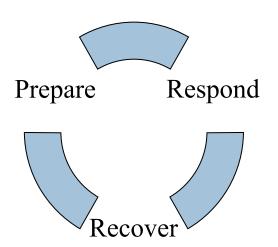


#### The Disaster Cycle

- Preparation
- Response
- Recovery





#### Mitigation

- Acquisition
- Elevation
- Land use planning
- Building codes
- Infrastructure policy



#### Acquisition (Buyouts)

#### **Early Projects**

- Rapid City, SD
  - 1400 homes after 1972 flood
- Soldiers Grove, WI
  - Relocation of downtown in 1983
- □ Valmeyer, IL (population ~900)
  - Entire town relocated after 1993 floods in MW Since 1993 FEMA has purchased ~20,000 properties nationwide



#### Federal Policy

Hazard Mitigation Grant Program: — 15-20% of federal disaster assistance funds can be used for mitigation, including buyouts

- Funds triggered by a disaster

Flood Mitigation Assistance Program – funds used to reduce risk of flooding for communities participating in the NFIP.

#### How it Works

- Following a disaster, HMGP funds available
- Funds distributed through state government
- Buyouts are voluntary
- Homeowners paid pre-flood fair market value
- After purchase, homes demolished or relocated
- Property precluded from development

#### Advantages of Buyouts

- □ Saves money
  - debris removal, evacuation, search and rescue, ...
- Provides permanent protection
- Serves multiple objectives
  - □ risk reduction, open space,
  - habitat, recreation
- Enhances natural buffers
- Protects private property rights



#### Disadvantages of Buyouts

- Expensive, particularly for coastal communities
- Loss of tax base
- Disruption of established neighborhoods
- Incomplete participation
- Could lead to higher housing costs (constrains land markets)

#### Making the Most of Floodplain Buyouts Project Objectives

Our objective is to help communities learn how to leverage floodplain acquisition programs for community benefit by:

- developing strategies for local governments on how to optimize and manage acquired properties;
- increasing the number of floodplain acquisition sites restored or managed to provide natural habitats and identifying opportunities to leverage these sites to improve connectivity among fragmented habitats; and
- helping make communities more resilient to climate change.





#### Methodology

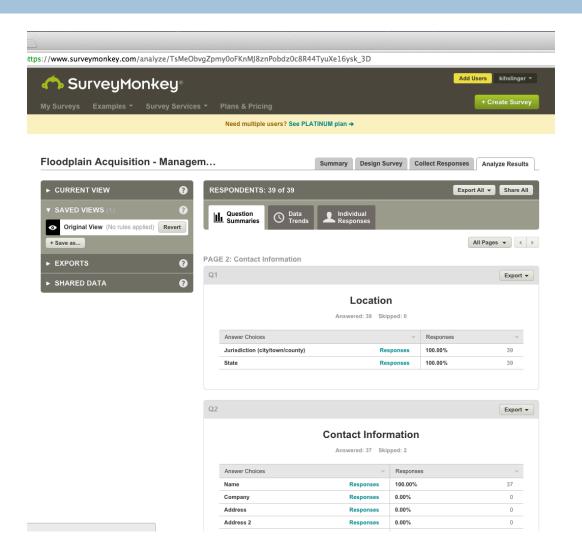
- Research
  - Survey
    - Characterize buyout process and management of sites
    - Distributed to those involved in buyouts
  - Examine wetland habitat and flood mitigation benefit of acquired properties in local case studies
    - Visiting 3-4 communities in each state
    - Interviewing local government staff
    - Mapping
- Develop 'Action Guide'

Funding: McKnight Foundation, U.S. Environmental Protection Agency, New York Community Trust

