

A map of the state of Ohio is shown with a black outline. A specific path, the Emerald Necklace, is highlighted in a bright green color, winding through the state from the north to the south. The map is set against a background of autumn leaves in shades of green, yellow, and brown.

From Forest to Lake: Envisioning the Emerald Necklace

MUPDD Planning Studio
Spring 2010

Cleveland State
University



Maxine Goodman Levin
College of Urban Affairs

OVERVIEW

Class and Project

- Purpose of Class:
 - To provide information and recommendations about Cleveland Metroparks
 - To enhance information about planning opportunities and partnerships with Cuyahoga County Green Print, city park plans, state lakefront parks, and other open space managed by nonprofit organizations

OVERVIEW

Project Objectives

- To understand the role of open space and parks in the region
- To assess the influence of parks on surrounding communities



OVERVIEW

Project Objectives con't.

- To identify the economic, social and ecological value contributed by parks to communities
- To identify opportunities to enhance connections between Cleveland Metroparks and other existing parks

OVERVIEW

Cleveland Metroparks

"...people weary of a busy and commercial urban life needed a refuge of woodlands, water, hills, grass, and wildlife to provide healthful rest and recreation."

W. Stinchcomb



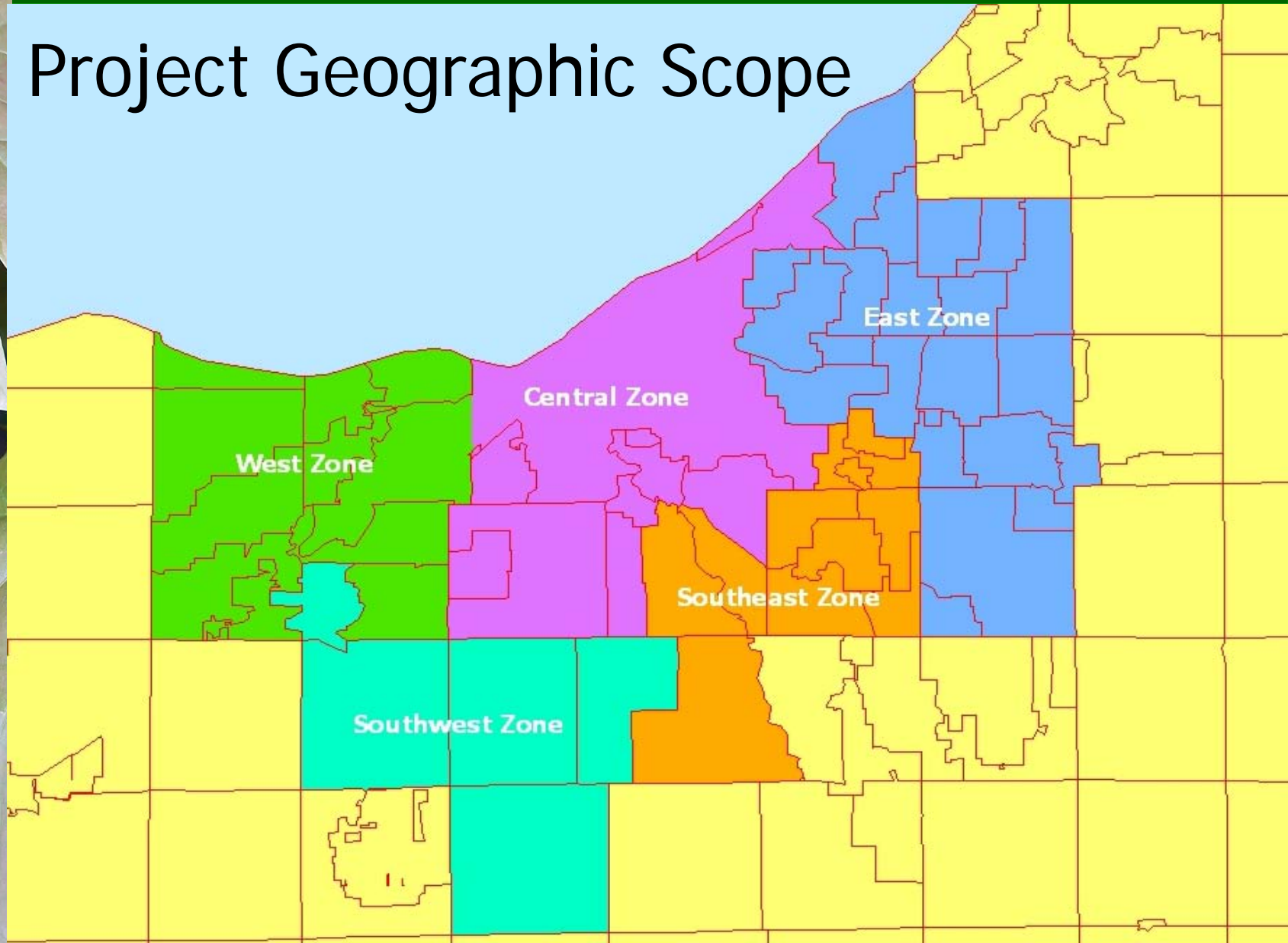
OVERVIEW

Guiding Principles

- Mission of the Cleveland Metroparks:
 - Cleveland Metroparks will conserve significant natural resources and enhance people's lives by providing safe, high-quality outdoor education, recreation, and zoological opportunities. Further, Cleveland Metroparks Zoo is committed to improving the future for wildlife.
- Conservation, education, & recreation

OVERVIEW

Project Geographic Scope



OVERVIEW

Project Organization

- Phase 1:
 - Methods for measuring economic, social, and ecological value of parks
 - Existing social, economic and ecological conditions in planning regions
 - Organizational landscape for open space protection
 - Best practices for collaboration for park planning and management
 - Survey of park visitors and users

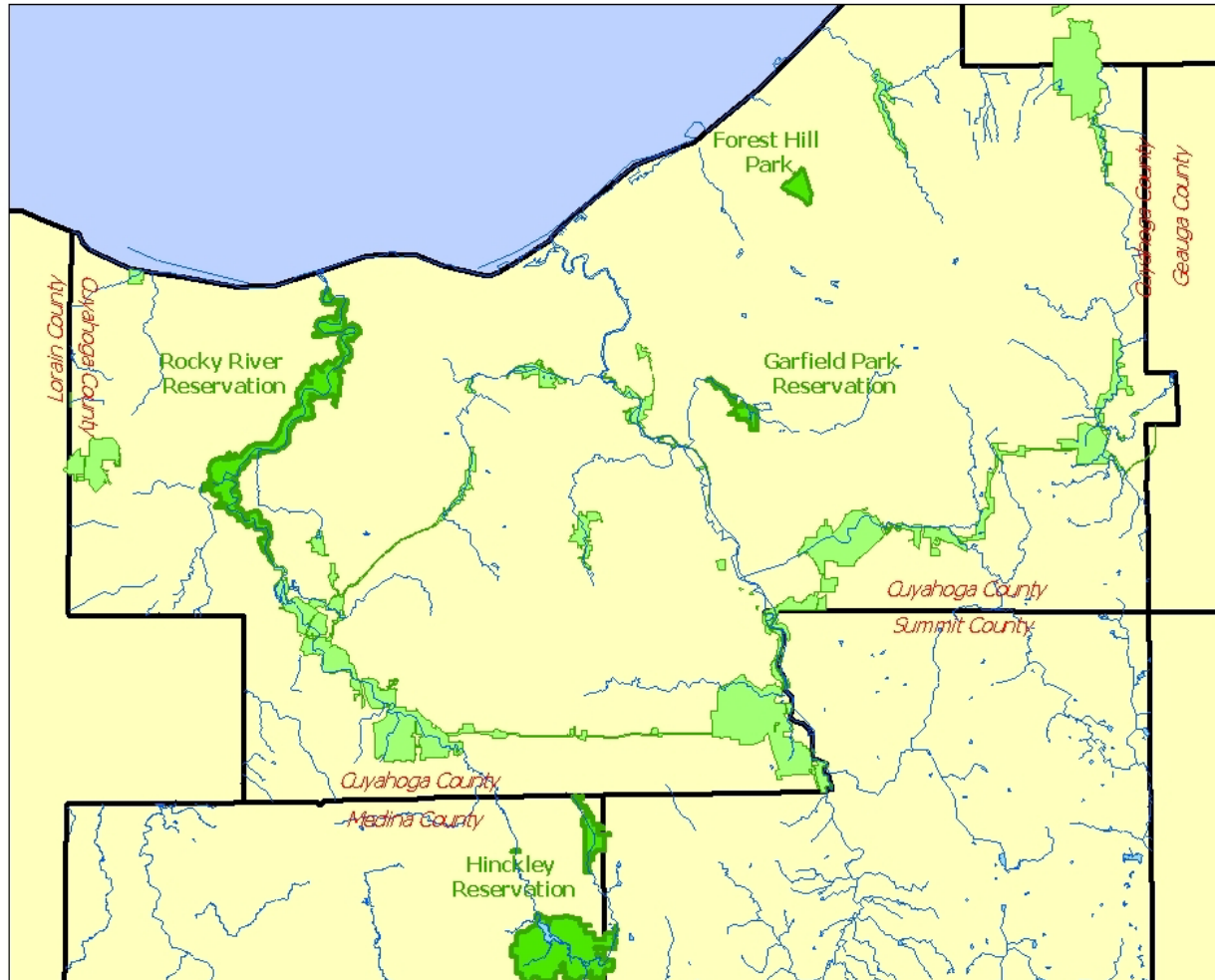
OVERVIEW

Project Organization con't.

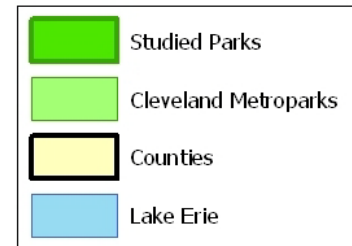
- Phase 2: Case Studies of Four Parks
- Three parks in CMP; one municipal park
- Selection criteria:
 - Urban to rural gradient
 - Opportunities to connect municipal parks with CMP reservations and other assets such as Lake Erie
 - Opportunities to address value of park for community

OVERVIEW

Case Studies



2010 Metroparks Planning Studio
Study Area



Source:
Spatial Insights, Inc.
Applied Geographic Systems
Cleveland Metroparks

Prepared by:
Planning Studio
Levin College of Urban Affairs
Cleveland State University
Spring 2010

DEMOGRAPHIC DATA

Task:

Social and economic data collection
and determination of trends

Jinghan Sun

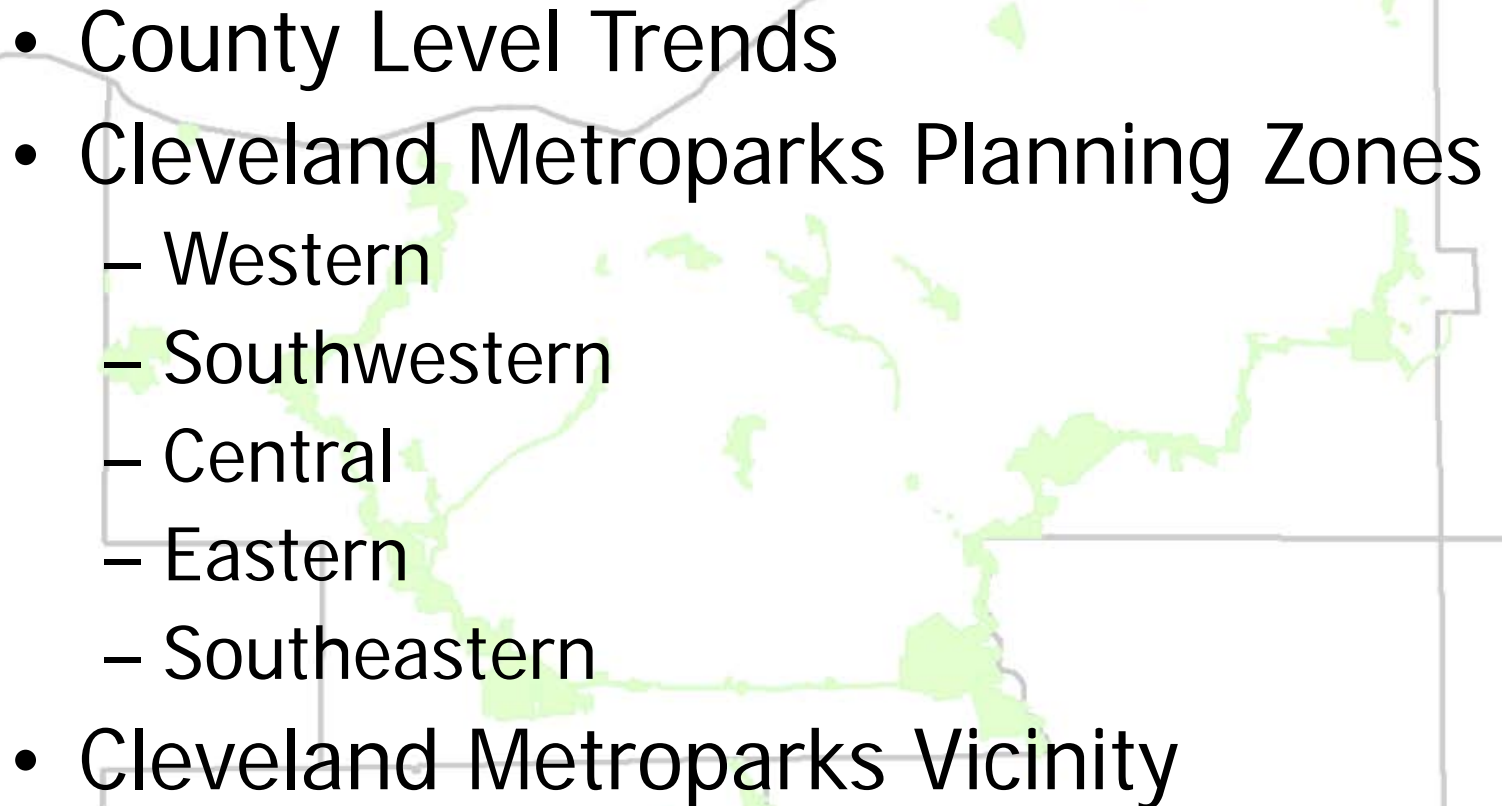
John Strok

Karen Copeland

Ryan Foster

DEMOGRAPHIC DATA

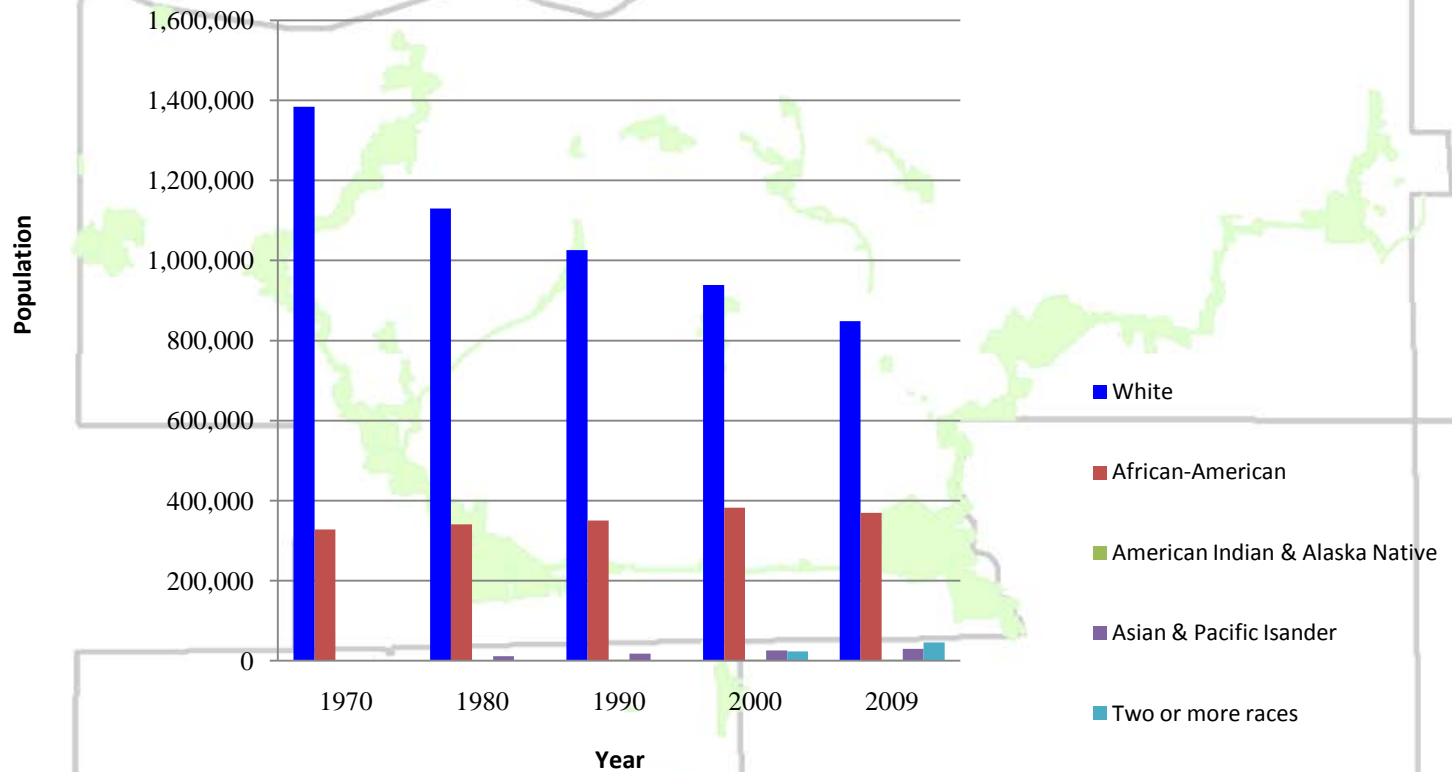
Data Boundaries

- County Level Trends
 - Cleveland Metroparks Planning Zones
 - Western
 - Southwestern
 - Central
 - Eastern
 - Southeastern
 - Cleveland Metroparks Vicinity
- 

DEMOGRAPHIC DATA

County Trends (1970-2009)

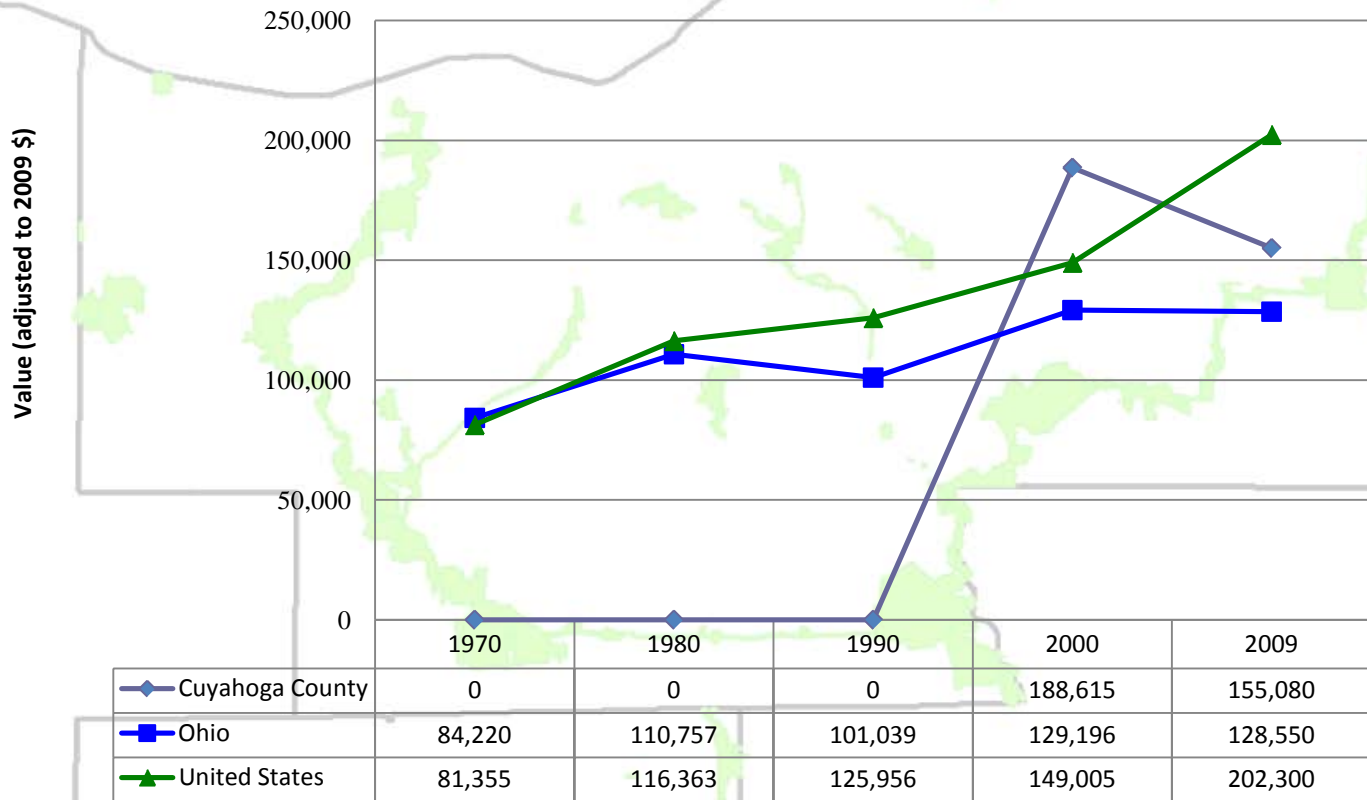
Racial Growth/Decline in Cuyahoga County
1970 - 2009



DEMOGRAPHIC DATA

County Trends (1970-2009)

Median Home Value 1970 - 2009



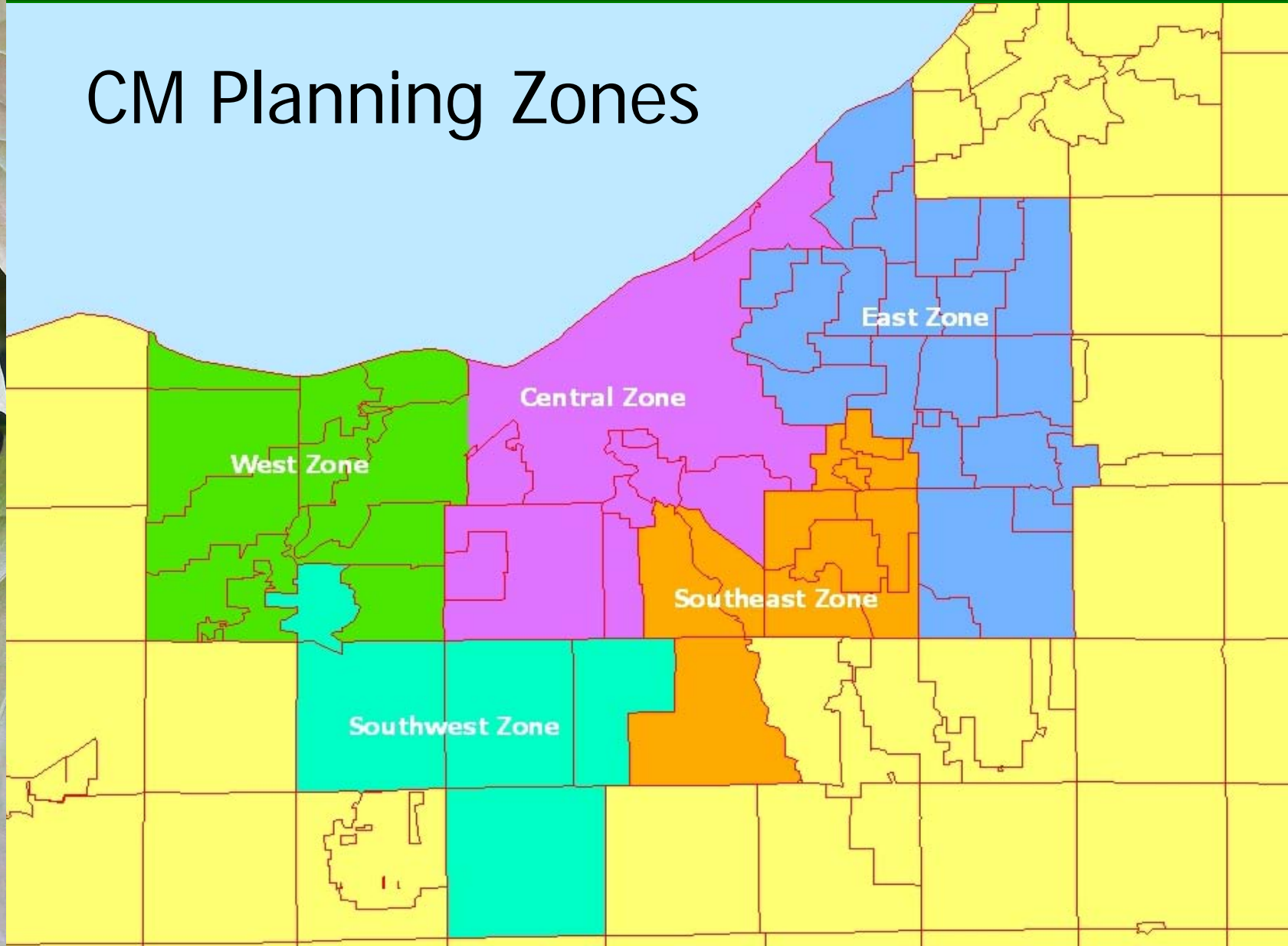
DEMOGRAPHIC DATA

CM Planning Zones

- Evaluated Data:
 - Population (2009-2019)
 - Households (2009-2019)
 - Households without a vehicle (2009-2014)
 - Black Population (2009-2014)

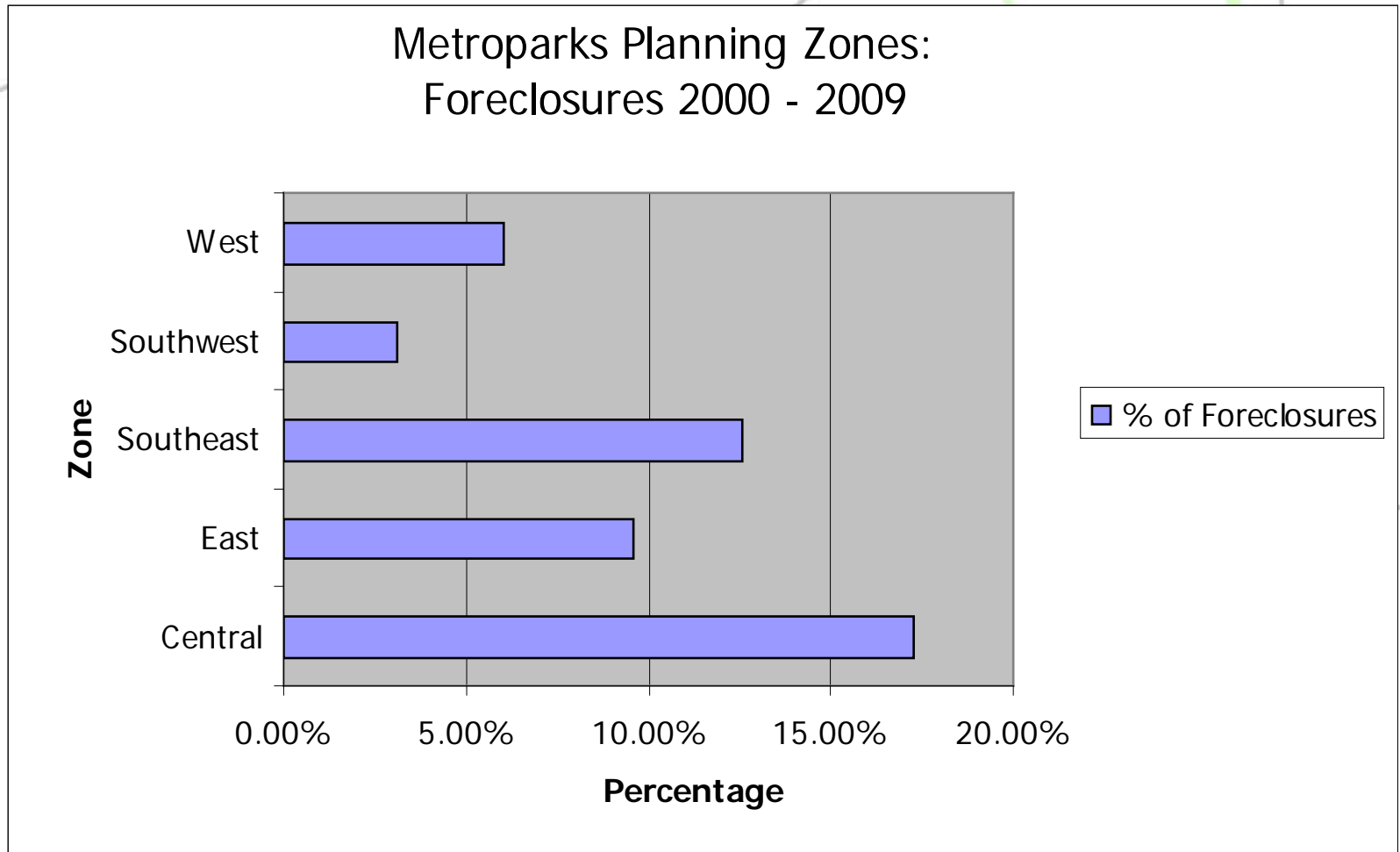
DEMOGRAPHIC DATA

CM Planning Zones



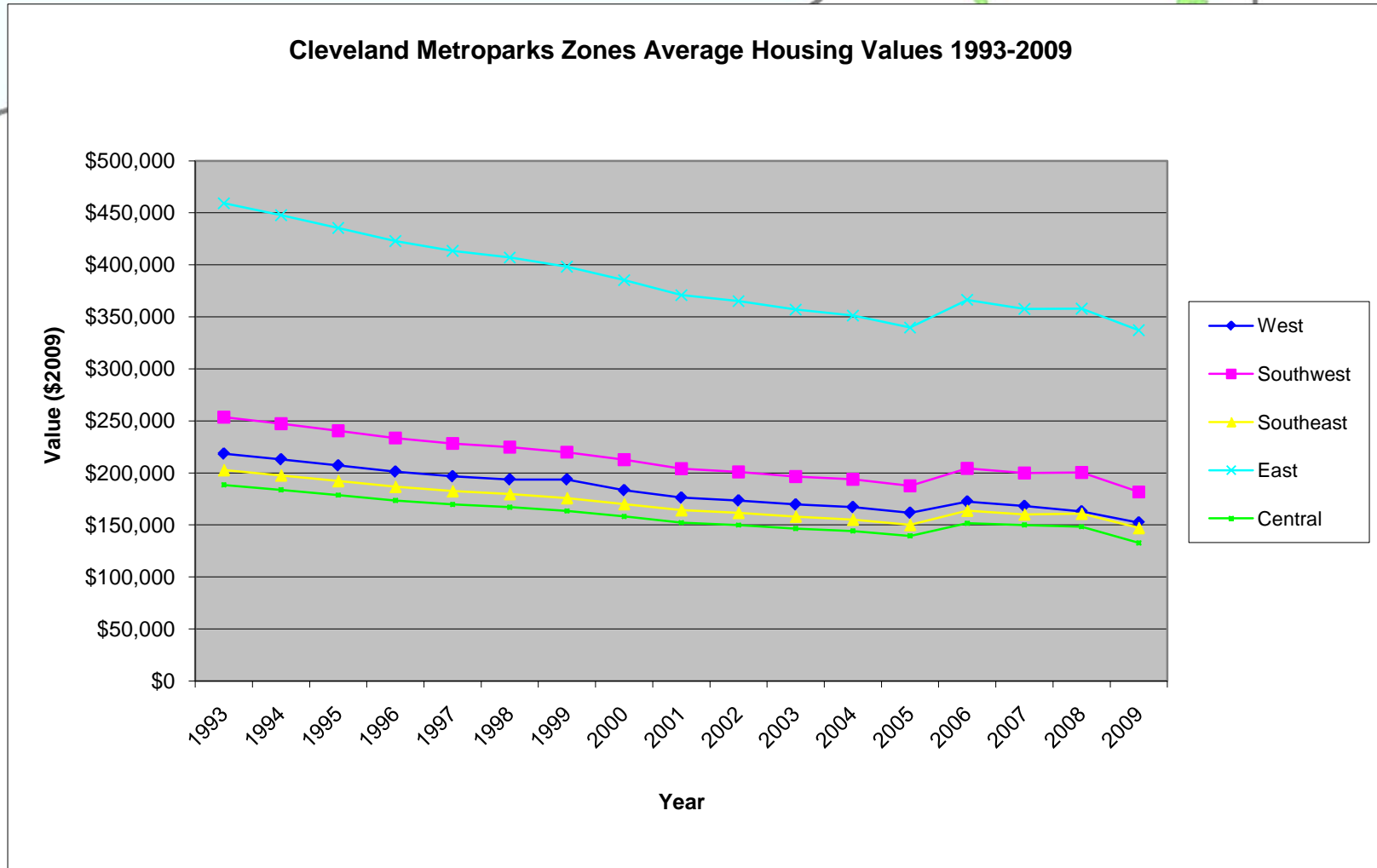
DEMOGRAPHIC DATA

CM Planning Zones



DEMOGRAPHIC DATA

CM Planning Zones



DEMOGRAPHIC DATA

Western Planning Zone

- Includes

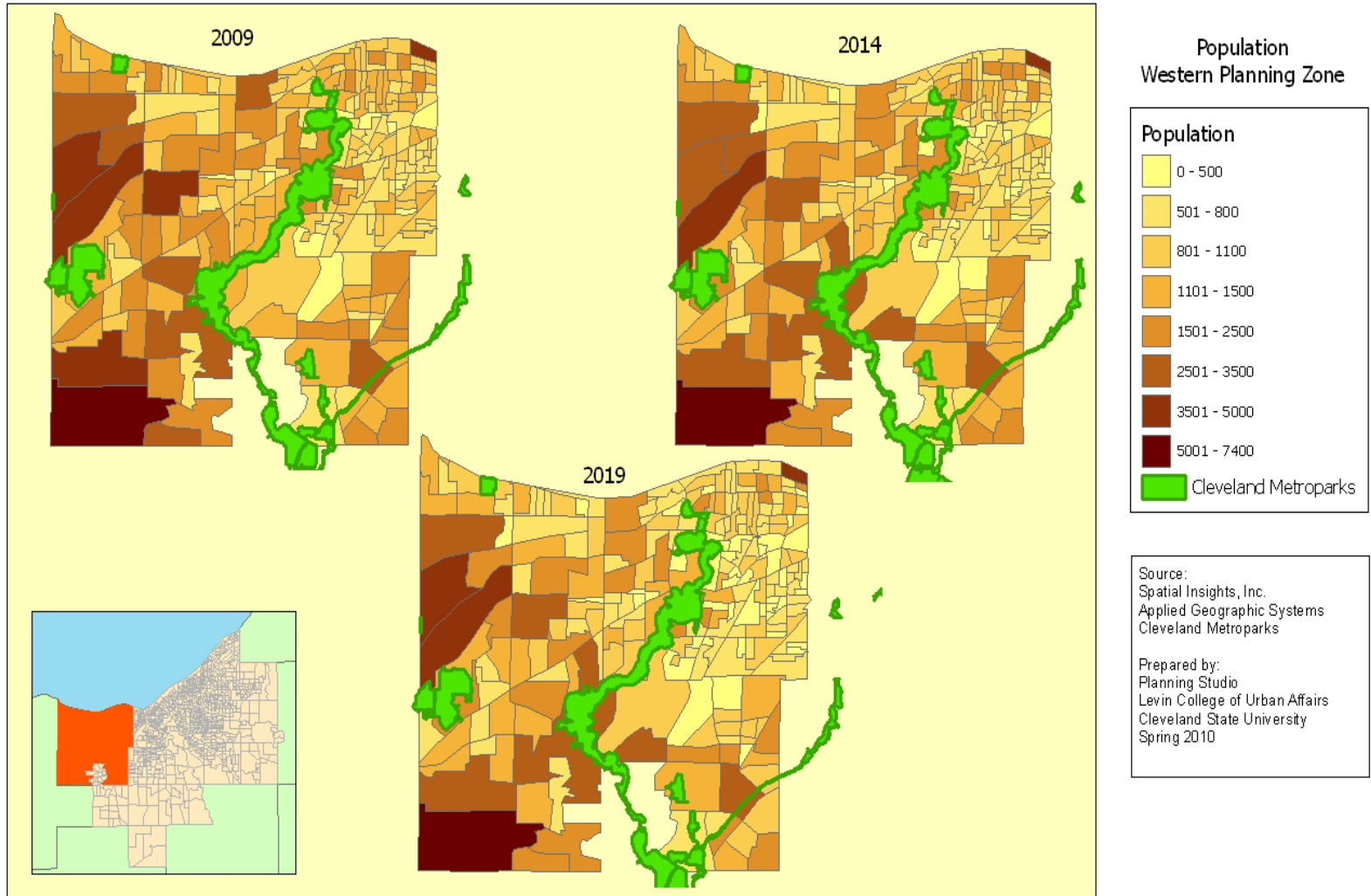
- Bay Village
- Westlake
- North Olmsted
- Olmsted Twp
- Olmsted Falls
- Brook Park
- Middleburg Hts
- Fairview Park
- Rocky River
- Lakewood
- Cleveland (part)



