMGP), the Flood Mitigation Assistance Program (FMA), and Building Resilient Infrastructure and Communities (BRIC) (previously Pre-Disaster Mitigation), generally fund the purchase of developed land and are only used to acquire vacant land if that land "borders a structure that is also eligible for a buyout and if the purchase of both parcels remains cost effective" (*8*). Commercial properties are eligible for buyouts under both FEMA and HUD funding, although properties containing hazardous materials are ineligible for FEMA grants (*8*). Further, FEMA-funded buyouts must create deed restricted open spaces, eligible only for structures that "promote ecosystem restoration" or "preservation." Lands obtained through HUD's Community Development Block Grants (CDBG) program are not deed restricted and can be redeveloped under certain circumstances (the regular program; the CDBG-DR has its own rules)(*5*). Properties acquired through FEMA buyout projects become ineligible for future disaster assistance from the federal government.

Importantly, residents cannot apply directly to FEMA, HUD, or USACE programs for a buyout. A local government or state must apply for and administer the buyout program.

FEMA:

- The Hazard Mitigation Grant Program (HMGP) is FEMA's primary source of funding for assistance in the direct aftermath of a disaster. States may apply for funds when counties have received a presidential disaster declaration, and funds are prioritized in these counties, but superfluous funds may be spent in other counties. Eligible communities must also have a FEMA-approved local mitigation plan in place and be able to prove the cost-effectiveness of projects using a FEMA-approved calculation method (*35*, *47*). For property acquisitions, HMGP will provide up to 75 percent of project costs, and the remaining 25 percent must be provided by a non-FEMA source (often state, local, or HUD funds) (*8*). Areas deemed "small impoverished communities" (communities of 3,000 or fewer residents, with an average per capita annual income no greater than 80 percent of the national per capita income) are eligible to obtain as much as 90 percent federal funding (*48*).

- The Flood Mitigation Assistance Program (FMA) funds "projects which reduce or eliminate the long-term risk of flood damage to buildings, manufactured homes and other structures insured under the National Flood Insurance Program (NFIP)"(*49*). FMA funds are therefore available only to communities who participate in the NFIP. FMA may provide up to 90 percent of project costs for repetitive-loss properties and up to 100 percent for severe repetitive-loss properties (*8*, *50*). (A repetitive loss property is one with 2 or more separate claims of more than $1,000 over a 10-year rolling period. Severe repetitive loss properties are those with 4 or more claims of more than $5,000 each since 1978, or 2 or more claims where the total claim value is greater than the value of the property, where at least two claims occur within the same decade.)

- Building Resilient Infrastructure and Communities (BRIC) is a new program funding states, local communities, tribes, and territories completing preemptive hazard mitigation projects. It replaces FEMA's existing Pre-Disaster Mitigation (PDM) program,(*51*) and is funded by a presidential decision to set aside up to 6% of the funding spent on presidential disaster declarations in the previous federal year. Unlike HMGP funds that become available immediately after a disaster, BRIC funding is available to any state for which the President has issued a disaster declaration in the past seven years. BRIC will generally fund 75 percent of program costs, with the remaining 25 percent provided by a local match. As with the HMGP, small, impoverished communities are eligible for a 90/10 cost-share.

HUD:

- Community Development Block Grants - Disaster Recovery (CDBG-DR) is a subset of the larger HUD CDBG program. The Disaster Recovery funds are specifically intended to be flexible sources of funding to help cities, counties, and states with long-term recovery from presidentially declared disasters. As with all HUD programs, the funds are intended to serve low-and moderate-income (LMI) households and communities(*52*). CDBG-DR are appropriated by Congress under the existing CDBG authority following a major disaster. CDBG-DR allocations are not legally required to be tied to a disaster declaration, but this has been the norm. CDBG-DR therefore does not have a consistent budget, but at times, the supplemental allocations to the CDBG-DR program are larger than the budget for the conventional CDBG program. CDBG-Mitigation (CDBG-MIT) funds were developed as part of the CDBG-DR appropriations and are intended to promote hazard mitigation and resilience. Because these funds are specially appropriated by Congress, each allocation may contain specific requirements or guidelines that govern their administration. Generally speaking, CDBG-DR funds have no local matching requirement. CDBG and CDBG-DR funds can be used to fund buyouts independently or to fulfill federal cost-share requirements (*53*).

USDA:

- Natural Resource Conservation Service (NRCS) Emergency Watershed Protection Program-Floodplain Easement (EWP-FPE) is intended to help restore lands to a natural state for specific parcels that meet flood control criteria, have been damaged by flood, or would be affected by a dam breach. This program removes all structures and puts perpetual easements held by USDA on the land to prevent development. The program often offers 100% of the funding for the land and restoration (*54*). Because it is an easement program, rather than a fee simple acquisition, landowners still retain some rights to the land, namely the rights to quiet enjoyment, to control public access, and to recreational use such as hunting and fishing (*55*).

USACE:

- USACE oversees a buyout program under the Flood Risk Management Program (FRMP). This program also includes structural flood risk options (e.g., levees). Nonstructural measures, like acquisitions, are often partnered with structural measures and may be used to make space for flood control structures or to mitigate risks where structural measures are deemed inefficient or infeasible (*56*, *57*). Most projects involve a 65/35 cost share, although repetitive loss projects may involve a 90/10 split.

Non-Federal Funding Sources & Cost-Share

Numerous funding sources exist to support buyouts; the challenge lies in having experienced personnel who know what sources are available, which sources they are eligible for, and which sources provide the greatest benefits for the least amount of paperwork. Practitioners noted that federal officials rarely have the time or expertise to help local governments understand programmatic details, so local officials need to have this knowledge (or they need to acquire it from supportive state officials or expert contractors). For example, knowing that a community meets the "small and impoverished" eligibility criteria for HMGP or BRIC, and knowing how to navigate the bureaucracy and BCA rules to prove that eligibility, can reduce the cost-share requirements by more than half or even eliminate them. As one state official described it: *"We've never had a community that approached us that wanted to do a project where match was the problem. A lot of times it's lack of gumption, willingness, capability at the local level to actually develop and see these projects through because they are overly complex. Way more complicated than they need to be."* (See also discussion on local capacity, p.38) However, it is important to note that local government officials who do not have the resources for the cost-match may not reach out to state or federal officials in the first place.

Some federal funding programs (e.g., HUD CDBG-DR) can be used to cover the match requirements for other federal programs (*58*). Applying for these match funds can be complicated and time-consuming, as it often requires the local official to create an additional application (not just provide a duplicate set of papers). FEMA and HUD programs have little overlap in their application requirements, so applying to both is double the work. It can also extend the timeline of the buyout substantially, as the two programs rarely have deadlines or timelines that are aligned. Buyout officials were split as to which program they felt was

Sources of State and Local Funding

- federal programs (FEMA, HUD, USDA, SBA)
- state budgets (often provide 12.5% funding from state, 12.5% local, 75% federal)
- water conservancy or flood control districts
- water quality programs
- stormwater management fees
- sales tax
- corporate tax
- lottery funds
- bond (e.g., resiliency or adaptation bond)
- in-kind costs (e.g., staff time)
- fire department time & equipment for a controlled burn exercise (also reduces demolition costs)
- environmental trust funds
- private partnerships
- homeowner donation (e.g., accepts price less than fair market value or agrees to pay closing costs)

more onerous in its application requirements; they appear to prefer whichever program they have more experience navigating. For new officials or towns with little experience applying for federal aid, the program requirements are likely to prove a major hurdle.

States and municipalities can also fulfill federal matching requirements with funds from their budget, grants, taxes, fees, conservation trust funds, or private partnerships (see side bar). In some cases, state and local governments have created funding sources that enable them to administer buyouts without any federal funding at all. This gives them greater control over the process. It shortens timelines (e.g., from 2-5 years to 3-18 months) and can allow the use of creative solutions that are prohibited under federal guidelines (e.g., land swaps or leasebacks).

Allocations and grants:

- State government appropriations, including Minnesota's Flood Damage Reduction (FDR) Grant Assistance Program, the Missouri Buyout Program, North Carolina's Crisis Housing Assistance and Hurricane Floyd Reserve funds, and the Georgia Governor's Emergency Fund, have served to (at least partially) fulfill non-federal match requirements for FEMA-funded buyouts (*58*).

- State-level grants, such as Wisconsin's "Municipal Flood Control Grant," can fund cities, villages, towns, or tribes to administer property acquisition and removal of structures for permanent open space or flood water storage. This grant originally provided funds for the full federal cost-share, but funds were later reduced to cover only 12.5%. A similar program operates in Ohio. Some practitioners feel the reduced support from state programs prohibits small and impoverished towns from leveraging federal funds. Others feel it is important for local communities to "have skin in the game" to incentivize them to make good decisions for long-term risk reduction. Some states have implemented thresholds, similar to an insurance deductible, based on local population and median household income, such that once a community has contributed a certain amount of local match, the state fund will pay for any additional costs.

- State and city bond funds have also been used to fund buyouts and other hazard mitigation projects in Minnesota and Texas (*58*). These bond measures have the advantage of "creating an emergency fund" with "flexibility of timing for buyouts" (*59*). When Texas's Harris County Flood Control District used their local bond funds for buyouts, for instance, **they were able to successfully shorten the buyout process from more than eighteen months to three or four months**. Success was achieved through an "unprecedented" level of support from community engagement meetings, council members, and state and congressional representatives (*59*).

- For smaller, standalone property acquisitions, it may also be possible to reserve funds at the county level for a certain number of annual purchases. For example, Wisconsin's Kenosha County Board agreed to set aside "enough funding for one acquisition per year after conversations with the Department of Planning and Development"(*58*). (See discussion below about pros and cons of acquiring many properties at once or a few at a time.) Local open space protection programs occasionally buy and demolish developed properties and can serve a buyout function as well.

- In addition to the actual purchase price of the properties involved, funds are needed to cover overhead costs such as hiring appraisers, demolition of the buildings, and project management. Some municipalities have capital funds that can be used for these costs, even if not for the property acquisition, and these can be used as cost-share matching funds. The time local staff spend on project management can be considered a donation in-kind, which counts towards match (as long as staff salaries do not depend on the federal funding sources).

Taxes:

- The City of Davenport, Iowa, used a local sales tax to bolster a preexisting acquisition program following the 1993 Mississippi River floods. Similarly, the city of Neosho, Missouri compensated for insufficient funds with a 3/8th-cent sales tax after original funding ran out, allowing them to both pay for 26 additional property acquisitions and maintain newly acquired land as part of its city park (*60*). The city of Austin, Minnesota also began implementing a 0.5 cent local option sales tax in 2004 to help match federal or state funds for buyouts in flood-prone areas (among other services and projects) (*58*).

- The Blue Acres buyout program in New Jersey is funded by the Garden State Preservation Trust Act, which created a constitutional amendment to dedicate funds from sales tax revenue to buyouts for conservation and flood risk reduction (see details in Appendix B). The 2016 Preserve New Jersey Act dedicated a share of the state's corporate business tax revenue to the acquisition of flood-prone lands. Blue Acres has also acquired federal funds to support buyouts, but these consistent sources of funding have enabled the program to pursue additional properties and pursue long-term strategies (in a way that one-time funds do not support).

Stormwater management fees:

- Buyout programs in Tulsa, Oklahoma and Charlotte-Mecklenburg County, North Carolina have both utilized stormwater management fees as sources of funding. Where Tulsa's buyout program draws on 20% of its stormwater utility fee, the Charlotte-Mecklenburg Floodplain Buyout Program draws on a "rainy day fund" created by Storm Water Services fees based on "square footage of impervious surface" (*58*, *59*). While the Charlotte-Mecklenburg program was once federally funded, it has (as of 2020) succeeded in sustaining itself on local funds alone (*59*). This enables the program to act far more quickly (e.g., making buyout offers in the days following a storm rather than months or years later) and to pursue creative solutions for specific contexts (e.g., rent back acquired homes to provide residents with time to find replacement housing).

Environmental trust funds:

- The Nebraska Environmental Trust Fund, funded by the Nebraska Lottery, provides funding for "environmental initiatives including those focused on water quality, lakes, and wildlife habitat" and has been used as a non-federal match for buyout programs.

- Morris County, New Jersey's "Open Space & Farmland Preservation Trust Fund" is partially intended to support the state's flood mitigation program. This trust fund is fed by property taxes "equal to 7/8 cent per $100 of total county equalized real property valuation as of March 2017".

Private partnerships:

- "Floodplains by Design," an initiative funded by the Washington State Department of Ecology, the U.S. EPA, Puget Sound Partnership, NOAA, Boeing, the National Fish and Wildlife Foundation, and the Russel Family Foundation, has funded a variety of hazard mitigation projects, including acquisitions and buyouts.

Other government agencies:

- Water conservation boards and water quality programs often have a vested interest in creating open spaces next to bodies of water, and funds from these sources (either at the state or watershed level) have been used to meet cost-share requirements for federal programs.

- Transportation departments occasionally also fund cost-share if the buyout would enable the department to expand a transportation network or to remove roads and bridges that have become expensive to maintain. Similarly, parks and recreation departments may be sources of funding if the buyout would enable them to expand an existing park space or create a new one. Creating parks, however, may also increase maintenance costs for these agencies, which can be a burden depending on their relative funding streams.

- One creative solution for finding match funds is to donate an acquired property to the local fire department, who can use the building for a controlled burn exercise. The fire department gains a training opportunity and their time and use of equipment are then eligible to count towards the cost share (and there is no additional fee for the demolition of the building).

Homeowner contributions:

- One controversial strategy for matching federal funds is for a homeowner to contribute. The homeowner could accept an offer for their home that is less than the full fair market value (and the difference would go towards the cost-share requirement). The homeowner could agree to pay closing costs or other fees (thereby saving the state or local government money).

Some officials believe this practice is unfair because it may mean, in practice, that only wealthy residents who can afford the reduced price would be able to take buyouts. Or that residents who take less than the full price may struggle financially after the buyout. Other officials believe this practice helps residents who might not otherwise get a buyout, because their town cannot afford the local cost-share and therefore may choose not to use buyouts at all). They note that a person selling on the private market would have to repair a flood-damaged home, hire a real estate agent and inspectors, and pay closing costs, so a reduced buyout price may actually reflect what the person would re-coop in practice on the private market. Still others believe this practice is beneficial because it makes the homeowner contribute to the process and avoids buyouts feeling like handouts – either to the

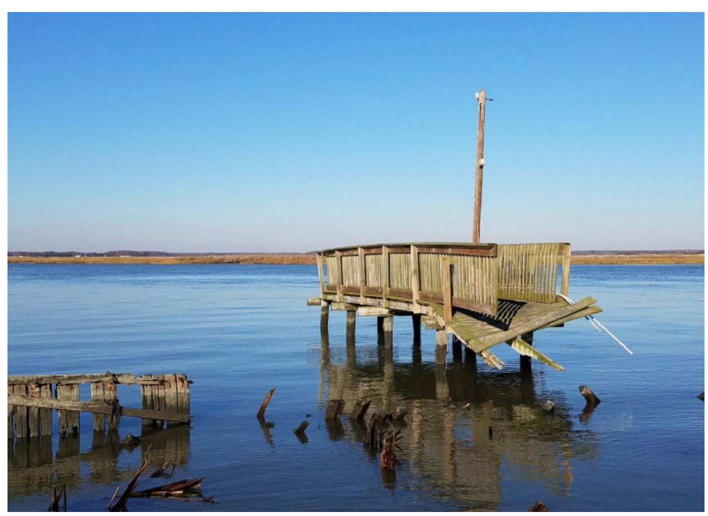


Photo: New Jersey DEP

homeowner or the community. (Some practitioners report that homeowners who perceive buyouts as government charity are less willing to accept buyouts, and that towns who perceive buyouts as charity may not want to support buyouts in their town. Having homeowners pay some portion of the costs can combat this perception.)