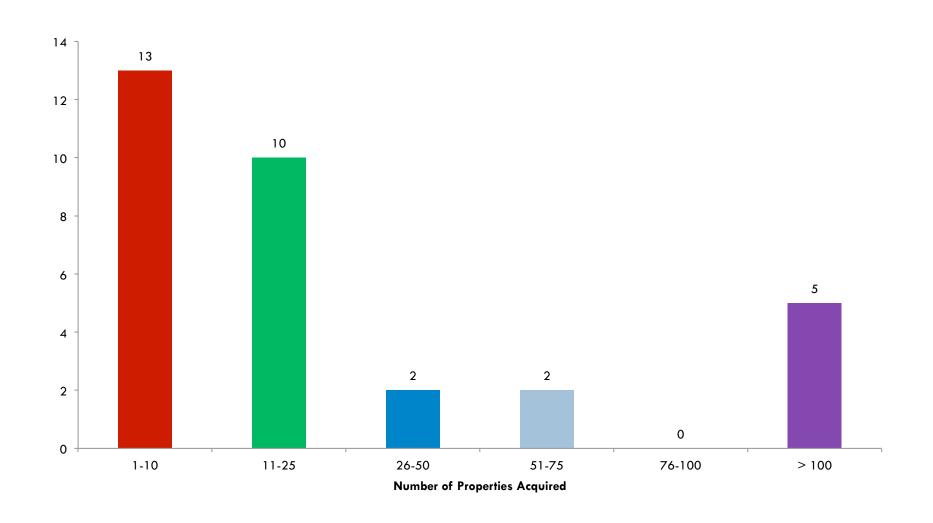
#### Making the Most of Floodplain Buyouts

Taking advantage of acquired properties, or missing opportunities?

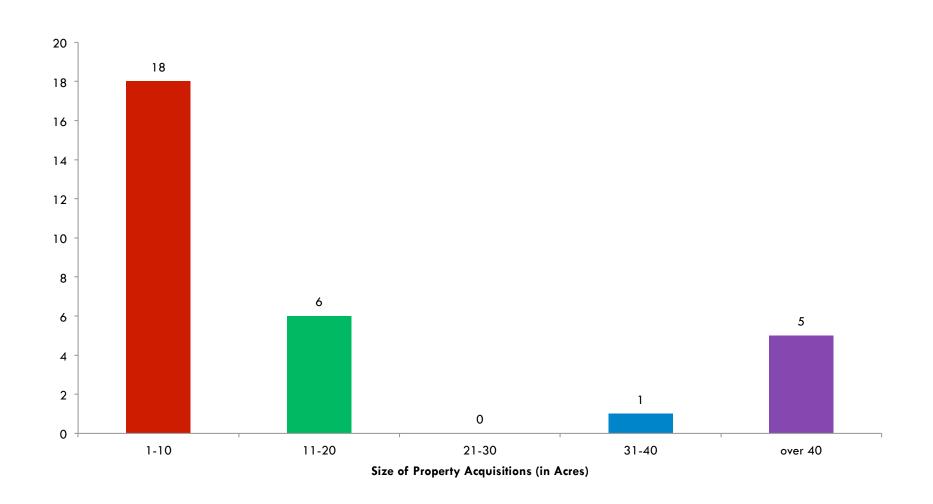
#### Survey



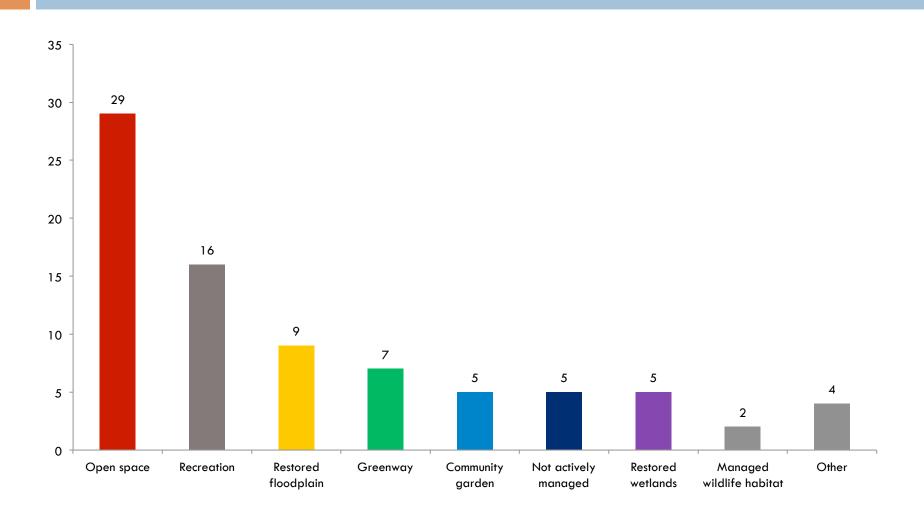
#### How many properties have been acquired?



