

# *Partnering with Local Government to Promote Sustainable Development*



*Dave Perault, Lynchburg College*  
*Rick Barnes, Randolph College*

# Partnering with Local Government to Promote Sustainable Development

- 1 – Background
- 2 – Problem
- 3 – Developing the Model
- 4 – Results
- 5 – Applications

Lynchburg . . .

# LYNCHBURG

*Tennessee*

Home of Jack Daniel's Distillery



**LIBERTY**  
UNIVERSITY™





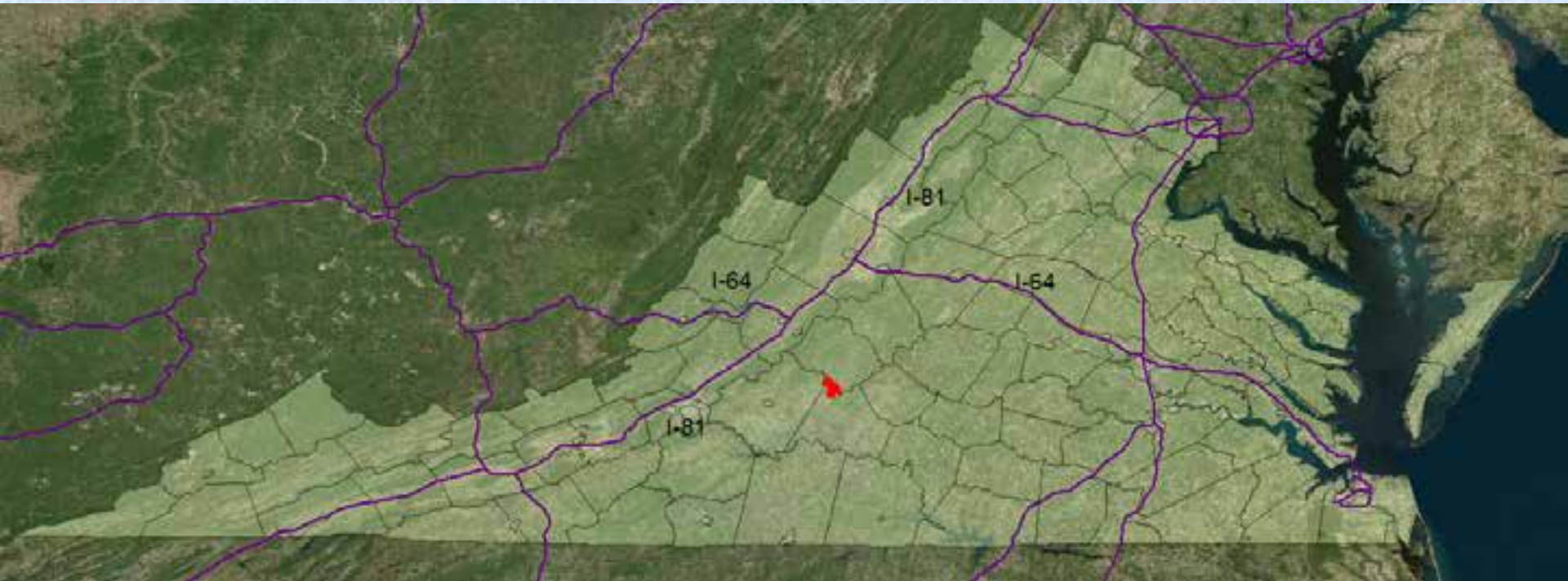
# Background

City of Lynchburg, Virginia

2122 mi<sup>2</sup> (5500 km<sup>2</sup>)

1990 Population: 66,049

2010 Population: 75,568



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- attracting both businesses and residents









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Several Revitalization Projects

- attracting both businesses and residents
- a growing population within a finite area