Home Valuation

The US Constitution states that government shall not take a person's property without providing "just compensation." Even though floodplain property acquisitions are voluntary, federal agencies have applied the same principle and require programs to provide homeowners with just compensation for their homes (Canada and the United Kingdom, for example, take a different approach and may provide limited or no compensation).

Interpreting what "just compensation" means can be difficult. Most programs interpret it as fair market value – what the homeowner would reasonably expect to receive if they sold the home on the private market. Even so, programs have differences in how they calculate the fair market value. For example, some programs use the pre-disaster market value while others use post-disaster or current market value. Pre-disaster sounds like it would be the higher value, but in the aftermath of some disasters, developers have bought up numerous properties, driving up the home values and increasing the value of the home. Offering a property owner the pre-disaster market value may therefore actually undervalue its market price. Post-disaster or current market valuations can also account for any repairs or improvements the owner may have made to the property since the disaster (although if repairs or improvements were made using federal dollars, and the owner cannot provide documentation of how the funds were spent, this value may be deducted from the offer price: see Duplication of Benefits box).

In other cases, post-disaster value will be substantially lower due to increased risk perception and damage to the property or neighborhood. Some federal programs require the use of pre-disaster fair market value (FEMA HMGP) while others allow the administering government to decide. The New York State Acquisition for Redevelopment Program, for example, offered post-disaster market prices to property owners who had received past federal disaster assistance but who had failed to maintain flood insurance (*61*). (New York differentiated between post-Sandy 'buyouts' that offered pre-disaster fair market value and prohibited redevelopment and 'acquisitions' that offered post-disaster fair market value and allowed redevelopment of the land (*62*).)

Duplication of Benefits

The total assistance a property owner receives from all sources (including insurance) cannot exceed the fair market value of the property. If an owner receives federal funding or an insurance payment to repair the structure, or to pay for alternative accommodation, ***and they cannot produce receipts*** to document how those funds were spent, that amount will be deducted from the purchase offer on the property. Documented expenditures are ***not*** considered duplicate benefits and do not need to be deducted.

Once a program decides on the point in time at which the valuation should occur, they must also decide whether the appraisal should value the home as-is (i.e., in the floodplain) or should imagine what the home might be worth if it were located outside the floodplain (presumably a higher value though not always, as properties further from the water are safer but lack the access, view, and other amenities that lead to water-front development in the first place).

FEMA requires appraisers to physically evaluate the building structure, rather than perform a desktop appraisal (e.g., by comparing similar properties). This takes more time and may require a different type of appraiser. For example, during the COVID pandemic, finding appraisers who were willing to enter other people's homes was a challenge and led to delays. Even pre- and post-COVID, the limited number of licensed appraisers in some areas can create high demand and further delays.

The timing of appraisals represents another challenge. Some type of home valuation must be included in the application for funds. Some communities therefore do pre-award appraisals. This provides the most accurate estimate of the home values, but it takes more time. Also, appraisals expire in 9-12 months, so if it takes more than 9 months to receive the federal funds (practitioners say this is common) then the community will need to pay for a second set of appraisals after the award is made. At least two states use the tax assessed property value, plus 30-35% to account for presumed undervaluation, in their federal applications. One municipality examined their past data, calculated the difference between the tax assessed value and the appraised value and found them to differ by about 10%, so in future applications they use the tax assessed value plus 10%. Another program takes an average of the tax assessed value and the Zillow or Trulia price estimate (assuming the one is too low and the other too high). FEMA allows a 5% contingency cost to be added to the application if actual costs turn out to be higher than estimated in the application.

Once an appraisal is made and the purchase offer sent to the homeowner, the homeowner can decide to appeal. Usually, this means the homeowner must hire an appraiser (at their own cost). The state or municipality then hires a third independent appraiser (some states have an appraiser in-house) who reviews the two appraisals and makes a final determination on the value of the property. In most cases, if the second appraisal is within 15% of the first, it will be automatically approved. Once that decision is made and the price is set, the homeowner can then decide to accept or not – there is generally no further negotiation. Unofficially, some practitioners report having conversations with homeowners about what price it would take to get them to accept the buyout and then finding ways to achieve that price through, e.g., bonus payments, replacement cost assistances, relocation assistance, or paid-for services (e.g., paying the closing fees for a realtor). A few programs – e.g., Harris County, Texas – officially consider counteroffers made by the property owner (*16*).

Some programs also include financial incentives. New York State's post-Sandy buyout program offered property owners an additional 10% of their home value if they were located in an especially high-hazard area (to encourage participation), 10% if they relocated within the five boroughs (to maintain tax base), and 5% if they moved as part of a group (to avoid checkerboarding; this incentive was later dropped)(*7*, *13*). The Harris County Flood Control District offers a down payment assistance program to help buyout participants purchase new homes. Other programs pair residents with real estate agents (either hired by the government or volunteer services offered by local non-profits) to help find new housing or pay moving costs. FEMA programs also provide some relocation funds (see discussion on Relocation p.33).

Considerations in Pricing

Buyout administrators often face a dilemma between wanting to help the most residents possible (stretching their budgets to acquire the most properties) and providing buyout participants with the most assistance (spending more per property). Some practitioners feel the appropriate approach in their context is to help as many families as possible to avoid future floods, even if this means providing each family with less money. Others feel the best option is to help fewer families but to provide them the most money possible per household. Some administrators can avoid this dilemma by finding additional funding, but many have fixed budgets that require trade-offs. Practitioners often strongly believe that their approach is the right one (and raise ethical concerns about other approaches), but we note that each approach is likely to be optimal in certain conditions. For example, the best approach likely depends on the severity of the risk facing property owners (is it life-threatening?), on the likelihood of more funds becoming available in future years (is a decision not to acquire a building a delay or a decision to never purchase it?), and on the relative income of the participants and available housing stock in the surrounding community (how difficult will it be for them to find replacement housing?). Without understanding the context, we cannot say for certain that one approach is more effective or ethical than the other.

Most municipalities acquire lower-value properties (*2*, *3*) for a variety of reasons. First, some practitioners feel that the purpose of a buyout program is to assist lower-income residents who have fewer resources available to manage risk on their own. Wealthy residents, they reason, should be able to mitigate risk, either through structural adjustments like elevation or through insurance. Some municipalities are concerned about the appearance of government funds assisting wealthy residents rather than less affluent neighborhoods. On the other hand, some practitioners note that even wealthy residents may be unable to mitigate extreme flood risk on their own (or may even be legally limited, e.g., through seawall bans) and that insurance claims help owners to rebuild, not to relocate and achieve the permanent risk reduction benefits of a buyout. Buyout programs, they argue, should not discriminate based on income. Second, whether a program intends to target lower-income neighborhoods or not, most programs purchase properties valued at $276,000 or less because flood-prone properties valued below this threshold have been pre-determined to meet FEMA's benefit-cost-analysis criteria (note the $276,000 value may be scaled to account for local costs). The local government, therefore, does not need to conduct a benefit-cost analysis, which saves time and money. Third, some officials feel it is in the community's best interest to buy as many properties as possible within their given budget. Acquiring less valuable properties means the program can acquire more properties. Especially for programs with long lists of people waiting for buyouts, this can be a reasonable practice.

Tips for Financing Buyouts

- Find a state or local source of funding if at all possible. Even a limited funding stream, if it is consistent, can enable long-term risk reduction through acquisition of a few properties a year
- Hire experienced personnel to apply for and administer federal funds
- Explore partnerships with agencies and private sector organizations who may experience co-benefits from buyouts to share costs (e.g., water quality, transportation, conservation organizations)
- Match the acquisition strategy to the land-use strategy (e.g., acquire numerous neighboring properties if the goal is to restore a wetland; acquire small clusters of properties dispersed throughout the town if the goal is to create community parks; acquire residences to help people and vacant lots to help with water quality and flood risk)
- Explicitly identify the priority goals for the buyout (e.g., maximize the number of people assisted at one time)

Buyout administrators must decide whether to maximize the number of homes acquired or maximize the support provided to each participant.

POLITICAL OPPOSITION

According to practitioners, politics in buyouts are unavoidable. They can influence the process in many ways, and – as with all local politics – individual personalities matter. A state floodplain manager, mayor, or other civic leader might champion buyouts and take time to communicate and educate people about the potential benefits. A planning board might have members who are also real estate agents or developers who oppose buyouts and building restrictions. Local political officials are also residents of their communities and have their own perspectives, priorities, and interests. A mayor who opposes buyouts might be thinking of their own beachfront property values. In some cases, class or racial divides between community and local government have led to especially challenging divisions. In Grand Forks, North Dakota, the perceived class differences between wealthy government officials and working-class residents of the bought-out riverfront neighborhoods led to antagonism and division (*63*, *64*).

While individual homeowners have the right to decide whether or not to accept a buyout offer, it is often the local government that decides who will receive buyout offers or whether buyouts will be used at all (*15*) [See discussion on prioritization p. 32]. In North Carolina, some researchers are concerned that Black property owners in flood-prone areas are abandoning their properties because wealthy and powerful white property owners are preventing buyouts from being used in their communities. In New Jersey, the state-run Blue Acres program will not administer buyouts without the local government's approval (see Appendix B). The intent is to avoid state over-reach and preserve local sovereignty, but one result is that homeowners in those towns who want to relocate cannot sell to the government and must sell on the private market, where they may receive a lower price or put another family at risk.

Buyouts may adversely affect local budgets, depending on how many homes are bought out, whether new buildings are constructed, where people relocate, and how the land is used after the buyout (*65*). Buyouts affect property tax revenues, utilities and other municipal services, and land maintenance costs – as well as the social fabric of the community. While news media often discusses lost tax revenue, practitioners generally feel this is less of a concern. They note that the homes being bought out tend to be the less expensive homes, those generating less property tax revenue, and in a mid-sized community, the loss of a few thousand dollars of property tax revenue is unlikely to upset a local budget. However, practitioners do acknowledge that buyouts create financial concerns. In rural communities, if buyout participants leave the community, the remaining residents may struggle to maintain utilities or to find volunteers to staff vital local functions. Maintaining utility infrastructure (e.g., a wastewater treatment plant) often has some level of fixed costs, so with fewer residents, the per capita cost rises and may become unaffordable.

Most buyout programs focus on residential structures, but businesses may also relocate, and this can be especially difficult. For example, one practitioner described the challenges involved in relocating a rural grocery store. It is the only one in the region, so closing down for several months (or even longer, as the store needed to be sold before the owners could afford to purchase new land and start the new building) was not only financially untenable for the business owners but also challenging for residents who depended on that grocery. Businesses that are loud, odorous, or noxious may also face challenges in finding new locations.

Practitioners note that many of these challenges can be addressed by new housing developments, but buyout administrators are rarely involved in the new development conversations and in some flood-prone towns it is difficult to find developers who are willing to build or to find people who want to move into the community. Most Americans relocate within their original community, if it is possible (*66*), so one of the challenges with buyout policy is to enable people to stay within the community.

While politicians are often concerned about the changes that buyouts may cause in a community, these changes can also have positive outcomes. As one practitioner describes:

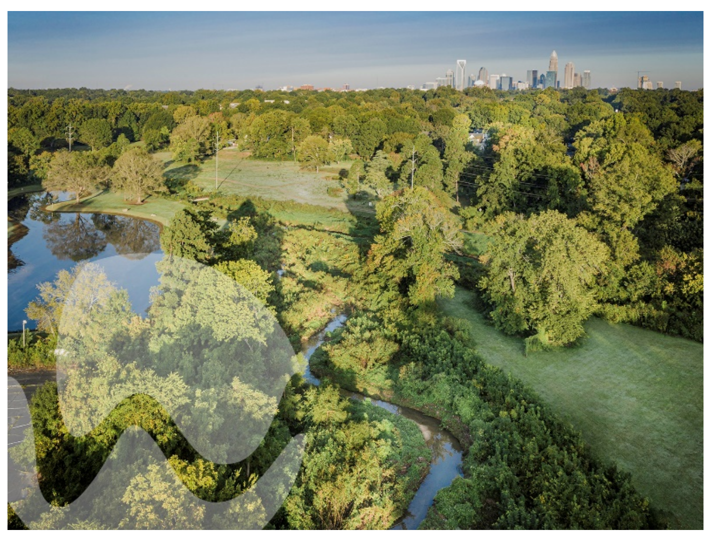
> *"All those riverfront neighborhoods, with properties right on the river… we heard some concerns about what it would do to the neighborhood in terms of taking all those homes out. And, in retrospect, we got a lot of positive comments from the homes that remain … Now they look out their window and they've got nice green space or maybe a levee that's grass. Actually, it wasn't negative to the neighborhoods; it actually turned into a positive. We've done a lot of natural plantings and things like that and have really taken advantage of these acquisitions. We've developed a plan for the river quarter that envisioned bike trails and pretty cool stuff. It really changed the character of the entire riverfront."*

LAND USE

One of the factors that determines how well a buyout benefits the community is how the land acquired is used (*18*, *65*). The FEMA HMGP requires acquired land to be deed restricted and to remain as open land in perpetuity. Only very limited structures, such as public restrooms and picnic shelters, are allowed on the property. Potential uses of the land include recreational parks, restored wetlands, community gardens, or camp sites. According to local and state officials, different FEMA regions interpret the regulations more or less strictly (e.g., whether planting trees on the acquired land is permitted without environmental review), which can constrain the ability of administrators to use the land in ways that benefit local ecosystems or communities.

In Grand Forks, North Dakota, the land acquired through buyouts was used to create a 2,200 acre greenway along the Red River that includes 20 miles of trails, two golf courses, boat ramps, campgrounds, tennis courts, a soccer and football field, a softball field, and ice skating rinks (*67*). Even smaller parcels of land can be used effectively. In Houston, Texas, The Nature Conservancy and Katy Prairie Conservancy have been planting "pocket prairies" – small patches of native plants on urban lots – to provide water absorption and filtration services and habitat for endangered species (*12*). In Charlotte-Mecklenburg, North Carolina, an engineering firm restored acquired lands to create an ecological sanctuary (see photo below). Wauwatosa, Wisconsin, doubled the size of Hart Park and added a performance stage, picnic shelters, baseball field, skateboard park, and rain garden (*68*). A few towns have constructed flood memorials, to honor those lost in disasters and to help the community remember to prepare for future hazards (*69*). Another town leases empty lots to the neighbors at a reduced price in exchange for maintenance services.

Unfortunately, most often the land remains unused – a vacant lot that may be mowed on a semi-annual basis but is not restored or converted to a social or ecological use (*18*). Federal funds do not cover the cost of restoring, converting, or maintaining the land, so local communities or state agencies must provide the funds. Elk Grove, WI, reported a cost of



Chantilly Ecological Sanctuary, Charlotte-Mecklenburg, NC; Photo courtesy of Wildlands Engineering, who led the restoration

$10-15,000 to restore wetlands and park space on 52 parcels and $5,000 a year in maintenance (*70*). Some towns transfer ownership of the acquired parcels to a land trust or other certified organization. This can reduce maintenance burdens on the community and increase trust in participants that the land will be kept open and not redeveloped. Wetlands Watch, a nonprofit organization in Virginia, is currently working with the town of Norfolk to explore how and whether such organizations can help use and maintain lands acquired through buyouts. In Miami, Florida, a landscape architecture firm created a retention pond and community education exhibit on the site of a bought out home, to both absorb floodwaters and help the neighborhood understand why buyouts and flood management are critical. Stormwater Park was the winning design in a competition held by the city and the Van Alen Institute to find constructive uses for acquired lands in an urban setting. Such private-public partnerships are likely to continue to be important in using acquired lands to achieve multiple benefits for communities.