West Zone

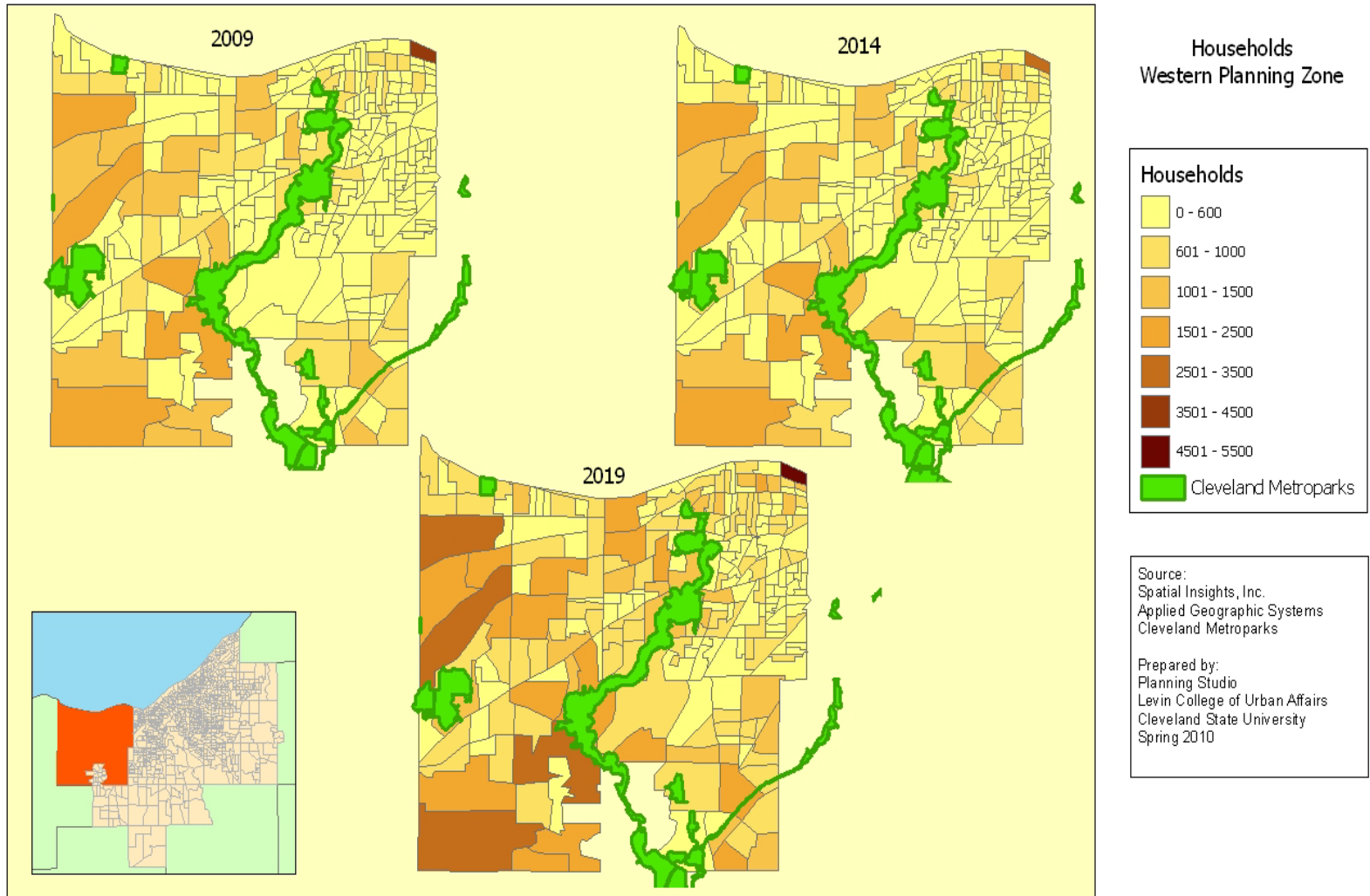
DEMOGRAPHIC DATA

Western Planning Zone: Population



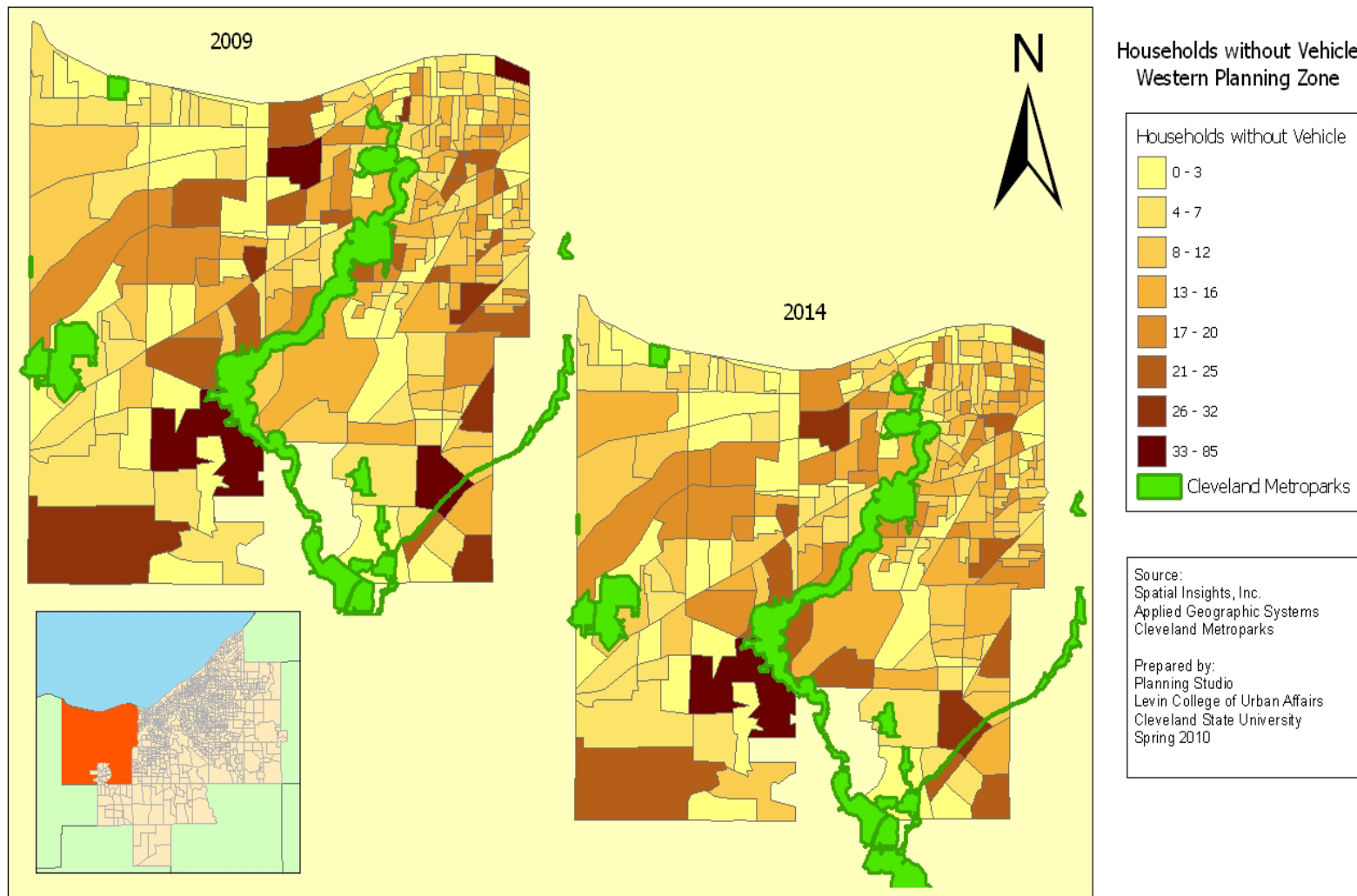
DEMOGRAPHIC DATA

Western Planning Zone: Households



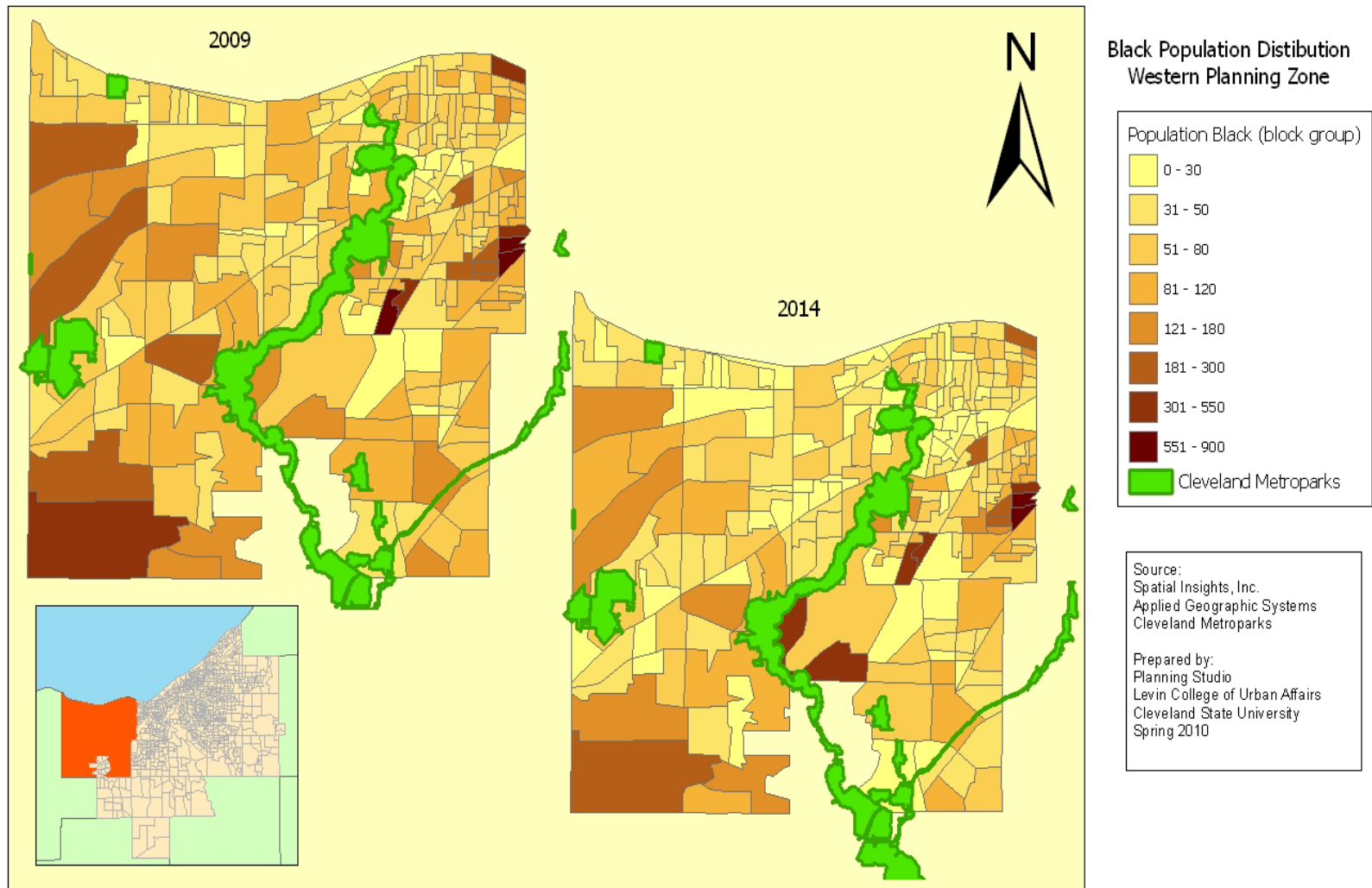
DEMOGRAPHIC DATA

Western Planning Zone: Vehicles



DEMOGRAPHIC DATA

Western Planning Zone: Race



DEMOGRAPHIC DATA

CM Vicinity Data

- Distances (ft):

– 200

– 400

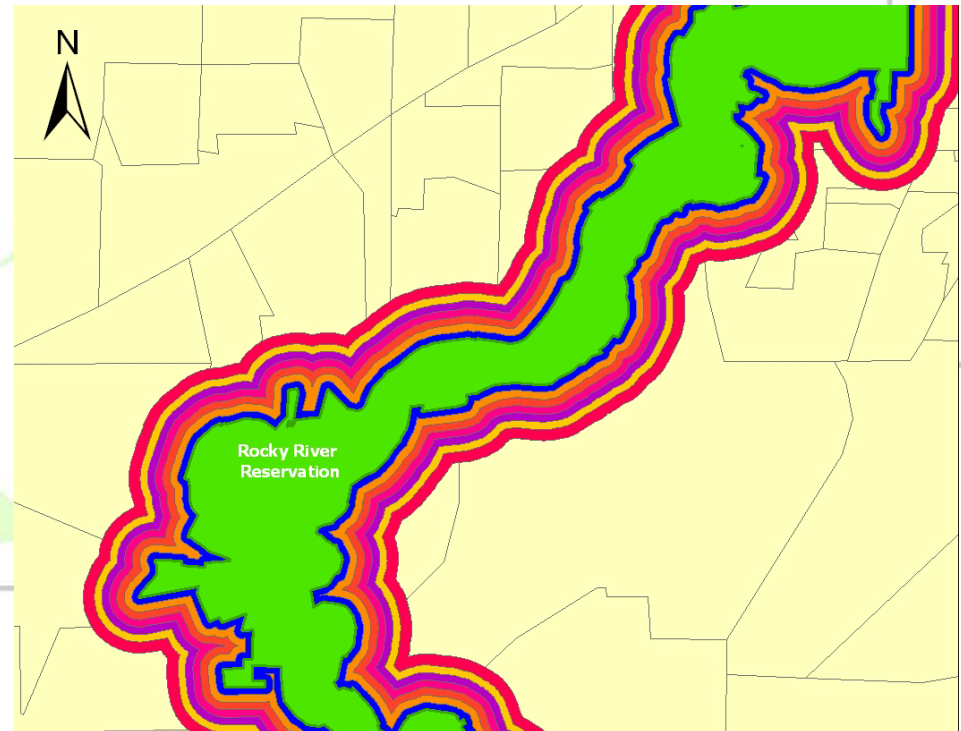
– 600

– 800

– 1000

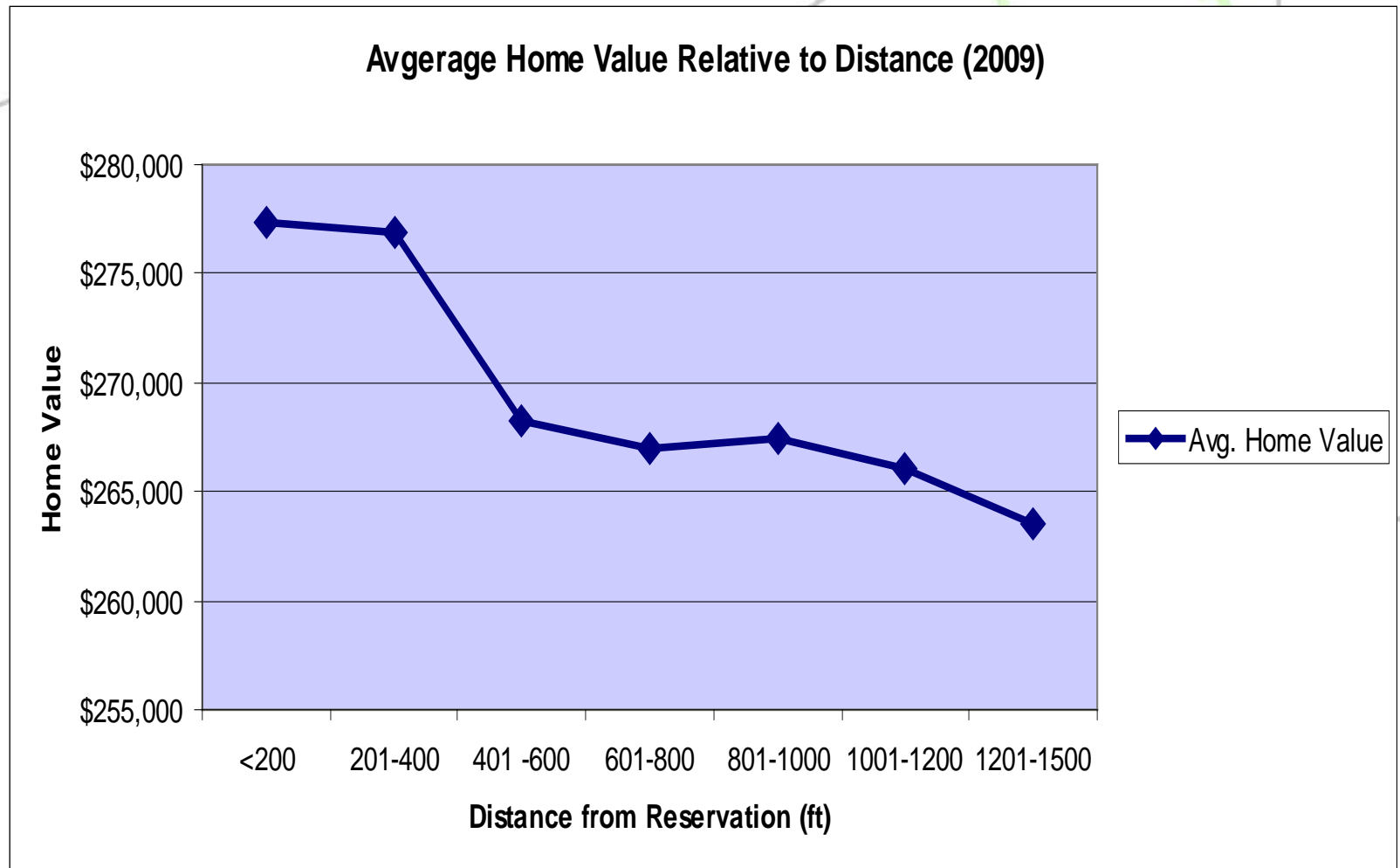
– 1200

– 1500



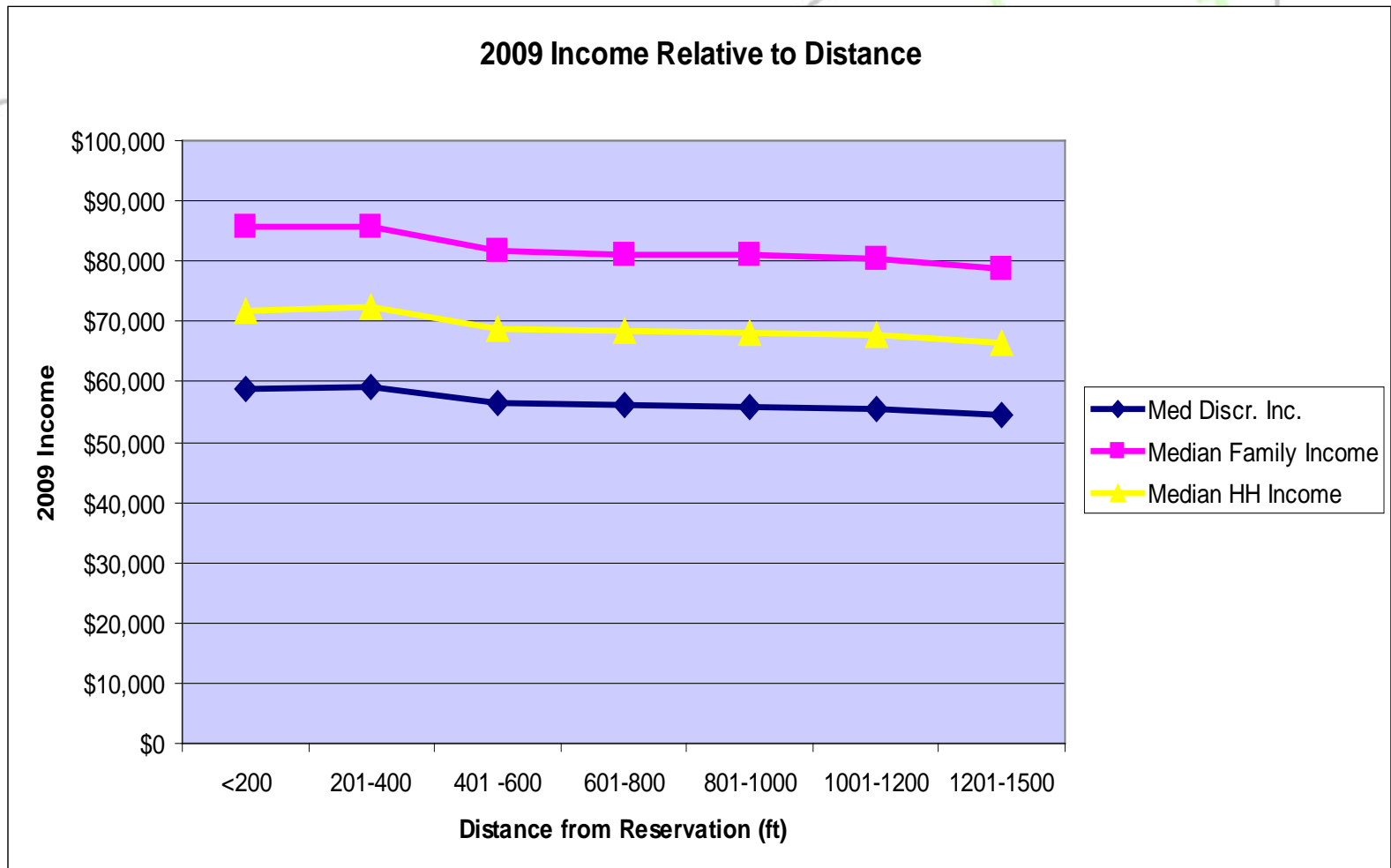
DEMOGRAPHIC DATA

Surrounding Area Data



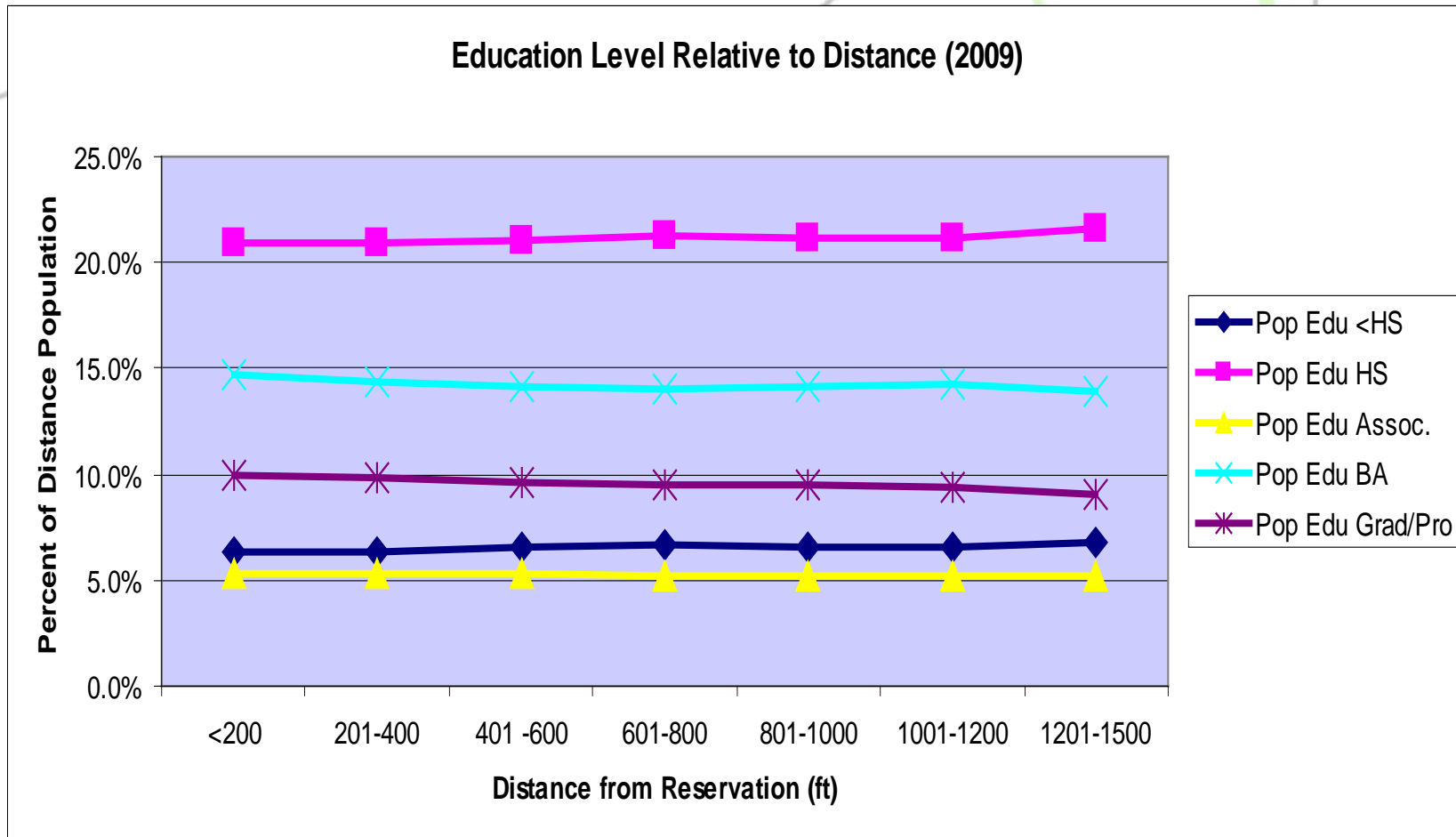
DEMOGRAPHIC DATA

Surrounding Area Data



DEMOGRAPHIC DATA

Surrounding Area Data



ORGANIZATIONAL LANDSCAPE

Task:

- Maintaining 3 tier mission philosophy:
(CONSERVATION, EDUCATION, RECREATION)
- Research and collate data and information to gain insight of role of green spaces and their valuation for neighboring communities
- Understand collectively ecosystems. Quality of life, and economics of parks
- Identify new greenspace opportunities
- Offer recommendations for improvements

Ajay Ladanyi
Andrew Sheridan
Katie Barnum
Troy Ezell

ORGANIZATIONAL LANDSCAPE

FORMAT



Name
Address
Phone
Website
Type
Director
Area
Volunteers
Mission
Core skills
Initiatives
Action Plans
Funding
Partners

- Creates Consistent Data
- Presents Most Pertinent Information
- Easy To Find Overlapping Missions And Initiatives

ORGANIZATIONAL LANDSCAPE

Boundary

Planning Zones Of Metro parks 2020:
The Emerald Necklace Centennial Plan

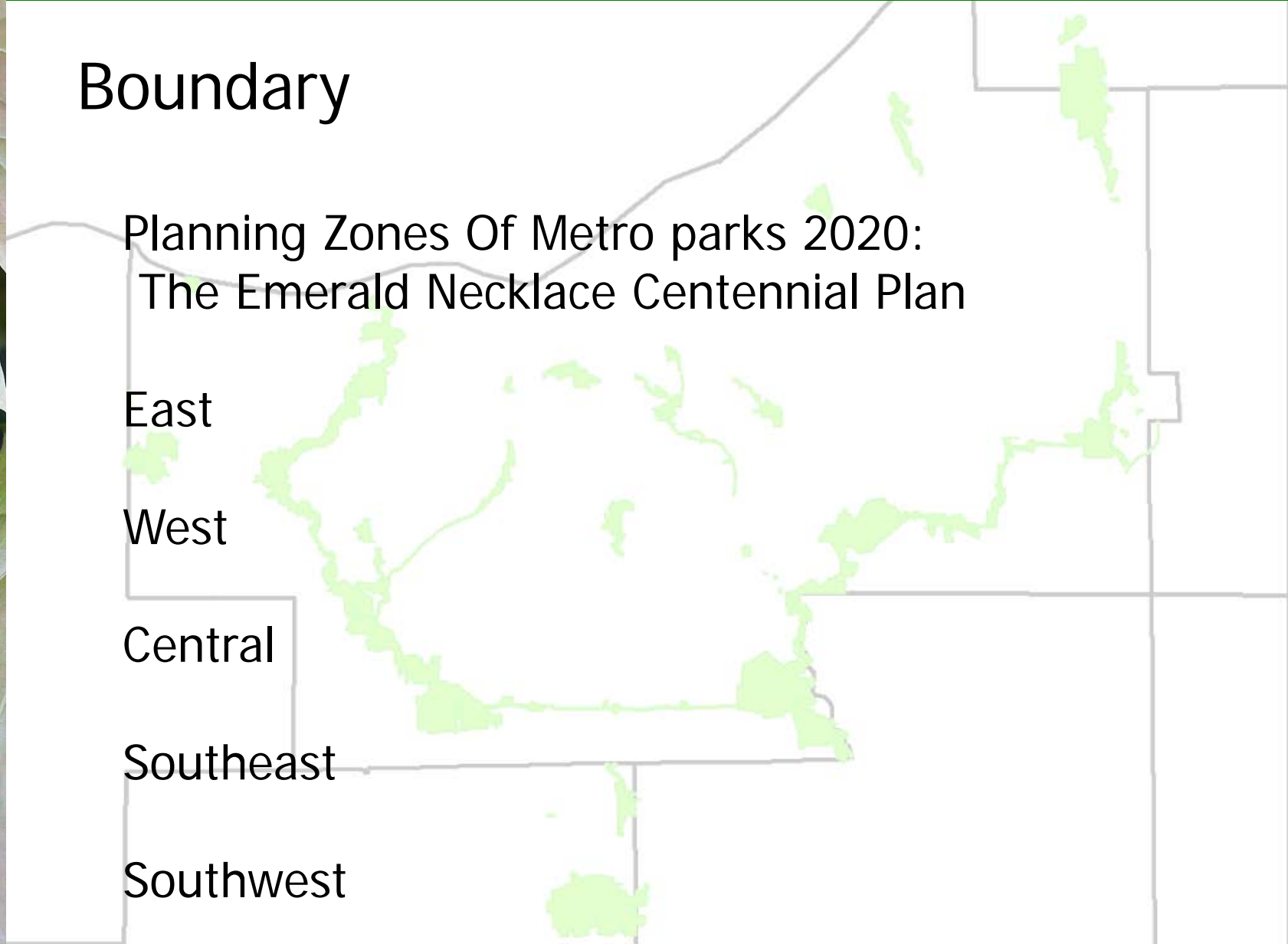
East

West

Central

Southeast

Southwest



ORGANIZATIONAL LANDSCAPE

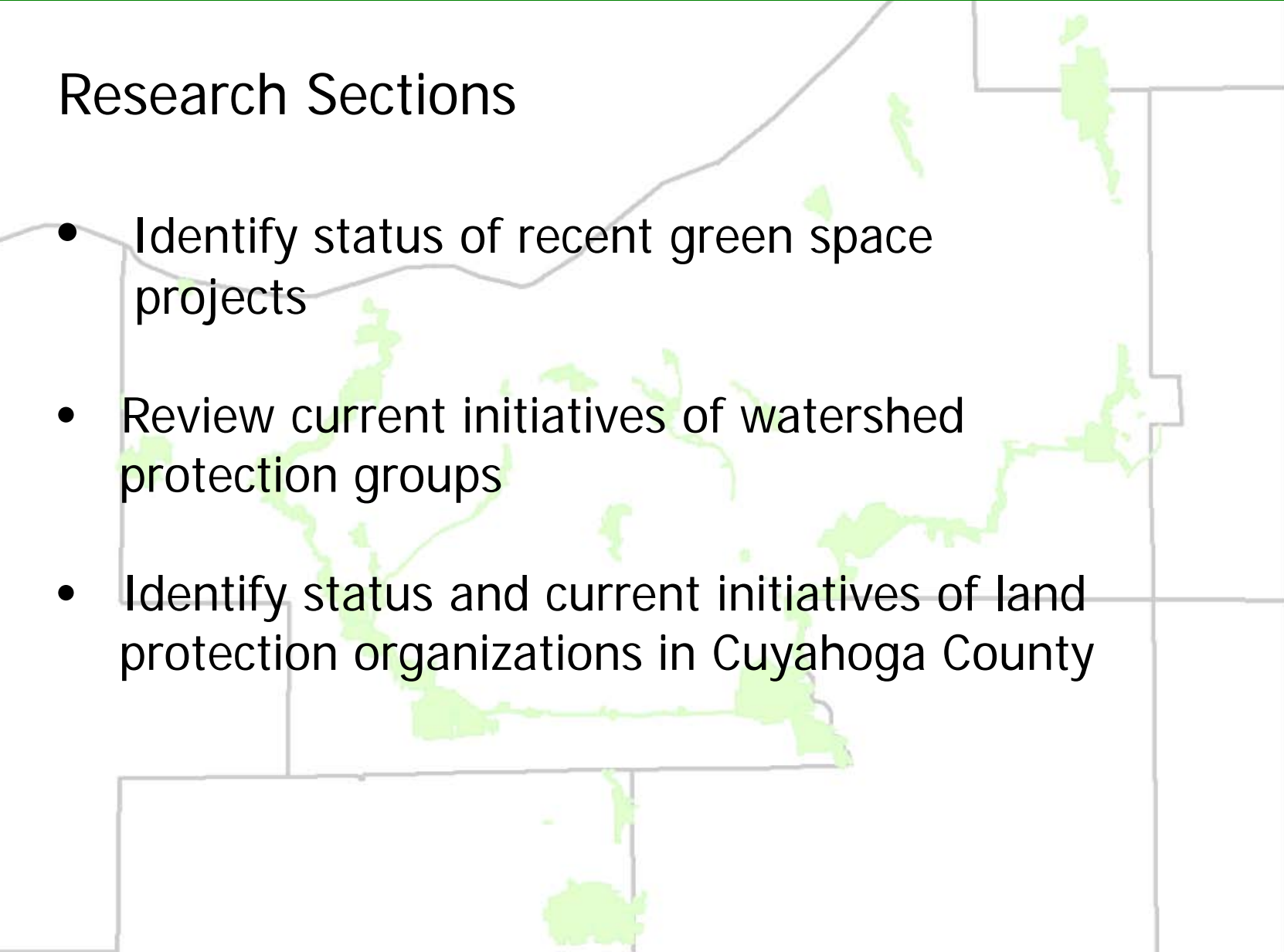
Greenspace Organizations and Initiatives

(EXAMPLES OF ZONES)

- East Zone
 - Euclid Beach Now
 - Future Heights
 - Holden Arboretum
 - South Euclid Citizens for Land Conservation
 - The Nature Center at Shaker Lakes
 - Western Reserve Land Conservancy
- West Zone
 - Cleveland Waterfront Coalition
 - Cuyahoga River Community Planning Organization
 - Friends of Big Creek
 - Friends of Chippewa Creek

ORGANIZATIONAL LANDSCAPE

Research Sections

- Identify status of recent green space projects
 - Review current initiatives of watershed protection groups
 - Identify status and current initiatives of land protection organizations in Cuyahoga County
- 

ORGANIZATIONAL LANDSCAPE

- Goal to research organizations and initiatives within 5 ecological zones.
- Data and information to be applied in protection contexts for the reservations.
- Greenspaces
- Watersheds
- Land Protection Organizations

VALUATION

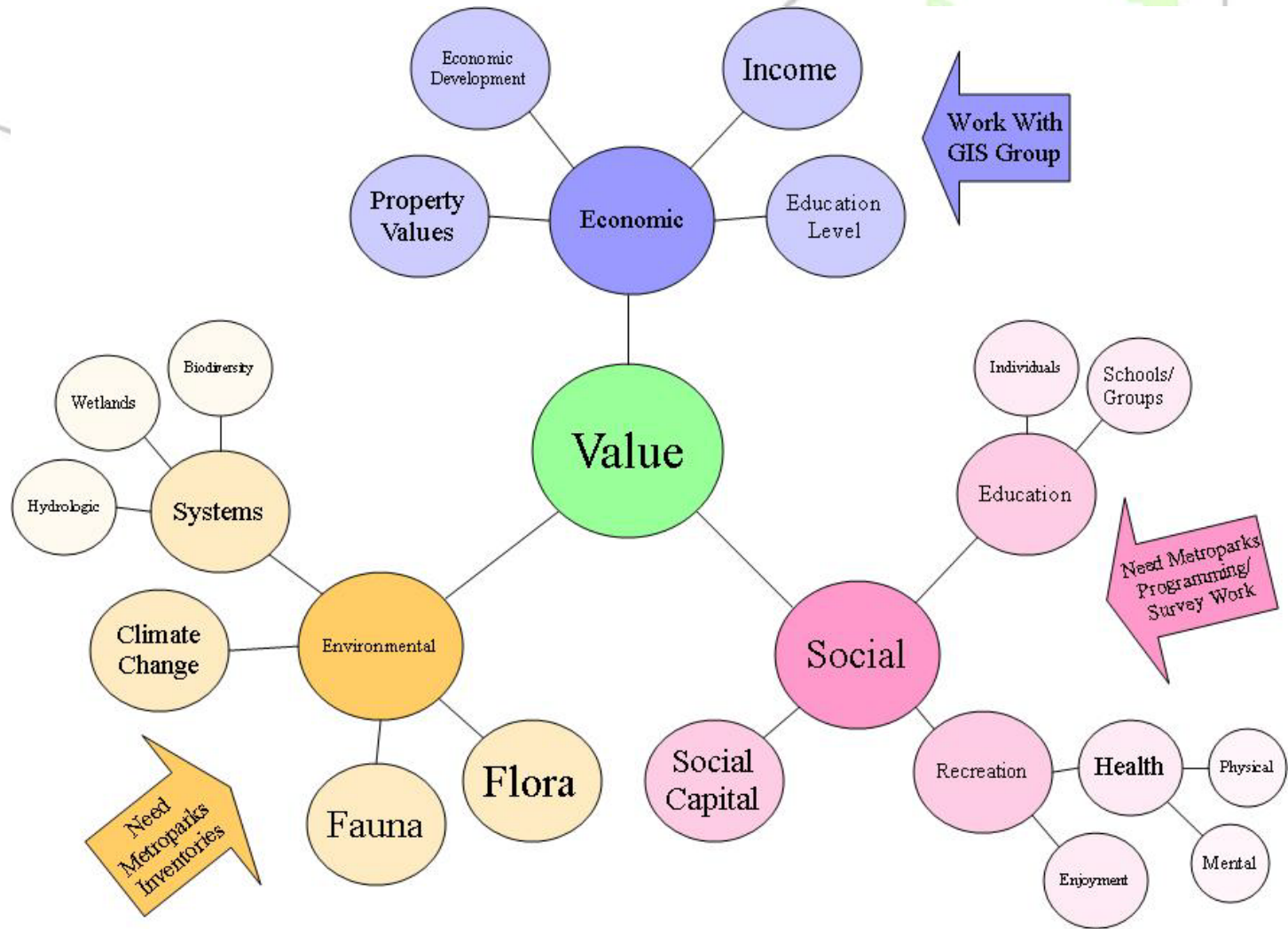
Task:

To estimate the value of the
Cleveland Metroparks System in a
dollar amount.