# Roughly how large, in acres, was the total size of the property acquisitions?



# How are the acquired properties being used currently? Select all that apply



#### **Current Use**





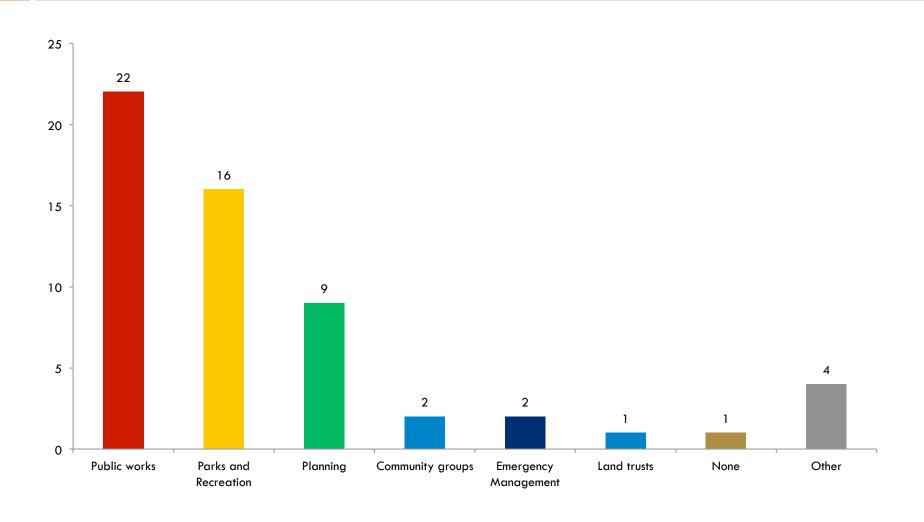




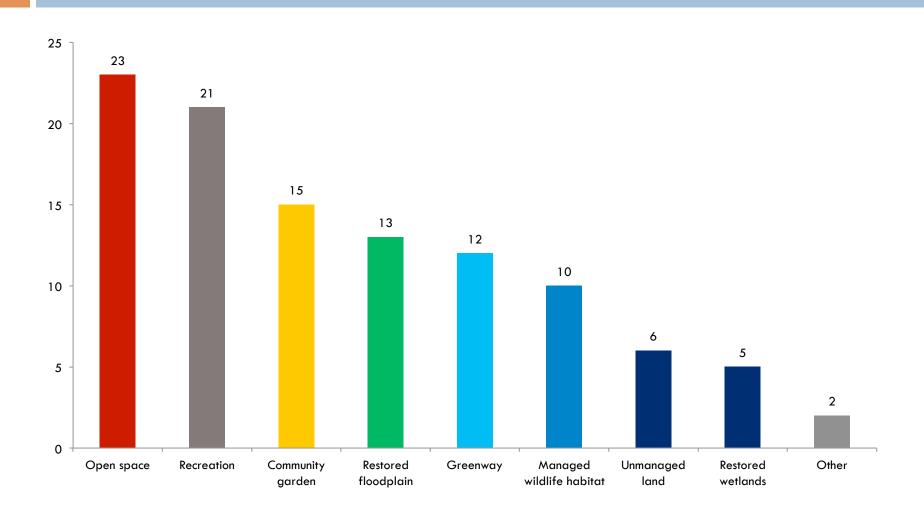




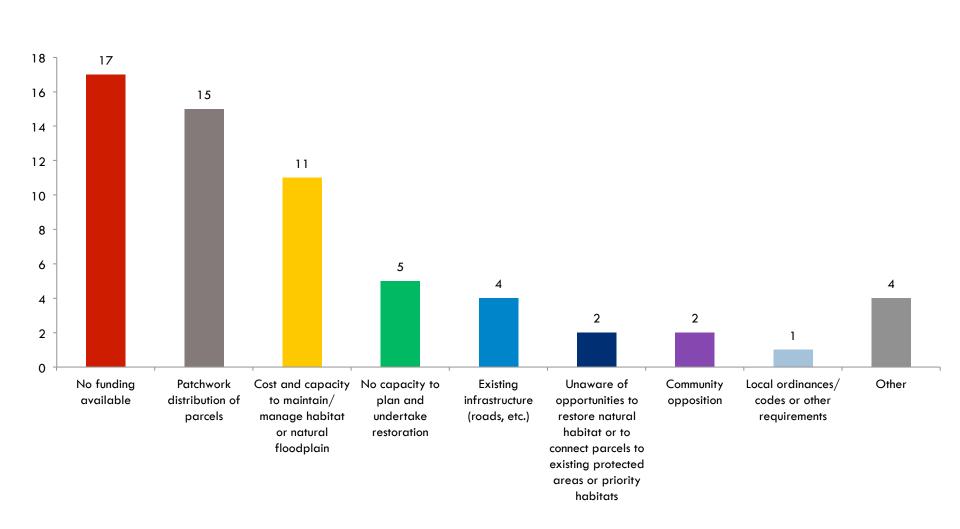
#### What office or agency is responsible for managing the acquired properties? Select all that apply



## What do you think would be the best use of the acquired properties? Select all that apply



### What are the obstacles to restoring