TIMING

> *"That's the goal: to get a system teed up where we can buy the house while there is still mud in it."*

Practitioners agree that fast buyouts are better. The faster a buyout offer can be made to a property owner, the more likely they are to accept, the fewer costs they incur, and the better they are able to plan for their future. After a disaster, residents are left in limbo for months or even years – uncertain if they will be offered a buyout, or if they are offered a buyout, how much the price will be and whether or where it would enable them to relocate. They must decide whether to repair their damaged home (potentially wasting time and money if they fail to keep receipts or make changes that are later considered a duplicate of benefits); to live in a damaged home without making repairs (which may be uncomfortable or unsafe even if it is possible); or to find a new residence. If they find a new residence, they must continue to pay the mortgage and flood insurance premiums on their old home, which means they might need to pay two mortgages (or mortgage and rent on a new apartment). According to practitioners, federally-funded buyout processes last 2-5 years on average. Many families are unable to continue carrying two mortgages for that long and end up selling their home on the private market or repairing it and moving back in rather than participate in the buyout.

The classic buyout template imagines a buyout occurring immediately after a disaster event. However, in many cases, buyouts occur years later and use funding from an unrelated disaster. A state may experience a disaster in one county, receive federal funds for hazard mitigation projects, and allocate some of those funds to other counties that were not affected in the most recent disaster but that have a history of repeated hazards. States commonly prioritize investments in the county that experienced the most recent disaster, but once all proposed projects are funded, states often offer funds to other municipalities or counties with a track record of successful project management. (See discussion on prioritization, p. 32)

Why do buyouts take so long?

The main source of delay is getting funding in place. If a program has funding in place when a disaster strikes, a buyout can be administered in as little as 3 months (though 6-12 is more common). The process looks very similar to buying or selling a house on the private market, with inspections, appraisals, offers and closing.

On the other hand, acquiring funding can take years. For example, applying for federal aid takes 1-2 years on average before any funds are awarded. For disaster-related programs (e.g., HMGP, CDBG-DR), funding becomes available after a presidential disaster declaration (PDD). The state – usually the emergency management office or sometimes a designated flood officer – sends out a notice of funding opportunity

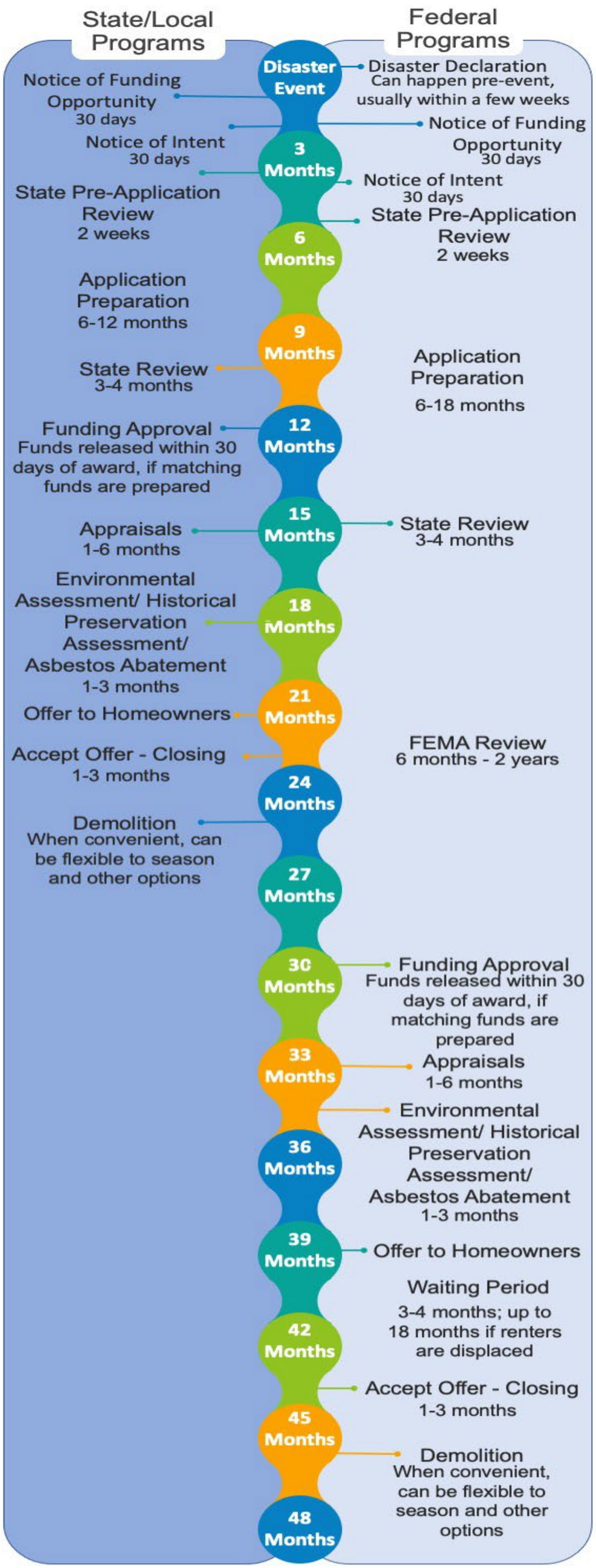
(NOFO) to counties or municipalities. The initial NOFO usually asks local governments to submit a notice of interest letter, so the state knows how many local governments intend to apply. The state may also have a pre-application process. Once applications are submitted to the state (often 6-18 months after the disaster), the state submits them to the federal agency, where it may take 1-2 years to review. For example, several state officials mentioned that they were still waiting for application reviews from FEMA for a disaster 2 years before. States often request a 6-month extension before submitting to FEMA, to provide the local governments with more time to gather all the necessary documentation. If state funding will be used to meet the cost-share requirement, states may also require a separate state application. If funds from a second federal agency will be used to meet the cost-share (e.g., use HUD funds to match FEMA funds), a second application must be submitted to that agency. Often federal agencies work on different timelines and require different documentation (or the same documentation in different forms). Some states have aligned their internal application forms to match federal requirements, but other states have unique forms, which means a local official could end up completing three different forms to provide the same information to three different agencies.

The more actors who are involved in the process, the longer it takes. For example, if not only the city board has to approve things but also the city comptroller and mayor and legal departments each takes months. Every level of government adds more time for review and more room for interpretation of

COMMON TIMELINE FOR FEDERALLY FUNDED BUYOUTS

Disaster event
Disaster declaration by state and then federal government (can be declared before the event, but usually a declaration occurs during an on-going disaster or within a few weeks)
    Notice of funding (30 days) sent from state to local governments
Notice of intent or pre-applications submitted by local governments to state (1-2 months)
Formal applications submitted to state (6-18 months after event)
State review (3-4 months); Applications submitted to federal agency after review
Federal agency review (6 months-2 years)
Federal funding approval (funds released within 30 days after approval)
Home value appraisals (1-6 months; longer if disputed)
Environmental assessments / Historical preservation assessments / Asbestos abatement (1-3 months) (may occur as part of the application or at the same time as home appraisals)
Offer made to homeowners
Waiting period (3-4 months) to protect homeowners (18 months if renters are involved) (not all states) (90 day notice for residents to vacate)
Closing (if offer accepted, 1-3 months)
Demolition (within 90 days unless an extension has been approved)

Overall program lengths:
  Federal programs (2-10 years)
  State/Local programs (3 months-2 years)
    Shortest time if homeowners are on board pre-award and appraisals and assessments are completed



the regulations in different ways. When programs involve federal funding, local governments often apply as sub-applicants; they submit their applications to the state, who compiles the local applications from their state, reviews them, and submits them to the federal agency. State reviews are intended to catch mistakes and reduce rejection rates, but this takes time.

In a few cases, there are legally-mandated delays in the process, such as a 3-month window for the property owner to decide whether or not they want to accept the buyout. These delays are intended to protect the property owner from being hurried through a process immediately after a disaster without having time to properly consider their options. Property owners can also lengthen the process if they appeal the appraisal (this often adds 3 months to the timeline) or request other extension.

Application complexity

Most of the challenge, and the delay in buyouts, lies in the complicated federal application system. The federal application process has gotten longer over the years. Professionals are split as to whether they find the FEMA or HUD process to be more time-consuming (this appears to depend to some extent on what people are familiar with), but the consensus is that local governments will only pursue federal money if there are no other options because the process is so time-consuming. As one practitioner described the process, “It’s as though they [federal agencies] don’t actually want to help us. They hold out the funding like a reward for jumping through their hoops.” Some practitioners also described federal processes as becoming stricter over time with no room for flexibility for special cases whereas in the past appeals were easy and informal.

State support is critical, but the level of support provided by state officials varies widely across states and depends on the resources available to that state. For example, some states have offices so overwhelmed that they do not even advertise federal funding opportunities to municipalities because the response would completely swamp the officials. Other states have teams of 3-5 (or more) people dedicated to dealing with federal grants. Some even have experts dedicated to buyouts. States with larger staff are more able to support municipalities in navigating federal funding applications. Training materials, template forms, technical advice, interim reviews, and even one-on-one sessions all help local officials who may be engaging with federal programs for the first time.

> *"The fact that an application for one of these programs is four inches thick… There's been a bazillion studies from FEMA and the federal government that show that these [buyouts] are good things to do. So why in God's name do you need more than a list of property owners that are willing and the cash to do it? I don't know. And that's the problem, because a lot of these communities … They don't have the staff and the capability to pull this stuff together. And you know, we [state officials] help them and we do a good job … providing as much technical assistance as we can, but at the same time, we can't do it for them, you know…"*

Local practitioners often felt they could not rely on federal officials for support. Some practitioners noted that their federal counterparts have even less experience administering these programs. Several practitioners described events where federal officials gave them erroneous advice or misinterpreted regulations. The local or state officials then had to spend time appealing this advice, asking federal officials to reconsider their interpretations, or even taking legal action to require officials to appeal to their legal counsels. Local officials feel particularly disempowered in these local-federal conflicts, and they sometimes rely on state programs to intervene on their behalf. (On the need for experienced officials, see discussion on local capacity, p37.)

Photo: FEMA

Property Owner Notice of Voluntary Interest

For federally funded programs, local government must acquire a statement from each property owner acknowledging that they understand the process is voluntary. This statement must clearly explain that participation is voluntary and no government entity will use eminent domain to acquire the property if the property owner chooses not to participate. Program administrators vary in the point at which they ask homeowners for this document. Some programs wait until after they have received a federal award. They secure the voluntary documentation when they approach a property owner to begin the process if the owner expresses interest in the process. Some programs list all potentially eligible homes (e.g., any home with a history of flood damage or any home in the special flood hazard area) on their application to a federal agency. This overestimates the number of homes that might eventually participate in the program, but it saves time and avoids raising property owner hopes before the program administrator knows how much funding they will receive and how many homes they may be able to purchase. Other programs approach property owners to gauge level of interest and secure the voluntary documentation before they submit their application. In these cases, program administrators advise listing additional homes on the application (more than they believe they will be able to purchase) as alternates in case some of the originally listed homes decide not to go through with the buyout. If they do not list homes as alternates, and the original owners decide not to sell, the administrator would have to redo the entire federal application to add more properties. When property owners approach local governments to express interest in a buyout, that can be a good time to get the documentation sorted, as it can expedite future applications.

When a program knows they are likely to receive funding in the future, they can do most of the application and buyout paperwork in advance, so when the funding comes through, the program can go directly to closing. This may require the administrator to hire assessors and inspectors before funding is awarded. Not all jurisdictions have funding available, so they may be required to wait until funds are in hand. If possible, practitioners note that having even small sources of funding available before the award can speed up the process.

Benefit-Cost Analyses

Government programs are often required to be cost-effective. Federal hazard mitigation funds, for example, must demonstrate that they will save money in the long term by avoiding more costs in the future than they require in upfront investment. To demonstrate that buyouts are cost-effective requires a damage assessment, to determine the cost of the damage experienced in past disasters and to project potential future cost-savings. Numerous interview subjects note that damage assessments and benefit-cost analyses (BCA) are particularly time-consuming portions of the application for federal funding. Every single interview mentioned frustration with BCA requirements.

Damage assessments are difficult to conduct accurately and quickly. They need to be conducted as quickly as possible after a disaster event, before a property owner makes repairs, to a have the most accurate assessment. Yet trained staff to conduct the assessments are often scarce. Assessments are critical because certain federal, state, and local land use or building regulations are triggered by a substantial

Common Application Elements

Individual state and federal programs have unique application elements. Nevertheless, core elements of applications for funding for buyouts commonly include:

- Project description
- Location information, including relevant maps of the parcel(s) to be acquired, floodplain, and surrounding area
- Budget estimates (including management, demolition, and acquisition costs)
- Cost-effectiveness determination (either a benefit-cost analysis or a pre-authorization or other means)
- Cost-share commitment letter (identifying the intended source of the match)
- Notice of voluntary interest (homeowner acknowledgement that the program is voluntary)
- Citizenship declaration from property owners (declares participant is a U.S. citizen, non-citizen national, or qualified alien to be allowed pre-disaster fair market value for the property, otherwise they are only eligible for post-disaster fair market value)
- Environmental and historic preservation review (by relevant state agencies)
- Deed restrictions (to prevent future development on acquired parcels)
- Land-use plan for post-acquisition management
- Hazard mitigation plan (local and state plans to demonstrate how buyouts support long-term hazard mitigation plans)
- Work schedule
- Evidence of coordination with other agencies, usually state transportation departments and USACE to ensure buyouts won't interfere with other agency plans

damage determination (an assessment that a building has been damaged for more than 50% of the value). For example, when a home has been substantially damaged, it may need to be rebuilt to meet updated building codes or elevation levels, which can be expensive and may make property owners feel they must accept buyouts (*27*).

However, although damage assessments are intended to be an objective process, previous research suggests that they are actually subjective assessments informed by the intentions of the assessor as well as the physical status of the structure (*27*). The process becomes political when officials decide that rebuilding quickly and cheaply is more important than rebuilding safely and can be uneven depending on the appeals process (e.g., some accounts suggest wealthy white residents appear to be more likely to appeal substantial damage findings). As a result, a home that is 49% damaged may rebuild, exactly as it was before the disaster, over and over. The Houston Chronicle documented 7 homes in Houston that have filed 107 damage claims for a total of $9 million, even though the combined value of the homes is only $426,000 (*71*). They analyzed 36,000 damaged properties nationwide and suggest that failure to strictly enforce substantial damage assessments and rebuilding requirements may have cost $1.1 billion in insurance claims (*71*). Some states have adopted rebuilding regulations that are triggered when *cumulative* damage to a property reaches certain thresholds (e.g., Wisconsin). Cumulative damage thresholds lessen the need for damage assessments to be accurate and limit the ability of property owners to circumvent these thresholds by repeatedly repairing 49% of the value of their property.

Benefit-cost analyses are also seemingly objective calculations that, in fact, require numerous subjective decisions to be made. For example, historically, environmental benefits were not considered as a part of a BCA, but FEMA changed their methodology in 2013 to promote ecosystem-based management (*72*). Now environmental benefits can be added to a project's total net benefits if they have already achieved a benefit-cost ratio (BCR) of 0.75 or higher without it (~$2.57/ft^2 for green open space; ~$12.29/ft^2 for riparian areas) (*72*).