Adam Stalder
Alicia Dyer
Julia Ferguson
Marcel Albota
Yan Zheng

VALUATION

Concept



VALUATION

Economic Value

- Calculates Income to Local Governments Through Property Taxes
- Based on Lutzenhiser and Netusil's (2001) Hedonic Model for Open Space
- Uses Increased Housing Values Due to Proximity to Natural Parkland
- Model Adapted to Cleveland in 2010 Dollars

VALUATION

Economic Value Calculation

- Count of Single Family Homes
- Multiplied By Economic Impact
- Multiplied By Area Property Tax Rate
- Example Yields \$231,350

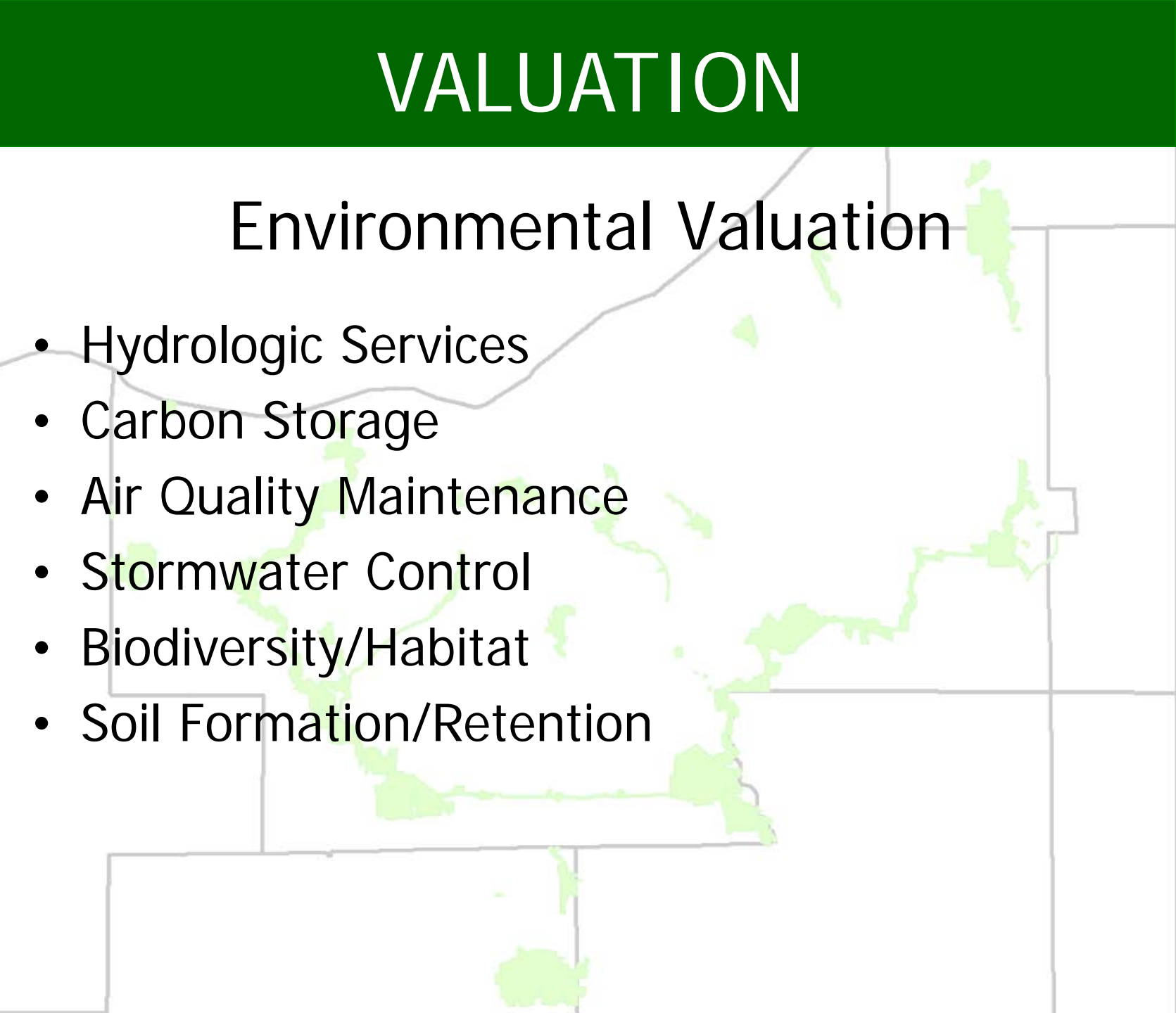
Economic Impact		
Distance (ft)	Within 200	\$17,543
	201 - 400	\$15,988
	401 - 600	\$19,751
	601 - 800	\$17,636
	801 - 1,000	\$14,054
	1,001 - 1,200	\$12,717
	1,201 - 1,500	\$15,618

Economic Variables		
Prop Tax Rate		3.08%
Residential Properties		
Distance (ft)	Within 200	9
	201 - 400	32
	401 - 600	45
	601 - 800	63
	801 - 1,000	86
	1,001 - 1,200	115
	1,201 - 1,500	139

VALUATION

Environmental Valuation

- Hydrologic Services
- Carbon Storage
- Air Quality Maintenance
- Stormwater Control
- Biodiversity/Habitat
- Soil Formation/Retention



VALUATION

Environmental Value Calculation

- Acreage of Ecosystem Type is Required (GIS)
- Value of Ecoservice = Acres X Value

Service Provided	Value per acre of service
Hydrologic services	\$65/acre
Carbon storage	250 ST/acre at \$54.27/ST carbon
Air quality maintenance	81 lb/ac/yr at \$2.35/lb
Stormwater Control	2,835 cu ft/ac at \$2.05/cu ft
Biodiversity/Habitat	\$923/ac/yr
Soil formation/retention	\$5/ac/yr

VALUATION

Social Value

- Difficult to Measure
- What Would You Pay For The Services That Cleveland Metroparks Provide?
 - Educational Programming
 - Recreational Programming
 - Venue Rentals
- Based Upon Average Prices For Services

VALUATION

Social Value Calculation

- Based Upon:
 - Educational Programming for School Groups
 - Educational Programming for Non-School Groups
 - Non-Structured Exercise (At Least 3 Times Per Week)
 - Golf Rounds
 - Venue Rentals

REGIONAL COLLABORATION

Task: Institutional Landscape for Regional Collaboration

Research and identify benchmarks of excellence (examples and system design) in open space/park planning and management

Research and evaluate merits of mechanisms to acquire and hold land for green space purposes (fee title, conservation easements, lease agreements)

Research and evaluate the collaboration/partnerships required for effective regional coordination/collaboration

Heather Furman
Martha Catherwood
Qi Xia
Stephen Flannery

REGIONAL COLLABORATION

What Makes Great Public Places?

- Promotes human contact and social activities.
- Is safe, welcoming, and accommodating for all users.
- Has design and architectural features that are visually interesting.
- Promotes community involvement and reflects the local culture or history.
- Is well maintained.
- Has a unique or special character.

National Initiatives

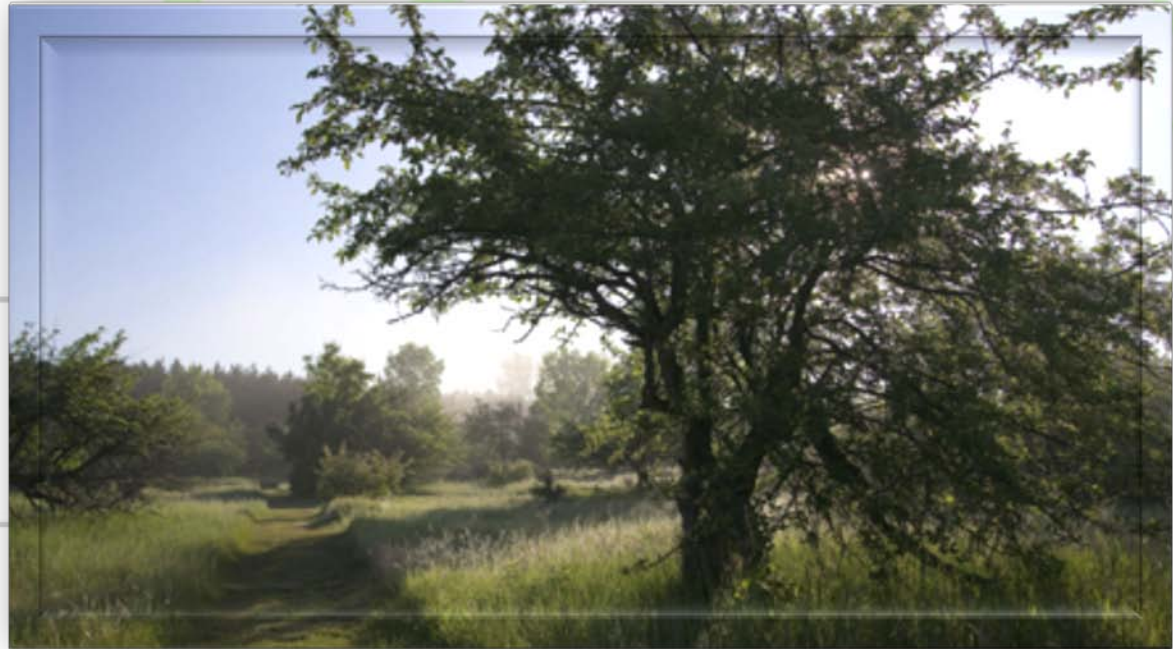
1. Play
2. Health
3. Conservation and Environmental Stewardship

Source: NRPA

REGIONAL COLLABORATION

Greenspace Acquisition Mechanisms

Acquisition Methods and Donation Alternatives



REGIONAL COLLABORATION

Ecosystem Management

Organizational Priorities

Conservation

Education

Recreation

Situational Factors

Agency Financial

Tax Implications

Legal Implications

Environmental

Community Desires

Agency Master Plan



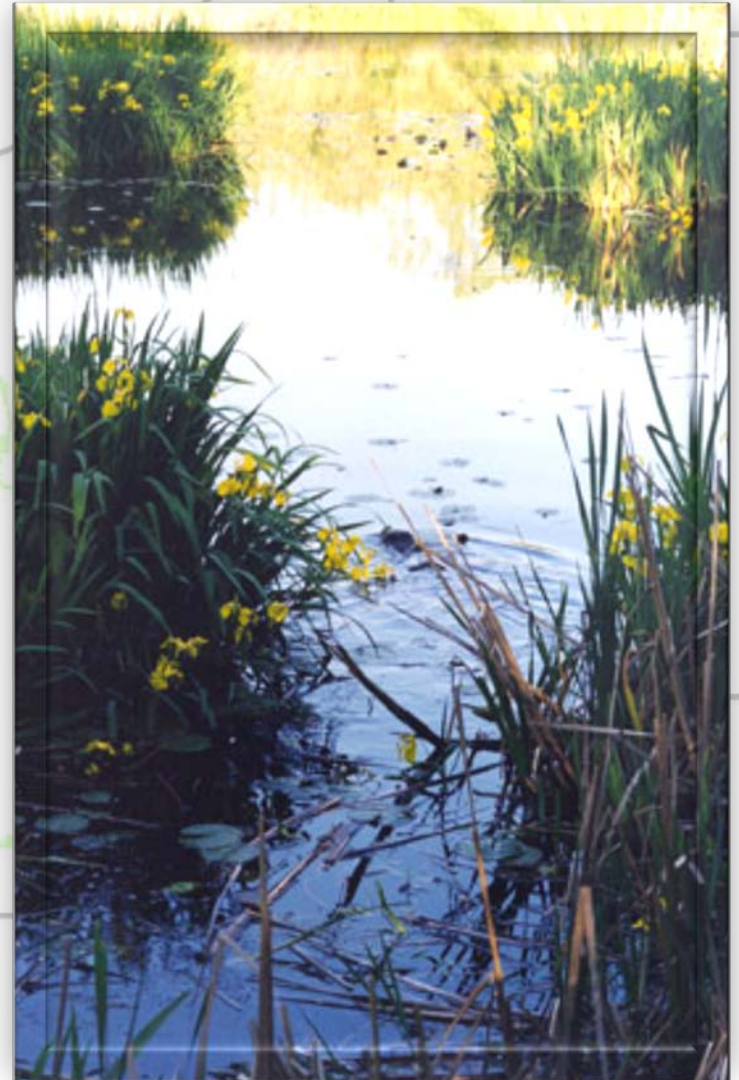
REGIONAL COLLABORATION

“To manage resources in the public interest, agencies must expand their value base in order to understand the range of public groups: their concerns and how to reach them.

To do this requires interaction with people of different values and cultures, which by definition means building bridges with the world outside agency walls.”

-Julia M. Wondolleck and Steven L. Yaffee

- *Making Collaboration Work:
Lessons from Innovation in
Natural Resource Management*



REGIONAL COLLABORATION

Ecosystem Management

Applegate Partnership

-Stakeholders formulated local solutions to address both environmental and economic issues over which there had been conflict.

Ohio Balanced Growth Program

A voluntary, incentive-based strategy to protect and restore Lake Erie, the Ohio River, and Ohio's watersheds to assure long-term economic competitiveness, ecological health, and quality of life.

Chicago Wilderness project

An alliance of more than 175 public and private organizations working together to protect, restore, study and manage the natural ecosystems of the Chicago region, enrich local residents' quality of life, and contribute to the preservation of global biodiversity.

REGIONAL COLLABORATION

The Importance of Community Development

The field of public resource management provides a training ground for youngsters at risk while offering interactive exposure to science education and a broader understanding of the value and shared responsibility of our natural resources

Minnesota Green Corps

- a statewide initiative to help preserve and protect Minnesota's environment while training a new generation of environmental professionals.

Philadelphia Green

- promoting a comprehensive approach to revitalizing and maintaining the city's green infrastructure as a key element in urban renewal.

SURVEY

Introduction

- **Purpose:** Obtain data regarding the demographic composition of Cleveland Metroparks users and satisfaction with resources/facilities/programming
- **Uses:** Determine future planning objectives for the Cleveland Metroparks
- **Process:** Visitor surveys and a web-based survey
- **Locations:** Rocky River, Hinckley and Garfield Park Reservations
- **Results:** 85.9% response rate

SURVEY

- Survey Administration
- User survey was carried out over the week of March 24th to March 31st
- Schedule of surveyors was designed to include weekday and weekend visitors
- Days were divided into morning, afternoon and evening survey periods
- For safety and security, surveyors were scheduled in pairs for two hour shifts and assigned to specific areas of the reservations
- Visitors were surveyed individually

SURVEY

Visitor Survey Design

- Questions 1 thru 3 were procedural – Willingness, age requirement and informed consent.
- Questions 4 thru 7 involve travel distance, travel time, travel method and origin of park visit.
- Questions 8 thru 14 cover reservation use, facility use and length of stay.
- Question 15 queries sources of information about the Cleveland Metroparks.

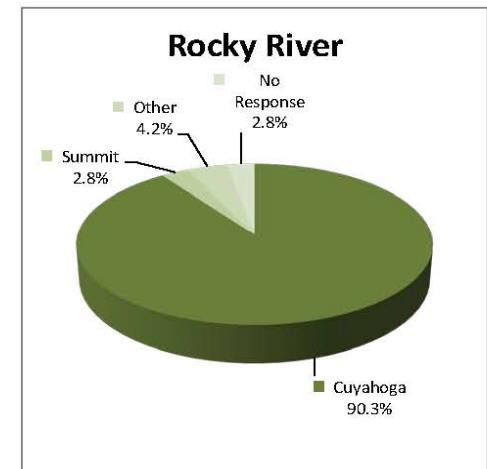
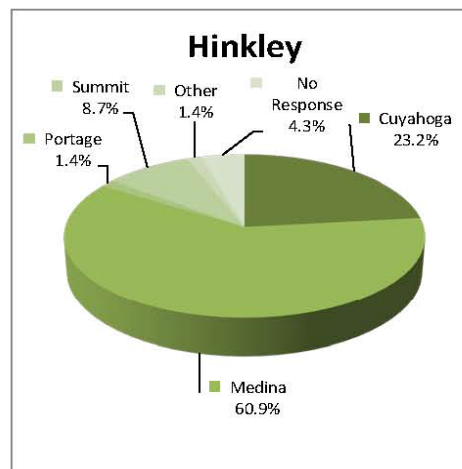
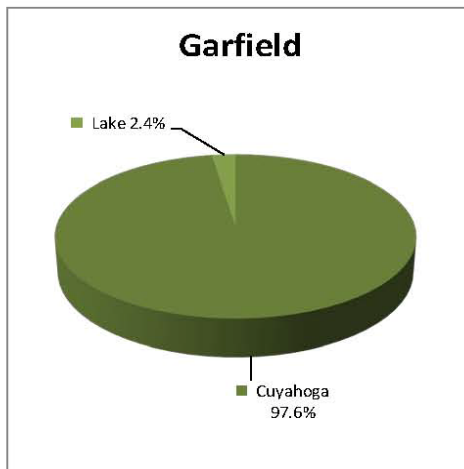
SURVEY

Visitor Survey Design (Cont.)

- Questions 15 thru 24 cover satisfaction with facilities and programs.
- Questions 25 thru 27 involve planning priorities and visitor opinions on economic and personal importance of the park system.
- Questions 30 thru 37 cover visitor demographics (Questions 28 and 29 were deleted)
- Question 38 was an open-ended question for input from the visitor in reference to anything about the park system.

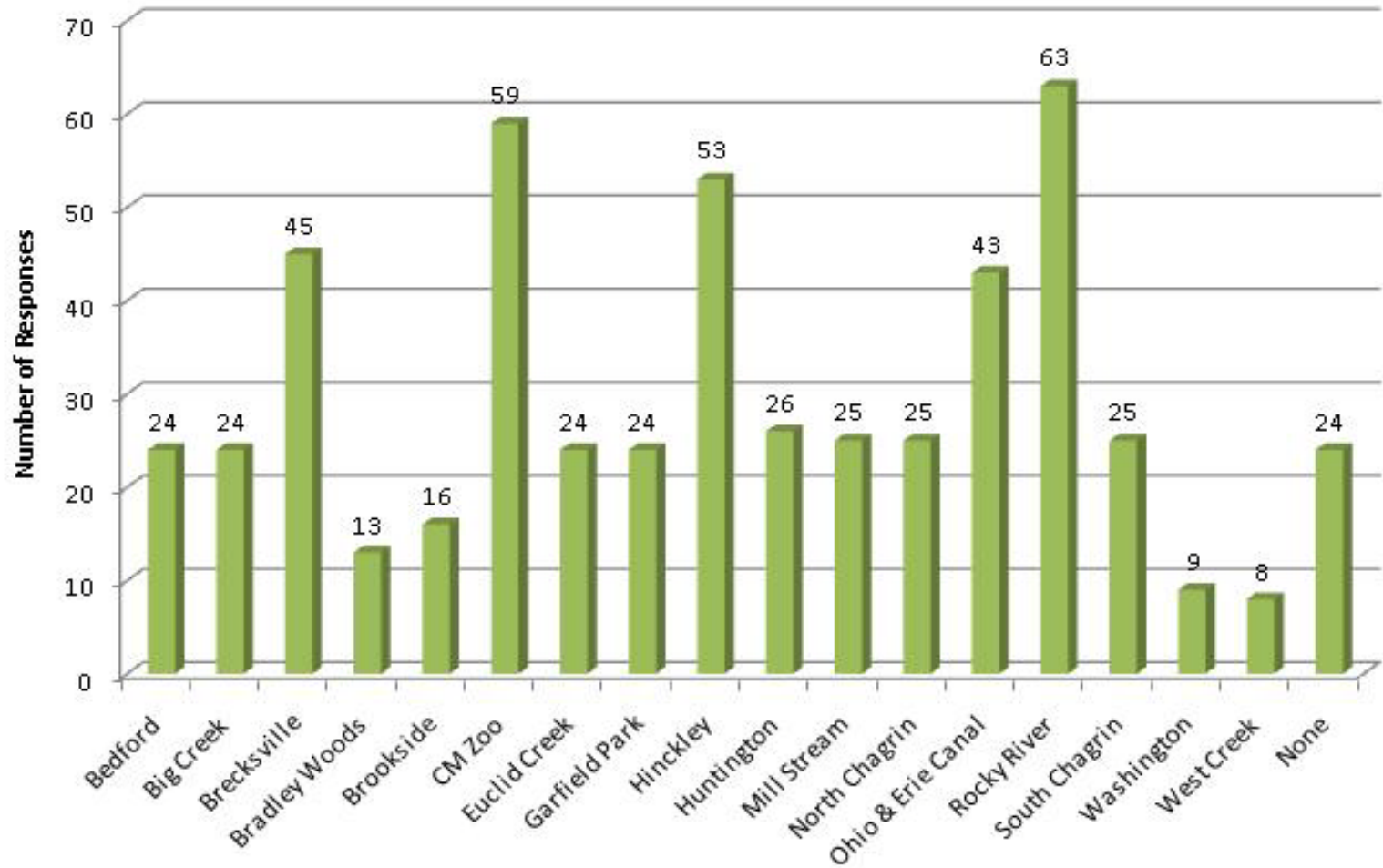
SURVEY

**Survey Respondents by County
(Zip Code Based)**



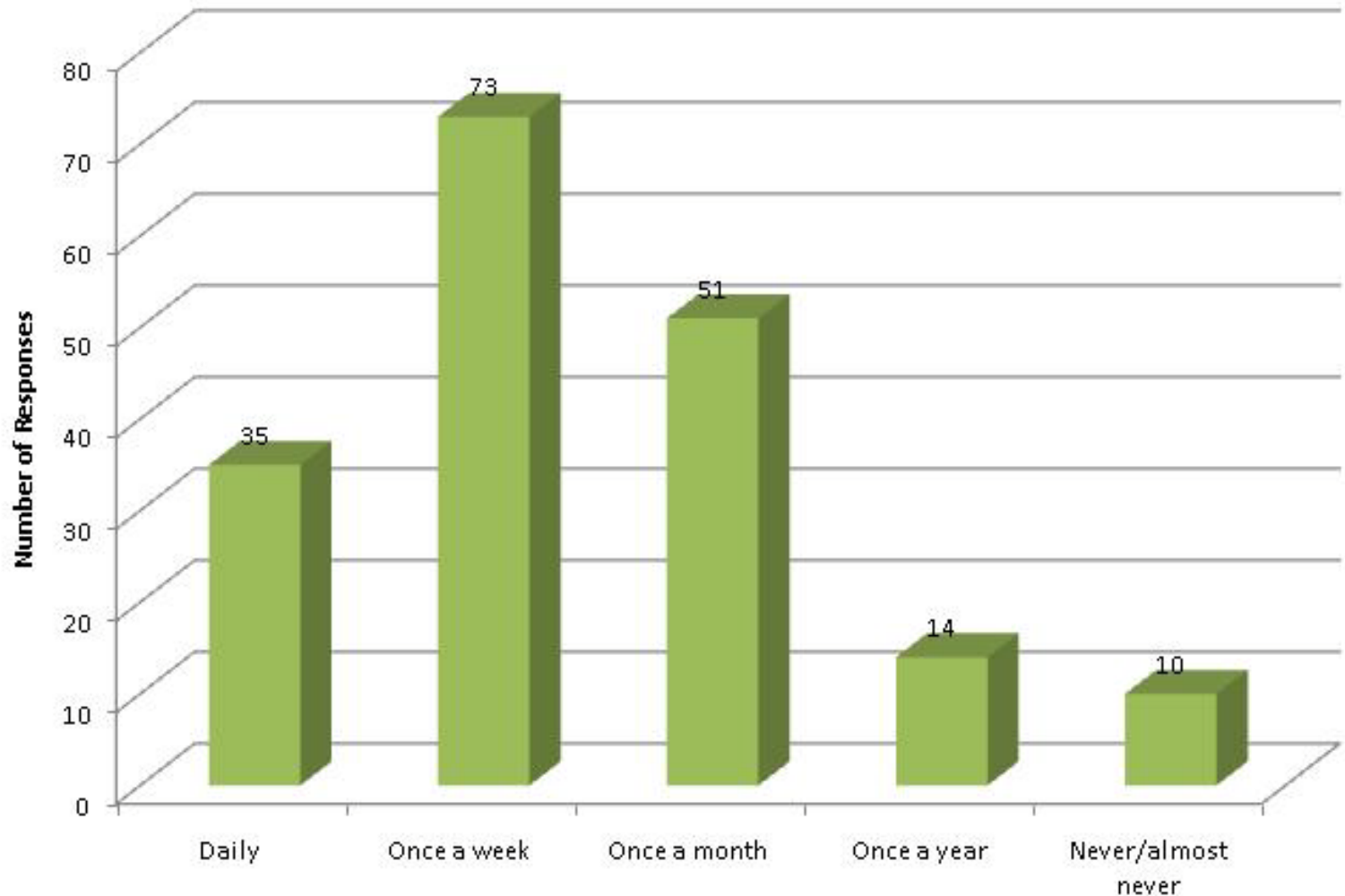
SURVEY

8. What other Cleveland Metroparks reservations do you use?



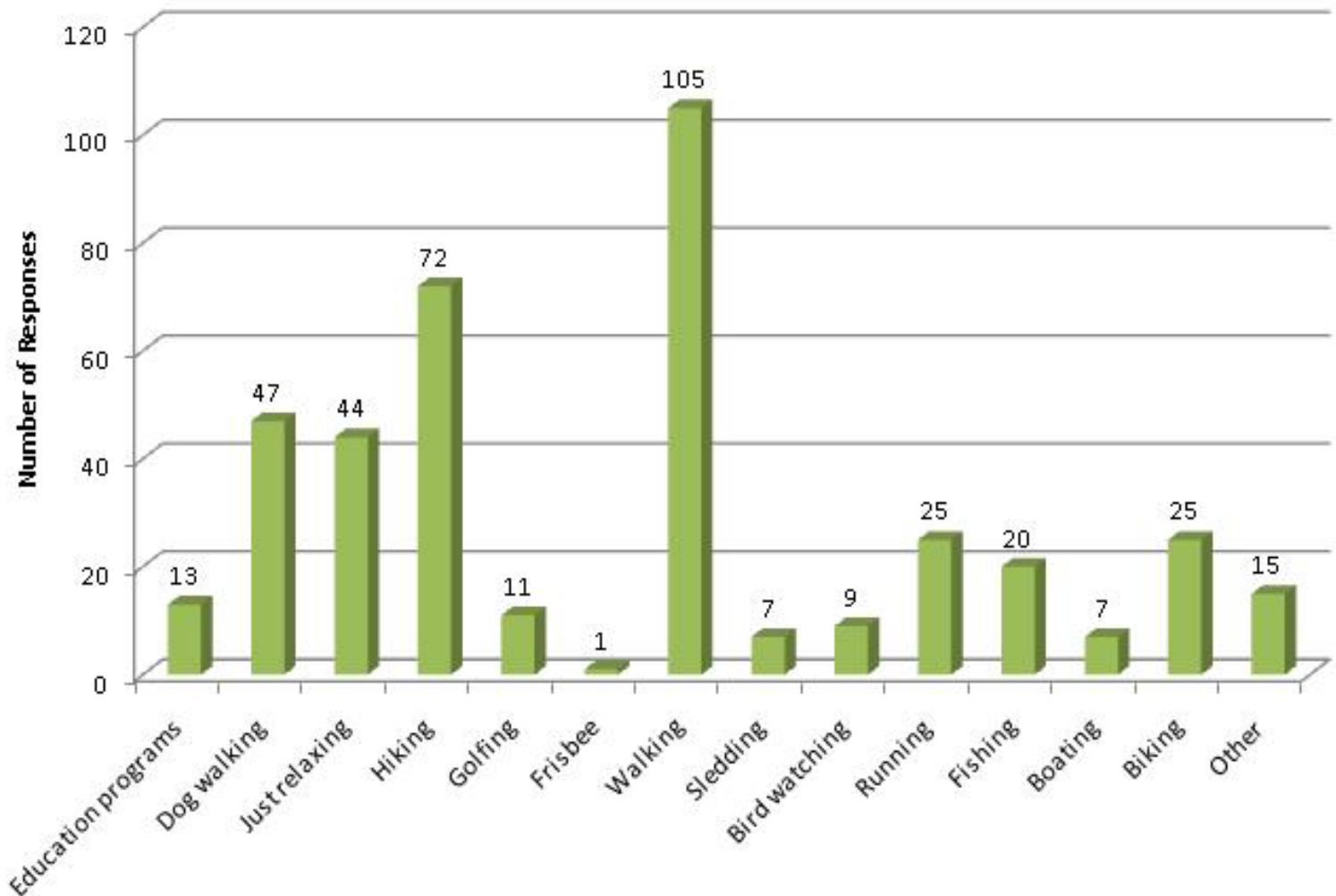
SURVEY

10. How often do you come to this park?



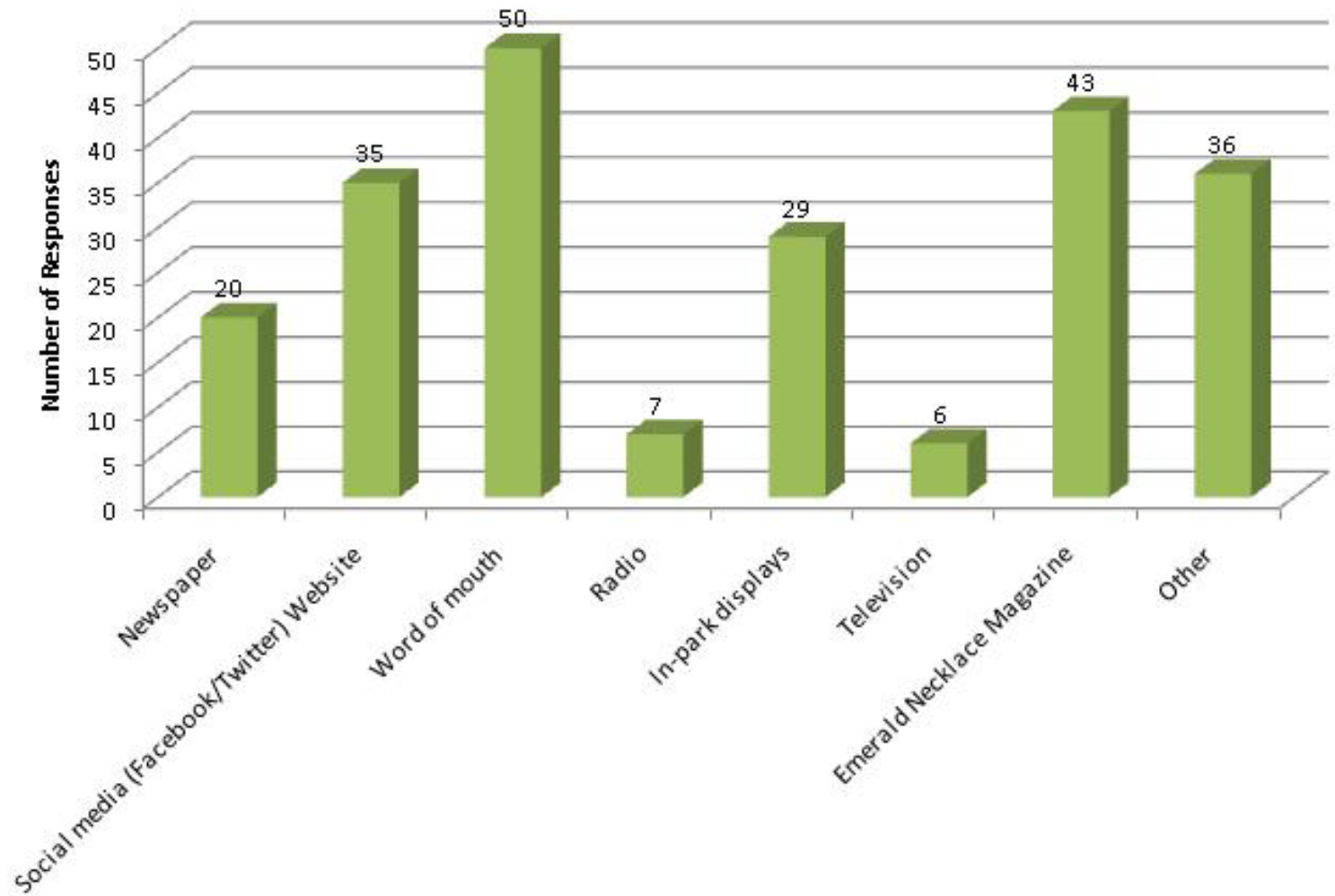
SURVEY

11. In what activities do you participate at this park?



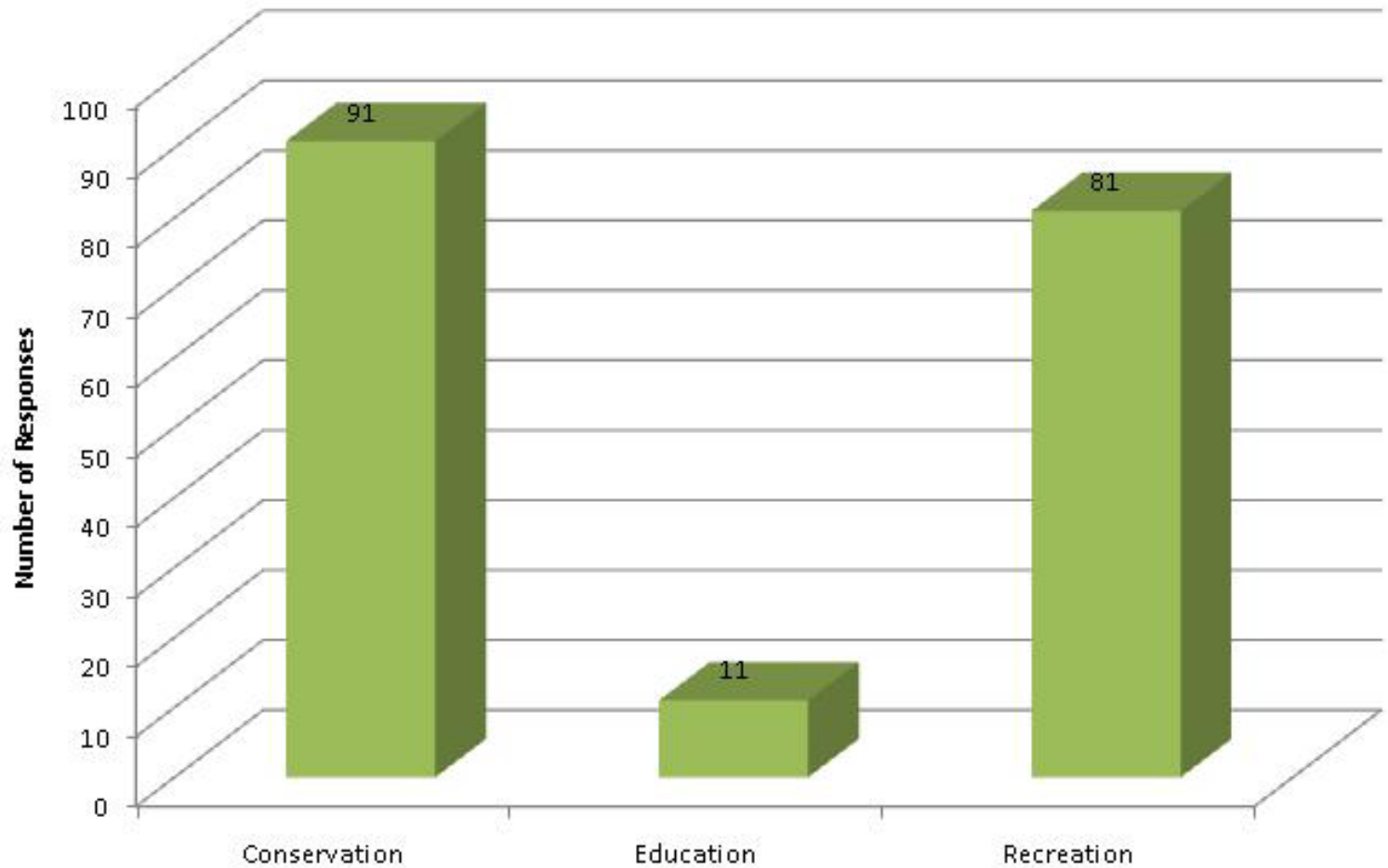
SURVEY

15. What are your sources for Cleveland Metroparks information?



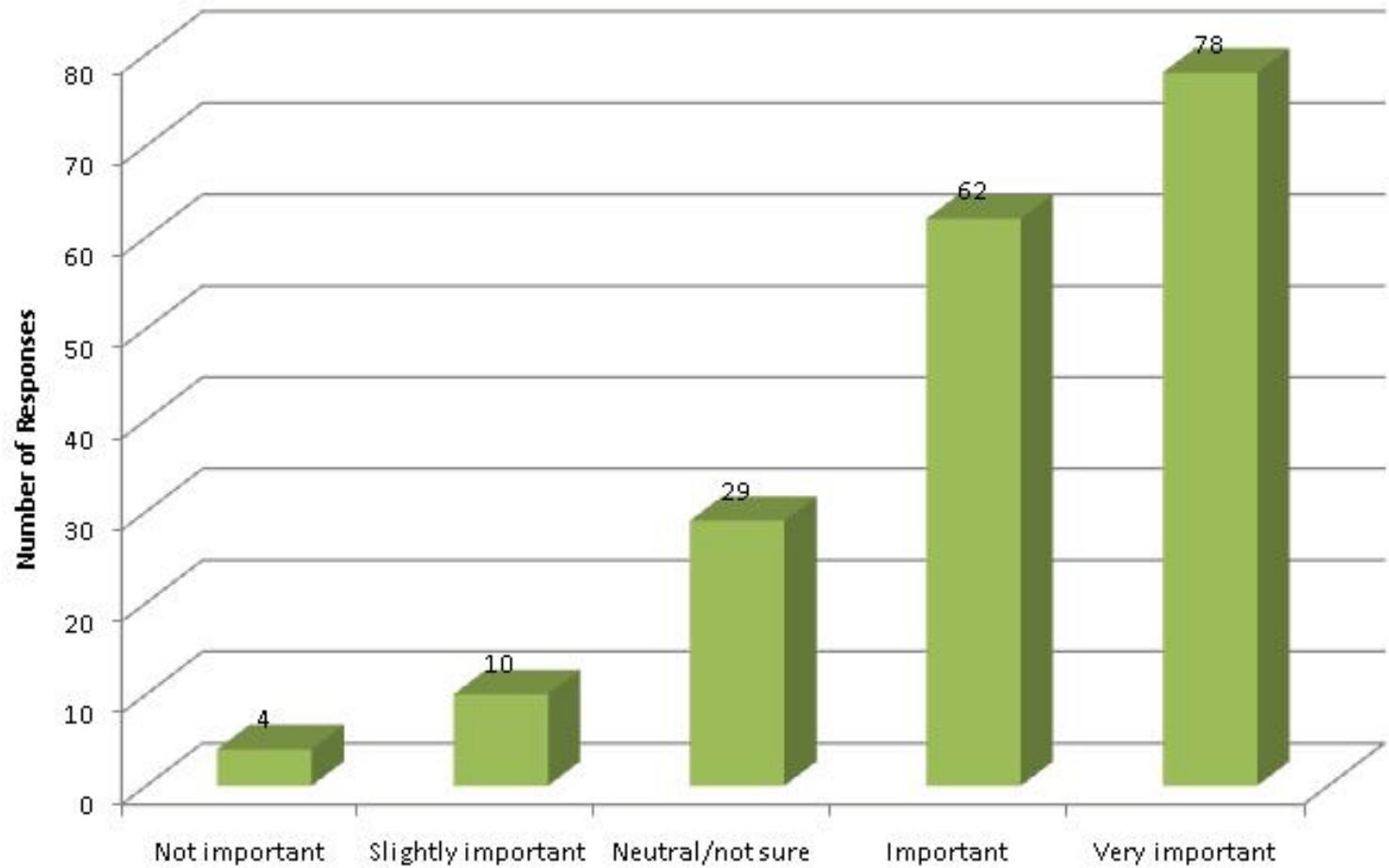
SURVEY

25. Please indicate how you believe the Cleveland Metroparks priorities should be ordered.



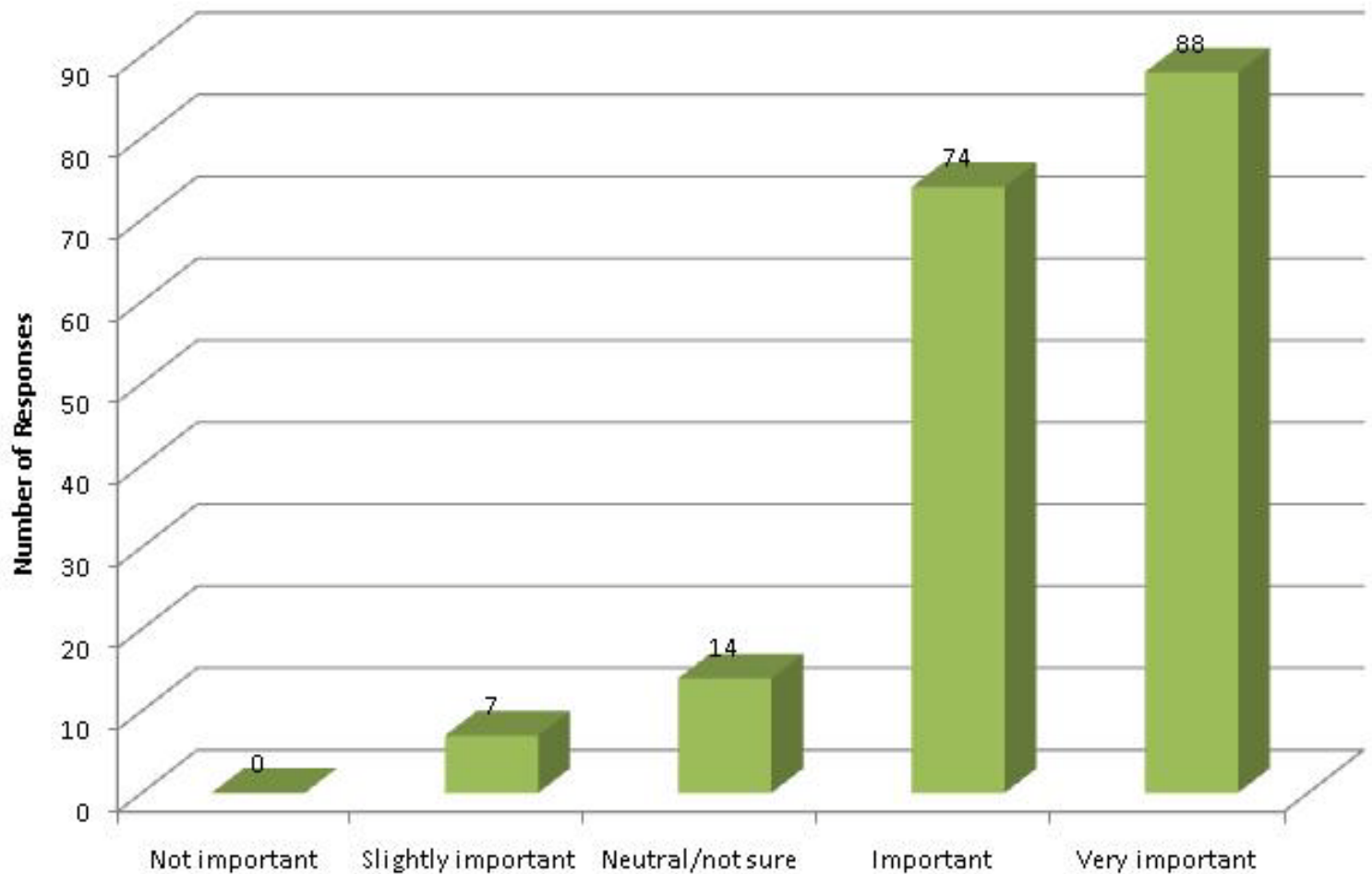
SURVEY

26. How would you rate the importance of the Cleveland Metroparks to the economic vitality of the Cleveland area?



SURVEY

27. How important are the Cleveland Metroparks to your personal well-being?



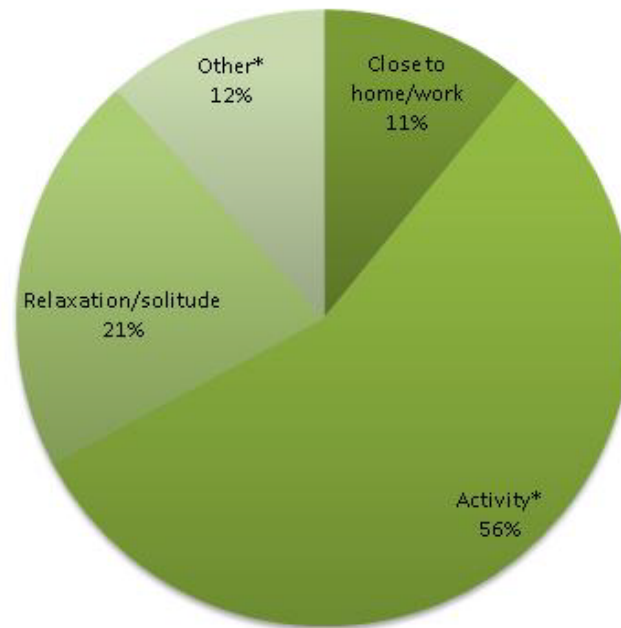
SURVEY

Online Survey

- Survey was created using the website Survey Monkey
- A 10 question survey was posted online between the dates of April 15th to April 26th.
- The survey was distributed via social media and consisted of student contact lists and Facebook accounts. The survey was also available on the Hinckley Township webpage.
- The questions covered parks used, activities, frequency of use and home zip code (single demographic question).
- This survey generated 363 responses.