# Partnering with Local Government to Promote Sustainable Development

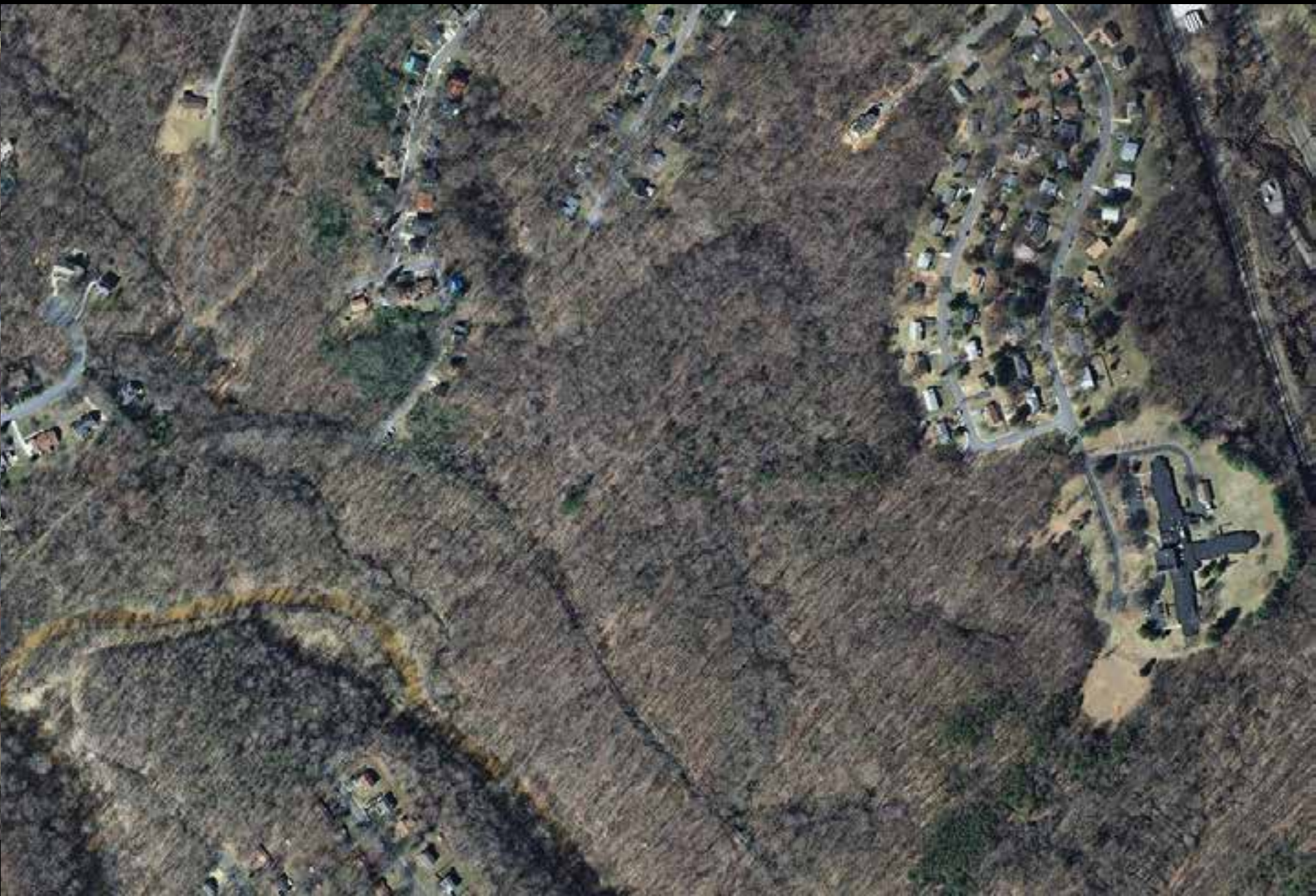
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# Problem