Pre-Calculated Benefits

The FEMA 15 August 2013 memo, which sets forth the pre-calculated benefit for acquisitions as $276,000, does not specify whether this threshold refers to the purchase price of the building only or the entire cost of the acquisition (including, e.g., demolition and restoration or maintenance fees). The fact that the memo refers to the cost of "structures", as in "the average cost of all structures" and "a structure that meets this criterion," suggest the word 'cost' refers to the cost of purchasing the building. However, many FEMA officials have interpreted the threshold as including all project costs, and the fact that FEMA calculated the average benefit of an acquisition project as $276,000 suggests that the costs to be compared should be all project costs. In light of this uncertainty, check with your regional FEMA official. The $276,000 value is not fixed but can be scaled to account for higher local property values with supporting evidence (e.g., a local construction cost guide).

BCAs are also complicated technical exercises that require significant experience and training. Savvy local officials can also find ways to maximize the benefit to their communities, for example by bundling properties that are very cost effective with those that are not cost-effective to create a bundle that meets overall cost-effectiveness requirements (e.g., bundle a home with a 2.2 BCR with another that is 0.8 to have an overall BCR of 1.5). Although such bundled programs are technically allowed under federal programs, some practitioners report they have encountered federal officials who are unaware of this practice and resolving this discrepancy can take additional time.

Tips for Expediting Buyouts

- Find a state or local source of funding; avoiding federal application timelines can save years; have a ready source of state or local funding for cost-share to avoid multiple federal applications
- Hire experienced personnel to apply for funds and administer buyouts (in-house or contractors)
- Establish streamlined procurement processes to expedite the hiring of appraisers, inspectors, demolition experts etc. or hire a single contractor who will manage the buyouts and handle all sub-contracting; Having a state or local source of funding to pay for up-front costs (even if these will be reimbursed by federal funds) can also expedite the process
- Contractors may be exempt from some state procurement requirements and therefore be able to save time when sub-contracting for appraisals or demolition experts
- Bundling properties may expedite benefit-cost analyses (if the bundle meets FEMA's predetermination threshold) and enable acquisition of less cost-effective homes; However, this practice may cause delays if a federal official mistakenly believes this is not allowed
- Conduct as many inspections and appraisals as possible in parallel (e.g., environmental inspection, historic review, valuation) List all available applicants, including alternates, on federal application forms to avoid delays or loss of funds
- Hire a demolition company who can handle unusual cases (e.g., asbestos, wells)
- Deconstruction or donation to local police or fire departments may offer opportunities for the structure to be used for exercises or the materials to be reclaimed and reused; This may take more time, but stages that occur after the sale of the property may be less critical to expedite because the owners will be able to move on as of the date of the sale

Recognizing that the BCA is a time-consuming and technical process, FEMA has preemptively calculated the price point at which a buyout is presumed to be cost-effective. They have issued a determination that no BCA is necessary for homes located in the 100-year floodplain (or where first floor elevation is lower than base flood elevation in that area) that would cost $276,00 or less to acquire (*73*). The $276,000 threshold may be adjusted to local costs by using a multiplier from an industry-accepted construction cost guide and including that guide with the application. Again, savvy administrators bundle properties to achieve an average cost of acquisition below $276,000 to avoid the time-consuming BCA process (*73*). This may have equity implications (see discussion p.34) as it incentivizes administrators to purchase homes near or beneath this threshold.

Building removal

Programs may either relocate or demolish any structures on the acquired property. A few programs relocate buildings, but this is generally considered too expensive and complicated to be effective except in rare circumstances, such as when the building holds historical value or extreme sentimental value to the owner. Charlotte-Mecklenburg Storm Water Services, North Carolina, offer a relocation option through their RetroFIT program; the owners would purchase the new land and the county would pay to relocate the building (*74*). This option has not yet been used.

If a federal program is paying for the demolition of the building, demolition must occur within 90 days of the closing (unless the program has requested an extension). Other sources of funding could also be used for the demolition (e.g., as a controlled burn exercise for a local fire department, see p11), including federal public assistance funds. Some programs give residents additional time to vacate the property by purchasing the property and then leasing it back to the resident for a set period of time (i.e., a leaseback). This is not allowed in federally-funded programs. These short-term leases are different from the long-term type of leaseback currently being considered in California because the property is leased back to the resident only for a short period of time to give them time to relocate, rather than leasing the property to new residents as a means of generating income (SB1293)(*75*).

Some municipalities allow programs like Habitat for Humanity to go through the house before demolition and take whatever they could use or resell, like doors and light fixtures. In Milwaukee, Wisconsin, the buyout program partnered with local unions in a program where local construction companies hire residents from the neighborhoods where buyouts are taking place and train them in the construction industry by deconstructing homes. The process was more expensive than a traditional demolition, but it helped companies train new employees in skilled careers and avoided unnecessary waste by reclaiming home materials for reuse.

When hiring demolition contractors, practitioners recommend hiring companies who are also able to inspect the properties for asbestos and lead, septic abandonment, and water well management. This avoids the need to hire multiple contractors and can speed the timeline and reduce costs.

PARTICIPATION

Buyouts are often described as a top-down project, in which the government decides when and where buyouts should be offered, and the property owners decide whether to sell. However, in practice, buyouts occur in at least three different contexts:

Photo by Saul Martinez, Miami Stormwater Park, courtesy of Van Alen Institute

1. Individual property owners approach state or local governments to express interest in a buyout
2. Communities or neighborhoods express interest in or petition for buyouts as a group
3. Government offers buyouts in areas it deems to be particularly risk-prone or particularly cost-effective or that have experienced recent disasters

Interviews with practitioners made it clear that the first two categories are far more common than expected. Several practitioners described having waitlists of homeowners who want to be bought out and who are waiting for the program to receive enough funding to acquire their properties. Some programs are very visible and have a clear method for property owners to express interest. The Harris County Flood Control District, Texas, buyout website, for example, includes a prominent button labeled "Volunteer for Home Buyout" that links to a simple survey for the property owner to fill out (in English or Spanish). Organizing a community to express interest in buyouts is more complicated. Oakwood Beach, New York, is a prominent example of a community that organized to petition for buyouts first from New York City and then from the state, when the city originally refused (*7*, *13*). Socastee, South Carolina, has recently been in the news for successfully petitioning their state and local governments to apply for federal funding to buy out the residents (*10*). The organization Anthropocene

Alliance has been active in supporting communities like Socastee who may lack the expert knowledge or political clout to successfully petition for buyouts. Self-initiated buyouts are, on the one hand, less politically controversial because they are clearly voluntary and involve government action in direct response to an expressed need. However, offering buyouts only to those who express interest raises concerns about which individuals and communities are able to make their voices heard and to successfully petition for buyouts. Furthermore, if more people volunteer for a buyout than there is funding available, the administering government faces difficult questions about where and how to prioritize buyout funds.

Recruitment

Efforts to recruit participants for buyouts are often less demanding and less structured than originally expected. Some programs do no recruiting at all because they have a surplus of volunteers, people who hear about the program through word of mouth and apply directly to the buyout administrators. Others place signs on the lawns of acquired properties, both to inform the neighbors and encourage word-of-mouth advertising. Some programs specifically forbid recruiting or contacting homeowners first to avoid pressuring homeowners. At least two state and county officials said that most of their buyouts occur when a local mayor notices a home for sale in the floodplain and calls the buyout administrator to try to quickly acquire that home before it is sold on the private market.

According to the Community Rating System (CRS), any community with repetitive loss properties RLP (properties to which two or more claims of $1,000 were paid by NFIP over a rolling ten-year period), must send outreach documents to those properties every year. As part of these RLP outreach projects, governments often include information about the actions property owners can take to reduce their flood risk, including participation in a buyout. Some communities send similar information packets to any home located in the floodplain or will place advertisements in the local newspaper. Formal outreach processes via mail may send a letter, require a notice of interest response from the property owner (usually within 30 days), and then add the property to a database.

Other programs first identify a particular priority area for acquisition (see next section) and then engage in targeted outreach in those areas. A city government may hold town hall meetings, community listening sessions, or presentations to explain how buyouts work. Officials may even meet with property owners one-on-one to explain the process.

Practitioner advice for these meetings includes:

- Conduct numerous meetings at different times of day and different locations to engage the most people
- Provide childcare if possible
- Provide translators (and distribute outreach materials in all appropriate languages for the area)
- Leverage existing organizations to meet people where they are: ask to speak during a meeting of a local community organization (e.g., churches, health outreach organizations, recreational clubs)
- Have one consistent spokesperson who is very familiar with the program (so there is no chance that two people will provide different information or inaccurate information)
- Provide information in a non-technical manner; Give people written materials to take home with more detail if requested
- Be prepared to address questions people care about: e.g., how much they will be offered, when they'll receive an offer, where they'll move, if they be forced to move
- Be clear about whether the buyout is certain or only possible (e.g., is funding already in place? If not, be very clear about the timelines involved)

If meetings are occurring before a town applies for federal funding (remember that a federal application must include the names and addresses of participating property owners), the actual buyout (the date of the sale) may not occur for a year or more. Local officials should explain this very carefully. Some practitioners tell the property owner that they should go about their lives as though the buyout will not occur; that the timelines are so long that waiting and hoping for the buyout may not make sense. Even when a program has state or local funding, if that funding is limited, a person on a waitlist may need to wait 5-10 years for their property to become a priority acquisition.

Prioritization

As noted above, there are at least two stages of prioritization that may need to occur during a buyout: (1) identifying priority areas for acquisitions, and (2) prioritizing properties for acquisition. The two processes are related and can overlap, but we will discuss them separately here for the sake of clarity. In both cases, how priority neighborhoods and properties are identified depends upon the goals of the buyout program. Some of these goals are explicit (e.g., reduce risk, reduce government costs), but the act of prioritizing reveals additional implicit goals and even goals that are not consciously stated.

Prioritizing Areas

Most often, buyouts are intended to reduce risk exposure and future disaster costs, so buyouts are prioritized in areas with high hazard exposure, such as the floodway, FEMA-mapped 100-year floodplain, or other designated hazard areas. Some floodplains primarily risk inundation, which is likely to damage buildings but less likely to result in loss of life, while floodways and other floodplains (e.g., velocity zones) face high-velocity waves, rapid currents, and floating debris that increase the risk posed to people's lives. Buyout programs may prioritize acquisitions in areas that pose a threat to physical safety, either of the residents or of first responders who may be called upon to enter those dangerous areas. Most programs do not explicitly identify what factors are used to prioritize acquisitions (*15*), but the factors identified in the "Common Factors in Area Prioritization" box on the previous page are those mentioned most commonly by practitioners and in documented case studies.

When federal funding is made available because of a presidential disaster declaration in County A, most states have a policy of spending funds first in that county and only in other counties after the needs of County A have been met. Practitioners feel this is both fair to the residents of the county and aligns with the intention of the federal programs.

In some cases, buyouts will be prioritized in an area because no (or few) other adaptation or risk reduction options are considered cost effective in that area (*76*). This might involve a decision by the US Army Corps of Engineers that building a levee in front of a lower-income residential area is not cost-effective (as in Cedar Rapids, Iowa)(*25*). It could involve a legal ban against owners building individual seawalls, to protect coastal access and beach ecosystems (*77*). Or it could be an area where property owners are unable to afford expensive home elevations or where a community cannot afford beach renourishment, living shorelines, or other measures. In any case, if other flood mitigation measures prove unaffordable or infeasible in certain areas, those areas may become priority targets for buyouts (see discussion on equity, p34). To date, buyouts are rarely if ever prioritized based on future conditions (i.e., future sea level rise projections), likely because practitioners have too many homes at risk from current conditions, but as the effects of climate change grow more severe, this may become a larger part of the calculation.

Common Factors in Area Prioritization

- risk exposure (to property)
- risk exposure (to lives)
- risk to first responders entering the area
- potential for other adaptation / risk reduction measures to prove cost-effective (e.g., flood wall)
- cost-effectiveness
- flood mitigation potential
- potential for co-benefits (e.g., enables expansion of existing park or removal of utilities)

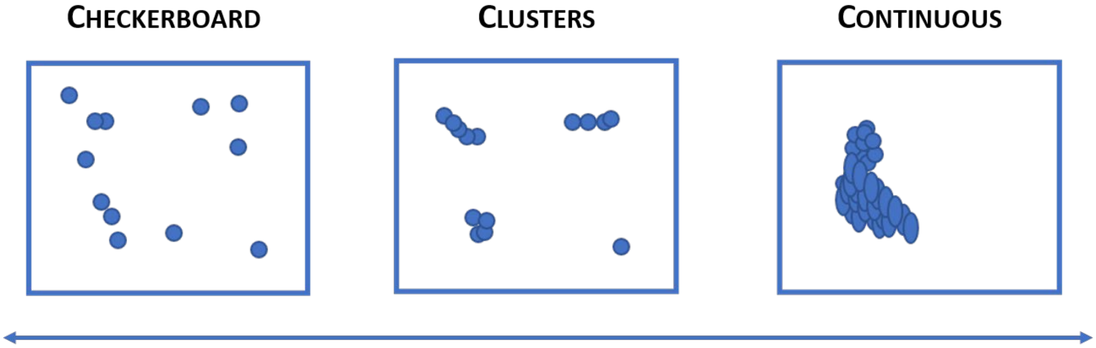


Figure 3: Finding the "best" acquisition strategy depends on program goals.
(*Figure reprinted with permission from a piece by A.R. Siders for the University of Pennsylvania's Perry World House Global Symposium, made possible in part by a grant from the Carnegie Corporation of New York.)*

Acquiring large numbers of neighboring properties has long been considered the optimal acquisition strategy for buyouts, but this is not always the case. If a community wants to restore a wetland or remove streets or utilities, then it is important to avoid checkerboarding and to meet minimum size constraints (*65*, *78*). However, the purpose of other programs may be to help individual homeowners, in which case the program should acquire homes from any willing seller, or to create community gardens or residential parks, in which case acquiring parcels throughout a town or along a river may better disperse these amenities throughout the community (see Figure 3). Finding the best strategy depends on the local context and goals of the community and must be decided with local stakeholders.

Prioritizing Properties

When more property owners are interested in a buyout than the state or local government has funds to acquire, the buyout administrator will have to decide how to prioritize who gets bought out. This could be a decision about who gets bought out first or it could be a one-time decision, if the government has no intention of offering buyouts again in the future. Even if the government intends to offer future buyouts, in some cases the long timelines may effectively make a decision not to acquire a property immediately a decision not to acquire it at all. Programs may be forced to prioritize either because they have insufficient money (hard limits to the amount of local match available are especially common) or because there is only political will to acquire a few homes. The homeowner's level of interest is often a main factor (whether the owner is curious to see what offer they would receive or is clearly invested in relocating).

As with prioritizing areas for acquisition, the decision about which homes to acquire first reflects the goals of the buyout program. These decisions are often made by a single administrator or a small team, and their personal goals for the program, their beliefs about what is fair, and what is the purpose of a buyout, all inform these decisions. For example, an administrator who is most concerned about reducing loss of life in future disasters might prioritize acquisition of those properties facing the most extreme exposure. Another administrator, who is most concerned about reducing future government expenditures and spending tax dollars most efficiently, might prioritize acquisition of homes with the highest benefit-cost ratios. Yet another administrator, motivated by a sense of fair play, might prioritize acquisition based on which property owners

> The most important factor in deciding which properties to acquire first is the buyout administrator's personal sense of what is most effective and most fair. This depends on the local context and the individual administrator.

requested a buyout first (first come, first serve). None of these acquisition strategies are 'wrong', and there is insufficient data to say which strategy leads to optimal outcomes or which strategies are most appropriate to certain contexts. Making these strategies explicit, however, may help improve public trust in buyout programs and help future researchers and program analysts to understand how different acquisition strategies affect outcomes. Governments are often hesitant to publicly identify areas where buyouts will be prioritized, for fear of political backlash from residents especially due to changes in property values. However, identifying priority areas and properties in advance of a disaster can help expedite the buyout process.