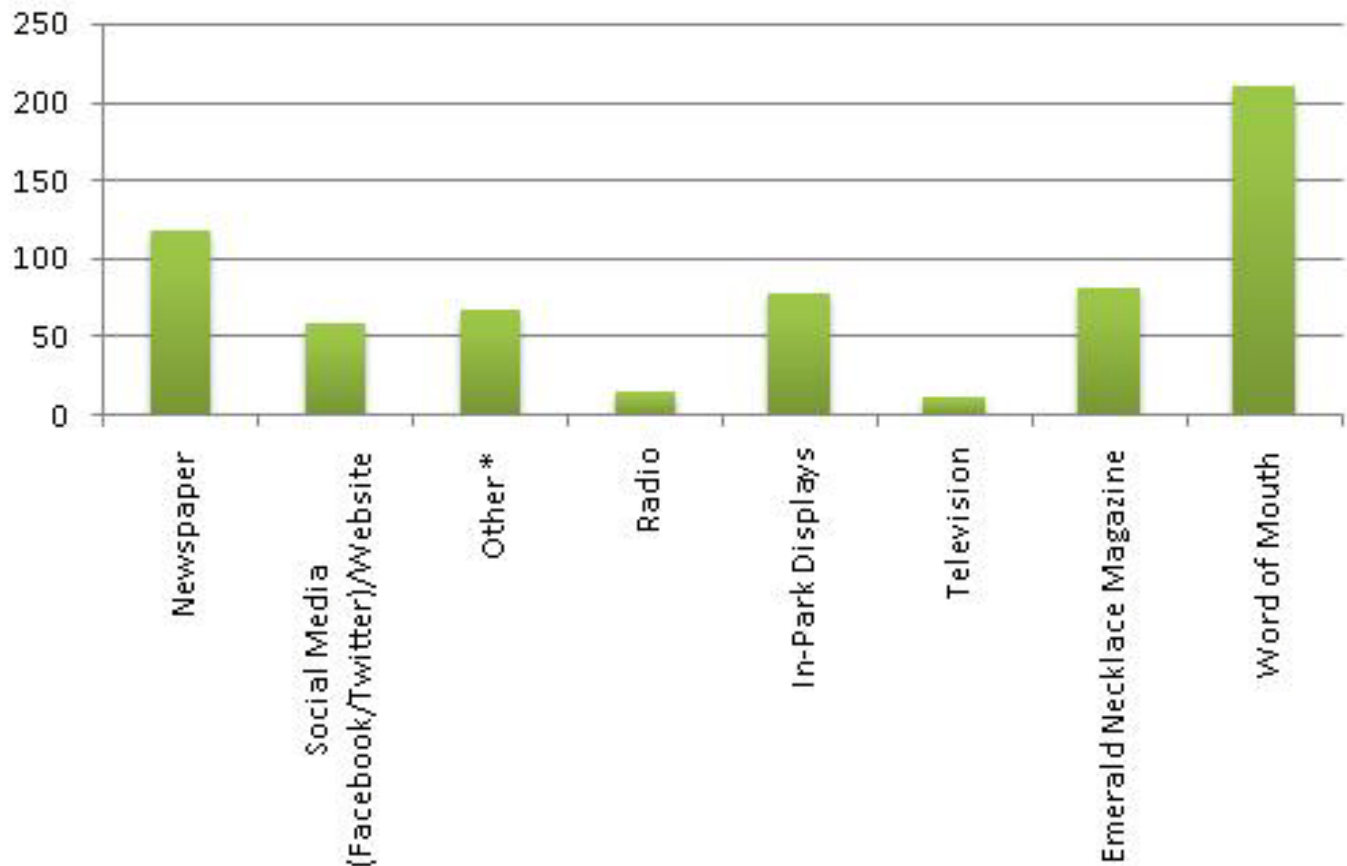
SURVEY

What is your main reason for using a Cleveland Metroparks reservation(s)?



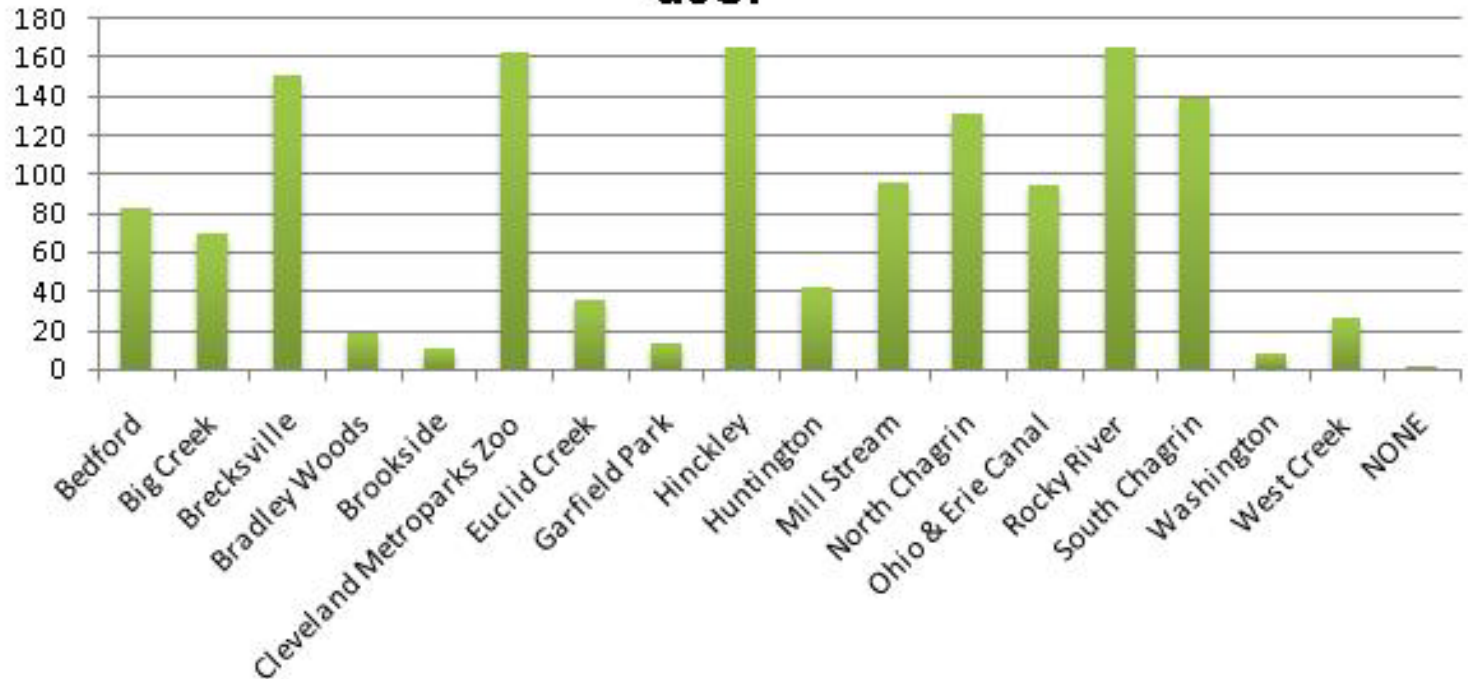
SURVEY

What are your sources for information about the Cleveland Metroparks?



SURVEY

What Cleveland Metropark reservations do you use?



A map of the Garfield Park Reservation is shown on a light green background. The reservation boundary is highlighted in a darker green. The map includes a winding road, several bodies of water (one large blue lake and several smaller ones), and a small blue triangle in the bottom right corner. The title 'GARFIELD PARK RESERVATION' is centered over the map in large, bold, black letters.

GARFIELD PARK RESERVATION

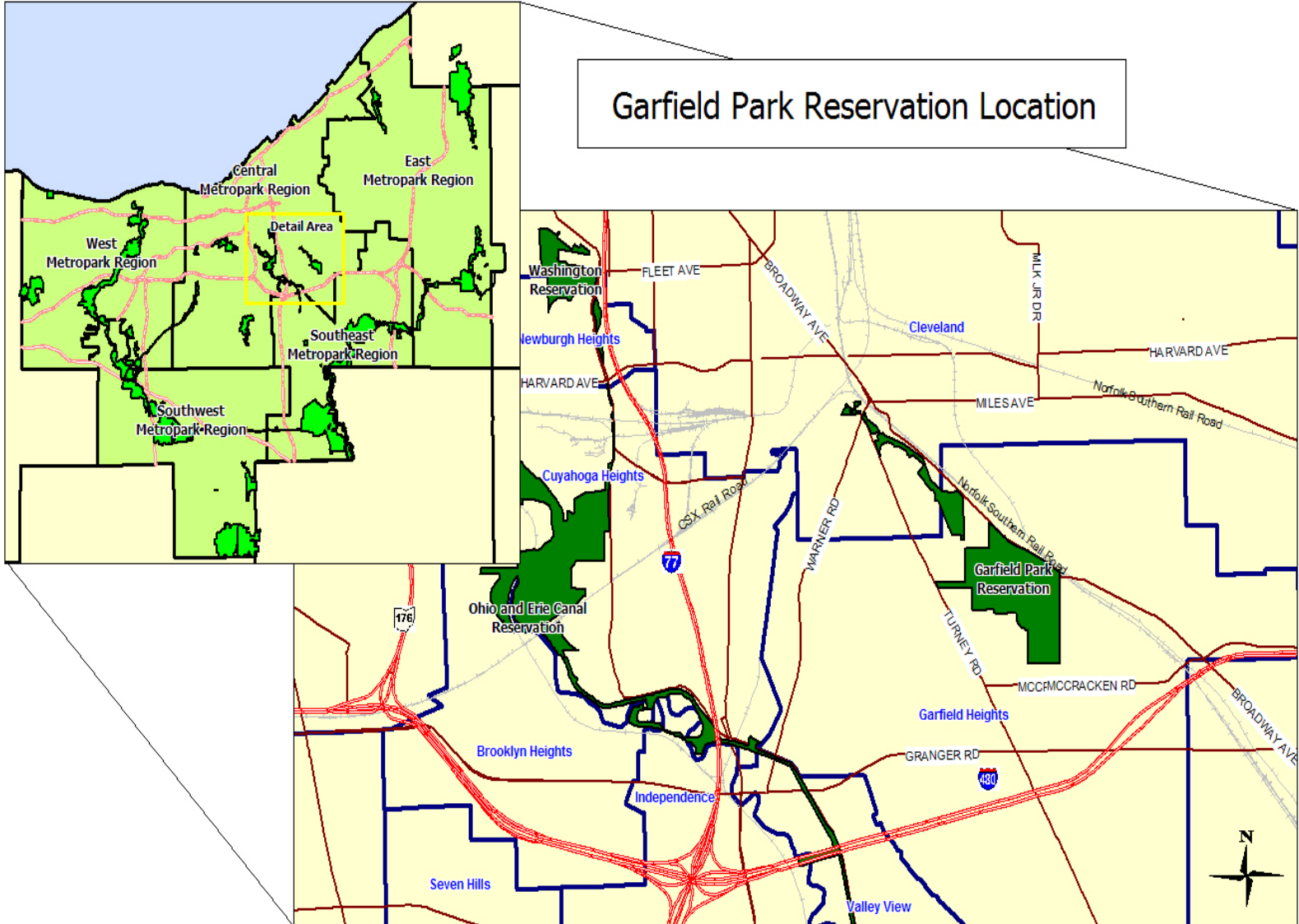
John Strok

Katie Barnum

Adam Stalder

Qi Xia

GARFIELD PARK RESERVATION



GARFIELD PARK RESERVATION

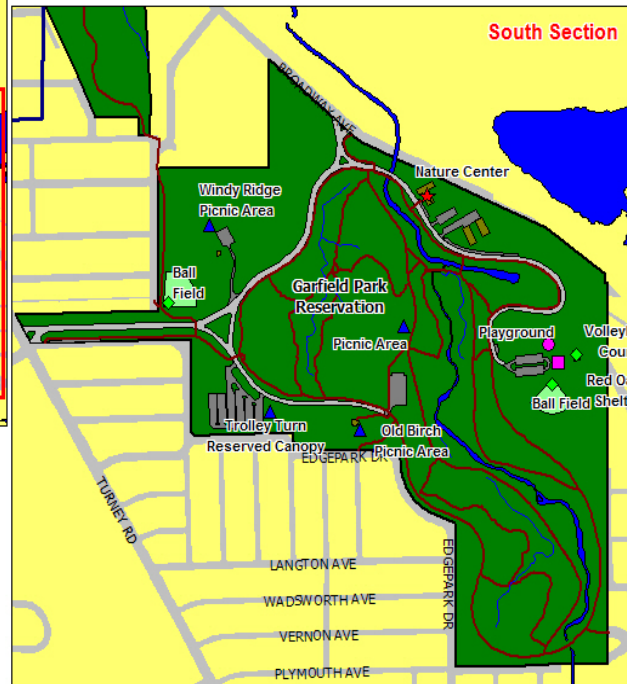
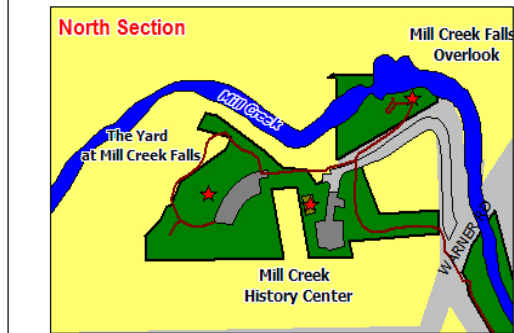
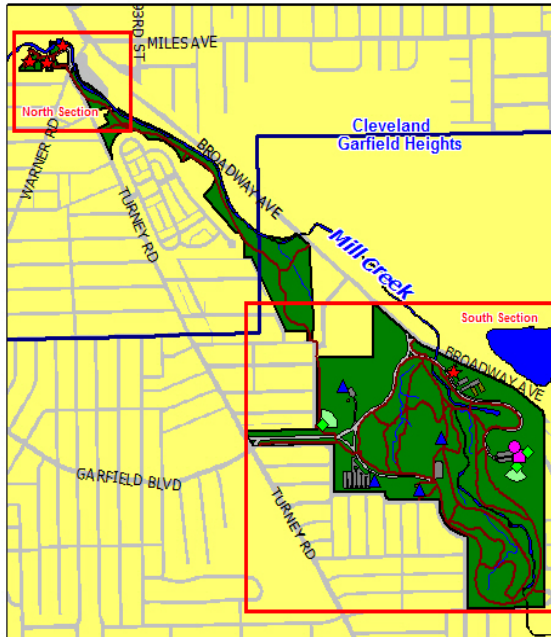
History

- Established as Newburg park in the 1890s
- Opened to the public in 1896
- Renamed Garfield park in 1897



GARFIELD PARK RESERVATION

Built Assets



Garfield Park Reservation

Park Features

- ★ Special Feature
- ◆ Recreation
- Playground
- Shelter
- ▲ Picnic Area
- Park Trails
- Recreation Facility
- Park Structure
- Parking Lot
- Municipal Boundary

Sources:
Cleveland Metroparks Facility Files-February 2010
2008 Aerial Photos- Cuyahoga County

Planning Studio
Cleveland State University
Levin College of Urban Affairs
Spring 2010



GARFIELD PARK RESERVATION

Built Assets

- Red oak shelter
- Nature center
- All purpose trail
- Windy ridge
- Mill creek falls



GARFIELD PARK RESERVATION

Services and Programs

- Formal and informal recreation
 - Garfield heights T-Ball league
 - Annual Easter egg hunt
 - Purpose trail, ball fields, volleyball courts. Etc.



GARFIELD PARK RESERVATION

Services and Programs Cont.

- Formal and informal education
 - Farm and garden day
 - Bug city/Bug day
 - Birdwatching
 - waterfowl viewing



20th Anniversary



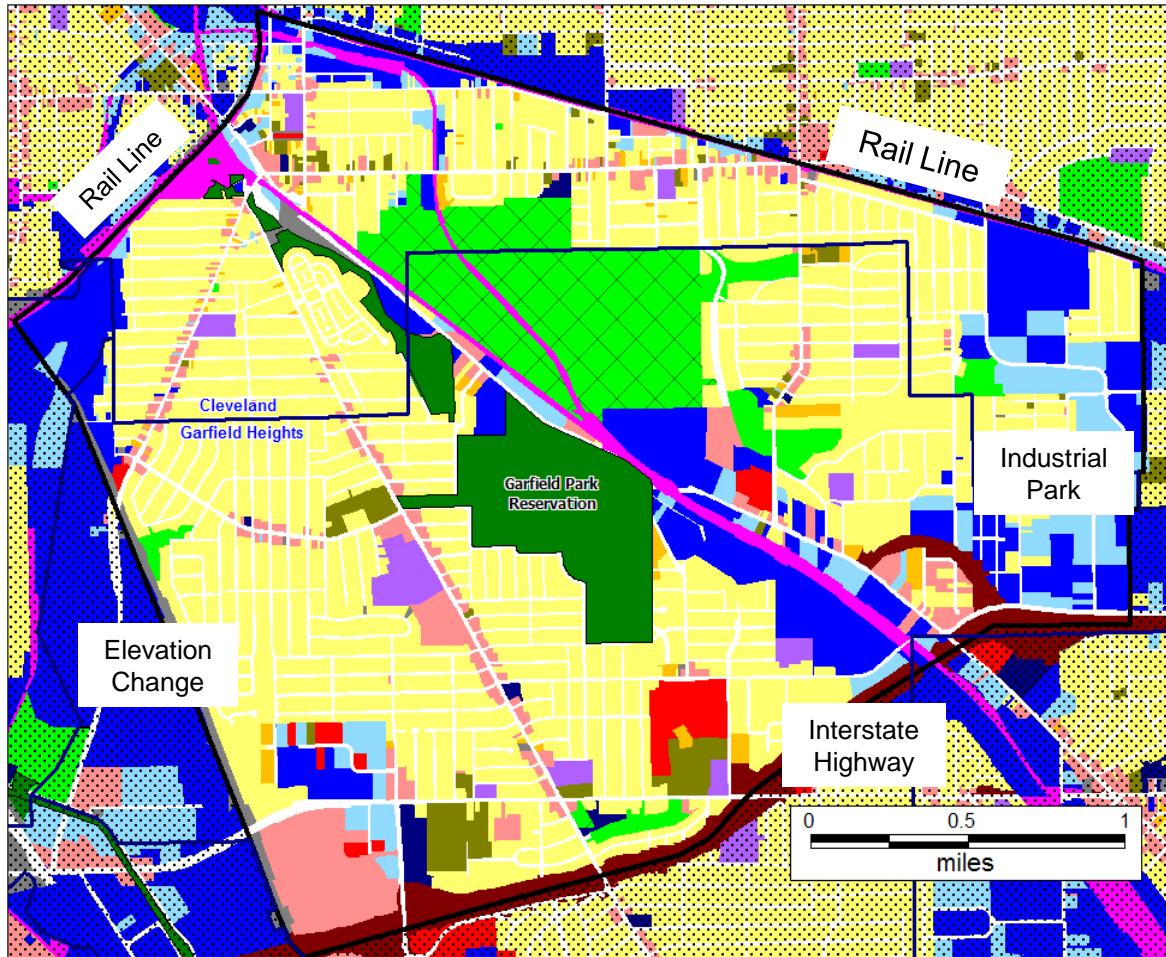
GARFIELD PARK RESERVATION

Valuation Model

- Social value of \$1,886,976
 - 86 hours of educational programming
 - 3,348 people exercising more than three times on park property
 - 65 venue rentals per year

GARFIELD PARK RESERVATION

Social Context Boundary



Current Land Uses
Garfield Park Reservation
Social Context Boundary

Land Use

- RESIDENTIAL
- APARTMENT
- RELIGIOUS
- SCHOOLS
- COMMERCIAL RETAIL
- OFFICE
- INDUSTRIAL
- LIGHT INDUSTRY
- RAILROAD
- HIGHWAY
- UTILITY
- GOVERNMENTAL USE
- PARK LAND
- CONSERVATION LAND
- CEMETERY

- Garfield Park Reservation Social Context Boundary
- City Boundary

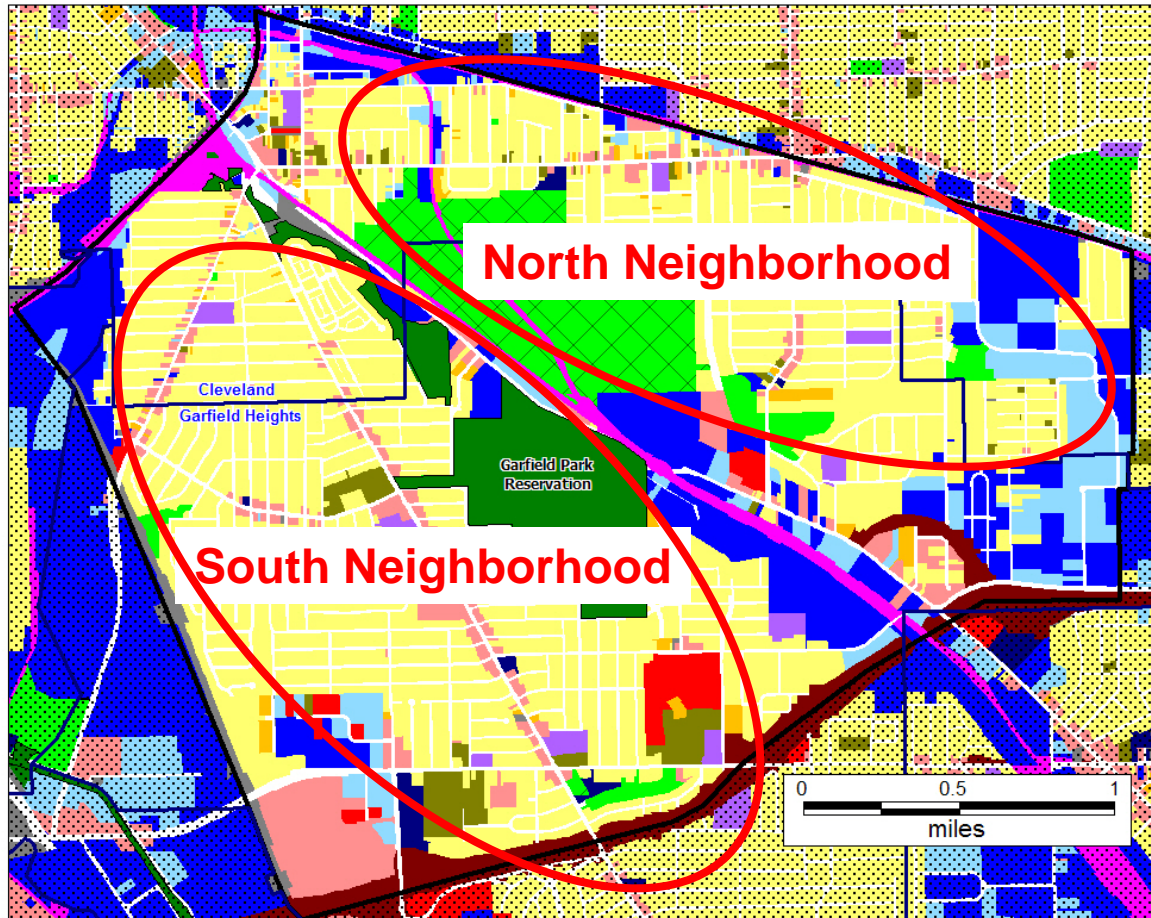
Sources:
Cuyahoga County Office of Auditor
2009 Tax Land Use Codes

Planning Studio
Cleveland State University
Levin College of Urban Affairs
Spring 2010



GARFIELD PARK RESERVATION

Social Context Boundary



Current Land Uses
Garfield Park Reservation
Social Context Boundary

Land Use

- RESIDENTIAL
- APARTMENT
- RELIGIOUS
- SCHOOLS
- COMMERCIAL RETAIL
- OFFICE
- INDUSTRIAL
- LIGHT INDUSTRY
- RAILROAD
- HIGHWAY
- UTILITY
- GOVERNMENTAL USE
- PARK LAND
- CONSERVATION LAND
- CEMETERY

Garfield Park Reservation
Social Context Boundary

City Boundary

Sources:
Cuyahoga County Office of Auditor
2009 Tax Land Use Codes

Planning Studio
Cleveland State University
Levin College of Urban Affairs
Spring 2010



GARFIELD PARK RESERVATION

Population Characteristics

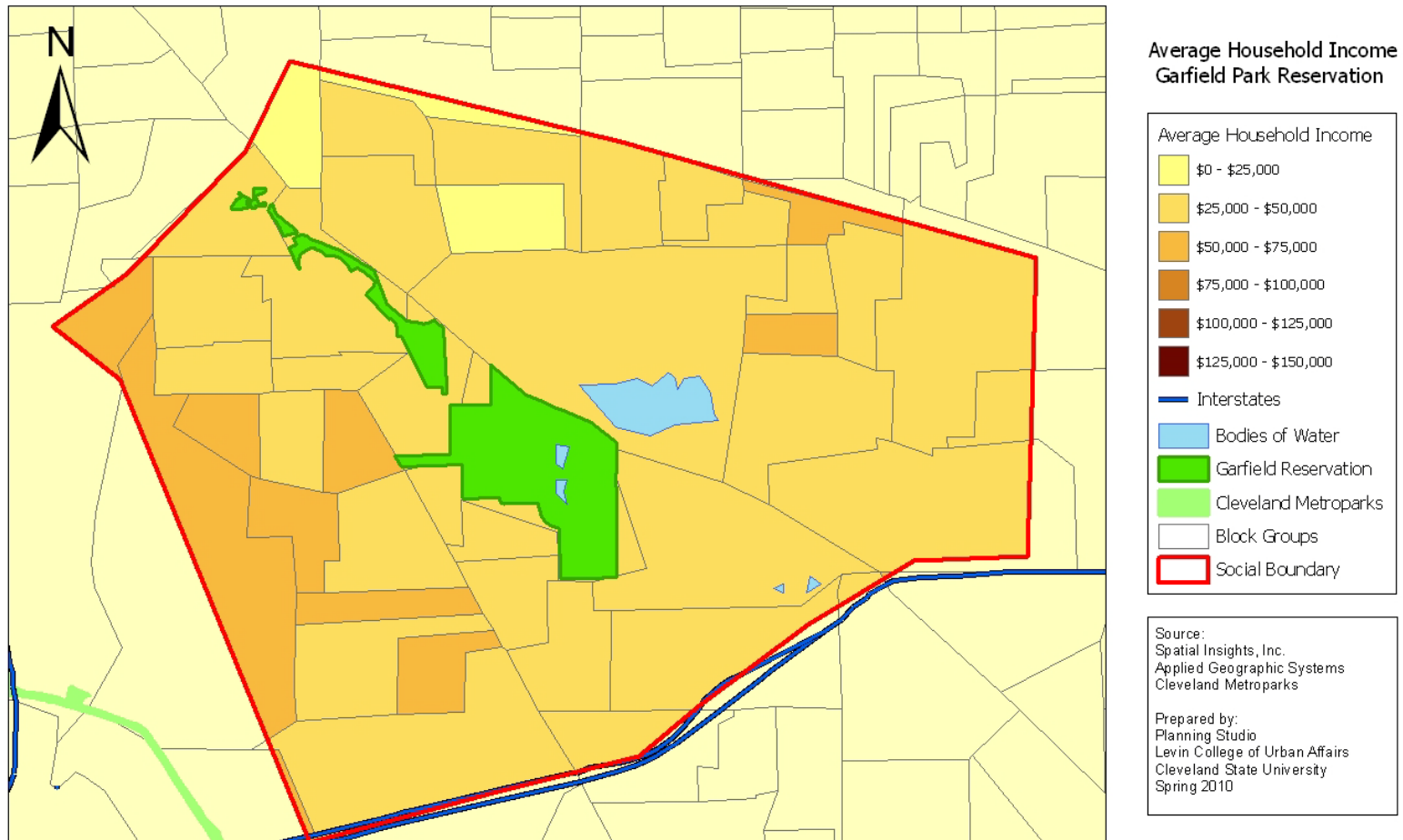
- Population Declining

	2000 POPULATION	2009 POPULATION	POP CHANGE	2014 POPULATION	POP CHANGE
TOTAL SOCIAL CONTEXT BOUNDARY	34,103	29,496	-13.5%	26,828	-9.0%