habitat or natural floodplain functions to acquired properties? Select all that apply



#### Case Studies

- Rocky Mount, North Carolina
- □ Kinston, North Carolina
- Austin, Minnesota





# Rocky Mount, North Carolina (pop ~60,000)

- Severe flood in 1999
- □ City purchased over 450 homes for \$117 million
- Criteria: Located in floodplain, height of flooding, repetitively flooded; # days inundated



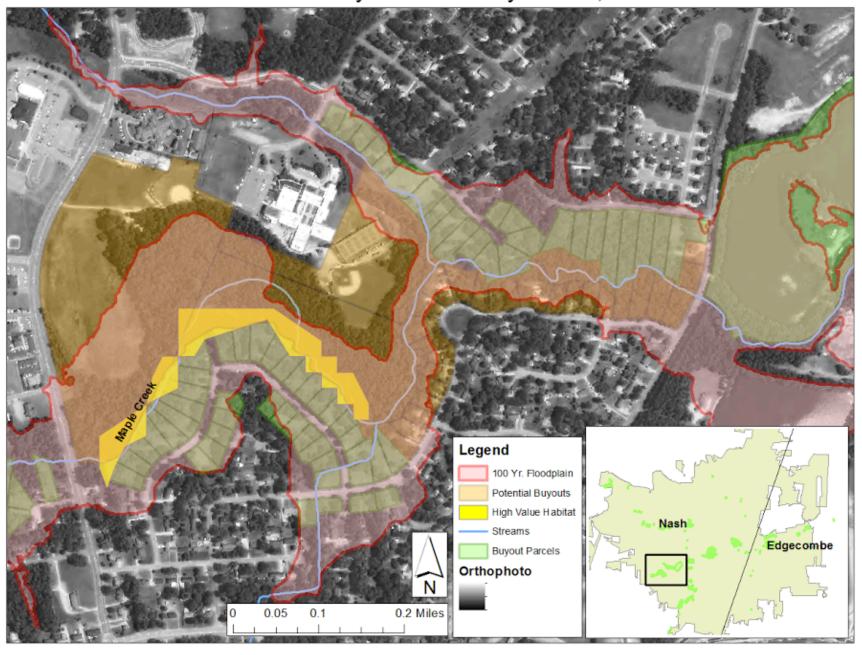
#### Rocky Mount, NC

Current uses of buyout properties: Disc golf, dog park, greenway, barbecue park, forest