Perverse Incentive

Multiple practitioners noted that there is a perverse incentive in the buyout acquisition strategy. Specifically, if a community acquires the buildings which are most likely to be damaged in future floods and to cost the most when they are damaged (those that would be most cost-effective to buyout), when a future flood occurs, the town will experience less damage and may fail to reach the per-capita damage thresholds that make a town eligible for disaster aid funding. There is therefore an incentive to purchase less cost-effective properties, that reduce future damage costs to the town only slightly, so that the town will continue to receive future disaster aid. No practitioner stated that they themselves had used such a strategy; they mentioned it rather as a political stumbling block and a reason why towns often see buyouts as a one-time event rather than a long-term process.

Acceptance

Participants can decide not to sell at any point in the process – right up until the paperwork is signed at closing. Participation rates among property owners who receive offers tend to be very high (75%-100%) in part because administrators often only offer buyouts to residents who have already expressed interest in being bought out. Understanding what portion of the population might be willing to accept a buyout is difficult.

There is a significant amount of academic research on why people accept or reject buyout offers (usually based on a person's reaction to a hypothetical buyout offer), and this research has identified numerous factors that affect the decision. Awareness of the hazard ranks high as a contributor to accepting a buyout (*79*, *80*). Location in the floodplain, shorter expected tenure in the home, past disaster experience, less feeling of control, and being white all have increased probability of participating in a buyout program (*26*, *28*). Some limiting factors include place-based attachments and strong community ties (in some cases community factors end up being more important than individual ones) as well as the amount of cost share required by the homeowner themselves (*80*–*82*). Proximity to water and other geophysical factors tend to not have as big an impact on the decision making process as the previously described personal, experiential, and community factors (*26*, *28*, *79*–*82*). Residents may reject a buyout offer if they fear being unable to make social connections in a new location (*80*). They may feel a buyout offer is unfairly low if they have recently remodeled the home or made other improvements (*83*). Even if residents initially express interest in a buyout, they may decide to withdraw from the program if the process draws on for multiple years. Practitioners describe significant drop-out rates due to the long timelines of buyouts (~25%).

Most of these factors are things a buyout program cannot directly influence to increase buyout participation. However, there are several areas where a buyout program can influence participation: (1) expedite the buyout process; (2) work with owners through unusual challenges; (3) help owners relocate; and (4) offer buyouts in the same area multiple times. As discussed above (p. 20), long buyout times burden property owners financially and emotionally. The longer the buyout process takes, the more likely an owner is to decide that they would be better off rebuilding or selling on the private market. Sometimes owners and programs encounter specific challenges that could make the property ineligible for a buyout or make the buyout financially infeasible for the property owner (e.g., hazardous materials on the property, no clear title, tax liens, underwater mortgages). If a buyout program has a sufficient number of experienced staff, they can help homeowners to address these issues. The New Jersey Blue Acres program, for example (see Appendix B) negotiated with 35 lending and mortgage companies to conduct more than 70 short sales and to forgive $5.7 million in loans to help residents participate in the buyout program. Providing this type of assistance, however, requires that a program have enough staff with appropriate skills and expertise (see discussion on p. 37).

Similarly, programs can increase participation by helping residents to identify relocation properties. Some programs follow the relocation assistance guidelines of the Uniform Relocation Act (even when not legally required) and show prospective buyout participants the details of three or four similar properties for sale within the community. This can help make the prospect of relocating feel less uncertain. Rather than wonder, "where will I go?", participants can visualize the type of place they might relocate to. Other programs pair buyout participants with real estate agents to help them find new homes.

Finally, some participants are interested in buyouts but do not feel this is the right time. They may want to remain in place until an elderly relative moves into assisted living or passes away or until a child graduates from high school. If a government can offer buyouts several times over the course of a decade, they may be able to acquire properties that initially decided not to participate. In Charlotte-Mecklenburg, North Carolina, the town re-offered buyouts to residents who had refused earlier rounds of buyouts, as a way of reducing checkerboarding. Some residents who had initially wanted to remain had changed their minds due to subsequent flooding or the changed feeling of the neighborhood.

Photo: USGS

While buyouts are technically voluntary, there is often a fine line between program practices or policies that incentivize higher participation rates and those that coerce people to accept buyouts. Where this line is drawn differs from program to program, and where it should be drawn is an ethical and legal question with no current answer. For example, some people have raised concerns that offering financial incentives to encourage participation may be coercive. Others are concerned that neighbors will pressure one another to leave or to remain. Government officials who warn residents that if they decide to stay in place, they may experience future floods, a changed community (as other residents move), and reduced services (due to changes in cost-effectiveness) may be providing useful information, or they may be pressuring residents unfairly (*27*).

According to FEMA regulations, buildings that are damaged for more than 50% of the value of the structure must be rebuilt according to the most up to date building codes and flood elevation standards. The NFIP provides up to $30,000 in Increased Cost of Compliance [ICC] to offset the costs of elevating a home or updating the building to meet building codes. According to homeguide.com, however, the average cost of elevating a home above flood elevation may be $20-$80,000, and individual contractors quote prices as high as $250,000 to elevate a large, multi-story home several feet onto piers (*84*). Property owners facing an expensive home elevation may feel that the buyout is their only feasible financial option. Some practitioners see this as a reason to avoid offering buyouts in lower-income areas, where residents may feel especially financially pressured to accept, while other practitioners see it as a reason to prioritize offering buyouts in lower-income areas, so residents have an option other than expensive renovation.

If rebuilding is not permitted (e.g., if the damaged home is located in a floodway and the state or local land use regulations will not allow the structure to be rebuilt), a property owner may feel forced to accept a buyout. Technically, the owner must demolish the home but still has the choice whether or not to sell the land. Some owners keep the land and use it for recreation (e.g., hunting, fishing, boat launch). Whether or not these circumstances are considered coercive appears to depend greatly on the relative wealth of the owner, the pre-flood use of the land (e.g., as primary residence or part-time vacation home), and the history and power dynamics present between residents and government. When deciding how to prioritize which homes to acquire, a buyout administrator will need to consider the goals of the buyout program and the context of the local community: income levels, housing availability and affordability, common land uses, etc.

Relocation After the Buyout

Very few programs track where participants relocate to after the buyout. Some practitioners note that after years of buyout program paperwork, residents do not want any further contact with the program. In other cases, residents remain in personal contact with the buyout administrators (most often to express their gratitude), but no systematic attempt is made to track their relocations. Practitioners generally report that their sense is that most participants relocate within the community. Those who moved further away did so because they wanted to upsize or downsize their home, retire in a warmer climate, move closer to family, or had some other motive unrelated to the buyout program. A few practitioners, particularly in urban areas, expressed concern that residents may have moved further away because they were unable to find replacement housing. One program purposefully acquired only a few houses at a time with their buyout program (e.g., acquired 3-4 homes every 2-3 years) and tried to match their rate of acquisition to housing turnover rate so residents would not compete against one another in the housing market.

Relocation assistance for property owners is provided in some programs but not all. (Relocation assistance is required for tenants under the Uniform Relocation Act because the tenants are required to relocate; relocation assistance is not required to be provided for property owners who participate voluntarily.) If the only comparable nearby homes outside of the floodplain are more expensive than the purchase price offered to the buyout participant, FEMA will provide up to $31,000 to offset the cost difference. Not all practitioners who were interviewed were aware of this funding opportunity, and some who were aware declared that they felt the burden of applying for the funds outweighed the potential benefit. To apply for these funds, the government must provide proof of the local housing market, and the additional funds are also subject to a cost-share requirement, so the state or local government must pay some portion of the cost. For communities already operating at the margins, this can be untenable. Moreover, the property owner must purchase the more expensive home before FEMA will reimburse the funds, and some mortgage lenders are unwilling to assume that FEMA will pay (working with mortgage companies to secure a loan for a new home is a complicated business and often requires government assistance to reassure the company that the buyout will go through and the owner will have the funds in place). One practitioner told us it was more efficient to negotiate a lower mortgage interest rate with the banks than to try to get additional funding from FEMA. One benefit of using the relocation assistance funds is that the funds require the new home to be located outside of the floodplain. Most practitioners feel certain that participants do not relocate in a floodplain, primarily because the property owners are now more aware of flood risk and actively avoid those properties. An assessment of the Staten Island, New York, buyouts after Superstorm Sandy, found that 20% of residents relocated to areas exposed to flood risk (*22*). That analysis included areas outside the 100-year floodplain, and residents may have faced unusual pressures due to the New York housing market. Nevertheless, the ability to require any homeowner who takes relocation assistance funds to relocate outside of the floodplain could help reduce future flooding. Many practitioners strongly urge participants to relocate outside the floodplain (or even tell them it is required without explaining that it is only required in certain circumstances).

Programs offer other types of relocation assistance. In one case the municipal housing redevelopment authority built new apartment buildings in an area with little home construction, which allowed an opportunity for buyout participants to relocate in the city limits. Grand Forks, North Dakota, partnered with a development company to build new housing outside the floodplain, in hopes some of their buyout residents would relocate to this area (*67*). They miscalculated, as the new homes were priced too high, were not well-integrated with public transport, and were considered too remote, but the intention to replace bought out properties is an important consideration. Harris County Flood Control District offers participants funds towards the down payment on a new house. Others pay closing costs and moving fees. Practitioners estimate that providing relocation assistance involves $15,000-$30,000 per property in overhead and direct funds. Several practitioners stated that these funds could be better spent acquiring other properties. Moreover, high overhead costs (e.g., staff time spent negotiating with banks or real estate agents or directing relocation) can affect benefit-cost analyses and make some properties not cost-effective to acquire, when they would be cost-effective if the overhead were low. See the discussion on practitioner approaches to pricing for more discussion on how practitioners view the tension between number of properties acquired and per-property cost (p16).

A few programs relocate the building to a new location. In some cases, the property owner themselves may wish to relocate the building to a new parcel. In other cases, the buyout administrator may hire a contractor to relocate the home rather than demolish the structure. The contractor may then deconstruct the home for parts or place the building on an empty parcel (outside the floodplain), repair any damage, and sell the home to a new resident. This latter approach can create a revenue stream for the buyout program, depending on the price for which the buildings are sold. One practitioner estimates that it adds 6 months to the process, but this delay occurs after the homeowner has sold the home and received their payment, so the delay does not affect them financially. In urban areas, moving the building is likely to be a logistical challenge (e.g., moving power and telephone lines, traffic lights, navigating tight corners and narrow roads). These challenges may be lessened in rural areas, and rural areas may benefit more from relocating the structures because they are more likely to have open land and to face challenges in attracting developers to build new housing on that land.

EQUITY

Program officials were all aware of and concerned about potential inequities in buyout programs. However, practitioners took radically different stances – sometimes opposite stances – on how to address equity in buyouts, likely related to the different contexts in which they were operating. Moreover, as with prioritization (p. 29), individual administrator values and beliefs appear to drive approaches to equity, rather than formal processes.

For example, some practitioners expressed the belief that buyouts are intended to assist low-income residents, so they designed their programs to primarily offer buyouts to low-income residents or even to reject applications for buyouts by wealthy residents. They felt that the research indicating that buyouts primarily occur in low-income neighborhoods is proof that the programs are working appropriately (*2*, *3*). These practitioners noted that less affluent residents are less able to recover after a disaster, less able to afford elevations and other private resilience measures, and are perhaps in greater need of government assistance to relocate. Other practitioners took the opposite position: they purposefully avoid offering buyouts in low-income neighborhoods. They note that lower-income residents are less likely to be able to find replacement housing and may rely on social networks in their current neighborhoods (especially in places where lower-income neighborhoods are racial or linguistic minorities). Lower-income neighborhoods may be at risk precisely because they have experienced a history of segregation, displacement, or disinvestment, such that offering buyouts in these neighborhoods could be a form of structural violence that perpetuates these injustices (*27*).

Some programs are starting to explicitly incorporate equity in their flood risk maps, but practitioners note that this raises more questions about the appropriate scale (e.g., household, neighborhood, census tract) and about what factors to consider (e.g., race, income, language, gender). Having maps that incorporate demographic traits may be a valuable asset, but these maps will not resolve the underlying dilemma as to where buyouts should be offered. For the time being, that remains an ethical decision informed by the personal values of the administrator.

Historically disenfranchised populations may face additional challenges during the buyout process. Individuals without a bank account are unable to receive direct transfers of funds and therefore may have to wait longer to receive payment. Individuals who are unable to prove citizenship or residency may be ineligible for buyouts and other federal programs. People who do not speak English as a first language may have difficulty acquiring paperwork in their native tongue unless translations and translators are provided. Property owners who have informally inherited their property, without a will or deed, may be unable to prove clear title to the property and therefore be ineligible for a buyout or other federal programs – a problem that affected 20,000 applicants after Hurricane Katrina and 80,000 after Hurricane Maria (*85*). Buyout administrators described the need to help populations within their communities as part of the buyout program, which usually required additional staff time to navigate challenging situations and additional resources to provide participant support beyond the purchase price of the home.

In addition to equity concerns within buyout programs, practitioners widely expressed concerns about the ability of communities to access federal funds and use buyouts. Almost every practitioner described a county or town who wanted to use buyouts but who lacked the personnel or the financial resources. While they recognized the merits of cost-share requirements, in terms of incentivizing risk-reduction policies and practices, they also raised concerns that cost-share requirements and detailed application processes made buyouts too burdensome. These concerns mirror concerns in the academic literature, government reports, and media that federal funding – and particularly disaster aid – may not be reaching the communities who need the most help. State funding may have similar concerns. Some practitioners noted that once they developed a track record of responsibly administering funds, state officials would reach out to them when they had excess funding and ask if the town had any projects that needed funding. The result is that towns (and states) with the personnel and resources to successfully apply for funding and implement projects are then better positioned to acquire more funding and resources. Moreover, communities who have fewer resources may be unable to provide additional resources to their residents, even though their residents may be those who need those resources the most (e.g., relocation assistance).

TIPS FOR IMPROVING PARTICIPATION

- Outreach
    - Conduct numerous meetings at different times of day and different locations to engage the most people
    - Provide childcare
    - Provide translators (and distribute outreach materials in all appropriate languages for the area)
    - Leverage existing organizations to meet people where they are: ask to speak during a meeting of a local community organization (e.g., churches, health outreach organizations, recreational clubs)
    - Have one consistent spokesperson who is very familiar with the program (so there is no chance that two people will provide different information or inaccurate information)
    - Provide information in a non-technical manner; Give people written materials to take home with more detail
    - Be prepared to address questions people care about: e.g., how much they will be offered, when they'll receive an offer, where they'll move after, will they be forced to move
    - Be clear about whether the buyout is certain or only possible (e.g., is funding already in place? If not, be very clear about the timelines involved)
    - Buyout programs that benefit residents (e.g., that offer generous prices, relocation assistance, and other incentives) are likely to generate word-of-mouth interest in buyouts
- Carefully consider trade-offs between increasing the number of properties acquired and the per-property cost of each acquisition
- Partnerships with other agencies (e.g., housing authorities) and non-profit organizations (e.g., realtors, attorneys, community advocacy groups) can help support participants or direct them to support services
- Increase acceptance rates:
    - Expedite the buyout process (see discussion on timing above)
    - Address relocation needs (either through additional money, services, relocating buildings, helping neighbors relocate together, developing new housing stock, or other strategies)
    - Dedicate staff time (or find experts) to help address unusual situations (e.g., underwater mortgages, property title issues)
    - Offer buyouts multiple times

BUYOUTS AS ONGOING PROCESS

Cumulative Buyout Benefits

Practitioners note that buyouts are not like other flood mitigation projects because they are part of an ongoing process that may take decades to reveal its full potential. Buyouts, one practitioner said, are like "*building a miles-long floodwall, but you're doing it piece by piece as the money becomes available, and it might take you a decade or two, and maybe you won't build the sections in order, so you need to have a clear vision of what you're doing*." Another described an individual buyout programs as "one step on a journey."