NORTH NEIGHBORHOOD	13,350	11,252	-15.7%	10,177	-9.6%
SOUTH NEIGHBORHOOD	20,752	18,244	-12.1%	16,651	-8.7%

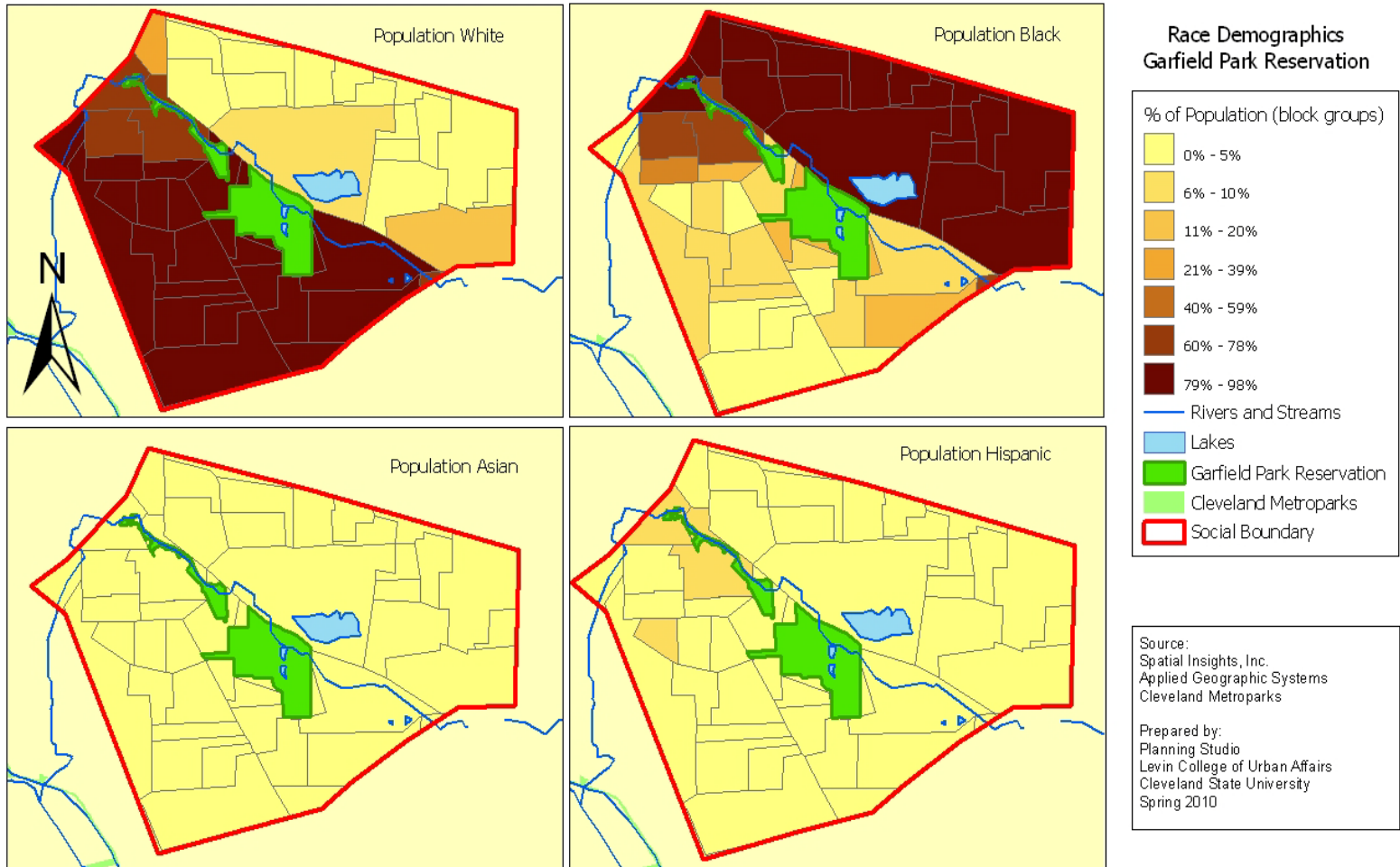
GARFIELD PARK RESERVATION

Population Characteristics



GARFIELD PARK RESERVATION

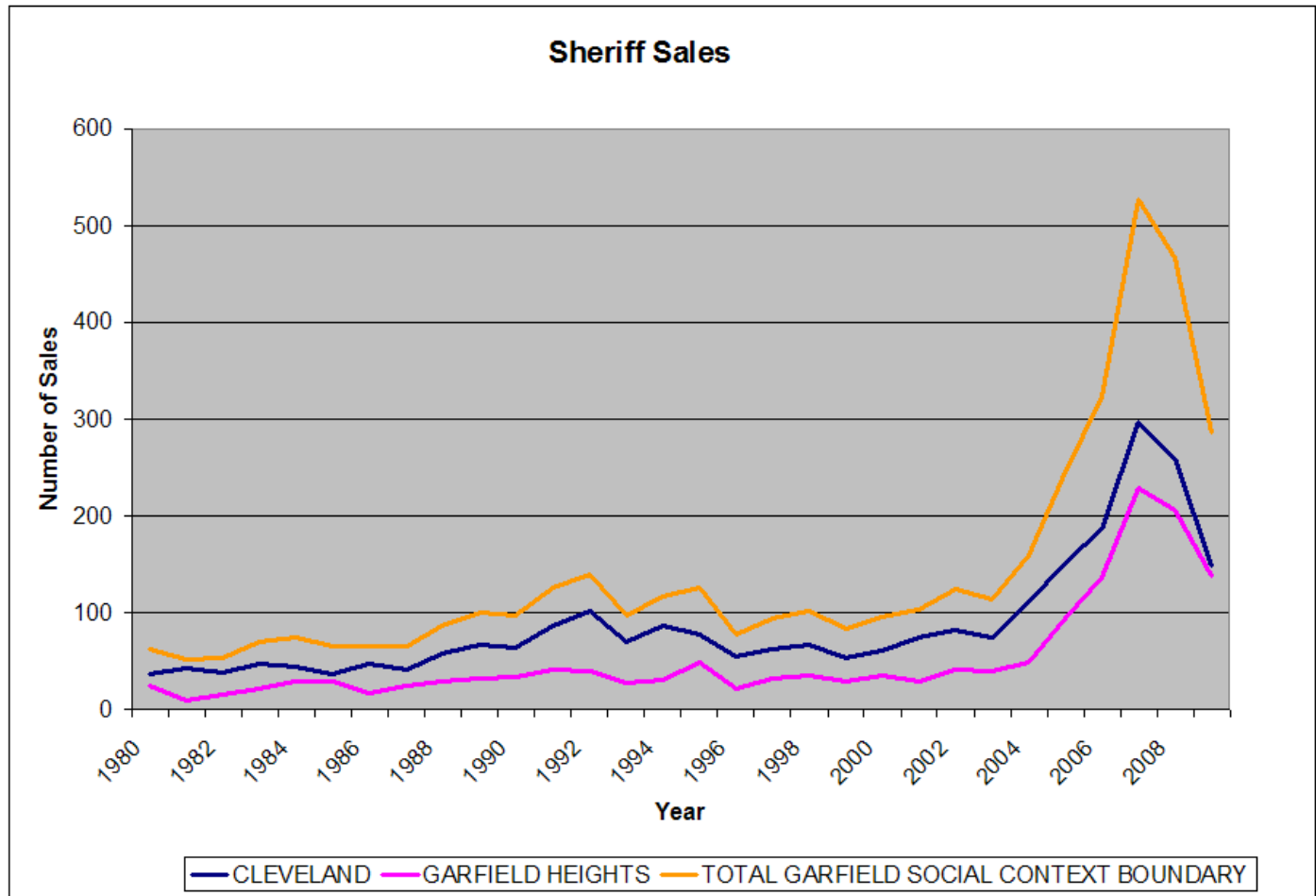
Population Characteristics



GARFIELD PARK RESERVATION

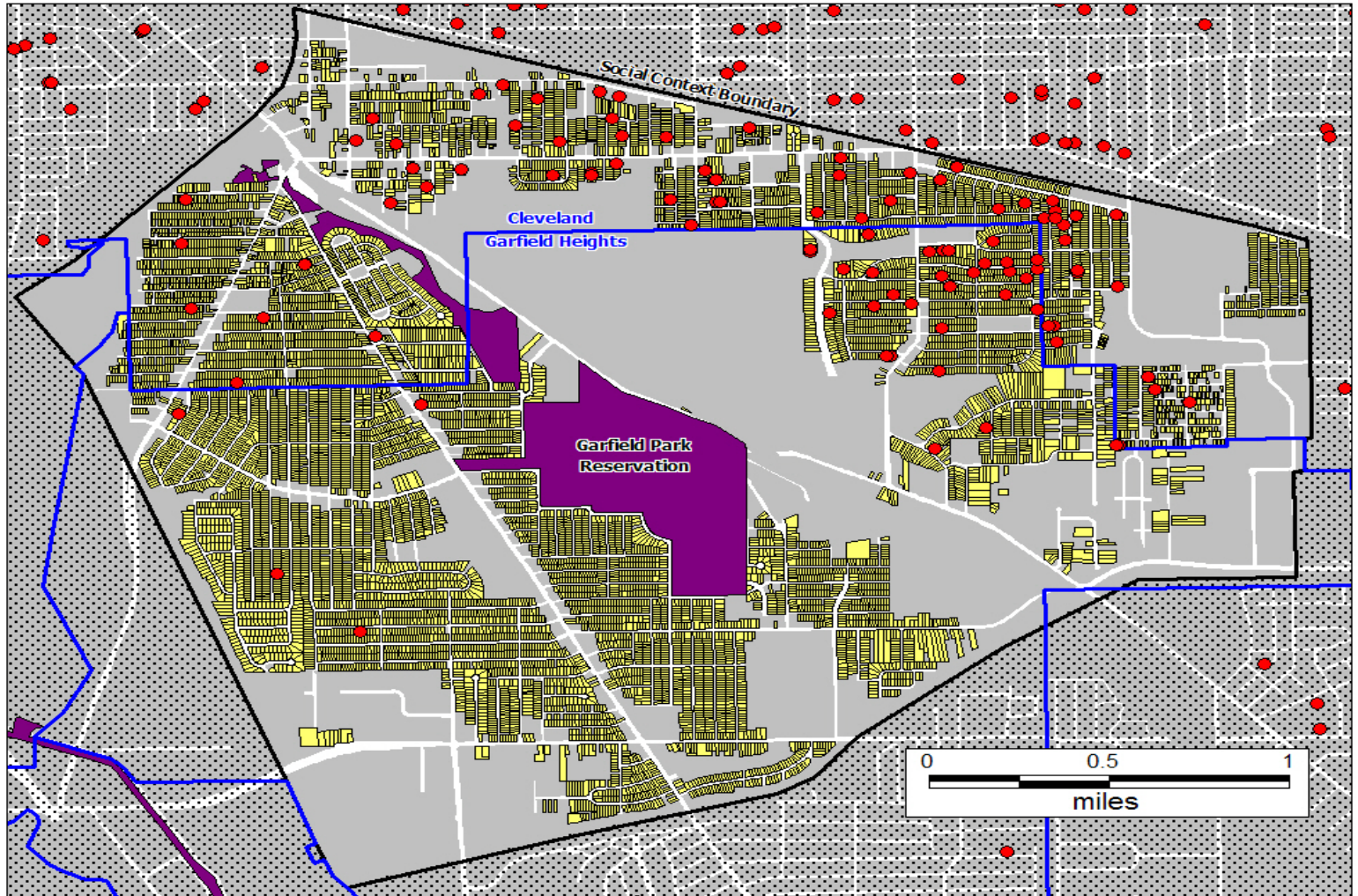


Foreclosure Impact



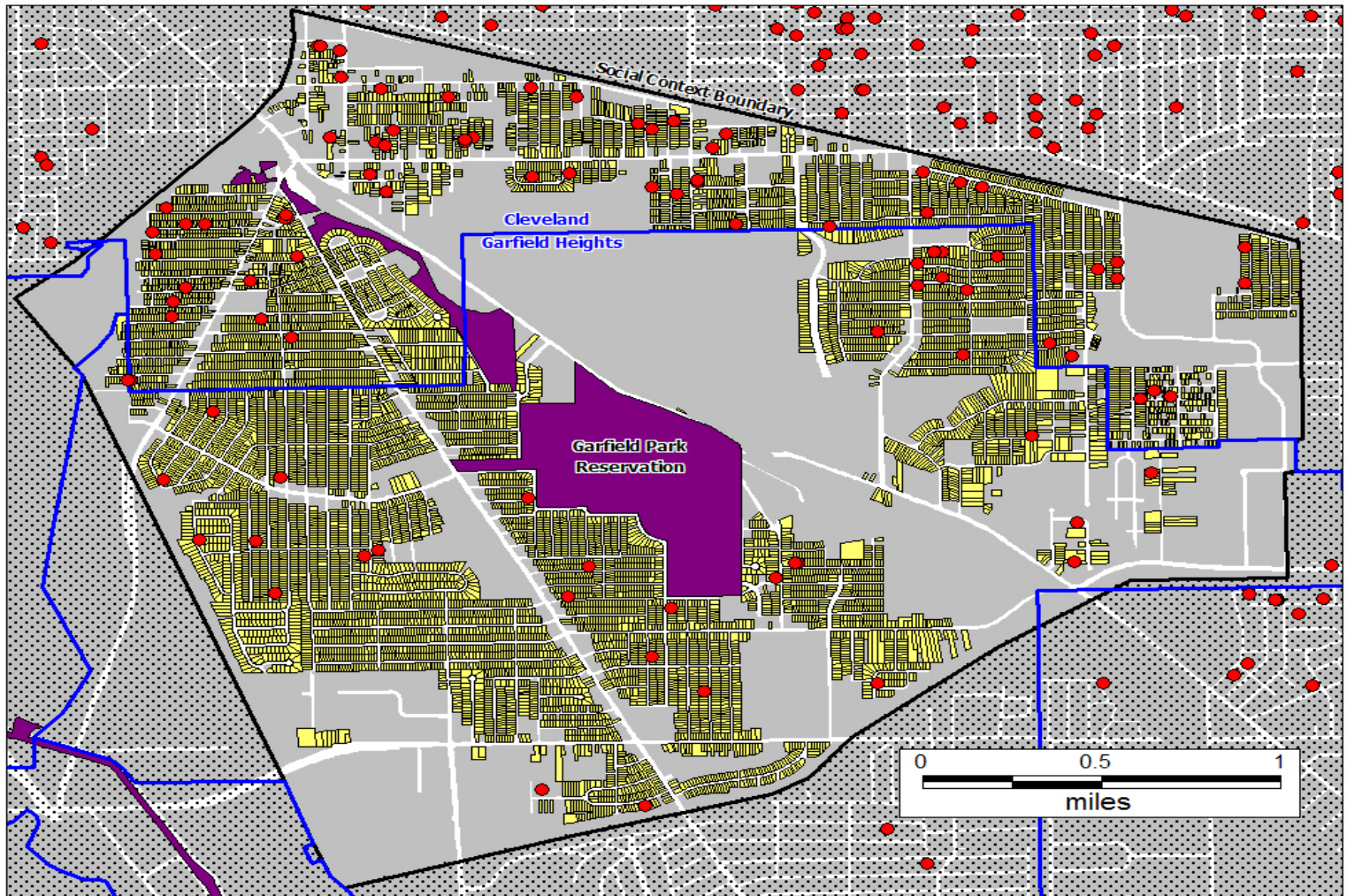
GARFIELD PARK RESERVATION

Sheriff Sales, 1990



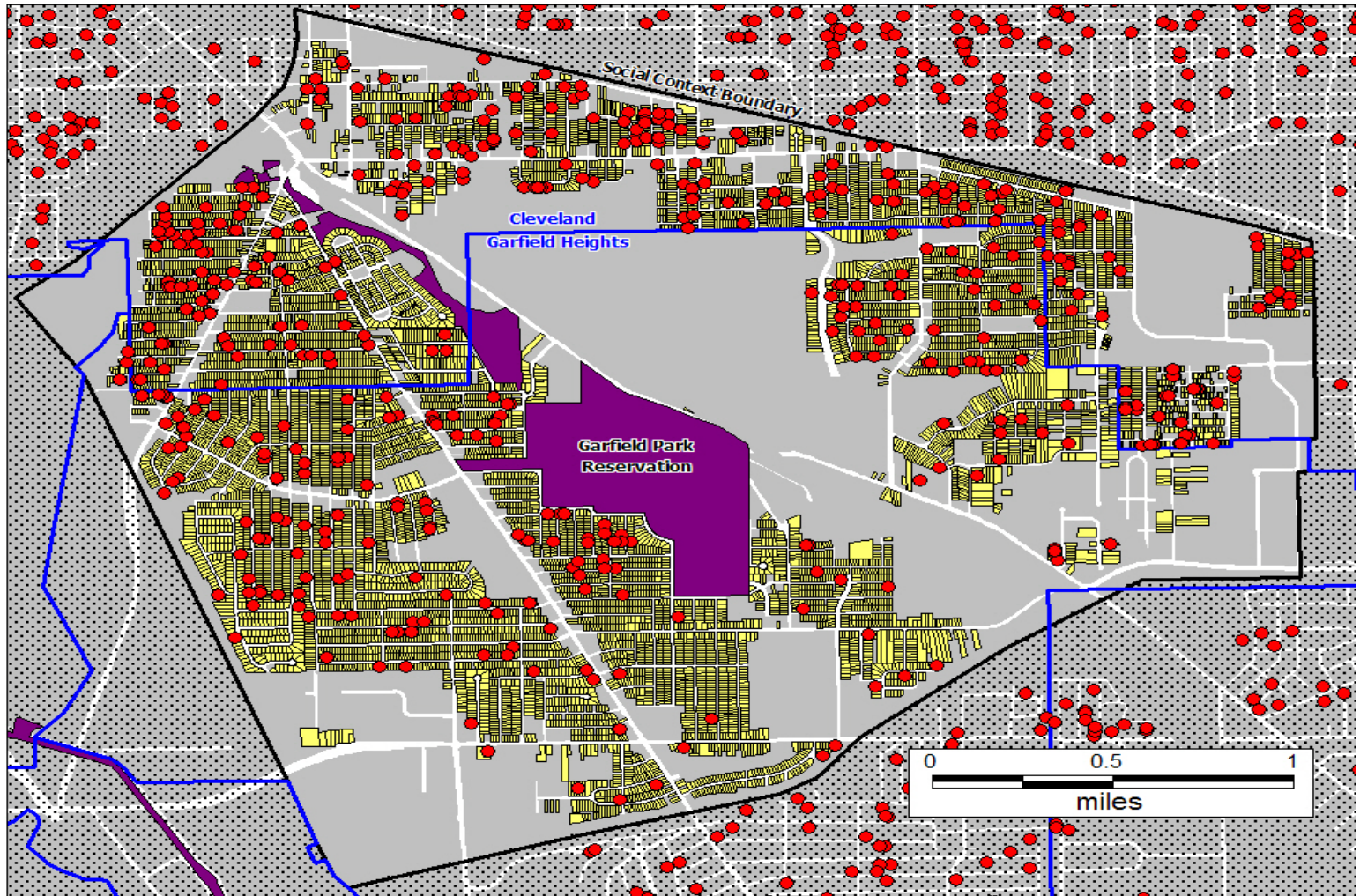
GARFIELD PARK RESERVATION

Sheriff Sales, 2000



GARFIELD PARK RESERVATION

Sheriff Sales, 2008



GARFIELD PARK RESERVATION

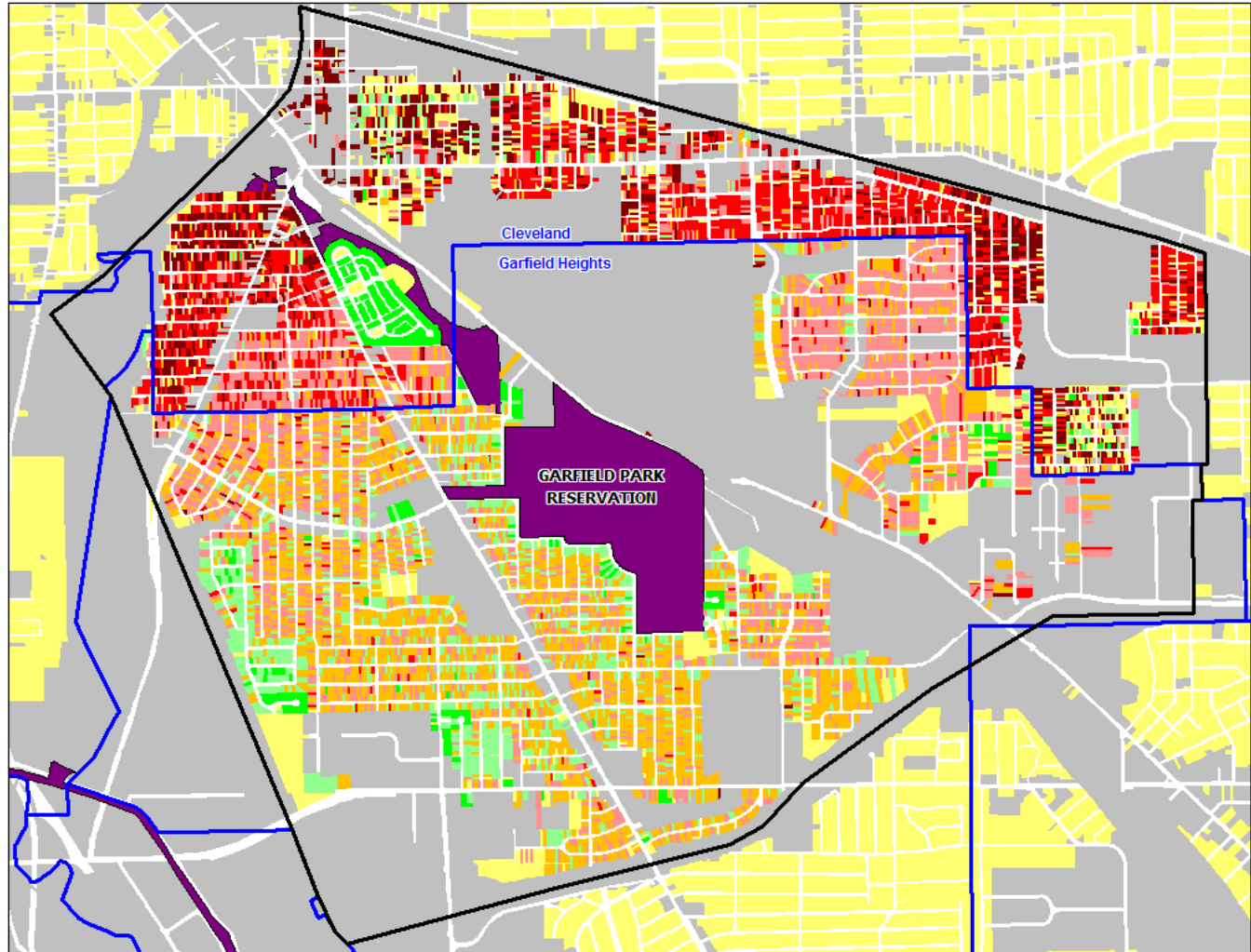
Housing Valuation Model

- Total Amount of Property Tax Estimated to be Created by the Garfield Park Reservation

\$1,064,544

GARFIELD PARK RESERVATION

Residential Land Values



GARFIELD PARK RESERVATION

Ecological Context

- Mill Creek Characteristics
 - Nine Municipalities in Watershed
 - Six Tributaries
 - Mainstream 14.4 miles open, 1.6 miles culverted



GARFIELD PARK RESERVATION

Influencing Factors

- Soil Condition, Infiltration, and Erosion
- Aquatic and Animal Life
- Land Distribution



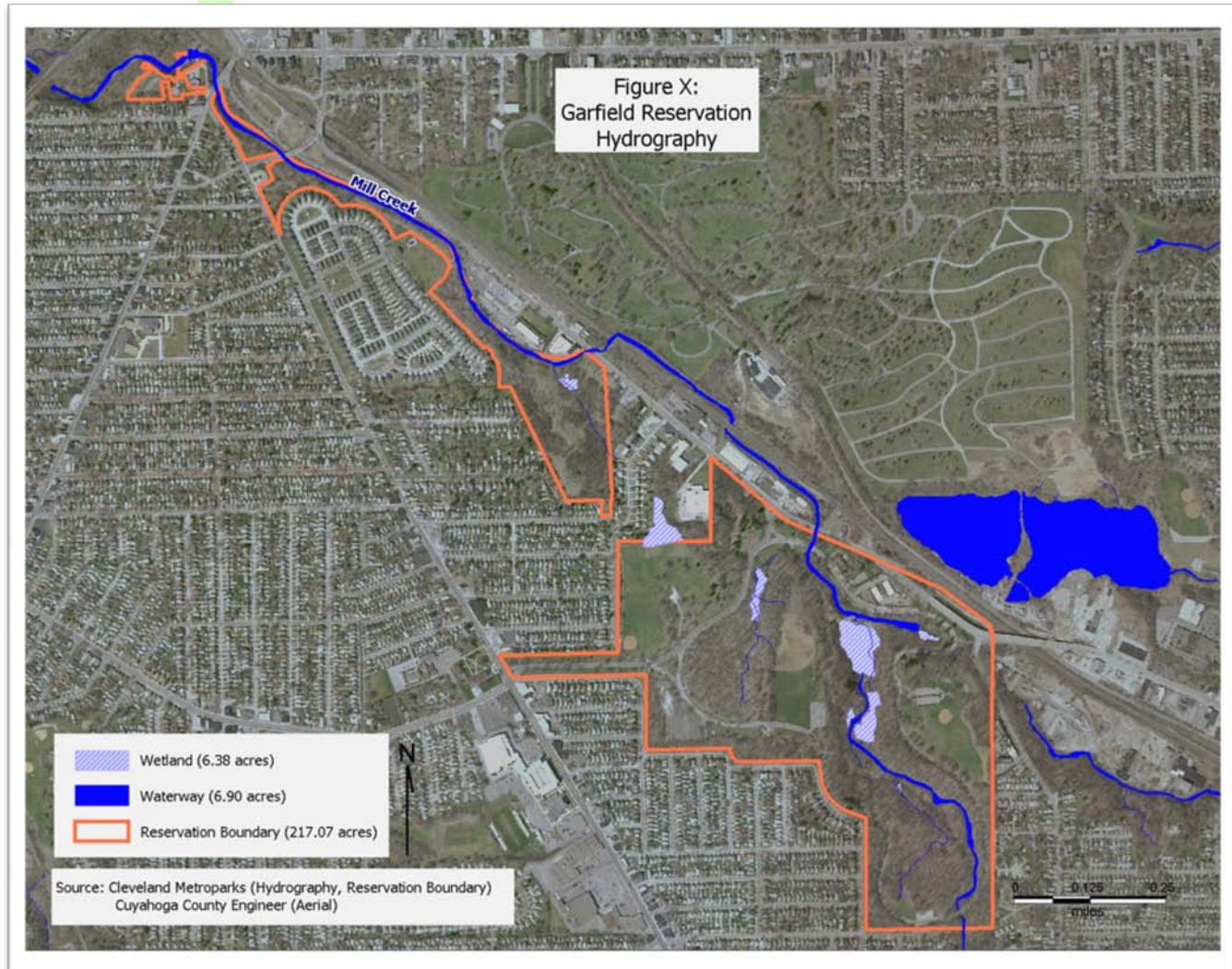
GARFIELD PARK RESERVATION

Wetlands



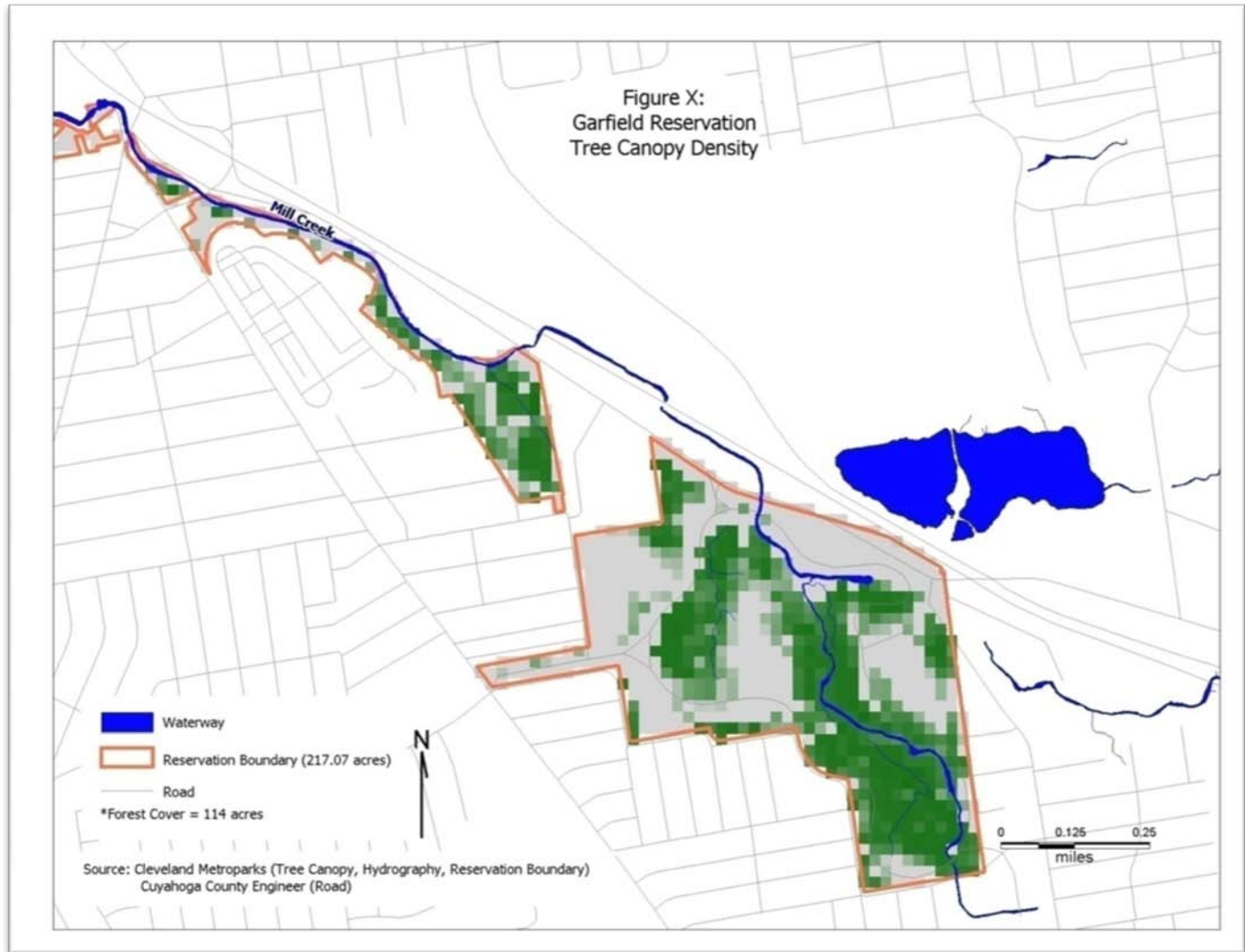
GARFIELD PARK RESERVATION

Hydrology



GARFIELD PARK RESERVATION

Forest Cover



GARFIELD PARK RESERVATION

Stressors On Resources

- Loss of Tree Canopy
- Invasive Species
- Storm water Runoff
- Soil Conditions

GARFIELD PARK RESERVATION

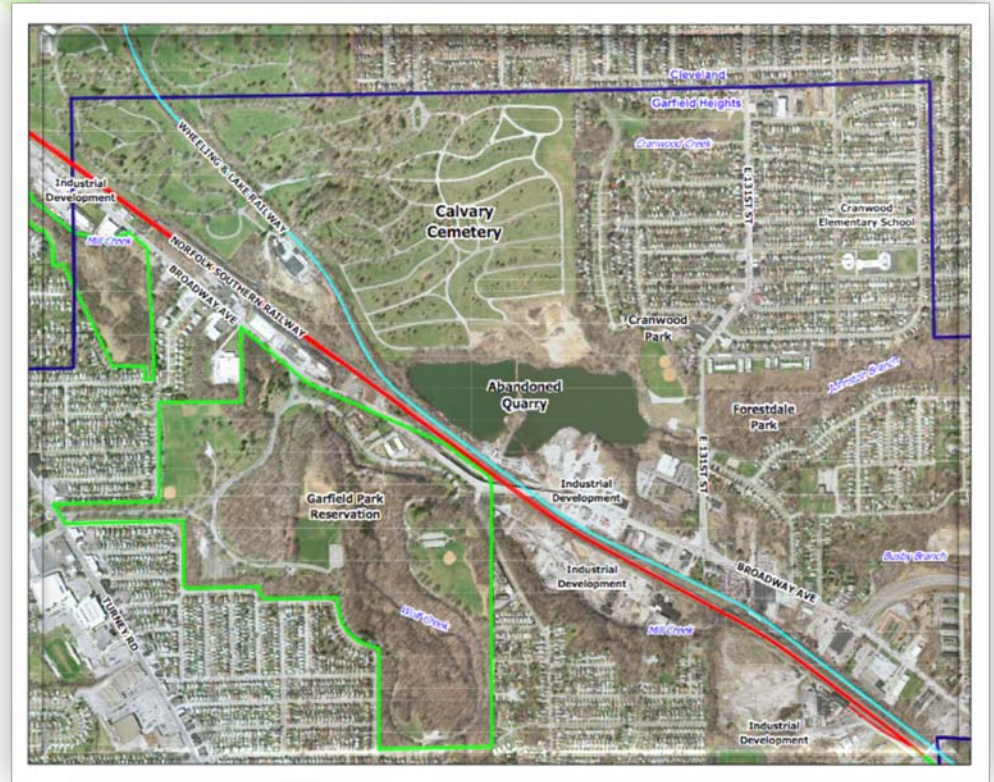
Goals to Address Stressors

- Increase tree canopy
- Clear invasive species
- Protect wetlands and rebuild natural stream channels
- Implement design regulations to reduce runoff, pollution, and help with flood control, erosion, and water quality

GARFIELD PARK RESERVATION

Policy Recommendations

- Expansion of Greenspace
 - Chaincraft Property
 - Calvary Cemetery
 - Quarries



GARFIELD PARK RESERVATION

Policy Recommendations

- Neighborhood Connectivity
 - Improve access for users regardless of transportation method
 - Strengthen educational and organized recreation
 - Orient traditional park elements towards neighborhoods
 - Improve physical facilities



GARFIELD PARK RESERVATION

Policy Recommendations

- Marketing
 - Create a Hallmark
 - Improve Mill Creek Connector Signage
 - Realign Mill Creek Falls Entrance Sign
 - Advertise
- Partnerships
 - Slavic Village, Mill Creek Watershed Partnership, City of Cleveland, City of Garfield Heights, Catholic Charities, Local Businesses



A map of the state of Minnesota is shown in a light green color. A specific area in the eastern part of the state is highlighted in a darker green, representing the Hinkley Reservation. This area includes a large lake and several smaller bodies of water. The map is centered on a white background.

HINCKLEY RESERVATION

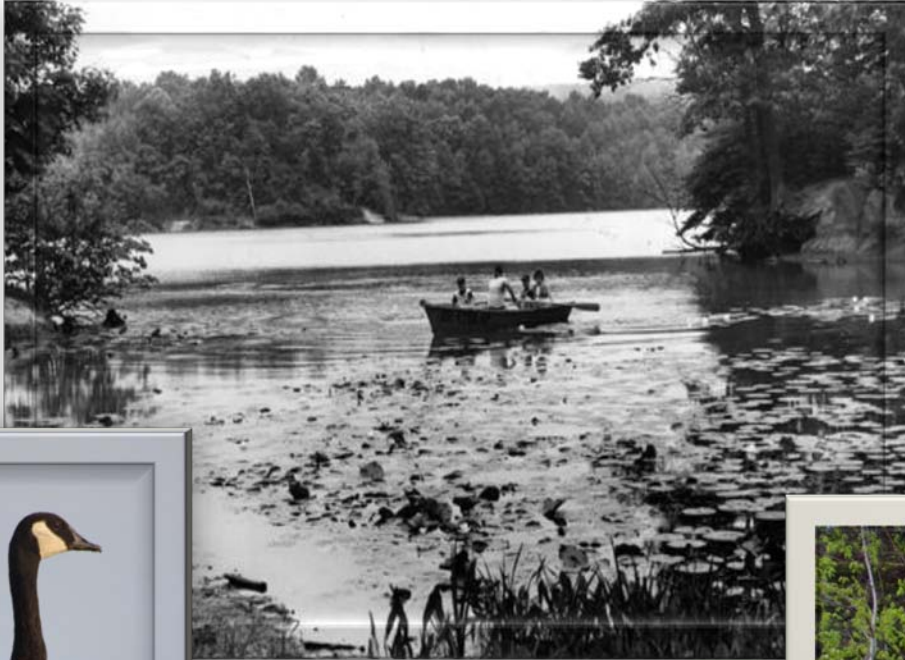
Ajay Ladanyi

Marcel Albota

Ryan Foster

Stephen Flannery

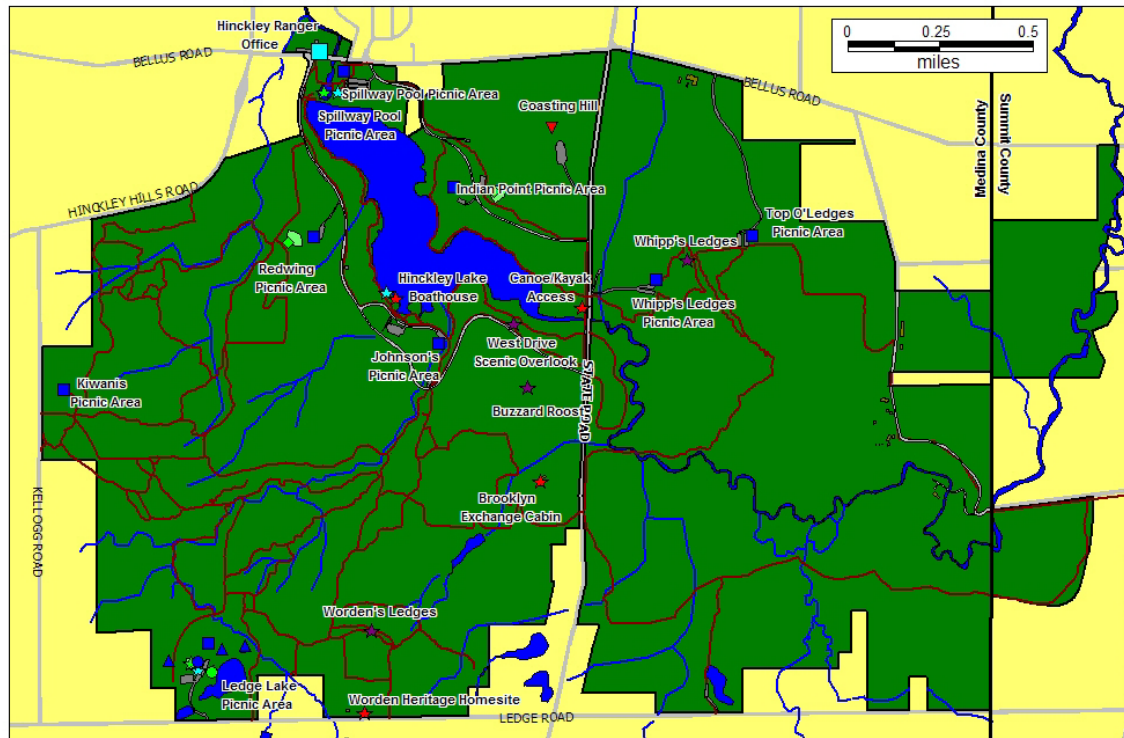
HINCKLEY RESERVATION



HINCKLEY RESERVATION

Amenities

Hinckley Reservation



Park Features

- ★ Special Feature
- ▼ Sledding Area
- ★ Natural Feature
- Ranger Office
- ★ Refreshments
- ▲ Shelter
- Picnic Area
- Playground
- ◆ Ball Field
- ★ Basketball Court
- ★ Swimming Area

— Trails

■ Building Footprint

■ Recreation Facility

■ Parking

Sources:
Cleveland Metroparks Facility Files-February 2010
2006 Aerial Photos- Medina County

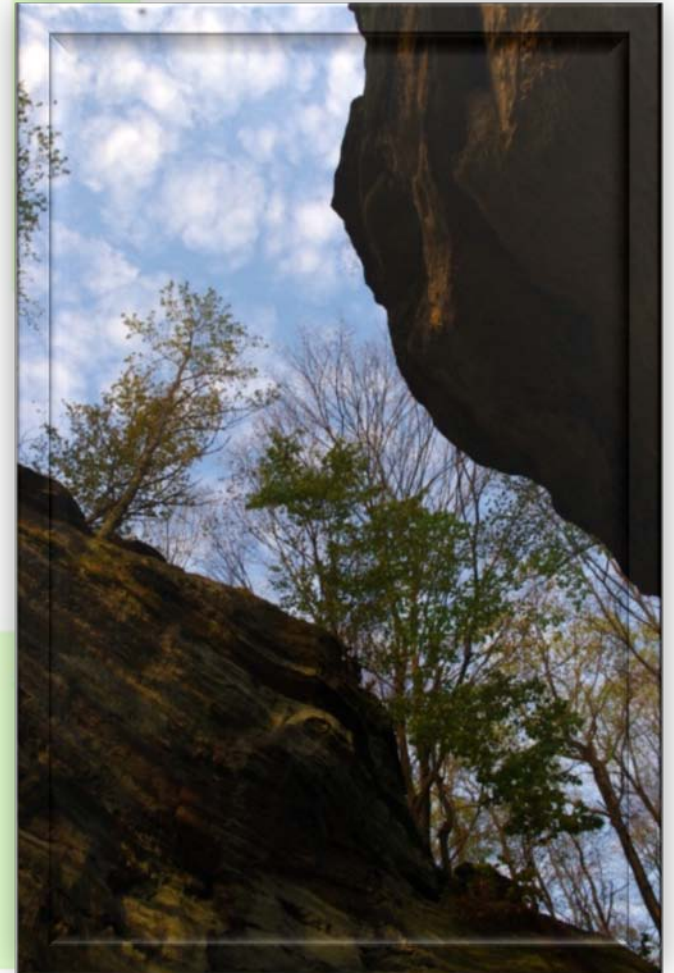
Planning Studio
Cleveland State University
Levin College of Urban Affairs
Spring 2010



HINCKLEY RESERVATION

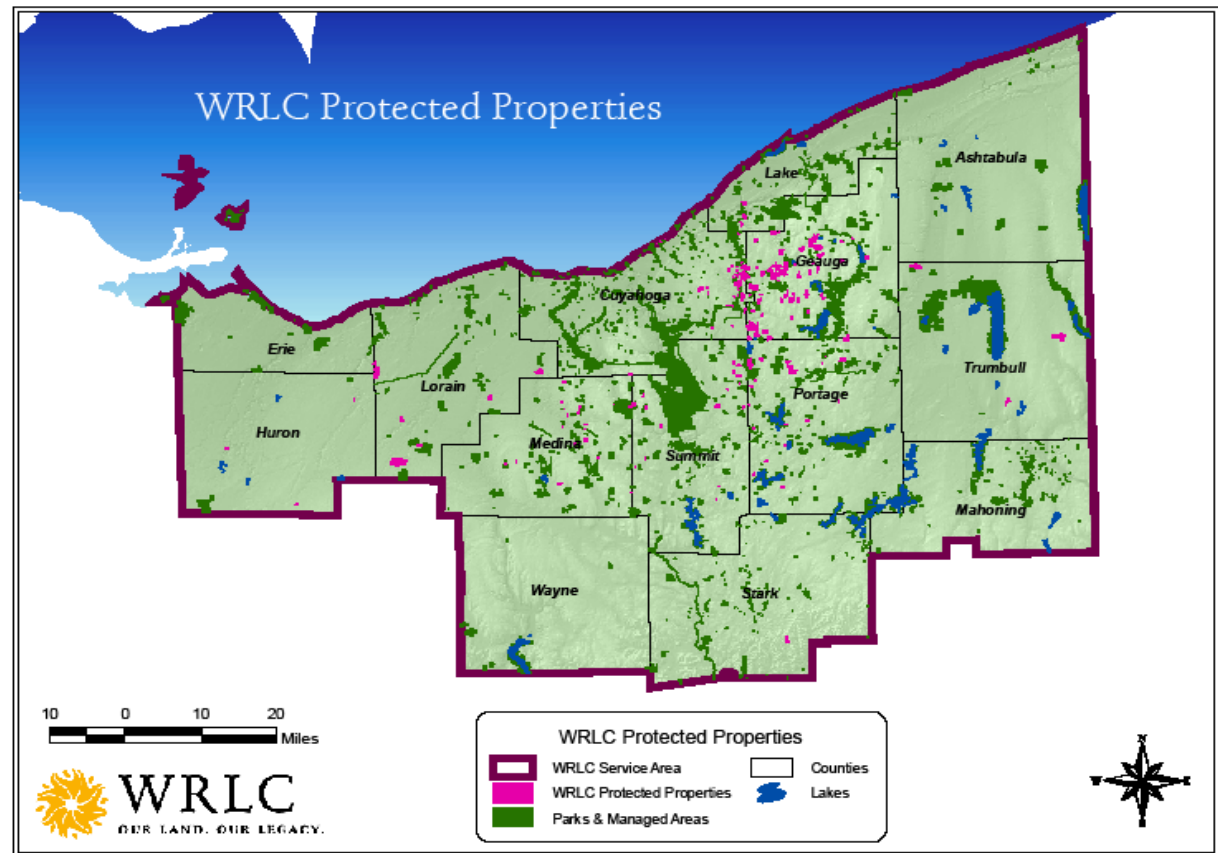
Natural Amenities

- Hinckley Lake
- Ledge Lake
- Judge's Lake
- Whipps Ledges
- Worden's Ledges
- Return of the buzzards



HINCKLEY RESERVATION

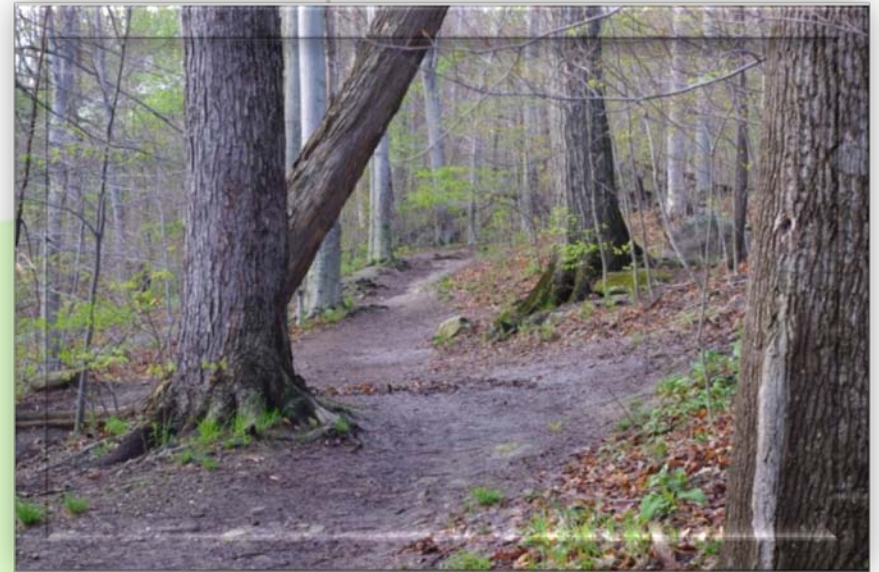
Western Reserve Land Conservancy A Broad Scope



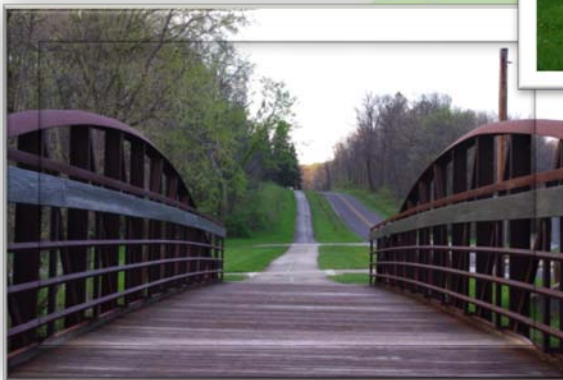
HINCKLEY RESERVATION

Built Amenities

- Ledge Pool and Recreation Area
- Hinckley Lake Boathouse
- All Purpose Trails
- Picnic Areas
- Ball Fields
- Reserved Shelters



HINCKLEY RESERVATION



HINCKLEY RESERVATION

Valuation of Social and Recreational Resources

Social and Recreational Value of Cleveland Metroparks									
Service Provided	Reservation Name	Hours/Quantity of Service per year	Number of Participants per Year	Value per service (dollars)	Units	Cost to User	Consumer Surplus	Total economic value (dollars)	Notes
Educational Programming	Hinckley	2	57029	\$62.52	per hour	N/A	N/A	\$7,185,654	1
Non-structured physical fitness (adult) - count only those who exercise at least 3 days per week	Hinckley	N/A	8715	\$10	per year	\$5	\$5	\$87,150	2
Venue rental	Hinckley	43	N/A	\$435	per event	\$150	\$285	\$18,705	3

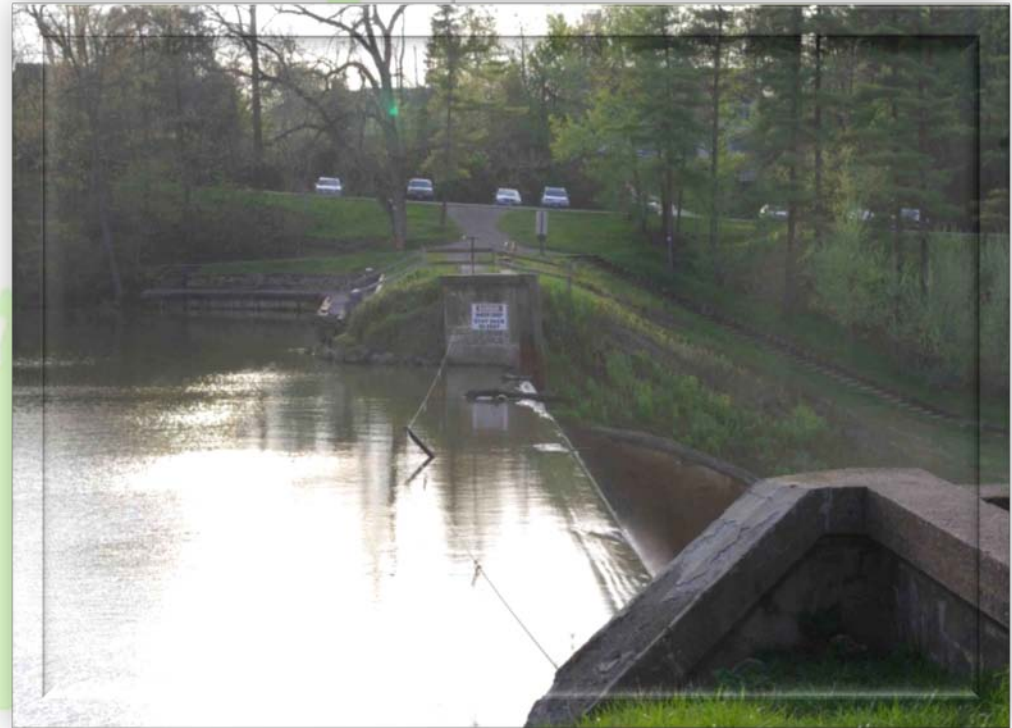
\$7,291,509

Hinckley Reservation has an estimated resource value of \$7,291,509.