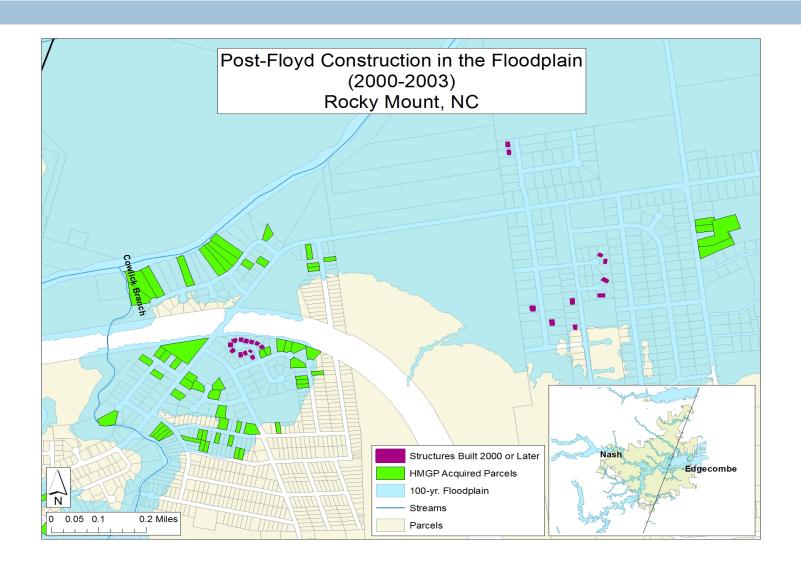




Potential Buyouts in Rocky Mount, NC



#### Issue: Aggregate Risk



#### Kinston, North Carolina

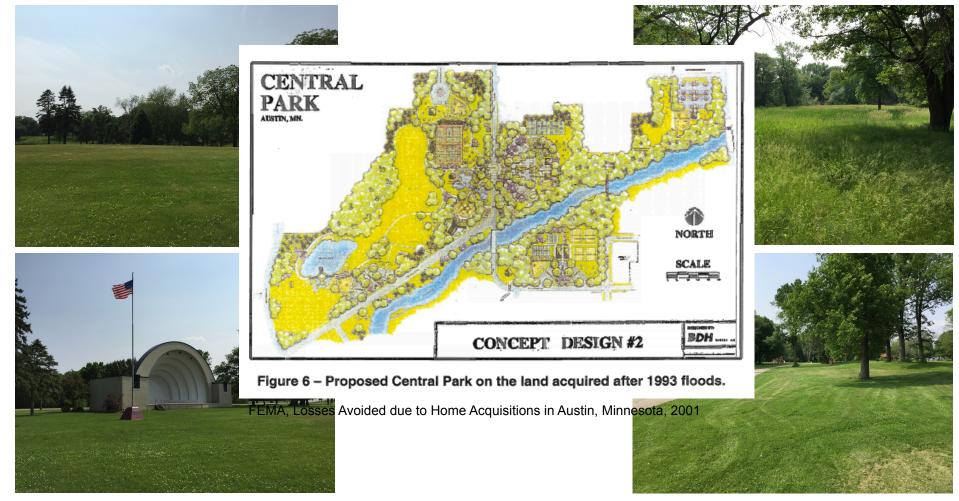
- □ Severe flooding in 1996 and 1999.
- City purchased over 400 homes for \$31 million
- State Acquisition and Relocation Fund (SARF) to increase participation in buyout
- Call Kinston Home program City provided up to \$10,000 "extra" for participants who stayed within city limits
- City also relocated homes to vacant or infill lots