For example, one practitioner is currently hiring contractors to demolish acquired properties, but they are also getting appraisals to make offers on a second set of properties and submitting a funding application to get federal and state funding for a third set of properties. For this type of practitioner, buyouts are an ongoing process. Properties that didn't work for one application (perhaps because they would have put the average cost above the pre-approved benefit cost price or pushed the benefit-cost-ratio under one) might work in a future application. Nor is this practitioner concerned that each program is only purchasing 3-12 homes. They see the benefits of the buyout program as the cumulative benefits of all buyouts in that area over the past and future decades. As another expert said:

> *"You start with one house. If that's all you can manage, that's still one family, one home that won't get hurt next time a hurricane hits. Next time you try to get two. They add up."*

Some residents are in urgent need of buyouts, so expediting each acquisition is still important. However, taking the long-view may help administrators to see the value in offering buyouts multiple times over a decade or two and help reassure residents whose homes were not eligible for a first buyout but may be eligible in a second. (Practitioners note, however, that it is important to be upfront with residents about the long timelines and the likelihood of a future buyout – waiting on post-disaster funding is different than waiting for annual funding.)

Consistent funding may be critical for this type of long-term planning. If a buyout administrator must wait for another disaster to strike or hope for left-over funds from a disaster somewhere else in the state to be allocated, it will take longer for that buyout program to achieve its goal. Moreover, as additional buyouts reduce flood risk and flood damages, the town may experience fewer disasters and therefore receive less post-disaster recovery funding. A local or state source of funding that is not tied to disaster damage may be necessary, therefore, to conduct the last few buyouts necessary to achieve the local vision.

> *"If the end game is 30 years out – we want to be done before the town is completely underwater – then it doesn't have to all happen tomorrow."*

Buyouts can have significant cumulative benefits. However, administrators should be aware that in some cases, political resistance to buyouts may also accumulate over time. Some cities or towns that have already bought out numerous flood-prone properties, for example, consider themselves 'done' with buyouts. They believe they have already acquired all the exceptionally hazardous properties or that they have sacrificed enough of their housing stock or property tax revenue and want to pursue alternative flood management strategies.

Long-Term Visions

> *"We need to talk more about coordinating buyouts with your long-term vision for your community."*

Some buyout administrators focus on the benefits for each participating family. These benefits could be significant (especially if the family moves to a less hazard-prone home nearby). However, the greatest benefits from buyouts are likely to accrue if houses are acquired strategically to serve a long-term vision.

This could be a vision for how the land will be used to benefit the community. For example, an initial buyout program may acquire homes in a checkerboard pattern but then use subsequent buyout programs to target acquisition of the remaining homes until the entire area has been bought out.

> *"It may take a long time to get all the parcels you need to build that park or levee or whatever, so you've got to be in it for the long-haul."*

The vision could also be the larger flood management or risk management strategy for the area. Buyouts are rarely the only type of flood management or risk mitigation occurring in a town or county. It is therefore important for buyout administrators to consider how buyouts and other types of flood management projects will interact. For example, certain funding sources allow acquired land to be used for floodwalls, for example, while other funding sources (e.g., FEMA HMGP) do not. Buyout administrators may pursue certain sources of funding or prioritize acquisition of different parcels depending on the overall long-term strategy.

LOCAL CAPACITY

> *"When I first did it [buyouts], probably about 20 years ago, I worked with them [CDBG grants], and they were very helpful, and I got through them, and we bought lots of properties. But now, the process is just too difficult."*

The number and experience of the people working on buyouts appear to be a main factor in determining whether or not buyouts occur and how successful they are in acquiring properties and helping residents (see discussion above on equity). Buyouts involve numerous complicated processes and regulations – grant applications and administration, real estate transactions, environmental and land use restrictions, procurements – and it takes years to develop the experience and personal relationships that enable experts to navigate buyouts efficiently. Some buyout program administrators expressed frustration with still finding parts of the application process too confusing even after decades of experience, or with having to relearn portions of the application when federal policies changed. Most buyout administrators are part of an office with only a few people, and buyouts are only part of their responsibilities. Some municipalities have the capacity to hire contractors to do parts of the work or assist temporarily but most don't have the resources. High rates of staff turnover or use of different contractors can lose important institutional knowledge.

Expert administrators with experience administrating grants are able to expedite processes and avoid penalties or funding forfeitures. They understand the details of what is and is not permitted in a benefit-cost analysis and how properties can be bundled to achieve different goals. Practitioners with experience in buyouts specifically can help address underwater mortgages and negotiate with mortgage lending companies. Partnering with other government agencies can help fill gaps in expertise, but many skills will need to be present in the administering offices.

Federal grants often provide funds for management costs, and some of these funds can even be spent pre-award to hire assistance in compiling the application, but these funds can only increase staff numbers temporarily, which does not help the administering office build experience. One practitioner expressed the opinion that they would prefer if federal agencies did not award management costs and instead awarded an annual sum (e.g., $100,000) that could be used to hire a permanent staff member.

STATE SUPPORT

In most states we researched, state agencies provided technical assistance to local communities, but the level of support provided ranged widely and depended on the available state resources. State-level programs like New Jersey's Blue Acres program, where a state agency administers the buyouts, are rare, although state engagement appears to be growing. In most cases, state agencies provide funding (see discussion on non-federal sources of funding, p.11) or non-financial assistance such as training sessions, templates, and application review. Less common are states where state officials work one-on-one with local officials to complete federal applications for funding. State funding sources can pay for acquisition costs, cost-share, or administration costs (e.g., up front appraisal fees that a local government may be unable to pay pre-award). Some states administer 'mop up' buyout programs that are intended to acquire orphan properties – residences that did not participate in earlier buyouts – or individual properties that do not meet federal eligibility or cost-effectiveness thresholds.

According to local practitioners, states could (and should) play a much larger role and provide more forms of assistance. Specifically, local practitioners would like to see state agencies play a larger role in mediating between local officials and federal officials, requesting waivers, and correcting federal mistakes. One practitioner suggested that if state agencies had more experts available to handle unusual circumstances (e.g., to advise on tenant rights under the Uniform Relocation Act or to establish policies for proving clear title), this would leave local officials more time to handle the normal paperwork of buyouts. Of course, some state agencies are already over-worked and under-staffed, so these recommendations would require more resources to be spent at the state level. Investing at the state level might help address inequities between local municipalities and help under-resourced towns to apply for much-needed federal aid. Most local jurisdictions are not going to be doing buyouts every year but most states will have one or more of their cities or towns wanting to participate every year so it makes sense to invest in the expertise at the state level.

CONCLUSION

Buyouts have been administered all over the United States for decades. There has been substantial variation in how buyouts have been administered, and these variations appear to have important consequences for participants (e.g., in how much they are compensated and what additional services they receive), but we do not have enough information about how participants fare long-term to know how these differences affect participant well-being or communities.

- Whether and how buyouts are administered often depends on the capacity and experience of the administrating staff, which suggest that investments aimed at training administrators could have a significant effect in the ability of communities to engage in buyouts and in outcomes for participating households.

- Complicated federal applications, and differences in the forms and timelines for different federal agencies and for federal and state programs, present a major burden in terms of time invested by local staff and may prove to be an insurmountable burden for some, even with assistance from state agencies. Efforts to streamline and simplify the process would significantly help administrators and make buyouts more accessible to more communities.

- This report focused primarily on property owners, but practitioners described numerous complications and concerns about how renters are treated in buyout programs. Some programs avoided acquiring rental properties altogether to avoid these complications, but this raises additional concerns about the safety of rental properties in flood-prone areas. Additional research and program evaluations that focus directly on the experience of tenants will be needed to improve buyout practices.

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REFERENCES

1. GAO, "National Flood Insurnace: Fiscal Exposure Persists Despite Property Acquisitions, GAO 20-509" (Washington, DC, USA, 2020).
2. K. J. Mach, C. Kraan, M. Hino, A. R. Siders, E. M. Johnston, C. B. Field, Managed retreat through voluntary buyouts of flood-prone properties. *Sci. Adv.* **5**, eaax8995 (2019).
3. J. R. Elliott, P. L. Brown, K. Loughran, Racial Inequities in the Federal Buyout of Flood-Prone Homes: A Nationwide Assessment of Environmental Adaptation. *Socius Sociol. Res. a Dyn. World*. **6**, 237802312090543 (2020).
4. Multi-Hazard Mitigation Council, *Natural Hazard Mitigation Saves: 2019 Report* (National Institute of Building Sciences, Washington, DC, USA, 2019).
5. A. R. Siders, in *16th Annual Conference on Litigating Takings Challenges to Land Use and Environmental Regulations* (Vermont Law School, New York, NY, 2013).
6. D. H. de Vries, J. C. Fraser, Historical waterscape trajectories that need care: The unwanted refurbished flood homes of Kinston's devolved disaster mitigation program. *J. Polit. Ecol.* **24**, 931–950 (2017).
7. S. B. Binder, A. Greer, The devil is in the details: Linking home buyout policy, practice, and experience after Hurricane Sandy. *Polit. Gov.* **4**, 97 (2016).
8. B. R. Freudenberg, E. Calvin, L. Tolkoff, D. Brawley, "Buy-in for buyouts: The case for managed retreat from flood zones" (Lincoln Institute of Land Policy, Cambridge, MA, 2016).
9. A. D. S. Burch, Brutal choice in Houston: Sell home at a loss or face new floods. *New York Times* (2018).
10. M. DeBone, Socastee residents excited for flood buyout program enrollment period to begin. *WBTW News13* (2021).
11. A. Shelby, *Red River Rising: The anatomy of a flood and the survival of an American city* (Minnesota Historical Society Press, 2008).
12. TNC, "Strategic property buyouts to enhance flood resilience" (Houston, TX, USA, 2018).
13. A. F. Brady, thesis, Massachusetts Institute of Technology (2015).
14. A. Weber, R. Moore, Going Under: Long Wait Times for Post-Flood Buyouts Leave Homeowners Underwater | NRDC (2019), (available at https://www.nrdc.org/resources/going-under-long-wait-times-post-flood-buyouts-leave-homeowners-underwater).
15. A. R. Siders, Social justice implications of US managed retreat buyout programs. *Clim. Change*. **152**, 239–257 (2018).
16. Harris County, "Post Disaster Relocation and Buyout Program Guidelines" (Houston, TX, USA, 2021).
17. L. A. Dundon, J. S. Camp, Climate justice and home-buyout programs: renters as a forgotten population in managed retreat actions. *J. Environ. Stud. Sci.* **11**, 420–433 (2021).
18. E. Zavar, R. R. Hagelman III, Land use change on U.S. floodplain buyout sites, 1990-2000. *Disaster Prev. Manag.* **25**, 360–374 (2016).
19. D. S. Mileti, *Disasters by Design: A reassessment of natural hazards in the United States* (Joseph Henry Press, Washington, D.C., 1999).
20. J. Martinich, J. E. Neumann, L. Ludwig, L. Jantarasami, Risks of sea level rise to disadvantaged communities in the United States. *Mitig. Adapt. Strateg. Glob. Chang.* **18**, 169–185 (2013).
21. J. Knighton, C. D. Guzman, R. Elliott, Flood risk behaviors of United States riverine metropolitan areas are driven by local hydrology and shaped by race (2021), doi:10.1073/pnas.2016839118.
22. D. J. McGhee, S. B. Binder, E. A. Albright, First, Do No Harm: Evaluating the Vulnerability Reduction of Post-Disaster Home Buyout Programs. *Nat. Hazards Rev.* **21**, 1–11 (2020).
23. C. M. Kraan, M. Hino, J. Niemann, A. R. Siders, K. J. Mach, Promoting equity in retreat through voluntary property buyout programs. *J. Environ. Stud. Sci.* (2021), doi:10.1007/s13412-021-00688-z.
24. A. R. Siders, J. M. Keenan, Variables shaping coastal adaptation decisions to armor, nourish, and retreat in North Carolina. *Ocean Coast. Manag.*, 105023 (2019).

25. E. Tate, A. Strong, T. Kraus, H. Xiong, Flood recovery and property acquisition in Cedar Rapids, Iowa. *Nat. Hazards*. **80**, 2055–2079 (2016).
26. C. S. Robinson, R. A. Davidson, J. E. Trainor, J. L. Kruse, L. K. Nozick, Homeowner acceptance of voluntary property acquisition offers. *Int. J. Disaster Risk Reduct.* **31**, 234–242 (2018).
27. D. H. de Vries, J. C. Fraser, Citizenship rights and voluntary decision making in post-disaster U.S. floodplain buyout mitigation programs. *Interational J. Mass Emergencies Disasters*. **30**, 1–33 (2012).
28. A. Bukvic, H. Zhu, R. Lavoie, A. Becker, The role of proximity to waterfront in residents' relocation decision-making post-Hurricane Sandy. *Ocean Coast. Manag.* **154**, 8–19 (2018).
29. K. Loughran, J. R. Elliott, S. W. Kennedy, Urban ecology in the time of climate change: Houston, flooding, and the case of federal buyouts. *Soc. Curr.* **6**, 121–140 (2019).
30. L. Koslov, A. Merdjanoff, E. Sulakshana, E. Klinenberg, When rebuilding no longer means recovery : the stress of staying put after Hurricane Sandy. *Clim. Change*. **165**, 58 (2021).
31. S. B. Binder, L. A. Ritchie, R. Bender, A. Thiel, C. K. Baker, E. Badillo, S. Goodfellow, B. Kulp, P. Weir, Limbo: the unintended consequences of home buyout programmes on peripheral communities. *Environ. Hazards*. **19**, 488–507 (2020).
32. J. M. Keenan, T. Hill, A. Gumber, Climate gentrification: From theory to empiricism in Miami-Dade County, Florida. *Environ. Res. Lett.* **5**, 054001 (2018).
33. G. Shokry, J. J. Connolly, I. Anguelovski, Understanding climate gentrification and shifting landscapes of protection and vulnerability in green resilient Philadelphia. *Urban Clim.* **31**, 100539 (2020).
34. K. O. Atoba, S. D. Brody, W. E. Highfield, C. C. Shepard, L. N. Verdone, Strategic property buyouts to enhance flood resilience: a multi-criteria spatial approach for incorporating ecological values into the selection process. *Environ. Hazards*. **20**, 229–247 (2021).
35. D. Salvesen, T. K. BenDor, C. Kamrath, B. Ganser, "Are Floodplain Buyouts a Smart Investment for Local Governments?" (Univeristy of North Carolina at Chapel Hill, 2018).
36. B. G. Mountain, "How a public/private partnership transformed the flood-damaged Levee District 8 in Louisa County, Iowa, into the Horseshoe Bend Division, Mark Twain National Wildlife Refuge" (Wapello, IA, USA, 1995).
37. S. M. Schnell, G. Haddock, Pattonsburg is dead, long live Pattonsburg! Sense of place in the face of disaster. *Middle States Geogr.* **37**, 100–107 (2004).
38. D. M. Knobloch, Moving a community in the aftermath of the Great 1993 Midwest Flood. *J. Contemp. Water Res. Educ.* **130**, 41–45 (2009).
39. E. David, J. Mayer, Comparing costs of alternative flood hazard mitigation plans: The case of Soldiers Grove, Wisconsin. *J. Am. Plan. Assoc.* **50**, 22–35 (1984).
40. M. T. Gibbs, Why is coastal retreat so hard to implement? Understanding the political risk of coastal adaptation pathways. *Ocean Coast. Manag.* **130**, 107–114 (2016).
41. E. Marino, Adaptation privilege and voluntary buyouts: Perspectives on ethnocentrism in sea level rise relocation and retreat policies in the US. *Glob. Environ. Chang.* **49**, 10–13 (2018).
42. B. Phillips, P. A. Stukes, P. Jenkins, Freedom Hill is not for sale-and neither is the Lower Ninth Ward. *J. Black Stud.* **43**, 405–426 (2012).
43. R. Hersher, How a proposal to reduce flood risk in Ellicott City nearly destroyed the community. *Natl. Public Radio* (2019).
44. J. R. Z. Simms, H. L. Waller, C. Brunet, P. Jenkins, The long goodbye on a disappearing, ancestral island: a just retreat from Isle de Jean Charles. *J. Environ. Stud. Sci.* (2021), doi:10.1007/s13412-021-00682-5.
45. A. Martin, thesis, University of North Carolina at Chapel Hill (2019).
46. K. Loughran, J. R. Elliott, Residential buyouts as environmental mobility: examining where homeowners move to illuminate social inequities in climate adaptation. *Popul. Environ.* **41**, 52–70 (2019).
47. A. R. Siders, *Managed Coastal Retreat: A legal handbook on shifting development away from vulnerable areas* (Center for Climate Change Law, Columbia University, 2013).
48. Federal Emergency Management Agency, Notice of Funding Opportunity for Hazard Mitigation Assistance Grants, 1–5 (2020).
49. FEMA, Flood Mitigation Assistance (FMA) Grant Program (2021), (available at https://www.homelandsecuritygrants.info/GrantDetails.aspx?gid=21014).
50. Federal Emergency Management Agency, Repetitive Loss Frequently Asked Questions (2020).
51. Federal Emergency Management Agency, Building Resilient Infrastructure and Communities (BRIC) (2020).
52. HUD, Community Development Block Grant Disaster Recovery: CDBG-DR Overview (2020), pp. 1–3.
53. A. Greer, S. B. Binder, A historical assessment of home buyout policy: Are we learning or just failing? *Hous. Policy Debate*. **27**, 372–392 (2016).
54. K. Peterson, E. Apadula, D. Salvesen, M. Hino, R. Kihslinger, T. K. Bendor, A review of funding mechanisms for US floodplain buyouts. *Sustainability*. **12**, 1–20 (2020).
55. USDA, "Emergency Watershed Protection Program - Floodplain Easement (EWPP-FPE) Option" (2019).
56. USACE, National Nonstructural Committee (NNC) (2021), pp. 1–3.
57. USACE, Flood risk management program (2021).
58. Environmental Law Institute, "Financing and Incentivizing Floodplain Buyouts: A Guide" (2017).
59. E. Vilay, P. Pollman, Floodway Buyout Strategy for a