HINCKLEY RESERVATION

Recommendations

- Dam and spillway rehabilitation
- Revision of educational programs
- Visitor Center
- Trails update



HINCKLEY RESERVATION



HINCKLEY RESERVATION

Social/Human Context

- Located in largely rural area of northeast Medina County
- Social boundaries include Census blocks in Cuyahoga (8), Summit (3) and Medina (15) Counties
- Majority of reservation is located within Hinckley Township

HINCKLEY RESERVATION

Land Use/Density

- Land use is predominantly residential
- Hinckley Township Zoning Code calls for 2-acre residential lot sizes
- Average density is over 4 acres per unit

HINCKLEY RESERVATION

Demographics

- Population of social boundary area is 106,235 in 2009
- Residents are largely Caucasian
- .01 percent of population is African-American
- .08 percent of population is Asian-American
- 78% of population is rural

HINCKLEY RESERVATION

Projected Demographics

- Population is project to decrease in 2014 and then increase in 2019
- Number of households is projected to increase to 40,971 in 2014 from 2009 estimates of 39,983

HINCKLEY RESERVATION

Housing Values/Valuation

- In Hinckley Township the median house value in 2008 was \$310,050
- House values remain relatively stable as distance from park increases, but climbs significantly at 1500 feet.
- Estimated valuation: \$287,436

HINCKLEY RESERVATION

Community Groups/Partners

- Rocky River Watershed Council
- Hinckley Historical Society
- Local Boy Scout troops



HINCKLEY RESERVATION



Stressors

- Population increases from neighboring counties
- Lack of coordination with local groups

HINCKLEY RESERVATION

Recommendations

- Advocate conservation easements and riparian setbacks as method to protect rural conditions and East Branch of Rocky River
- Establish partnerships with local visitors, Equestrian Friends of Hinckley (proposed)

HINCKLEY RESERVATION

Hinckley Lake



HINCKLEY RESERVATION

- Forest canopy covers 2178 of 2804 acres with deciduous and evergreen varieties.
 - Wildlife, flora and fauna species are abundant due to intact forest edges.
- Valuation of the ecosystem is \$18,275,766.
- Upper reaches of East Branch outside park are threatened by development.

HINCKLEY RESERVATION

- Goals

To maintain the 3 tier philosophy of conservation, education, and recreation by continuing program efforts and addressing specified recommendations.

Work with volunteer base, interest groups, and partnerships.

HINCKLEY RESERVATION

- Threats

Invasive plant species

Watershed upper reaches quality

Emerald Ash borer

White tailed deer

Habitat (land and water) loss or alterations

HINCKLEY RESERVATION

- Recommendations

Seek additional funding to increase support for developing programs, materials, naturalists.

Deepen business and government partnerships by nurturing mentor programs with students.

Create overarching group to facilitate similar volunteer interest groups.

HINCKLEY RESERVATION

- Recommendations

Design and construct a central ecological facility to: showcase the latest conservation information technologies, develop educational programs for professionals and students, and become a publisher of a parks conservation/educational book line. Only ecological flagship center.

HINCKLEY RESERVATION

Ecological Context

- Boundary
- Inventory

Resources

Forest

Hydrology

Animal Life

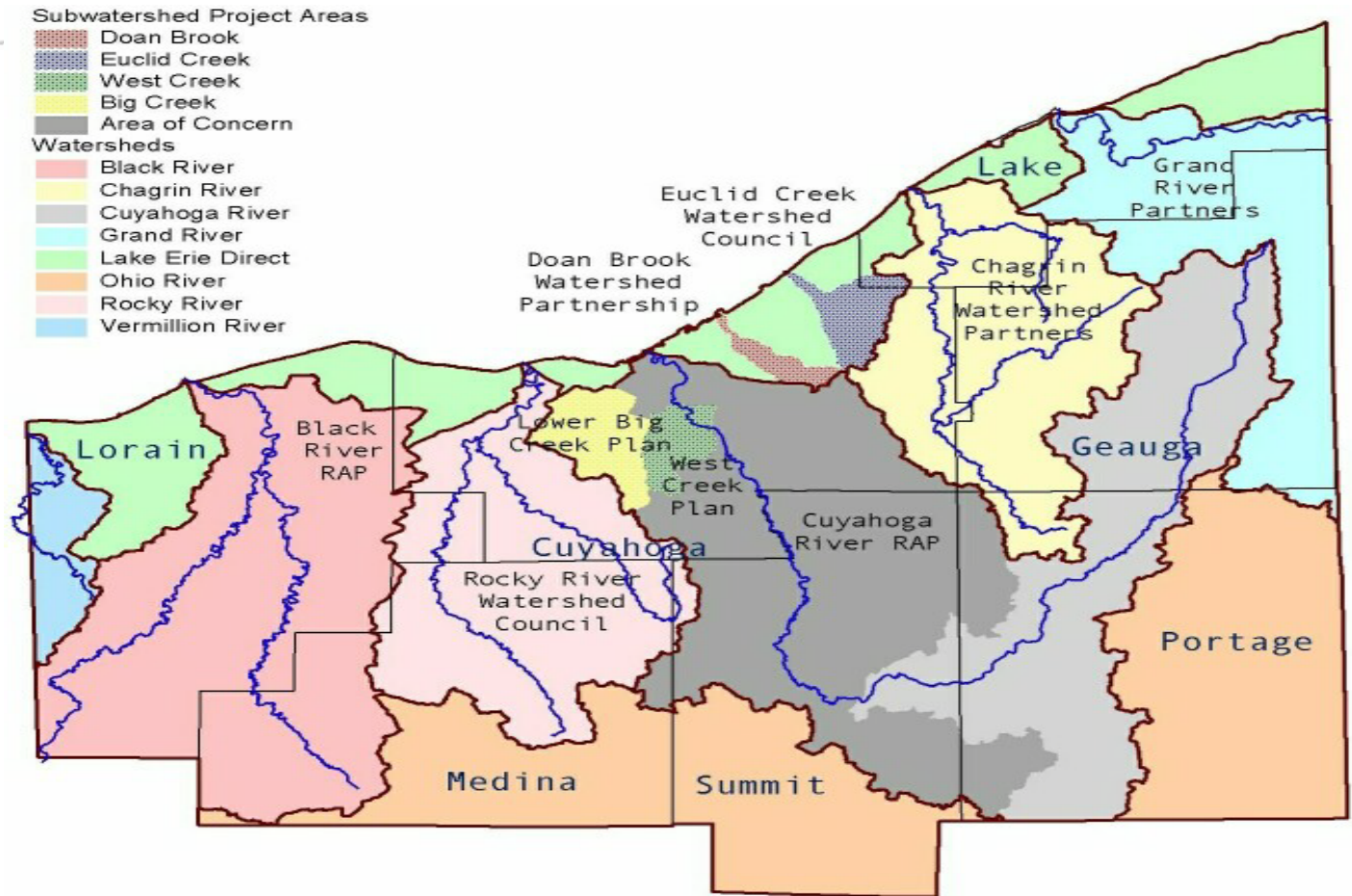
- Stressors
- Ecological Valuation
- Goals

Recommendations



HINCKLEY RESERVATION

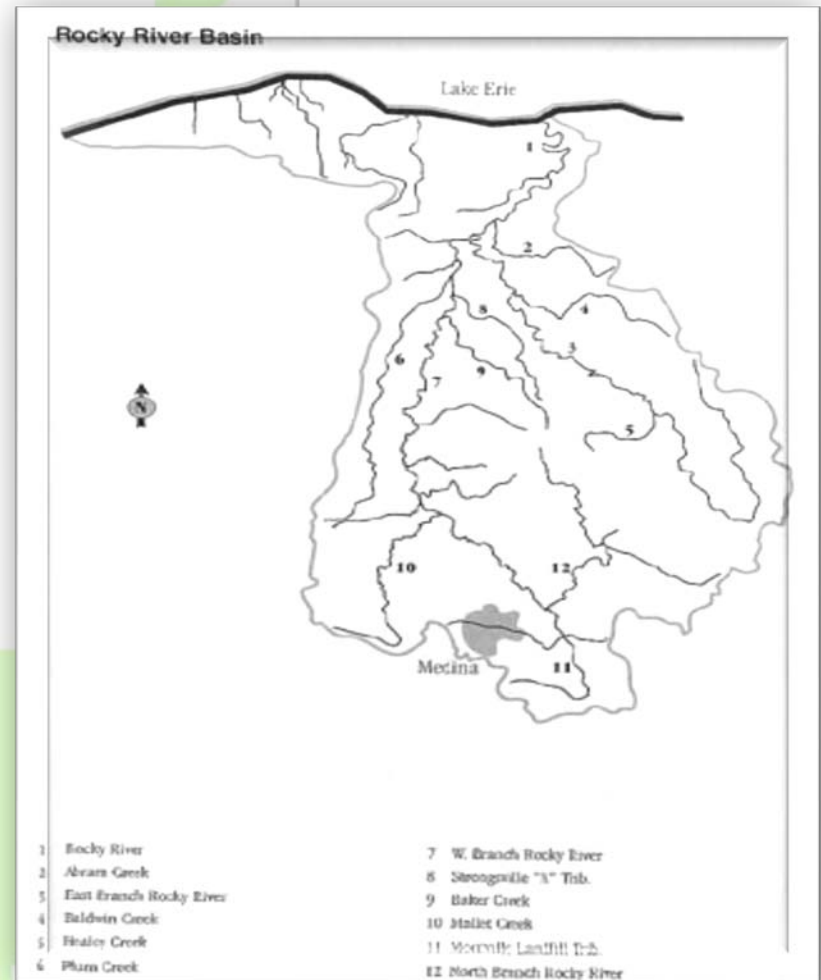
WATERSHEDS OF LAKE ERIE SOUTHERN BASIN



HINCKLEY RESERVATION

Rocky River Configuration

- East Branch #5
- More rural area than to north or west
- Upper reaches including wetlands critical to downstream health
- Encroaching land development concern



HINCKLEY RESERVATION

Inventory Resources

Forest

Abundant Wildlife
Important Bird Area

Hydrology

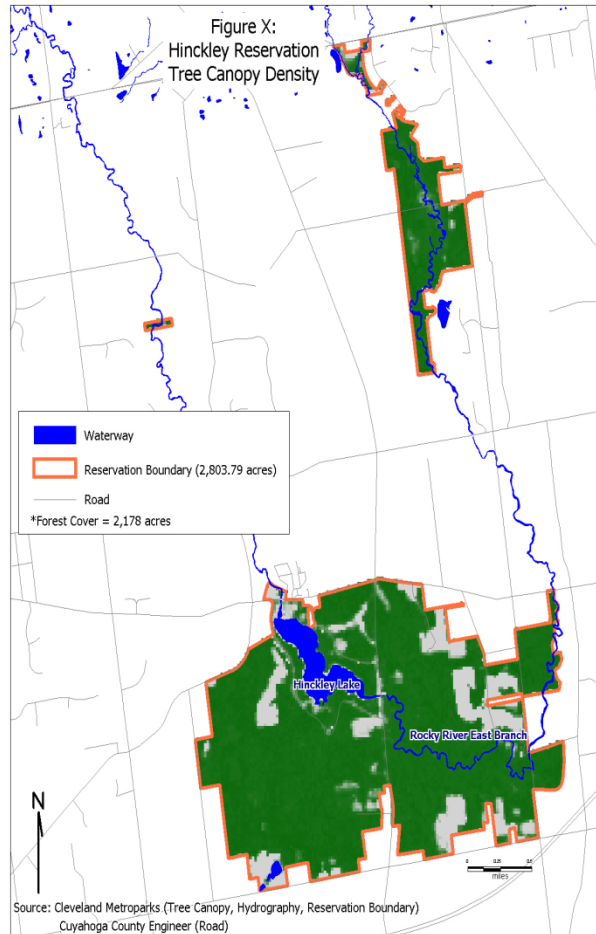
Lake, Stream, River, Marsh

Animal Life

Numerous Species From
Shrew to Deer



HINCKLEY RESERVATION



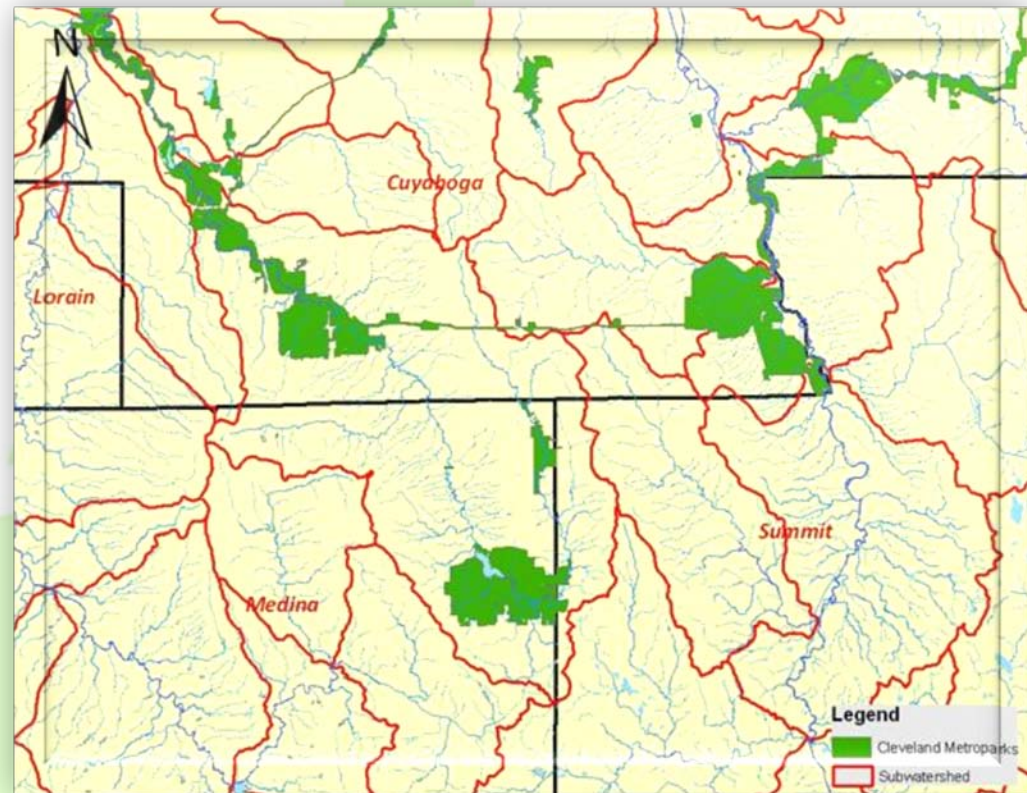
Forest Canopy

- Covers 2178 of 2804 Acres
- Provides Habitat for Rovidess
Habitat for Flora and Fauna
- Largest Intact Forest Edge of
Metroparks
- Ecosystem Benefits Cross
Species

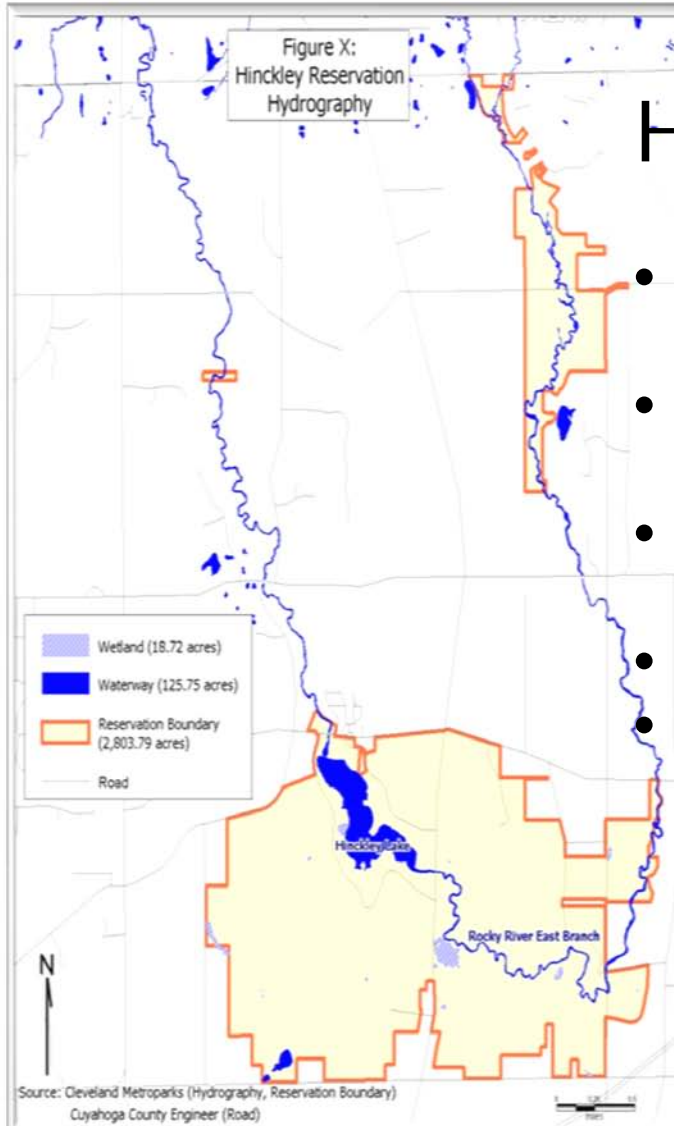
HINCKLEY RESERVATION

Hydrology Overview

- Rocky River
Crosses counties
- River Flows South to North
- Headwaters of east Branch
more Rural
- Park Protects
Large Section of
Riparian Corridor



HINCKLEY RESERVATION

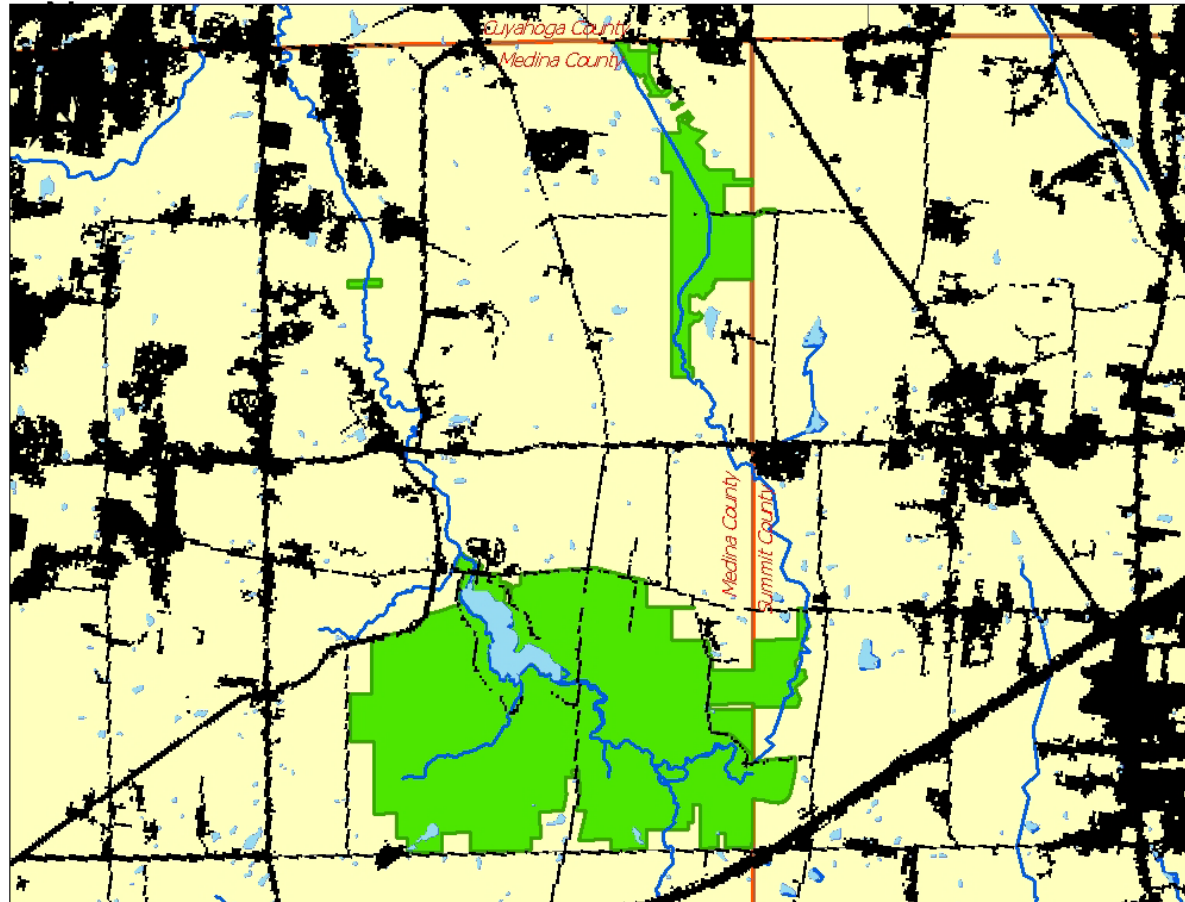


Hydrology

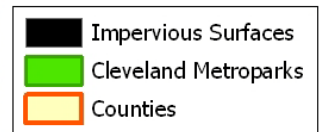
- Maximum elevation 1250 feet
- Watershed Acts as frame of reference for everything within it
- Parts of upper reaches under park guidance
- Protection of watershed
- Protects natural resources

HINCKLEY RESERVATION

Impervious Surfaces Have Minimal Impact



Impervious Surfaces
Hinckley Reservation

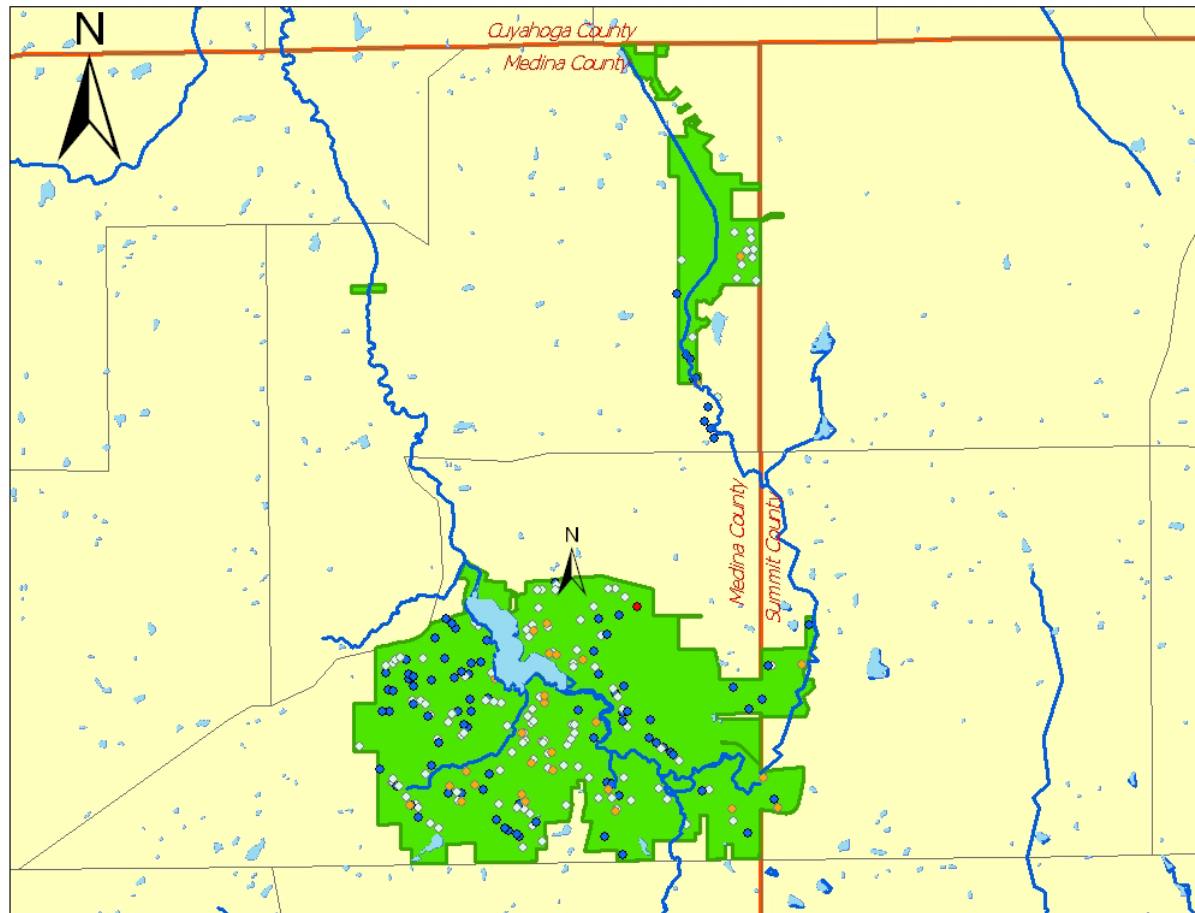


Source:
Spatial Insights, Inc.
Applied Geographic Systems
Cleveland Metroparks

Prepared by:
Planning Studio
Levin College of Urban Affairs
Cleveland State University
Spring 2010

HINCKLEY RESERVATION

Areas of Concern



Primary Headwater Stream: Areas of Concern Hinckley Reservation

- Primary Headwater Stream
Areas of Concern
- Biology Exceeds Expectations
 - Little/No Impact or Ephemeral Stream
 - Possibly Impacted Stream
 - High Potential, Poor Biology
 - Cleveland Metroparks
 - Counties

Source:
Spatial Insights, Inc.
Applied Geographic Systems
Cleveland Metroparks

Prepared by:
Planning Studio
Levin College of Urban Affairs
Cleveland State University
Spring 2010

HINCKLEY RESERVATION

Stressors

- Invasive Plant Species

 - Garlic Mustard

 - Eurasian Buckthorn

 - Phragmites

 - Purple Loosestrife

- Insects

 - Emerald Ash Borer

- Animal

 - White Tailed Deer Rabies

- Hydrology

 - Erosion, Siltation

 - Habitat and Steam Alteration

 - Pollutants

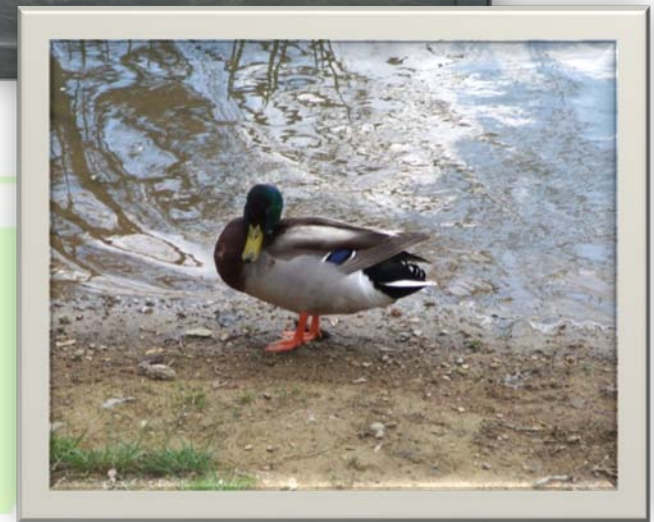
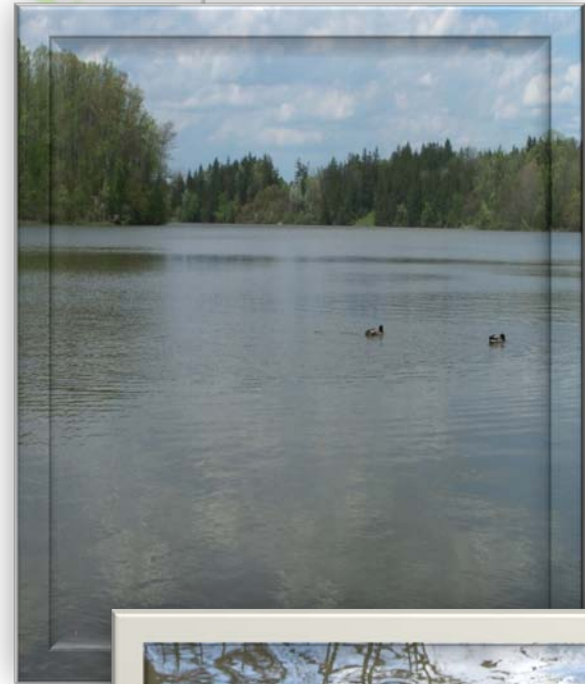


HINCKLEY RESERVATION

Ecological Valuation

- Hydrologic Services
- Carbon Storage
- Air Quality Maintenance
- Storm Water Control
- Biodiversity/Habitat
- Soil Formation/Retention

Total Economic Ecosystem Value
\$18,610,808



HINCKLEY RESERVATION

Goals

- Maintain the 3 tier park mission philosophy
 - Conservation
 - Education
 - Recreation
- Supported by:
 - Continuing and expanding existing program efforts
- Working with Volunteer Base, Interest Groups, and Partnerships

HINCKLEY RESERVATION

Recommendations

- Seek Additional Funding
 - Existing and new programs
 - Materials
 - Staff
- Strengthen Business and Government Partnerships
 - Regional Approach
 - Mentoring Programs
- Create Overreaching Volunteer Entity

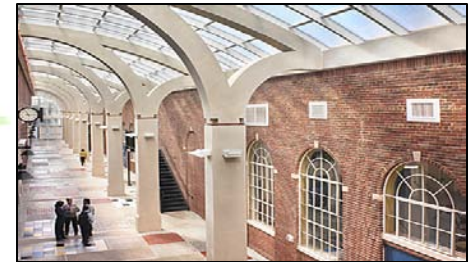


HINCKLEY RESERVATION

Recommendations

Create a Central Regional Ecological Flagship Facility

- Showcase latest conservation information technologies
- Offer programs for professionals, students, community
- Utilize existing Cleveland school, LEED renovation
- Nature Centers are satellites
- Develop Cleveland Metroparks as national conservation
- Brand Cleveland Metroparks as national conservation leader



Alicia Dyer

Jinghan Sun

Martha Catherwood

Troy Ezell

Yan Zheng

ROCKY RIVER RESERVATION

A map of the Rocky River Reservation, showing the river's course through a light green landscape. The river is highlighted in a darker green. The map is framed by a black border. The background of the entire slide is a close-up of autumn leaves in shades of green, yellow, and brown.

ROCKY RIVER RESERVATION

In 1919, William Stinchcomb made his first purchase toward envisioning an 'emerald necklace' within, what is known today as, the Rocky River Reservation.