#### Austin, Minnesota

- Floods in 1945, 1950, 1950, 1961, 1962, 1965, 1978, 1983, 1988, 1993, 1993, 2000, 2004, 2008, and 2010
- 375 properties purchased in total, since 1978
- HMGP funds, but state and local funding has greatly expanded the program

#### Austin, Minnesota

□ Now a linear park, plan developed in 1993



#### What we have learned...

- Opportunities to restore!
- Variation in management of sites
- Aggregate risk
- Many challenges
  - Obstacles in getting people to sell
  - Patchwork distribution
  - Funding
  - Timing
  - Capacity

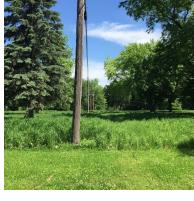
#### Making the Most of Acquired Properties

Management Strategies and Other Considerations

#### Making the Most of Floodplain Buyouts – Management Strategies







□ Holdouts



Comprehensive

#### Making the Most of Floodplain Buyouts – Management Strategies #1





#### **Patchwork**

- Options
  - Community garden (e.g., Montevideo)
  - Pocket parks
  - Native Plant garden (maintained by neighbors)
  - Pollinator habitat
  - Green infrastructure

#### Making the Most of Floodplain Buyouts – Management Strategies #2





#### Holdouts

- Options
  - Habitat restoration (e.g., Montevideo)
  - Linear Parks/Greenway
  - Other recreation/ community amenities

#### Making the Most of Floodplain Buyouts – Management Strategies #3





#### Comprehensive

- Options
  - Floodplain/ wetlands/habitat restoration
  - Large parks/community amenities(e.g., Austin)

#### **Restoration Actions**

No intervention	Minimal Action	Rehabilitation/ Replacement	Full-scale/comprehensive restoration (re-establishment)
No action taken to restore or maintain (e.g., now mowing) the sites.  1. Allow natural vegetation to return 2. Prohibit mowing, etc.	Little action to maintain the sites. Community may take action to remove some invasive species, etc.  1. Some invasive species removal 2. Some native species planting	Restore elements of structure or function to an ecological system, without attempting complete restoration. May not be what was there originally.  1. Re-establish dominance of native plant community 2. Total re-vegetation of the site 3. Invasive species management	Return an ecosystem to a close approximation of its condition prior to disturbance (NRC, 1992, restoration of aquatic ecosystems). The goal is to return historic functions.  1. Floodplain restoration 2. Wetland restoration 3. Wildlife habitat restoration
Pros: Cost low Little staff time required Some habitat value	Pros: Cost low Little staff time required More habitat value Increased community participation?	Pros: More habitat value Increased biodiversity and native species Some ecosystem service values returned Relatively low cost? Opportunity to engage and educate community	Pros: Habitat value maximized Ecosystem service value maximized Opportunity to engage and educate community
Cons: Habitat value may not be maximized Ecosystem service value not maximized Neighbors may object (e.g., mow)	Cons: Habitat value may not be maximized Ecosystem service value not maximized Easy for neighbors to interfere	Cons: More expensive than no and minimal action Requires capacity and/or partners Habitat not returned to historic conditions	Cons: Expensive Requires capacity and/or partners Could preclude other uses (e.g., recreation)
Example: Pierce Co., WI	Example: Jefferson Co., WI	Example: Montevideo, MN	Example: ?