Resilient Houston (2020).
60. Federal Emergency Management Agency, "The 1993 Great Midwest Flood: Voices 10 Years Later" (2003).
61. New York City Housing Recovery, "New York State Acquisition for Redevelopment Program FAQ" (New York, NY, USA).
62. GOSR, "NY Rising buyout and acquisition program policy manual, Version 3.0" (Albany, NY, 2015).
63. L. F. Rakow, B. Belter, H. Dyrstad, J. Hallsten, J. Johnson, K. Indvik, The talk of movers and shakers: Class conflict in the making of a community disaster. *South. Commun. J.* **69**, 37–50 (2003).
64. L. F. Rakow, in *Communication Impact: Doing Research that Matters*, S. H. Priest, Ed. (Rownman & Littlefield Publishers, Inc., 2005), pp. 5–18.
65. T. K. BenDor, D. Salvesen, C. Kamrath, B. Ganser, Floodplain Buyouts and Municipal Finance. *Nat. Hazards Rev.* **21**, 04020020 (2020).
66. M. E. Hauer, Migration induced by sea-level rise could reshape the US population landscape. *Nat. Clim. Chang.* **7**, 321–325 (2017).
67. GFND, *Recovery snapshot: Grand Forks residential buyout program* (Grand Forks City Government, Grand Forks, ND, 1999).
68. FEMA, "Acquisition Project Proves Beneficial as Safety Measure and Recreational Avenue," *Mitigation Best Practice Stories* (Milwaukee, WI, USA, 2010).
69. E. Zavar, An analysis of floodplain buyout memorials: four examples from central U.S. floods of 1993–1998. *GeoJournal*. **84**, 135–146 (2019).
70. ASFPM, Targeted Outreach Leads to Successful Buyout Program in Elm Grove - Flood Science Center. *ASFPM CRS Success Stories*, (available at https://www.floodsciencecenter.org/products/crs-community-resilience/success-stories/elm-grove-wisconsin/).
71. M. Collette, Flood Games: Manipulation of flood insurance leads to repeat disasters. *Houst. Chron.* (2018).
72. FEMA, *Mitigation Policy- fp-108-024-01 - Consideration of Environmental Benefits in the Evaluation of Acquisition Projects under the Hazard Mitigation Assistance (HMA) Programs* (2013).
73. FEMA, Memorandum: Cost Effectiveness Determination for Acquisitions and Elevations in SFHA Using Pre-calculated Benefits (2013).
74. CMSWS, "Mecklenburg County RetroFIT Program Policy Document" (North Carolina, USA, 2015).
75. N. Rott, California's Climate Idea For Coastal Homes: Buy, Rent, Retreat. *Natl. Public Radio* (2021).
76. A. R. Siders, J. M. Keenan, Variables shaping coastal adaptation decisions to armor, nourish, and retreat in North Carolina. *Ocean Coast. Manag.* **183**, 105023 (2019).
77. J. N. Kittinger, A. L. Ayers, Shoreline armoring, risk management, and coastal resilience under rising seas. *Coast. Manag.* **38**, 634–653 (2010).
78. A. R. Siders, *Managed coastal retreat: A legal handbook on shifting development away from vulnerable areas* (Columbia Law School, Center for Climate Change Law, New York, NY, 2013), vol. 9.
79. J. Song, B. Peng, Should we leave? Attitudes towards relocation in response to sea level rise. *Water*. **9**, 941–958 (2017).
80. E. L. Kick, J. C. Fraser, G. M. Fulkerson, L. A. McKinney, D. H. De Vries, Repetitive flood victims and acceptance of FEMA mitigation offers: An analysis with community-system policy implications. *Disasters*. **35**, 510–539 (2011).
81. S. Brokopp, B. Charlene, K. B. John, Rebuild or Relocate? Resilience and Postdisaster Decision-Making After Hurricane Sandy. *Am. J. Community Psychol.* **56**, 180–196 (2015).
82. E. Frimpong, J. Kruse, G. Howard, R. Davidson, J. Trainor, L. Nozick, Measuring heterogeneous price effects for home acquisition programs in at-risk regions. *South. Econ. J.* **85**, 1108–1131 (2019).
83. E. M. Zavar, R. R. Hagelman III, W. M. Rugeley II, in *Evolving Approaches to Understanding Natural Hazards* (2015), pp. 458–470.
84. A. K. Hurley, The High Cost of Flood-Proofing Homes. *Bloom. City Lab* (2017).
85. H. Dreier, "The real damage": Why FEMA is denying disaster aid to Black families that have lived for generations in the Deep South. *Washington Post* (2021).

APPENDIX A. METHODS

Between November 2020 and February 2021, we interviewed 24 local and state officials and contractors who have experience administering buyouts. Interview subjects were recruited via phone calls, emails, and recommendations from other practitioners. Due to COVID concerns, interviews took place on Zoom and lasted from 30 minutes to 2 hours. Practitioners represented nine states, mostly in the Midwest and Northeast, and included two consultants, one non-profit practitioner, and a range of state and local government officials (8 state officials, 4 county, 1 watershed, and 9 local). We asked interview subjects about their experience with buyout programs, both federally and state or locally funded. In addition to asking about general impressions, we asked about how buyouts were funded, how participants were recruited, what the process involved and any strategies they had learned to expedite the process. We also asked about equity concerns, any challenges that currently limit their buyout programs, and suggestions on how buyout programs could be improved in the future.

We reviewed the academic literature on US buyouts and government reports documenting the implementation and outcomes of buyout programs. Named examples in this report are drawn from these published documents, rather than from interviews (and are often not from the same location as our interviews), to preserve the confidence of interviewees.

Interviews with State-level authorities

Overarching goal: Want to know what these offices need to expand their operations or to make their work easier or more effective.

- Ask about status of current buyout programs
- How frequently is your office engaged in buyouts in New York?
    - What's the largest buyout program your office has been involved in? What's the smallest?
    - Is your office primarily involved in administration or more finance and support to local administrators?
    - Does your office administer/support buyouts all over the State? Inland and on the coast?
- What factors are currently limiting your office's operations?
    - Budget? (Finances) How is the budget currently decided (before homes are identified or after; a set pot of money? What directions given for the expense of those funds?)?
    - Personnel? (More staff) How many full-time employees are working on buyouts in your office?
    - Laws / Regulations / Authority
    - Collaborations? Which other offices/agencies/departments does your office work with most closely? Which offices would be beneficial to work with more? What is preventing that? (To any, ask for more details)
        - Why / How does this limit your office's operations?
        - What would it take to overcome this limitation?
- What is the greatest pressing need for your office?

Local logistical lessons learned

Overarching goal: Want to know all the logistical details about how the program was implemented and how well it performed to identify lessons learned

Recruitment:

- How did your program identify potential areas to include in the buyout? What criteria were used?
- How did your program approach potential homeowners?
    - For example, by mail, by phone, in person? Other? (e.g., post a sign outside home to raise awareness; website; town hall meeting; newspaper story)
    - If in person, who made first contact? (Your office, consultant, emergency official)
        - Did the same person remain the point of contact?
    - If by mail: can we see the mailer?
- How successful were these outreach tactics?
    - Of the purchase offers made, how many were accepted (what %)?
- Did the program change strategies at any point? If so, why?

  [Request data on participation rates]

Financing:

- Did your program use federal funding? If so, what source?
- Was there a required match? If so, how did your community raise the match funds?
- Ask for details: e.g., if a stormwater management fee was used, how was the fee calculated and what steps were taken to put the fee in place
- How did your program decide how much to offer a homeowner?
    - E.g. Fair market value? Replacement value?
    - Did your program offer any additional incentives beyond the value of the home? If yes, why and what? If no, why not?
        - How did these incentives affect acceptance rates?
    - Did your program provide any non-monetary incentives or support (e.g., real estate guidance or moving support)? If yes, what and why?
    - How did these incentives affect acceptance rates?

Speed / Efficiency

- How long after the disaster did your office decide to offer a buyout?
- How long did it take to receive funding?
- How long before you were able to make offers to homeowners?
- How long did the closing process take?
- How long between closing and the time the homeowners moved out? And the time the house was demolished?
- What steps did your office take to accelerate the process?
- What were the benefits of the timing? (Were there benefits to being slow? Fast?)
- What steps could be taken to accelerate the process in future?

  [Request data on timing]

State-Level Support

- What state-level support services did your office receive? (If a state official, ask about services provided)
    - Was state-level support offered that your office did not accept? (What state services are available?)
- Did your office request any state-level support?
    - Which state office did you ask for support? What type of support did your office request?
- What state-level support would have been most helpful?
- What state agencies would it be most useful to have involved in the process?
- What legal or regulatory challenges did your program encounter?
- What were the greatest challenges to your program?

Equity

- What steps did your program take to address equity?
- Were any equity concerns raised about your program at the time?
- What step, if any, would your office take to address equity in the future?

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New Jersey State Buyout Programs

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State Buyout Programs

New Jersey has two state-level programs: Blue Acres, in the Department of Environmental Protection (DEP), manages the acquisition of flood-prone properties from willing sellers, and the Office of Emergency Management (NJOEM) provides technical and financial assistance to help local governments administer buyouts. We provide a brief overview of both programs, focusing on how differences in the way the two are funded and organized create differences in their goals and operations.

BLUE ACRES

The New Jersey Blue Acres Buyout Program was established by the Green Acres, Farmland, Historic Preservation and Blue Acres Bond Act of 1995. Blue Acres was an expansion of a long-standing Green Acres Land Conservation Program, which started in 1961, and Blue Acres is therefore managed as part of Green Acres within the Department of Environmental Protection (DEP).

Funding

Both Green and Blue Acres have a long history of state funding independent of federal or post-disaster funding sources. In fact, over a dozen bond and state constitutional measures have been passed by NJ voters to support land acquisition and conservation. The 1995 Bond Act allocated $230 million to Green Acres and $30 million to Blue Acres, with $15 million earmarked for coastal acquisition ($6 million pre-storm and $9 million post-storm) and $15 million for inland acquisition along the Passaic River. In 1998 the Garden State Preservation Trust Act created a constitutional amendment to dedicate $98 million per year for 30 years from sales tax revenue for open space, conservation, and preservation. Acquisition projects ended in 2009, and revenues for 2009-2029 are dedicated to debt service on outstanding bonds. Subsequent bond acts in 2007 and 2009 allocated $12 million and $24 million, respectively, to Blue Acres for the acquisition of flood- or storm-prone properties. The 2016 Preserve New Jersey Act dedicated a share of the state's corporate business tax revenue to conservation projects, including acquisition of flood-prone properties. This Act was modified in 2019 (S2920) and dedicates 62% of the funds to the acquisition of flood- and storm-prone lands. A further appropriation, signed into law February 2021, provides $30 million in corporate business taxes for Blue Acres (S3230/A5115).

Blue Acres has also secured post-disaster funding from federal agencies. After Superstorm Sandy in 2012, Blue Acres received $300 million from federal sources, including $185 million from the Federal Emergency Management Agency's Hazard Mitigation Grant Program (FEMA HMGP) and $100 million from the U.S. Department of Housing and Urban Development's Community Development Block Grant – Disaster Recovery program (HUD CDBG-DR).

Post-disaster funds such as HMGP and CDBG-DR rely on a disaster occurring, and this uncertainty makes it difficult to use such funds to hire long-term personnel (important for building expertise) or to execute acquisitions according to a long-term strategy. Applying for federal funds takes significant time and resources, and federal funds come with administrative constraints that can reduce a program's ability to respond flexibly to local contexts. For these reasons, buyout administrators in New Jersey and other states stress that consistent state-level funding sources are an important foundation for effective buyout programs.

NJ DEP

With long-term funding, Blue Acres has employed staff with tailored expertise in damage assessment, cost-benefit analysis, real estate transactions, and tenant relocation, which has enabled the program to innovate and find solutions for challenges. Blue Acres worked with FEMA to modify its benefit-cost-analysis formula to fit the NJ context; developed an expedited damage assessment process; negotiated short sales and achieved $5.7 million in loan forgiveness for owners with "upside-down" mortgages; and distributed more than $1 million in relocation assistance to rental tenants. Tenants receive different compensation and assistance packages than property owners (according to the Uniform Relocation Act) and navigating tenant rights requires expertise and experience.

Selection Criteria

The 2019 modification to the Preserve New Jersey Act states that funds are allocated for "the acquisition and development of lands for public recreation and conservation purposes, including lands that protect water supplies and lands that have incurred flood or storm damage or are likely to do so, or that may buffer or protect other properties from storm damage". Observers of the Blue Acres program note that this language, and the location of the program within the DEP, have directly shaped the Blue Acres acquisition strategy and post-acquisition land use decisions by making recreational and conservation value a priority.

Residential properties are the primary focus of Blue Acres. Federal funds acquired after Superstorm Sandy were used to purchase storm-damaged homes, although property owners who have submitted repeated claims through the National Flood Insurance Program (NFIP) are also eligible. Blue Acres seeks to purchase properties in clusters to avoid creating checkerboard patterns that are more challenging to use and maintain. Once purchased, the buildings are demolished, and the land is permanently preserved as a recreational or conservation space that is accessible to the public.