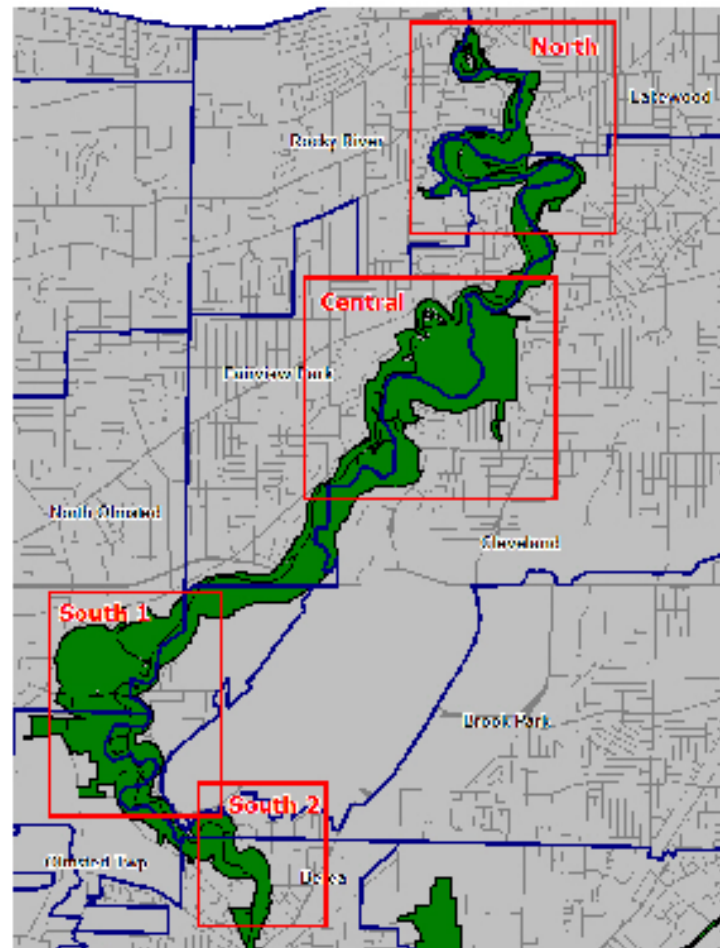
ROCKY RIVER RESERVATION

Built Assets



Rocky River Reservation

Facilities



Rocky River Reservation North

Park Features

- ★ Natural Feature
- ▼ Sledding Area
- ◆ Fishing Area
- Ranger Office
- ★ Refreshments
- Picnic Area
- ▲ Shelter
- Playground
- All Purpose Field
- Ball Field
- ★ Golfing
- Trails
- Building Footprint
- Recreation Facility
- Parking
- Municipal Boundary

Sources:
Cleveland Metropolitan Facility District Website 2011
2001 Aerial Photos Cuyahoga County

Planning Studio
Cleveland State University
Urban College of Urban Affairs
Spring 2010

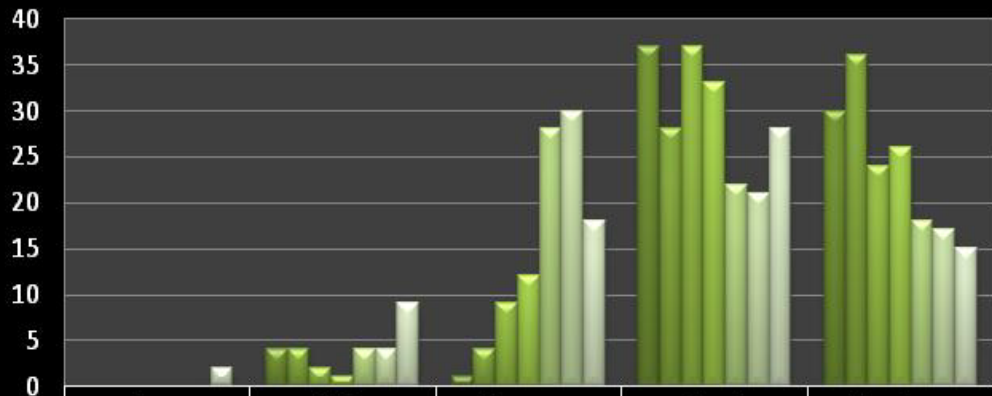


ROCKY RIVER RESERVATION

Evaluation of Assets

Questions 18 - 24: Quality of Services

How would you rank the park in the following areas:

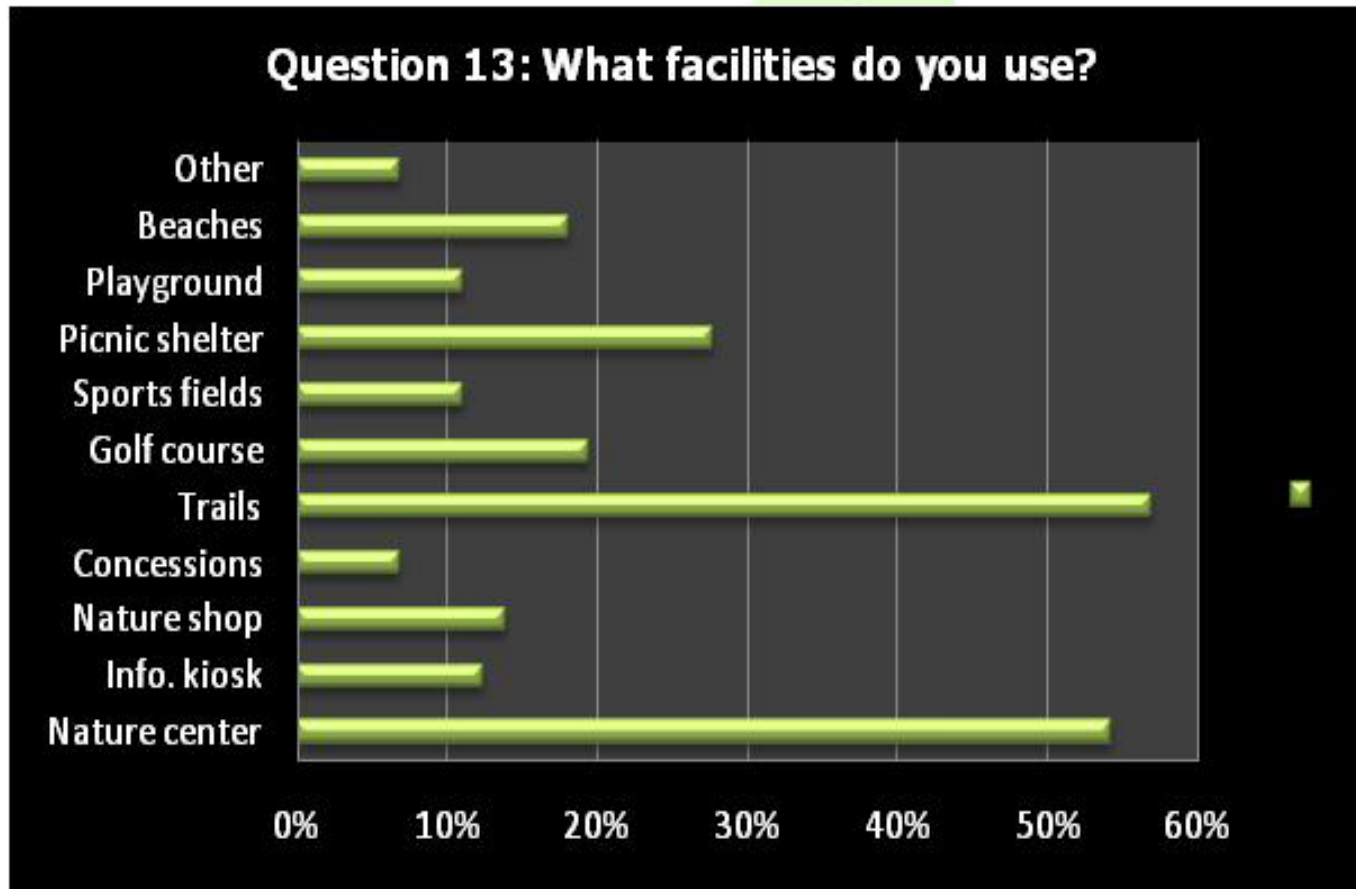


	Poor	Fair	Not sure	Good	Excellent
■ 18. Maintenance	0	4	1	37	30
■ 19. Cleanliness	0	4	4	28	36
■ 20. Safety	0	2	9	37	24
■ 21. Ease of Movement	0	1	12	33	26
■ 22. Educational Programs	0	4	28	22	18
■ 23. Entertainment Programs	0	4	30	21	17
■ 24. Restroom Availability	2	9	18	28	15

Source: CSU-Cleveland Metroparks User Survey

ROCKY RIVER RESERVATION

Evaluation of Assets



Source: CSU-Cleveland Metroparks User Survey

ROCKY RIVER RESERVATION

Social and Recreational Valuation

Social and Recreational Value of Cleveland Metroparks								
Service Provided	Hours/Quantity of Service per year	Number of Participants per Year	Value per service (dollars)	Units	Cost to User per unit in previous column (Dollars)	Consumer Surplus	Total economic value (dollars)	Notes
Non-structured physical fitness (adult) - count only those who exercise at least 3 days per week	N/A	1,786,912	\$10.00	per visit	\$5.00	\$5.00	\$8,934,559	1
Golf (weekend green fees)	N/A	144,344	\$30.18	per round	\$13.16	\$17.02	\$2,456,735	2
Venue rental	53	N/A	\$435.00	per event	\$150	\$285	\$15,105	3

Total Economic Impact	\$11,406,399
-----------------------	--------------

Rocky River Reservation has
An estimated social and recreational
value of **\$11,406,399**

ROCKY RIVER RESERVATION

Stressors on the Physical Environment

- Encroachment
- Flooding
- Bridle trails
- Commuter traffic
- Erosion
- Sharing the Valley Parkway
- Limited Revenue Streams



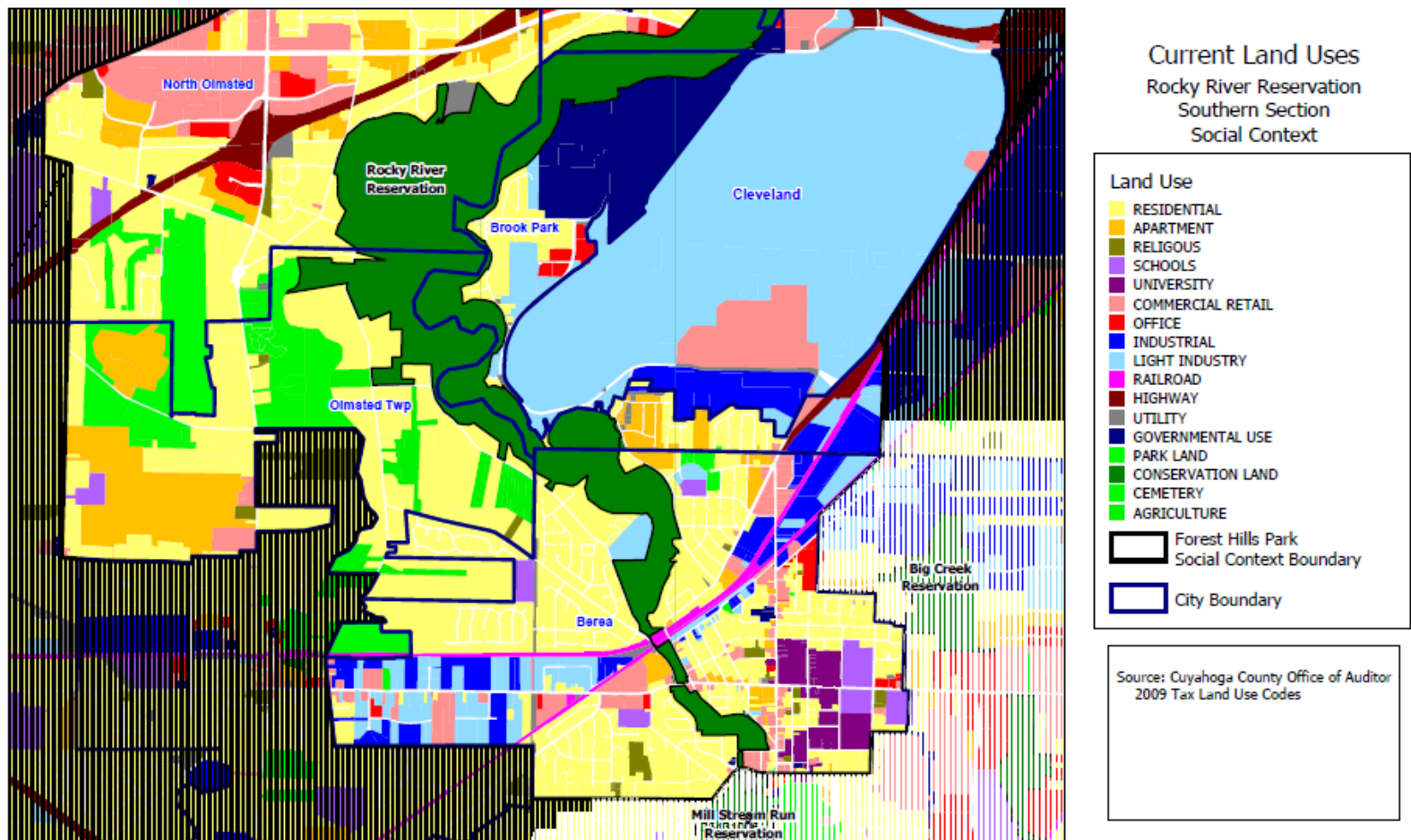
ROCKY RIVER RESERVATION

Goals for Built Assets and Services

1. Provide additional trail connectors into the park.
2. Promote the use of bicycles and reduce the necessity of automobile traffic by offering seasonal bicycle rentals at key locations.
3. Guide the proposed renovation to Mastick Woods Golf Course around design principles that incorporate the natural environment in construction and management techniques.
4. Supplement the number of drinking fountains available along the all purpose trail system.
5. Continue to upgrade existing portable toilets to permanent restroom facilities.

ROCKY RIVER RESERVATION

Social-Human Context Current Land Uses



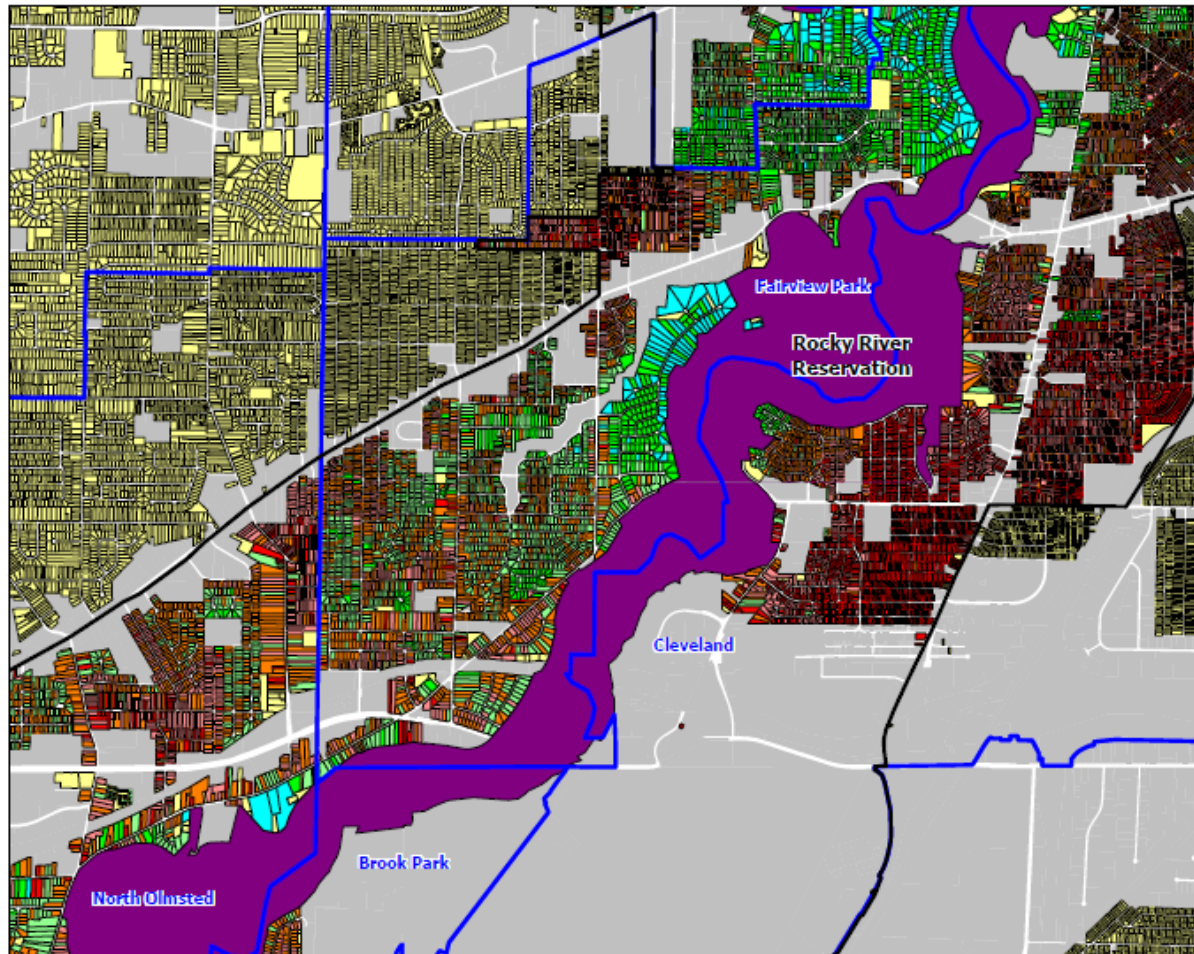
ROCKY RIVER RESERVATION

Housing Characteristics

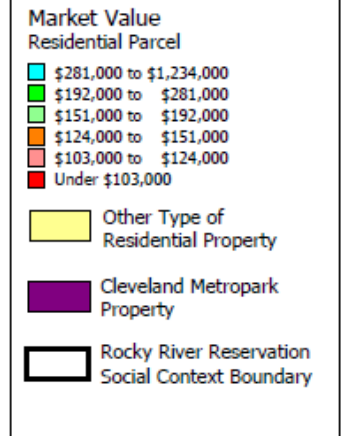


ROCKY RIVER RESERVATION

Current Residential Property Values



Residential Property Values
Rocky River Reservation
Middle Section
Social Context



Source: Cuyahoga County Office of Auditor
2009 Parcel Market Values

ROCKY RIVER RESERVATION

Economic Valuation

Economic Variables		
Prop Tax Rate	2.31%	
Residential Properties		
Distance (ft)	Within 200	1105
	201 - 400	1792
	401 - 600	1859
	601 - 800	1895
	801 - 1,000	1910
	1,001 - 1,200	1946
	1,201 - 1,500	2499

Rocky River Reservation has an estimated economic value of \$4,823,094.

		1990\$	2008\$	Normalizer	TOTAL		CALC	Prop Tax
Distance (ft)	Within 200	\$ 11,210	\$ 18,466	0.95	\$ 17,543		\$ 19,384,684	\$ 447,786
	201 - 400	\$ 10,216	\$ 16,829	0.95	\$ 15,988		\$ 28,649,690	\$ 661,808
	401 - 600	\$ 12,621	\$ 20,791	0.95	\$ 19,751		\$ 36,717,946	\$ 848,185
	601 - 800	\$ 11,269	\$ 18,564	0.95	\$ 17,636		\$ 33,419,841	\$ 771,998
	801 - 1,000	\$ 8,981	\$ 14,794	0.95	\$ 14,054		\$ 26,843,713	\$ 620,090
	1,001 - 1,200	\$ 8,126	\$ 13,386	0.95	\$ 12,717		\$ 24,746,698	\$ 571,649
	1,201 - 1,500	\$ 9,980	\$ 16,440	0.95	\$ 15,618		\$ 39,029,382	\$ 901,579
						Total	\$ 208,791,953	\$ 4,823,094

ROCKY RIVER RESERVATION

Collaborative Partnerships

1. Rocky River Watershed Partnership
2. Western Cuyahoga Audubon Society
3. Community Partnerships
4. Public-Private Partnerships



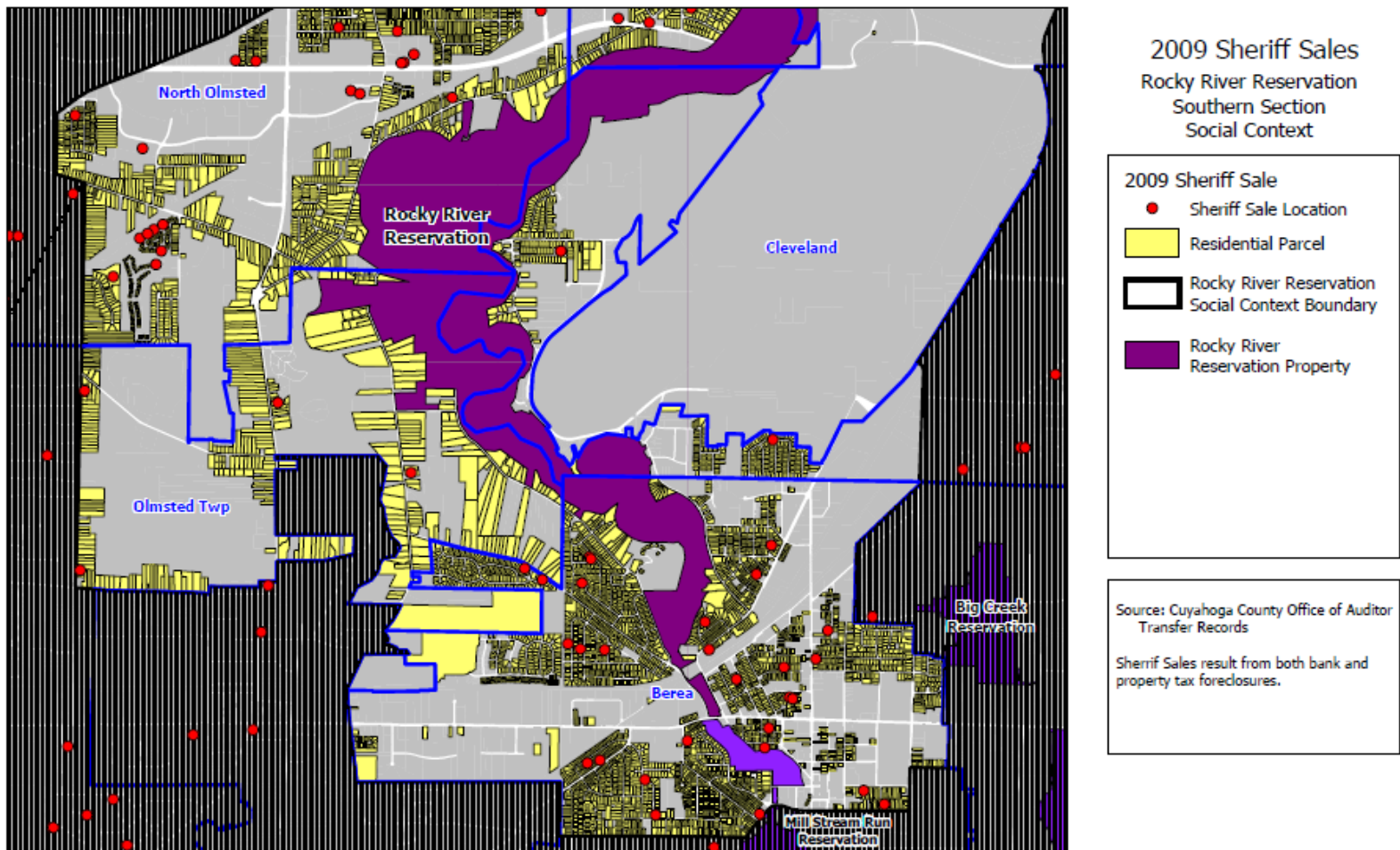
ROCKY RIVER RESERVATION

Human – Social Stressors

- Increasing Urbanization
- Storm Water Run-off
- Pollution
- Commercial Development
- Foreclosures
- Degradation of Water Quality

ROCKY RIVER RESERVATION

Foreclosure Impact



ROCKY RIVER RESERVATION

Social-Human Boundary Goals

1. Expand their list of stakeholders and further an increased sense of responsibility and value toward natural resource protection.
2. Provide ongoing education with neighboring communities regarding land use regulations that reduce negative impact upon the Rocky River Reservation. Working with for-profit and non-profit partners can aid the Cleveland Metroparks in reaching a wide audience.
3. In this time of high foreclosures and unemployment, investigate workforce development opportunities that share the professional talents of Cleveland Metroparks staff with community youths while instilling a sense of stewardship

ROCKY RIVER RESERVATION

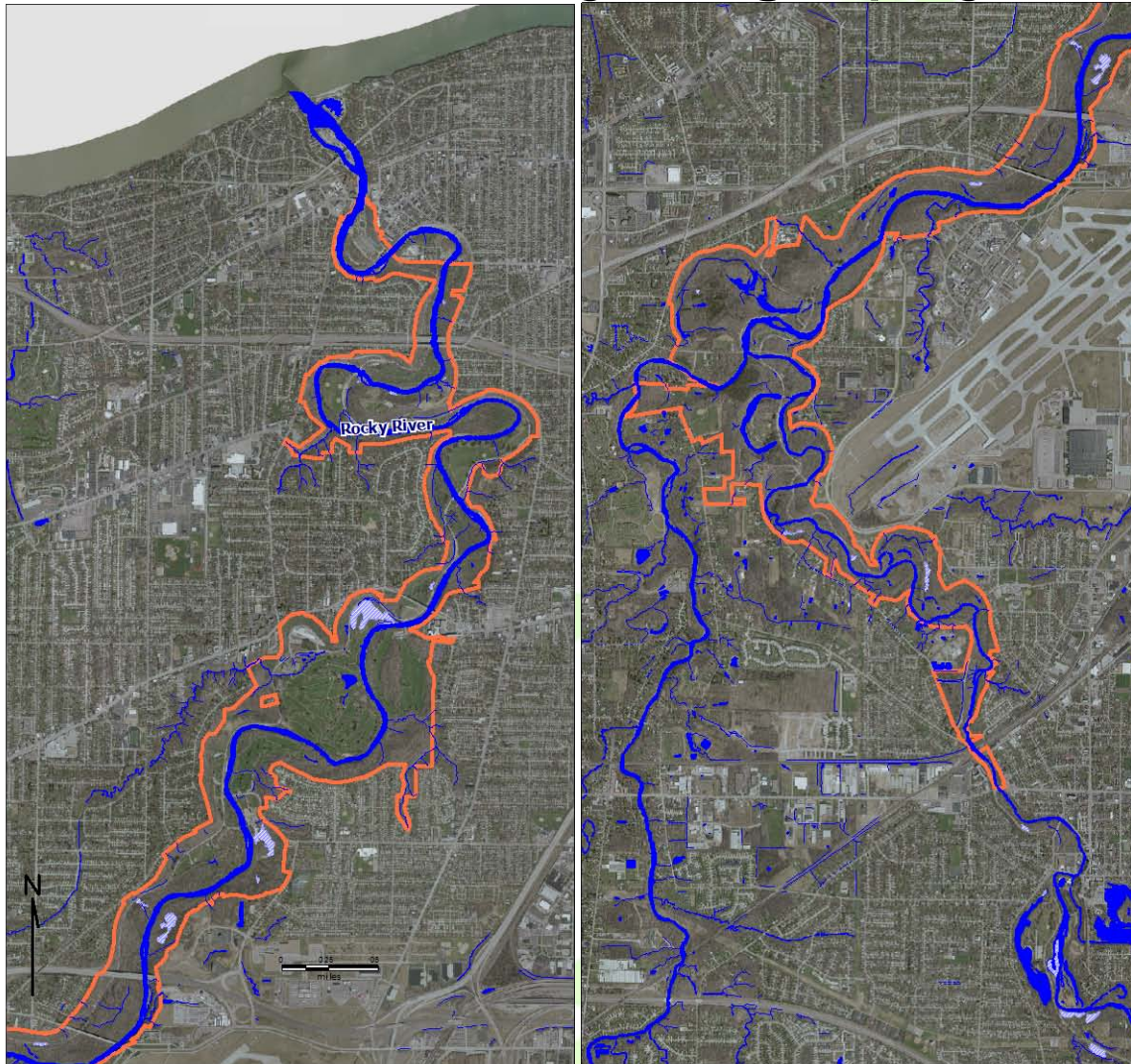
Ecological Context

Located in the Rocky River Watershed

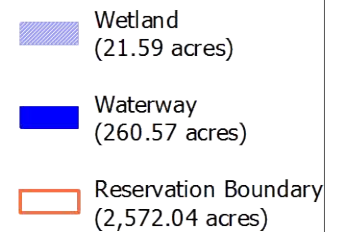


ROCKY RIVER RESERVATION

Hydrography



Hydrography
Rocky River Reservation



Source: Cleveland Metroparks
Hydrography,
Reservation Boundary

Prepared by:
Planning Studio
Levin College of Urban Affairs
Cleveland State University
Spring 2010

ROCKY RIVER RESERVATION

Forest and Tree Canopy



ROCKY RIVER RESERVATION

Valuation of Resources

Value of Ecosystem Services offered by Cleveland Metroparks					
Ecosystem Type	Service Provided	Reservation Name	Number of acres of Ecosystem type	Value per acre of service	Total economic value of service
Forest	Hydrologic services	Rocky River	1,692	\$65/acre	\$128,233
Forest	Carbon storage	Rocky River	1,692	250 ST/acre at \$54.27/ST carbon	\$26,766,067
Forest	Air quality maintenance	Rocky River	1,692	81 lb/ac/yr at \$2.35/lb	\$375,524
Forest	Stormwater Control	Rocky River	1,692	2,835 cu ft/ac at \$2.05/cu ft	\$11,465,464
Forest	Biodiversity/Habitat	Rocky River	1,692	\$923/ac/yr	\$1,820,901
Forest	Soil formation/retention	Rocky River	1,692	\$5/ac/yr	\$9,864
Annual Value:					\$13,671,753
Total:					\$40,566,053

Rocky River Reservation has an estimated resource value of **\$ 40,566,053**

ROCKY RIVER RESERVATION

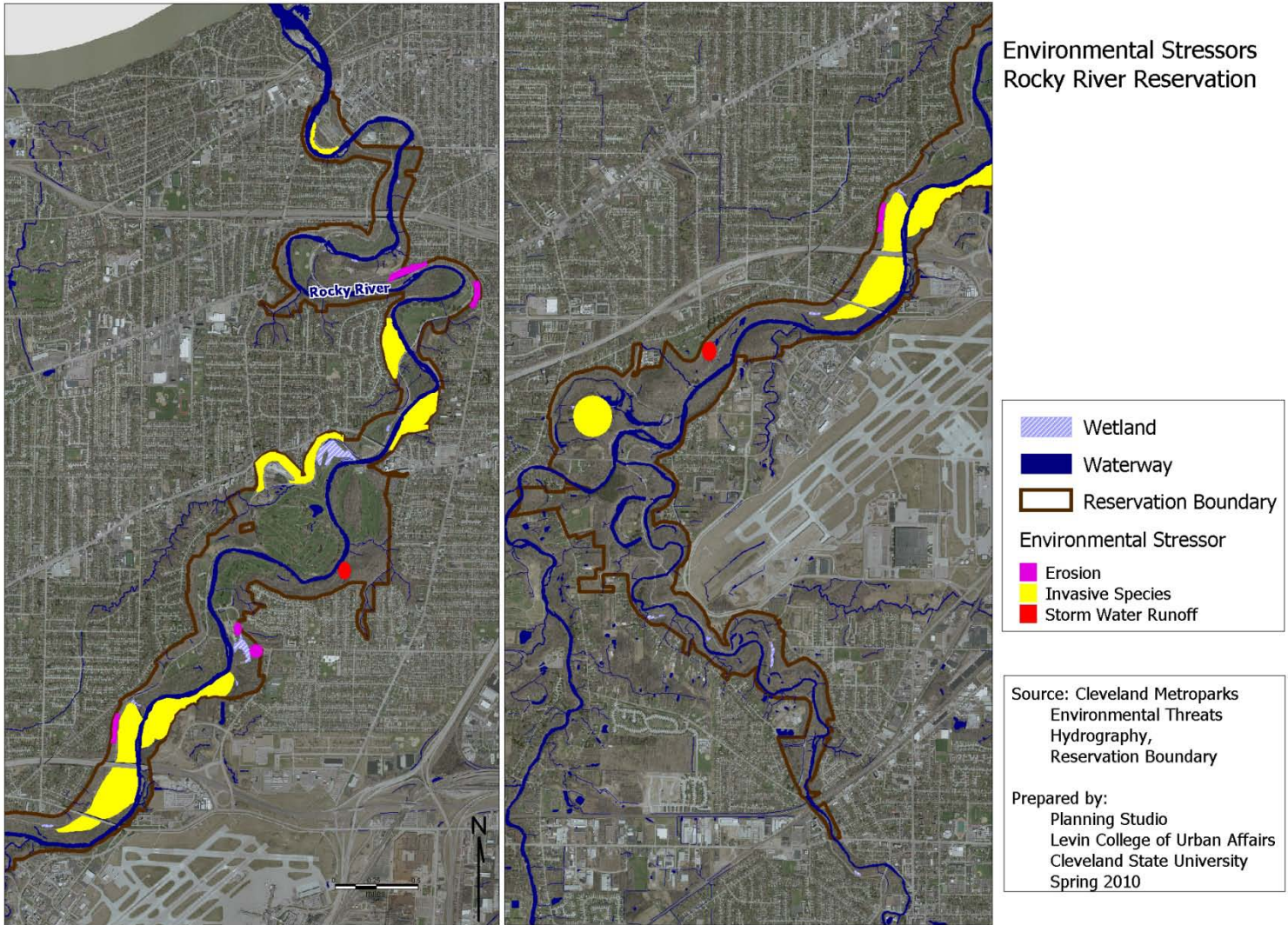
Ecological Stressors

- Storm Water Maintenance
- Emerald Ash Borer
- Deer Population
- Invasive Species



ROCKY RIVER RESERVATION

Threatened Areas Map



ROCKY RIVER RESERVATION

Ecological Boundary Goals

1. Increase the stewardship of the Rocky River Watershed.
2. Promote effective storm water management practices.
3. Invasive specie removal.
4. Clearly identify those areas that require intensive management techniques.



ROCKY RIVER RESERVATION

Policy Recommendations

- Establish Mastick Woods Golf Course as a Leader in Eco-Friendly Recreation
- Focusing on Community Workforce Development Partnerships to Enhance the Region



FOREST HILL PARK

Andrew Sheridan

Heather Furman

Julia Ferguson

Karen Copeland

FOREST HILL PARK

History

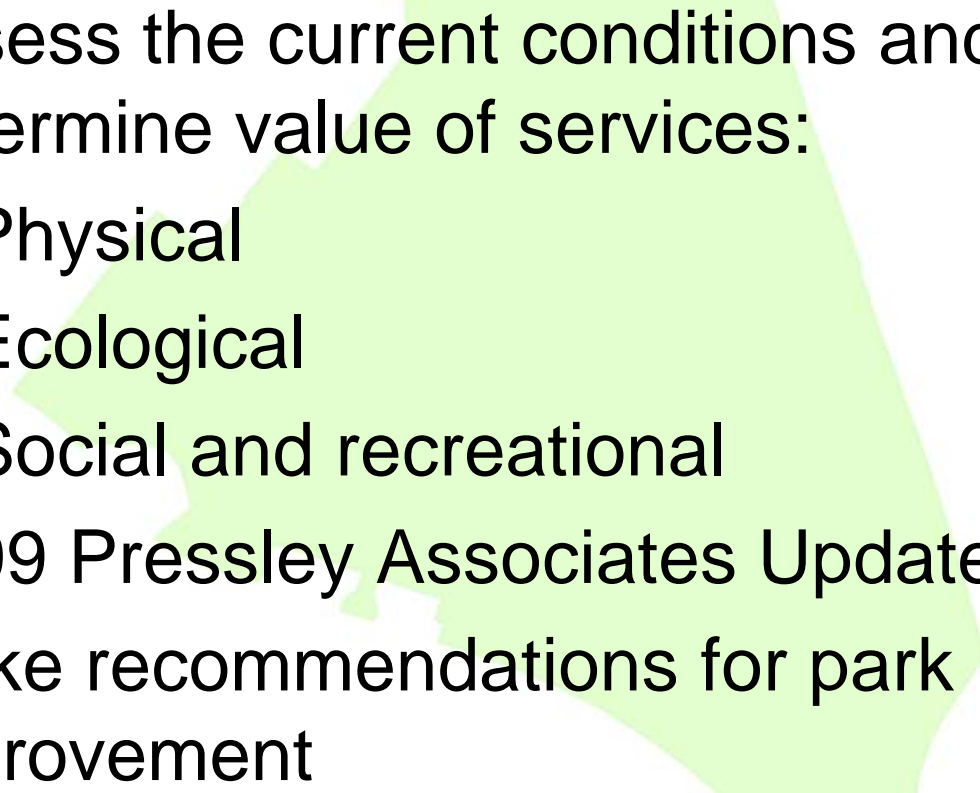
- Originally the summer retreat of John D. Rockefeller
- Rockefeller, Jr. donated the property for institutional and park uses
- A.D. Taylor completed a design for the park in 1938
- The park opened for public use in 1942





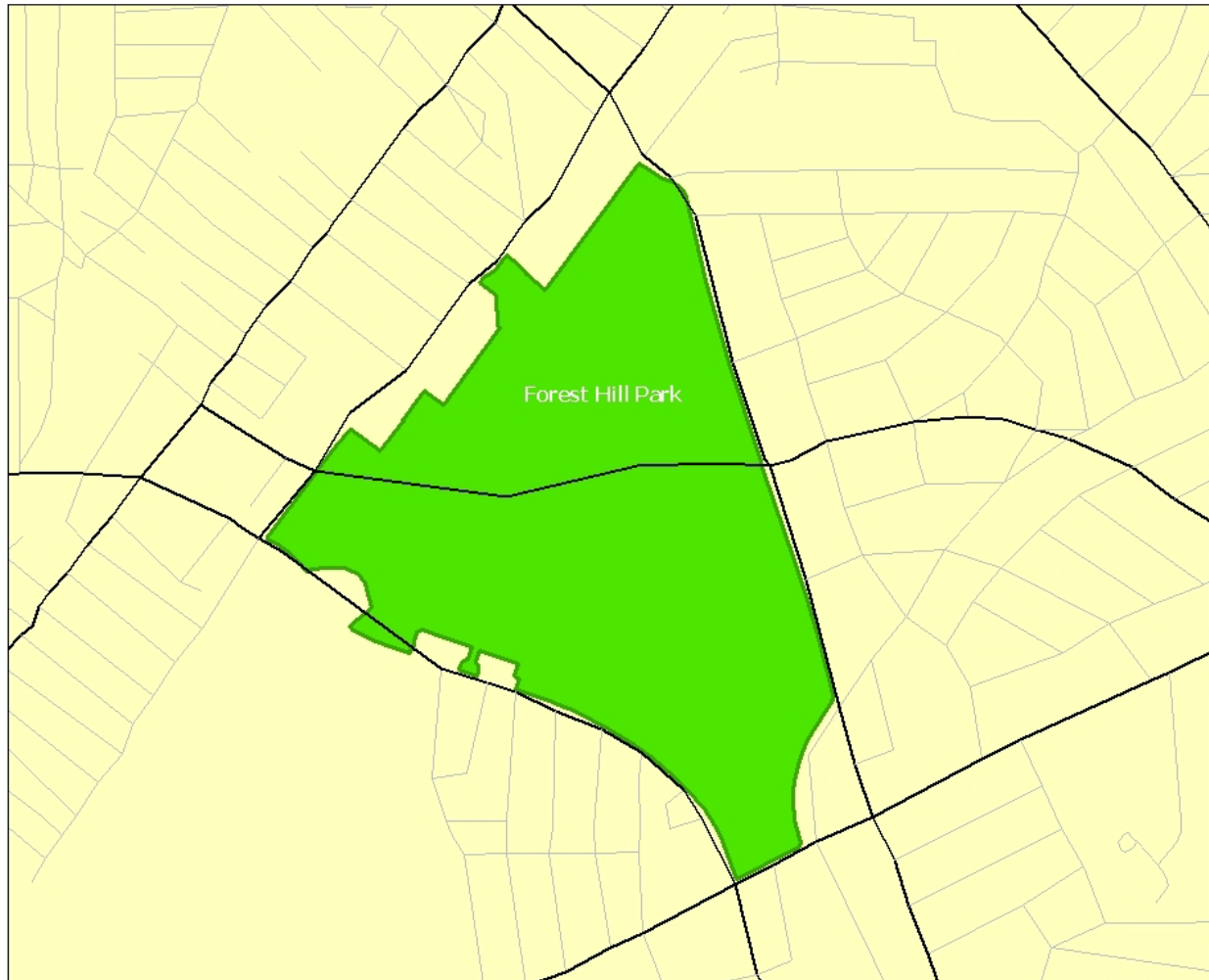
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Project Objectives

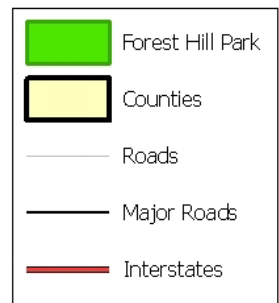
- Assess the current conditions and determine value of services:
 - Physical
 - Ecological
 - Social and recreational
 - 1999 Pressley Associates Updated Plan
 - Make recommendations for park improvement
- 

FOREST HILL PARK

Park Boundary



Forest Hill Park



Source:
Spatial Insights, Inc.
Applied Geographic Systems
Cleveland Metroparks

Prepared by:
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Levin College of Urban Affairs
Cleveland State University
Spring 2010

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Physical Assets: Accessibility



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Physical Assets: Signage and Wayfinding



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Physical Assets: Paths, Trails, & Picnic Areas



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Physical Assets: Buildings and Recreation Structures



FOREST HILL PARK

Physical Assets: Buildings and Recreation Structures



FOREST HILL PARK

Physical Assets: Buildings and Recreation Structures



FOREST HILL PARK

Physical Assets: Buildings and Recreation Structures



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Physical Goals Moving Forward

- Regular park maintenance
- Improved and consistent signage
- Connectivity: Cain Park, Cumberland Park, Lakeview Cemetary, Rockefeller Park
- Parking lot analysis – oversized & underused
- Improved pedestrian safety and access – especially on East Cleveland Side

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Physical Goals Moving Forward, Cont.