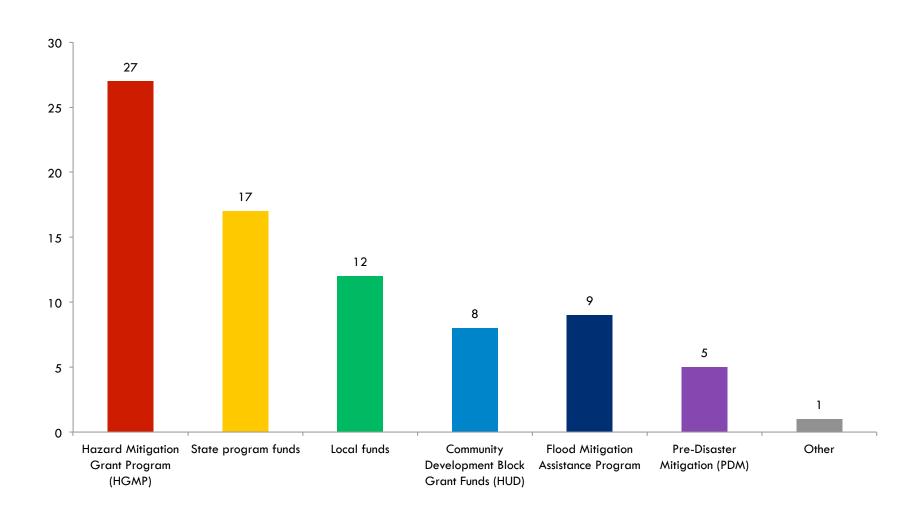
#### Making the Most of Floodplain Buyouts – Challenges/Considerations





- How do I fund a restoration project?
- How do I fund more acquisitions?
- What about maintenance?
- What to do with existing infrastructure and utilities?
- Does restoring sites and developing community members encourage hold-outs to stay?
- How do I get buy-in from neighbors?
- How to find the right partners?
- How do I prioritize future buyouts?

# What source(s) of funds was (were) used to acquire the properties? Select all that apply



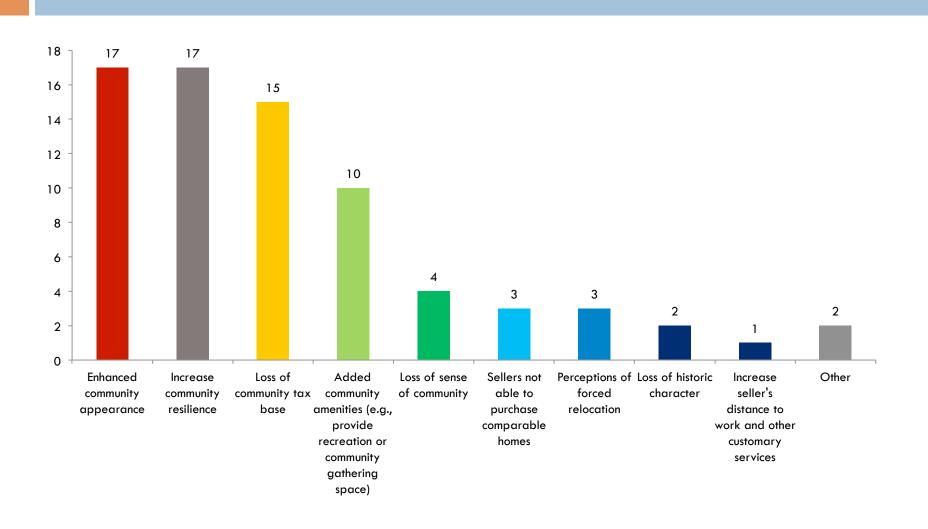
#### Making the Most of Floodplain Buyouts – Challenges/Considerations





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- How do I prioritize future buyouts?

## In your opinion, how has the acquisition of properties affected participating communities?



#### Making the Most of Floodplain Buyouts – Challenges/Considerations





- How do I fund a restoration project?
- How do I fund more acquisitions?
- What about maintenance?
- What to do with existing infrastructure and utilities?
- Does restoring sites and developing community members encourage hold-outs to stay?
- How do I get buy-in from neighbors?
- How to find the right partners?
- How do I prioritize future buyouts?

## What factors were considered in selection of properties to acquire? Select all that apply