Properties are purchased at the pre-disaster fair market value. Properties are appraised by an independent, licensed appraiser under contract to the State. If a homeowner disagrees with the appraisal, the homeowner may hire an appraiser at the owner's expense to conduct a second appraisal, and the State will then hire a third appraiser to reconcile the two reports and decide on the offer price. A dispute over the price can add three months or more to the timeline. Offers, once made, are officially non-negotiable (owners may accept or decline but not request a higher price).

The homeowner may decide not to sell at any point. Blue Acres does not purchase homes without the approval of the local government, and this has limited the ability of Blue Acres to acquire properties in some areas, particularly along the coast.

Blue Acres has purchased more than 770 properties across 19 municipalities. The program has received significant media attention, especially since Superstorm Sandy, and this heightened public awareness has helped the program engage property owners and other government agencies. The large volume of properties Blue Acres handles gives Blue Acres an incentive and the necessary clout to negotiate for better terms with federal agencies and mortgage lending companies. The visibility and size of the program, however, sometimes create challenges via public controversy, higher overhead costs, or greater bureaucracy.

OFFICE OF EMERGENCY MANAGEMENT

A second NJ program, run by the Office of Emergency Management (NJOEM), provides technical and financial assistance to help local governments acquire flood-prone properties, and the combination of the two programs provides the state much-needed flexibility.

Funding

The NJOEM program is funded primarily through FEMA's Flood Mitigation Assistance (FMA) program.

Arias/FEMA

FMA is a competitive grant program that provides funding to reduce or eliminate risk of repetitive flood damage to buildings insured by the National Flood Insurance Program (NFIP). Unlike the Hazard Mitigation Grant Program (HMGP), which makes funds available after presidentially declared disasters, FMA is an annual competition. FEMA programs are quite competitive: in the 2020 application cycle, FEMA received 1,216 applications requesting $3.99 billion, even though FEMA had only $700 million available. Nevertheless, NJOEM has been quite successful in winning FMA funding: the office received FMA funding in 17 of the last 20 years and secured an average of $8 million per year (by comparison, New York received funding in 11 of 20 years and $244,000 on average). NJOEM is staffed with several former FEMA employees who are veterans at applying for and administering federal funds, and these employees are crucial to the office's success.

Selection Criteria

As might be expected because of its departmental home and its funding source, the NJOEM buyout program is primarily focused on reducing flood risk and mitigating repetitive loss properties. This is often aligned with Blue Acres but sometimes means NJOEM is willing to facilitate buyouts for parcels that have little conservation or recreational value or for isolated properties rather than clusters. The NJOEM program has a lower media profile, and this means NJOEM is occasionally able to help towns who may not want to be seen as acquiring large swaths of the land but are happy to have NJOEM help acquire one or two flood-prone properties.

NJOEM has far fewer staff working on buyouts than Blue Acres, so they often hire contractors to assist towns with administration. They offer fewer services to residents – e.g., they do not negotiate directly with banks – but they have lower overhead, which keeps local cost-shares down and enables them to acquire properties with marginal cost-benefit ratios.

COORDINATION IS KEY

The existence of multiple state programs can confuse local officials and residents. Coordination between programs – both state and federal – and clear communication with residents are crucial. After Superstorm Sandy, then-Governor Christie decided to administer all post-storm acquisitions through Blue Acres, to provide a single point of contact. Blue Acres moved its headquarters from Trenton to the Joint Field Office in Eatontown, New Jersey, so that staff would be better able to coordinate with FEMA and OEM.

Blue Acres Acquisition Director Fawn McGee has credited proximity – being able to put key decision-makers in one room – with the program's ability to rapidly apply for federal funds and to streamline its acquisition timeline. For example, Blue Acres worked with historic preservation officers to create a "dashboard" system that made it possible for staff to conduct fast preliminary assessments.

Blue Acres also coordinated with non-government organizations. For example, program experts worked with 25 lending organizations to facilitate short sales, debt forgiveness, or payoff approvals for homeowners who might otherwise have been declared ineligible for the program. Blue Acres partnered with non-profit organizations who could provide financial assistance or pro bono legal services for low-income homeowners.

Both state programs provide important services. The larger size and greater public visibility of Blue Acres enables the state to pursue large-scale buyouts that might not be possible at a local level, while the NJOEM program is able to flexibly target individual parcels and exceptional cases. Coordination is key to their success.

MORE INFORMATION

"3 Years Long, 3 Years Strong: New Jersey's Successful Approach to Purchasing Homes along Sandy's Flooded Path," FEMA Case Study Library (2015), www.fema.gov/case-study/3-years-long-3-years-strong-new-jerseys-successful-approach-purchasing-homes-along

Schwartz, "Surrendering to Rising Seas," SCIENTIFIC AMERICAN (2018) www.scientificamerican.com/article/surrendering-to-rising-seas/

Green Acres: A Legacy of Green: Celebrating 50 years of the Green Acres Program www.njkeepitgreen.org/wp-content/uploads/2019/05/50Legacy_greenacres.pdf

Green Acres Funding Summary 1961-2014, www.nj.gov/dep/greenacres/bondact.html (Includes Blue Acres Bonds)

InsiderNJ, Blue Acres Bill Passes Senate and Assembly – Goes to Gov's Desk, 11 Jan 2021, www.insidernj.com/press-release/blue-acres-bill-passes-senate-assembly-goes-govs-desk/

Managing the Retreat from Rising Seas – State of New Jersey: Blue Acres Buyout Program (Georgetown Climate Center) www.georgetownclimate.org/files/MRT/GCC_20_NewJersey-3web.pdf

NJ DEP Fact Sheets on Blue Acres

- 2015 FAQs: www.nj.gov/dep/greenacres/pdf/faqs-blueacres.pdf
- Website: www.nj.gov/dep/greenacres/blue_flood_ac.html

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Considerations for State-Level Property Acquisition Programs

A.R. Siders, L. Gerber-Chavez, A. Andresen, T. Casey

Produced for The Nature Conservancy in New York 2021

State Buyout Programs

Voluntary property acquisitions ("buyouts") are one of the main policy tools in the United States for reducing flood risk to residential properties (GAO 2020). Local governments (counties or municipalities) commonly administer buyout programs, even when they use federal or state funding, and local administration enables programs to be tailored to local conditions. However, many local governments lack the personnel, expertise, or financial resources to administer buyouts (see Mach et al. 2019). This raises an equity problem: some communities who need buyouts the most have the fewest resources to administer them. Residents in these communities who want to be bought out may instead become trapped in a disaster-rebuild-disaster cycle.

State governments can play a significant role by providing financial and technical support to local efforts or by administering buyouts at the state level. A state creating a state-level program should consider the following suggestions, gathered from case studies and interviews with buyout administrators.

TWO PROGRAMS ARE BETTER THAN ONE

Establishing multiple state-level programs may enable each program to specialize and to flexibly address a wider range of circumstances. For example, a combination of large and small programs has been successful in New Jersey.

A large program has greater public visibility, which may facilitate homeowner recruitment and build public trust as residents hear about others' experiences with the program. Large programs have greater negotiating power to deal with federal agencies, mortgage companies, or contractors. This may enable them to be more efficient (e.g., demolish numerous homes at once) or to find creative solutions (e.g., negotiate better mortgage terms or help homeowners who are underwater on their mortgages). A large staff is more able to pursue federal and other external funding, and specialist staff (e.g., experts in rental law, real estate, or damage estimates) can improve efficiency and effectiveness of the program. Large buyouts that acquire an entire street or utility service area may provide the most economic benefits (Salvesen et al., 2018) and the resulting open space may provide environmental or risk reduction benefits, particularly if it is restored.

CONSIDERATIONS

1. Multiple, coordinated programs improve flexibility
2. Affiliation shapes program goals & design
3. Consistent funding improves efficiency & flexibility
4. Experienced, specialized staff are critical for program success
5. Center people & land use to help buyouts support communities
6. Build local connections to ensure state buyouts support local goals

However, large programs may develop procedures and regulations that make it difficult for these programs to respond to unusual conditions or to acquire lone properties or properties with marginal cost-benefit ratios. When acquiring numerous properties, a large program will almost certainly want to deal with all property owners similarly, in the name of fairness. This may make it challenging for the program to make exceptions in unique circumstances. Public visibility may also create challenges when pursuing buyouts in places where public opinion on buyouts is mixed.

A second, smaller program could address these gaps and provide additional flexibility. This program may be able to deal with abandoned properties, properties under foreclosure, properties already for sale, and unusual conditions. It could help residents who want to be bought out but whose neighbors wish to remain.

Both approaches have value and can work in concert. Coordination between programs and clear communication with local officials and residents becomes key to avoid unnecessary overlap or confusion.

AGENCY AFFILIATION MATTERS

A buyout program is likely to take on the goals, procedures, and restrictions of the government agency or office in which it is located. A buyout program in the emergency management office, for example, is more likely to have regulatory language, procedures, and staff who value risk reduction above other outcomes. Conversely, a program in an environmental protection agency may value water quality, habitat, or recreation above risk reduction. A buyout program in either agency would have a different approach to how properties should be acquired and how the acquired land should be used. Emergency management and environmental protection departments are the most common hosts for buyout programs, but a state may want to consider other government departments, as buyouts affect a wide range of social issues (e.g., housing, schools, transportation, utilities). There is currently no evidence to suggest that one agency is a better choice than the other. Rather, the choice should be made mindfully, with full awareness of how the choice may affect program design and implementation.

FEMA

Establishing mechanisms and procedures for coordination between government departments may also leverage different areas of expertise and help buyouts to achieve multiple government objectives.

CONSISTENT STATE FUNDING

State funds that are reliably available each year enable buyouts to be used in more communities and improve the effectiveness and efficiency of these programs. Several federal agencies provide funding for buyouts (e.g., Federal Emergency Management Agency, Department of Housing and Urban Development, U.S. Department of Agriculture), but these programs often require some portion of the cost to be paid by non-federal funds. State funding may support buyouts in localities that could not otherwise afford the cost-share.

Competing for federal funding takes significant time and resources. The time it takes to apply for federal funding significantly extends the time it takes to administer a buyout (estimates of programs with federal funding range from 18 months to 5 years; estimates with state funding in hand may be reduced to 3-12 months). This is a significant difference for residents who may be required to live in a damaged home, rent a second residence, or pay two mortgages while the buyout is being completed. Moreover, federal funding opportunities are often inconsistent from year to year, depending on the size of recent disasters, and this makes it challenging for a federally-funded buyout program to pursue long-term objectives (e.g., to offer buyouts in multiple years to acquire orphan properties) or to hire permanent staff. Stormwater management fees, development fees, sales or corporate taxes, and bond measures are common sources of state funding.

EXPERIENCED, SPECIALIST STAFF

Experienced staff are critical for running a successful and efficient buyout program. People with experience applying for and administering federal grants are more likely to win government grants, to expedite processes and find work-arounds when challenges arise, and to administer funds correctly, avoiding delays and penalties. Staff who are familiar with the buyout process know how to streamline parallel tasks to reduce the overall timeline and how to communicate with participants in ways that build and maintain trust. Acquiring this expertise takes years. Buyout administration can be outsourced to experienced consultants or contractors, but some level of experience will be required in-house. Permanent, experienced staff are particularly important in a state-level program, as these experts will frequently need to provide technical assistance to local officials who are new to buyouts. Federal staff do not always have the required expertise (in fact, several buyout administrators describe needing to educate their federal counterparts), so the state should not rely on federal capacity.

Advisory Council on Historic Preservation

According to buyout administrators, specialist staff in the following areas may be particularly useful: grant-writing and administration, real estate transactions, insurance, disaster assessments (e.g., engineers), benefit-cost calculations, tenant relocation, and state-specific environmental and historic preservation laws. Renters have been historically overlooked in buyout programs, in some cases because the local administrators lacked a detailed understanding of tenant rights and the compensation mechanisms and relocation assistance available for tenants, which are different from those available to property owners. State programs should address this directly.

METRICS MATTER: LAND & PEOPLE

Many buyout programs are evaluated based on how many properties were acquired. However, the real test for buyouts should be whether the people and communities involved are better off after the buyout. Two metrics that can help with this evaluation are (a) where people move after the buyout and (b) how the land acquired through the buyout is used. Few buyout programs currently track where residents move after a buyout, but to understand how buyouts affect people, a program must know if participants were able to find stable, affordable housing and if they left the community to do so.

These metrics would also help buyout programs to integrate with housing policy, to ensure that the removal of housing stock through buyouts is part of the broader housing development plan. Few buyout programs provide support for residents in finding new housing. Tracking metrics of relocation could provide incentives for programs to provide additional resources, such as finances for moving costs, connecting residents with real estate agents, or even negotiating with mortgage companies to assist participants.

Similarly, how the land is used once it is acquired is important for understanding how the buyout has affected the community. In many buyouts, the land is left derelict because the local government lacks resources to restore the environment or convert the land to a park, garden, or other usable space (Zavar & Hagelman 2016). State buyout programs should plan for how the land will be used and how restoration and maintenance costs will be funded. Partnerships with other government agencies (e.g., for water quality) and non-government organizations (e.g., land trusts) may support land uses that achieve multiple benefits.

BUILD LOCAL CONNECTIONS

Buyouts change communities in intensely personal ways. They affect property tax revenue and land maintenance costs. They alter social ties and sense of place. They therefore need to be designed and implemented in ways that respond to the needs and goals of the community. If a state-level program administers buyouts, it should coordinate with local officials and community representatives to tailor buyouts to the local context.

Several of the prior recommendations may help with this tailoring. Permanent staff are able to build long-term relationships with local and federal officials that facilitate coordination. State funding may lack federal restrictions and so enable greater flexibility to address unusual circumstances. Tracking where people move can help local governments understand how buyouts in one community affect surrounding communities. And multiple state-level programs can allow the state to engage in multiple ways: either as a large, high-visibility program that pursues clustered purchases or as a small program designed to acquire one or two flood-prone homes without raising public debate.

A Role for States

Buyouts are commonly administered by local governments, and it is important for buyouts to support local goals. However, many local governments lack the human or financial capacity to administer buyouts. Without support, their residents will remain at risk. States can play a major role in providing financial and technical expertise if they develop these resources at a state level.

REFERENCES

GAO, *National Flood Insurance: Fiscal Exposure Persists Despite Property Acquisitions, Government Accountability Office (GAO) 20-509* (2020).

Mach, K.J., Kraan, C., Hino, M., Nieman, J., Siders, A.R., Field, C. *Managed retreat through voluntary buyouts of flood-prone properties*, 5 SCI. ADV. eaax8995 (2019).

Salvesen, D., BenDor, T. K., Kamrath, C., & Ganser, B. *Are Floodplain Buyouts a Smart Investment for Local Governments?* (University of North Carolina at Chapel Hill; 2018).

Zavar, E. & Hagelman III, R.R. *Land use change on U.S. floodplain buyout sites, 1990-2000*, 25 DISASTER PREV. MANAG. 360–374 (2016).

MORE INFORMATION

Georgetown Climate Center, Managed Retreat Toolkit, www.georgetownclimate.org/adaptation/toolkits/managed-retreat-toolkit/introduction.html

"3 Years Long, 3 Years Strong: New Jersey's Successful Approach to Purchasing Homes along Sandy's Flooded Path," FEMA Case Study Library (2015), www.fema.gov/case-study/3-years-long-3-years-strong-new-jerseys-successful-approach-purchasing-homes-along

Schwartz, "Surrendering to Rising Seas," SCIENTIFIC AMERICAN (2018) www.scientificamerican.com/article/surrendering-to-rising-seas/

Siders, A.R., Hino, M., Mach, KJ. "The case for strategic and managed retreat," SCIENCE (2019) science.sciencemag.org/content/365/6455/761

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