- Development of new recreational opportunities
 - Mountain bike trail
 - Improved soccer facility

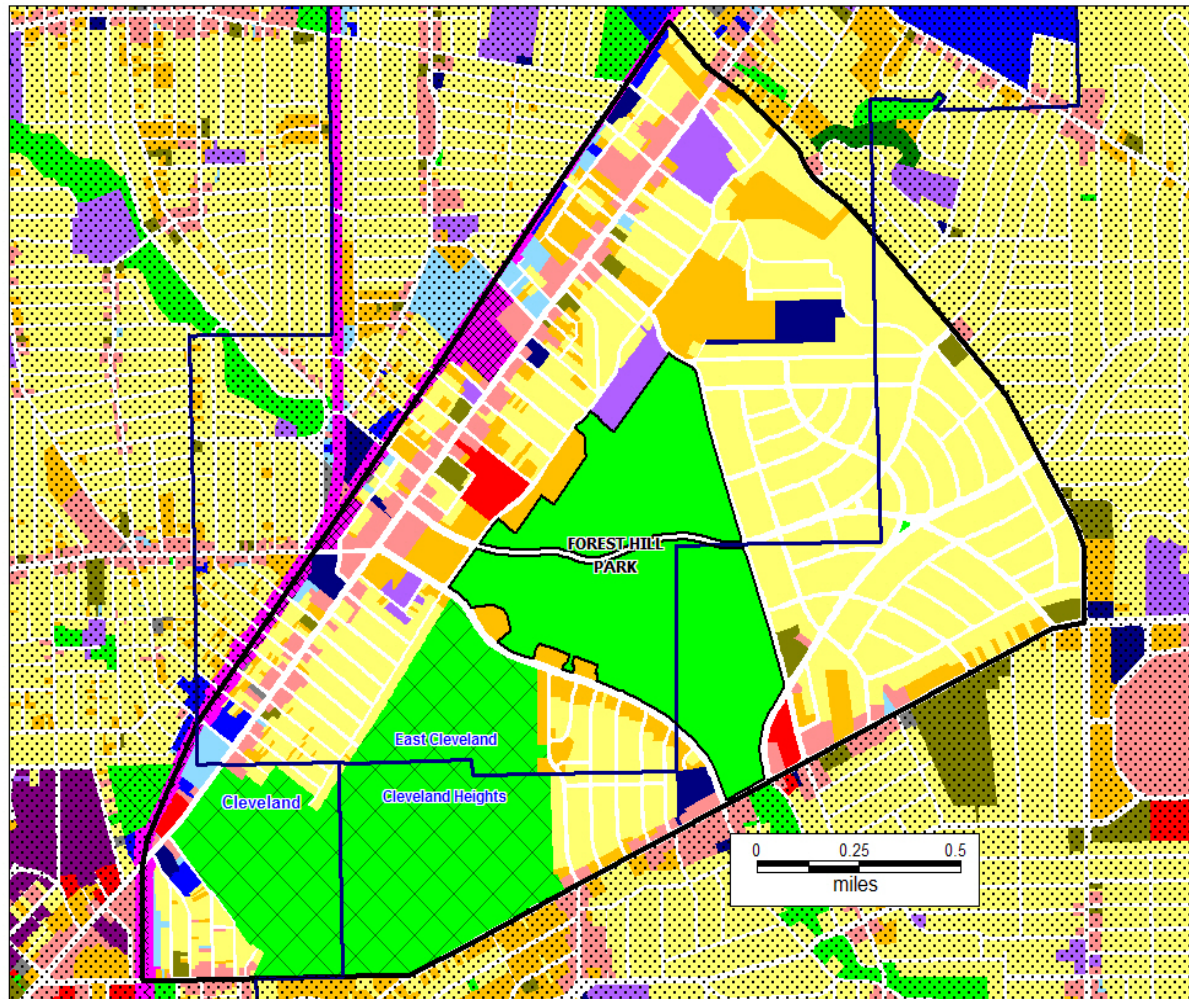
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Social Context

- 3 census block groups in City of Cleveland
- 11 census blocks groups in Cleveland Heights
- 19 census block groups in East Cleveland
- 6 bus lines, Rapid Redline and Healthline BRT within walking distance

FOREST HILL PARK

Adjacent Land Uses



Current Land Uses Forest Hill Park Social Context Boundary

Land Use

- RESIDENTIAL
- APARTMENT
- RELIGIOUS
- SCHOOLS
- UNIVERSITY
- COMMERCIAL RETAIL
- OFFICE
- INDUSTRIAL
- LIGHT INDUSTRY
- RAILROAD
- TRANSIT RAIL
- HIGHWAY
- UTILITY
- GOVERNMENTAL USE
- PARK LAND
- CONSERVATION LAND
- CEMETERY

- Forest Hill Park Social Context Boundary
- City Boundary

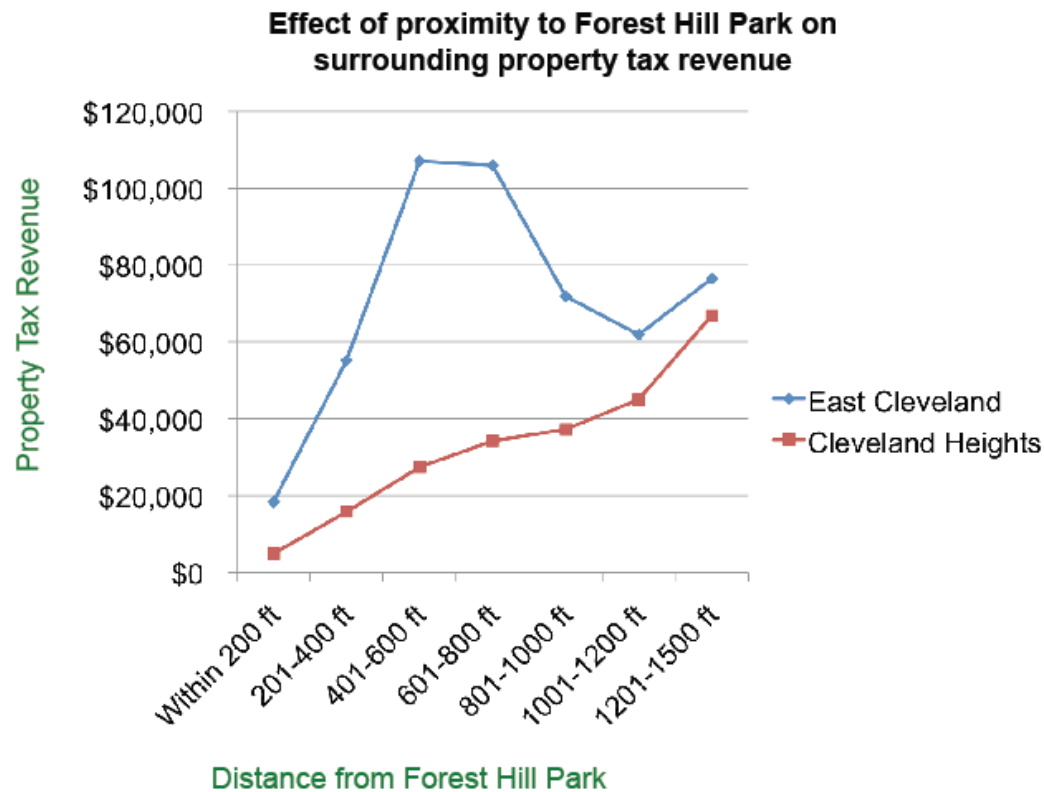
Sources:
Cuyahoga County Office of Auditor
2009 Tax Land Use Codes

Planning Studio
Cleveland State University
Levin College of Urban Affairs
Spring 2010



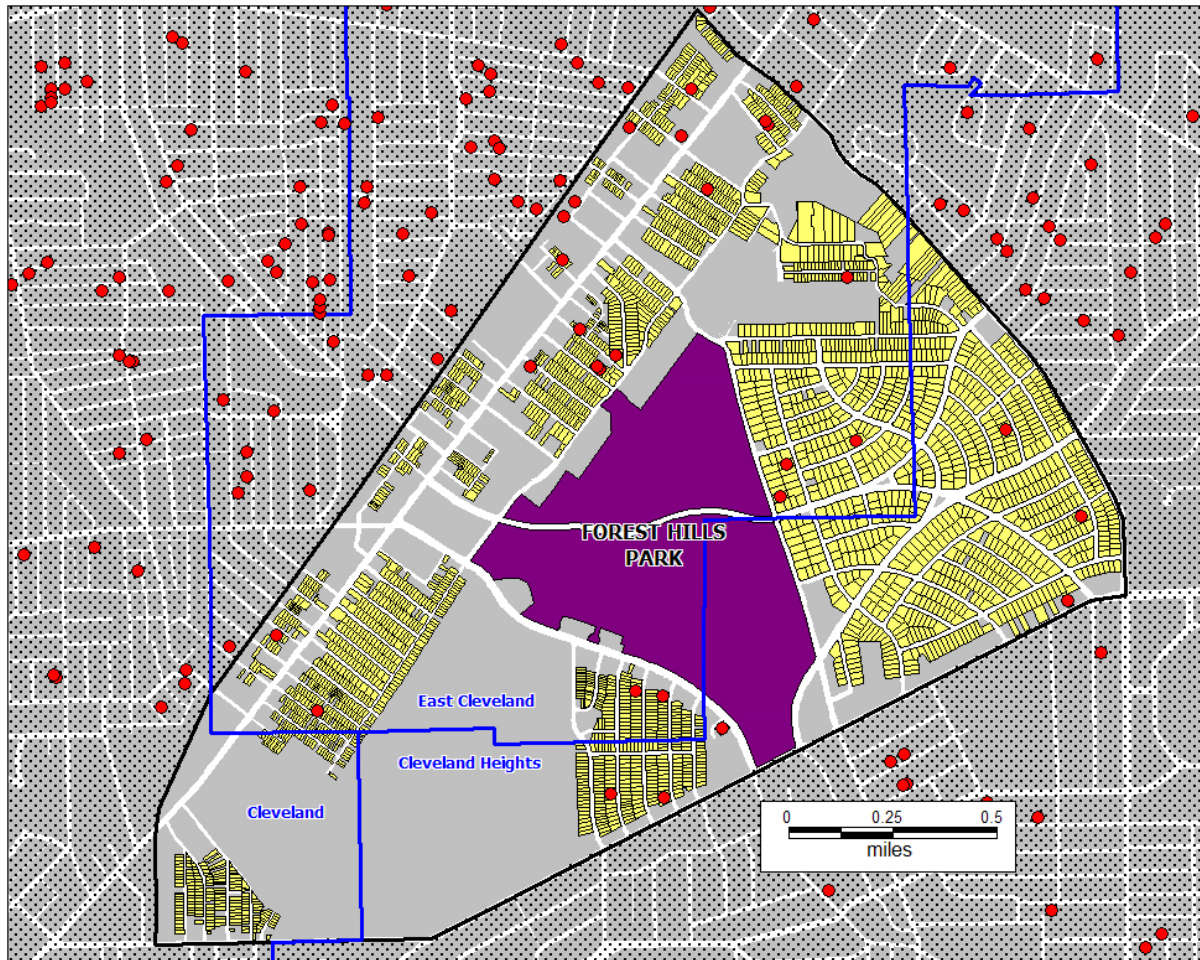
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Property Tax Valuation Model



FOREST HILL PARK

Foreclosure Trends



1990 Sheriff Sales
Forest Hill Park
Social Context Boundary

- 1990 Sheriff Sale
- Sheriff Sale Location (30)
 - Residential Parcel
 - ▭ Forest Hill Park Social Context Boundary
 - Forest Hill Park Property
 - ▭ Municipal Boundary

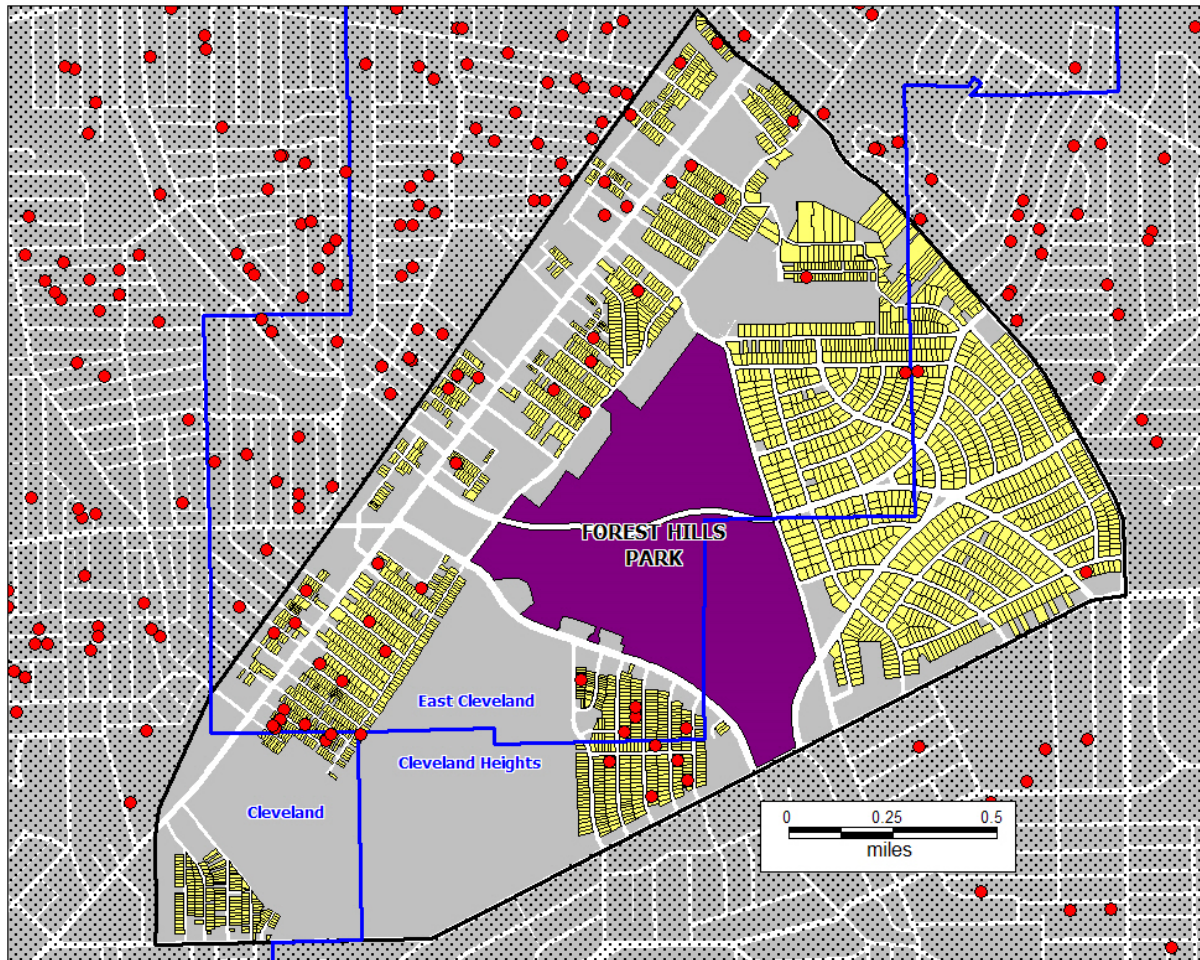
Sources:
Cuyahoga County Office of Auditor
Transfer Records

Planning Studio
Cleveland State University
Levin College of Urban Affairs
Spring 2010



FOREST HILL PARK

Foreclosure Trends



2000 Sheriff Sales
Forest Hill Park
Social Context Boundary

- 2000 Sheriff Sale
- Sheriff Sale Location (48)
 - Residential Parcel
 - ▭ Forest Hill Park Social Context Boundary
 - Forest Hill Park Property
 - ▭ Municipal Boundary

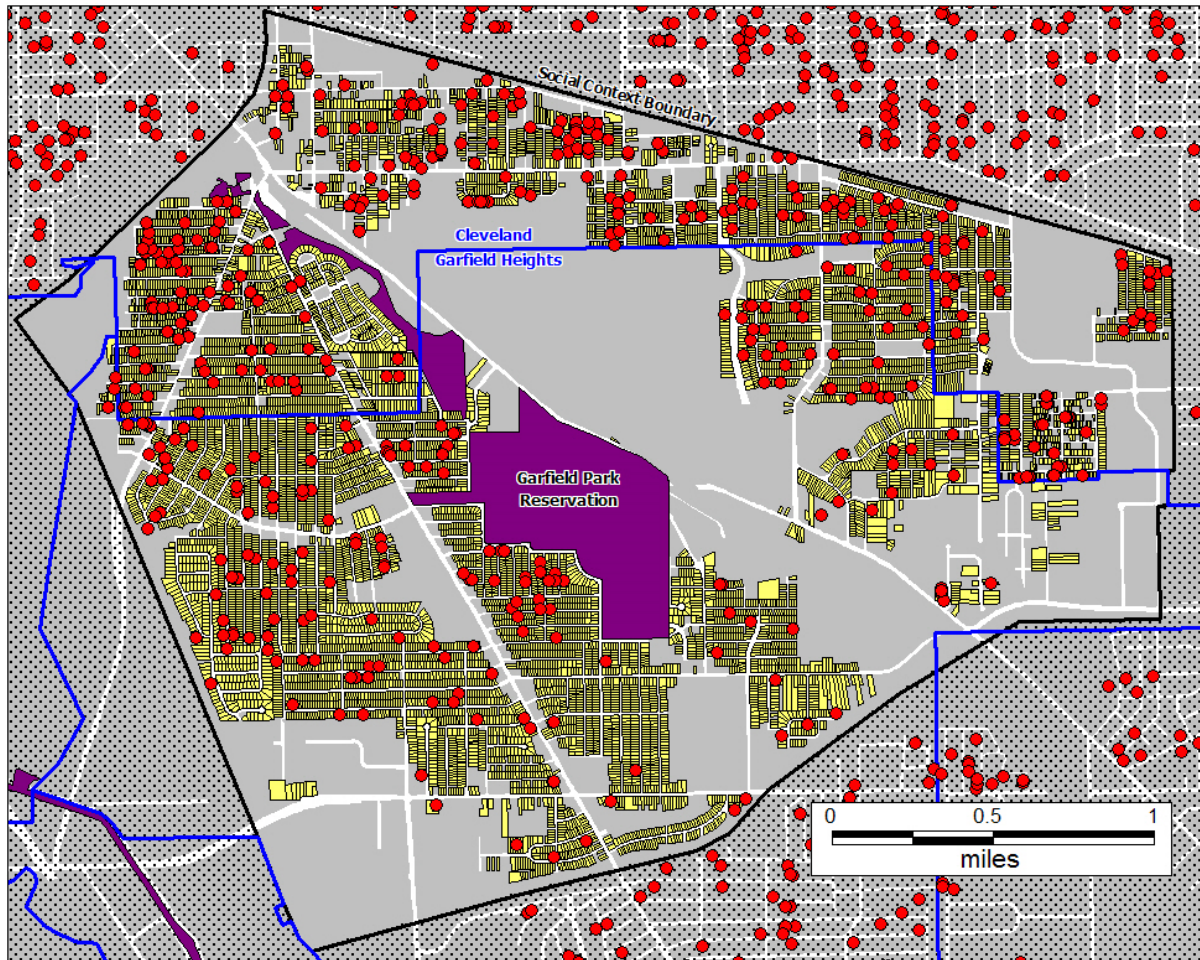
Sources:
Cuyahoga County Office of Auditor
Transfer Records

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Foreclosure Trends



2008 Sheriff Sales
Garfield Park Reservation
Social Context Boundary

2008 Sheriff Sale

- Sheriff Sale Location (467)
- Residential Parcel
- ▭ Garfield Park Reservation Social Context Boundary
- Garfield Park Reservation Property
- ▭ Municipal Boundary

Sources:
Cuyahoga County Office of Auditor
Transfer Records

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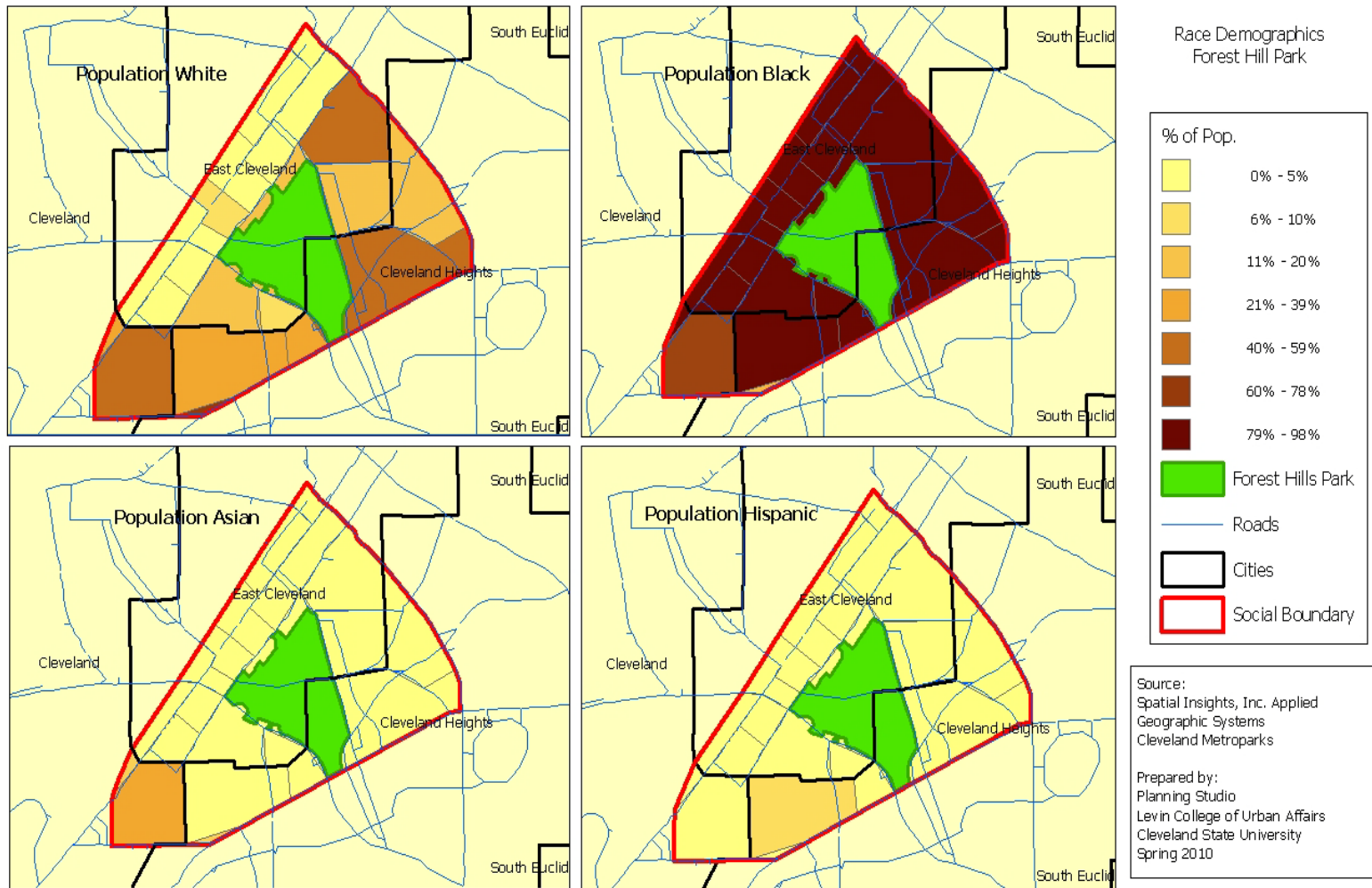
FOREST HILL PARK

Key Demographic Information by City

	Population	Average household size	Median Age	Percent black population	Percent of population 25+ with bachelors	Unemployment Rate	Average household income	Percent of households renter occupied
Cleveland	3,624	1.76	31.48	32.53%	10.93%	11.28%	\$26,604	84.02%
Cleveland Heights	8,938	2.22	37.60	41.90%	17.32%	5.60%	\$66,721	63.30%
East Cleveland	12,255	2.41	36.33	91.46%	5.92%	18.62%	\$32,448	70.37%
Entire boundary area	24,817	2.29	35.80	65%	10.75%	13.61%	\$43,341	70.11%

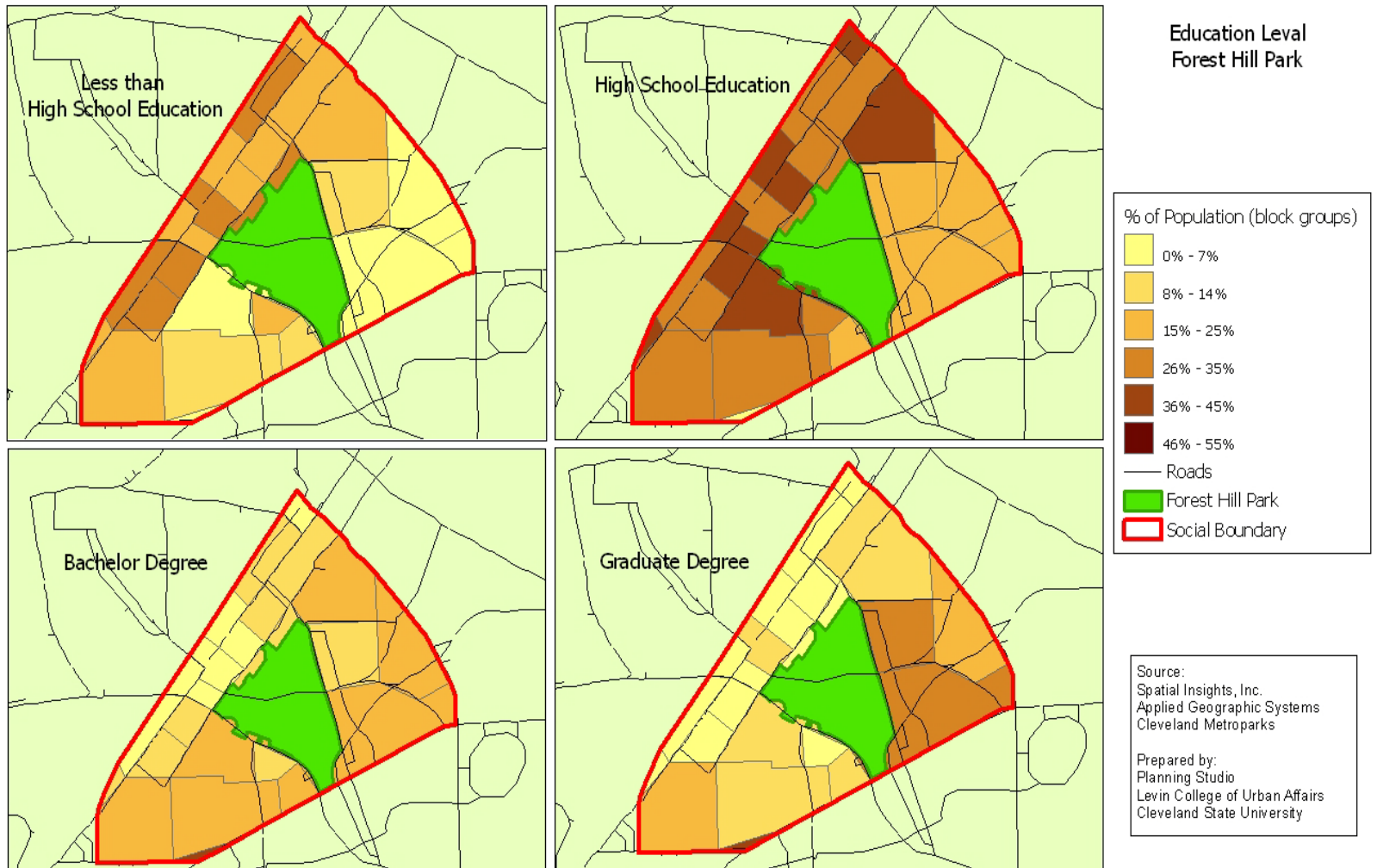
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Race Map



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Education Map





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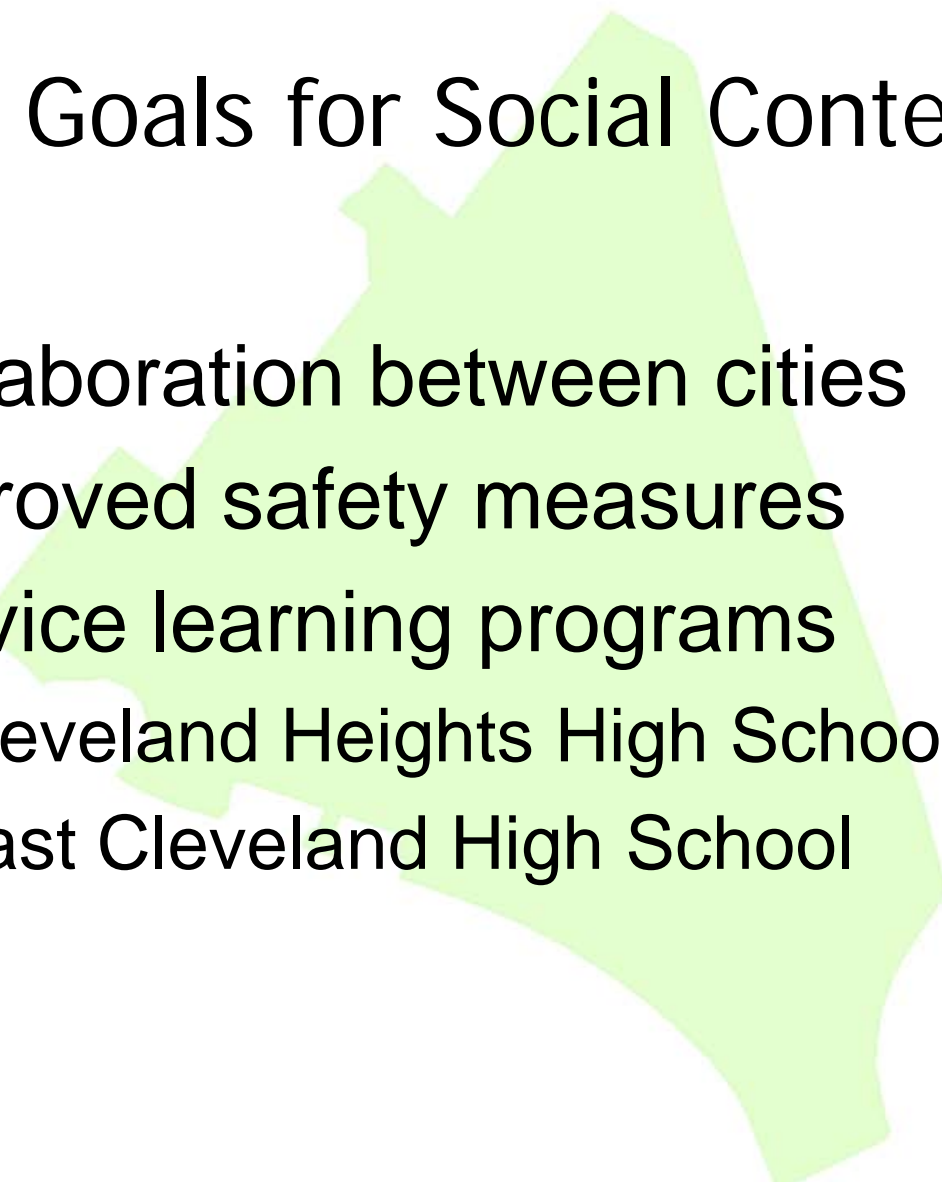
Community Groups and Gov't Agencies

- Friends of Forest Hill Park
- East Cleveland Parks Association
- East Cleveland Parks and Recreation
- Cleveland Heights Parks and Recreation

A vertical strip on the left side of the slide shows a close-up of several autumn leaves in shades of yellow, orange, and brown. The leaves have prominent veins and some serrated edges.

FOREST HILL PARK

Goals for Social Context

- 
- A light green, semi-transparent outline of the city of Cleveland is centered in the background of the slide, behind the text.
- Collaboration between cities
 - Improved safety measures
 - Service learning programs
 - Cleveland Heights High School
 - East Cleveland High School

FOREST HILL PARK

Ecological Context: Valuation Model





FOREST HILL PARK

Ecological Context: Valuation Model

- 259.9 total acres, 109.2 acres of protected forest
- Forested areas provide \$832,038 annually in services
 - Air quality maintenance
 - Stormwater control
 - Biodiversity and habitat creation
 - Soil formation
- Additional \$1.7 million in carbon storage services and \$8,272 in hydrological services are provided over the life of the forest

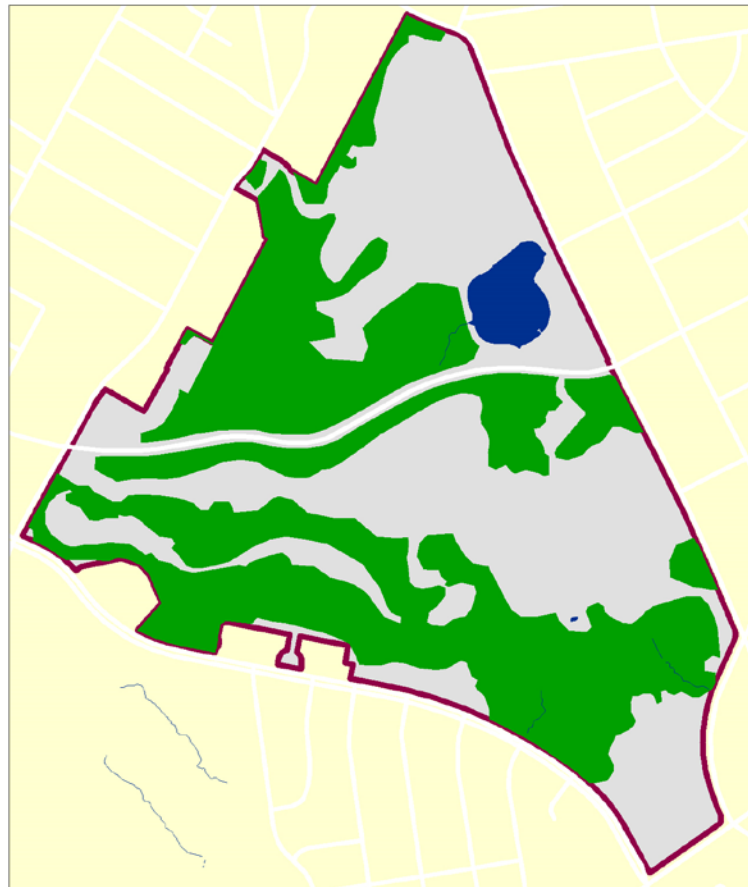
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Ecological Context: Forests and Meadows



FOREST HILL PARK

Ecological Context: Forest Cover



Tree Canopy Density
Forest Hill Park

- Waterway
- Park Boundary (255.70 acres)
- Forest Cover (117 acres)

Prepared by: Planning Studio
Levin College of Urban Affairs
Cleveland State University
Spring 2010

FOREST HILL PARK

Invasive Species

- Garlic Mustard
- Japanese Knotweed
- Tree-of-heaven
- Knotweed & others



FOREST HILL PARK

Ecological Context: Hydrology



FOREST HILL PARK

Ecological Context: Hydrology

- Lagoon
- Drainage Issues



FOREST HILL PARK

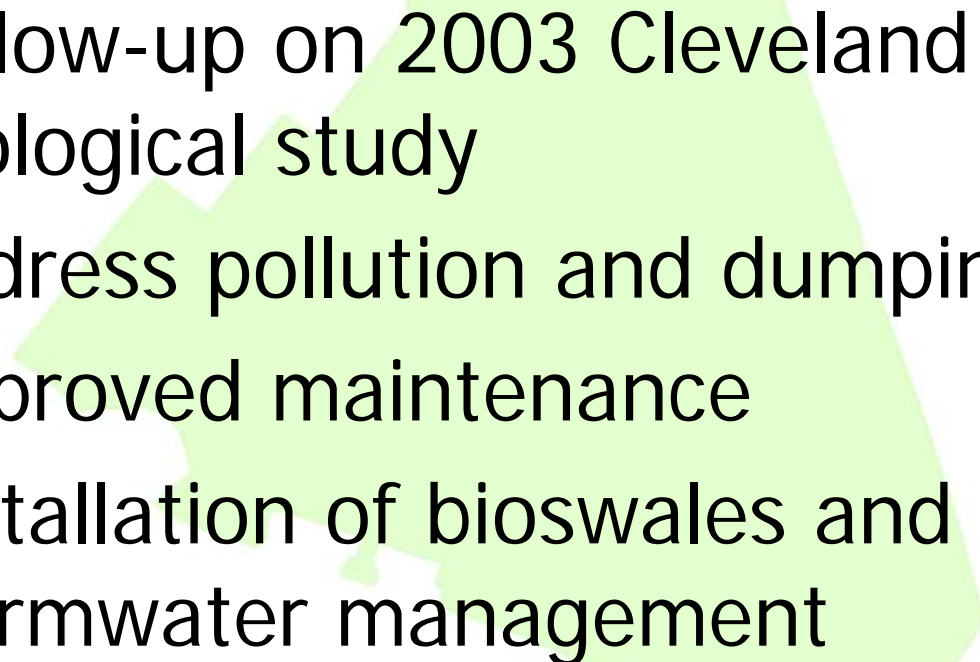
Ecological Context: Stressors

- Invasive species
- Stormwater management
- Pollution and dumping
- Deferred maintenance
- Erosion

A vertical strip on the left side of the slide shows a close-up of several autumn leaves in shades of yellow, orange, and brown. The leaves have prominent veins and serrated edges.

FOREST HILL PARK

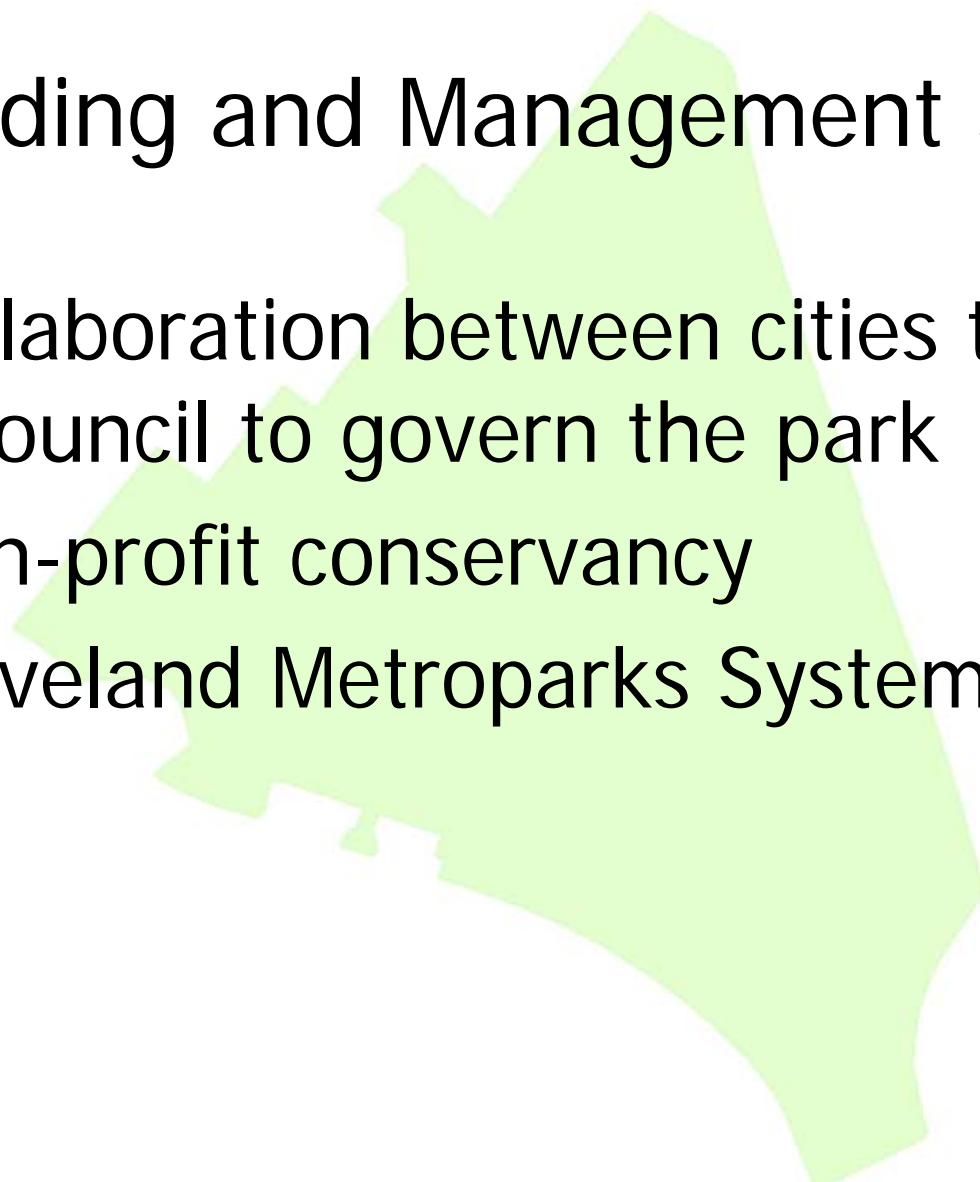
Ecological Context: Goals

- Follow-up on 2003 Cleveland Heights ecological study
 - Address pollution and dumping
 - Improved maintenance
 - Installation of bioswales and stormwater management
- 
- A light green, semi-transparent map of the Cleveland Heights area is overlaid on the right side of the slide, behind the list of goals.



FOREST HILL PARK

Funding and Management Sources

- Collaboration between cities to appoint a council to govern the park
 - Non-profit conservancy
 - Cleveland Metroparks System
- 

FOREST HILL PARK

Guiding Philosophies

- Greater collaboration between East Cleveland and Cleveland Heights
- Conservation
- Addressing maintenance and safety concerns
- Engaging the community

WHAT IS VALUE?

Garfield Reservation

Hinckley Reservation

Forest Hills Park

Rocky River Reservation

\$64,181,591

Ecological Services Valuation

\$20,564,884

Social Value

\$6,903,160

Housing Valuation

\$91,649,635

Total Estimated Value