A growing population within a finite area

Push to develop empty or “vacant” parcels

- any piece of property without a structure



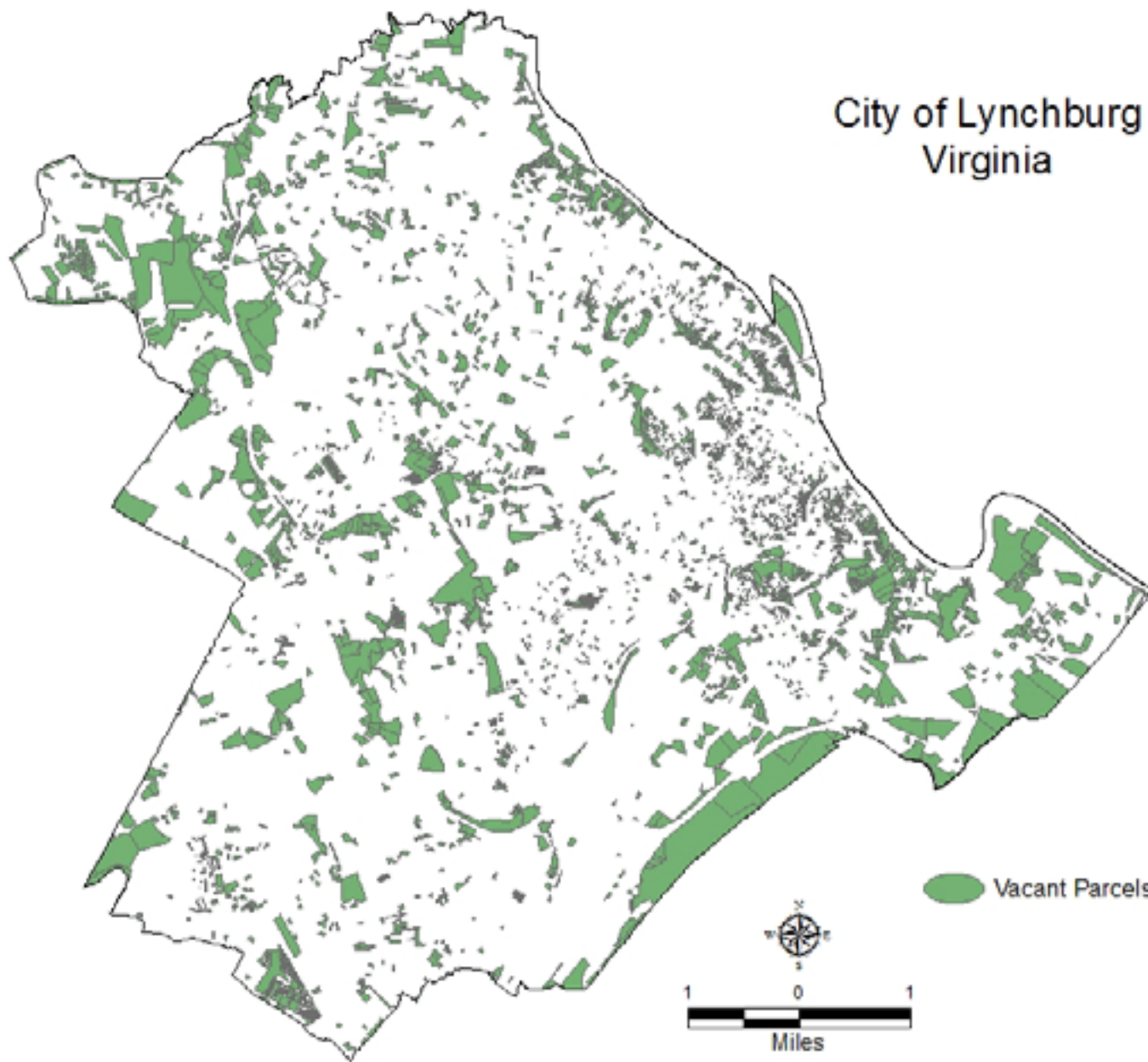
# Problem

A growing population within a finite area

Push to develop empty or “vacant” parcels

- any piece of property without a structure
- ~ 17% of City

# City of Lynchburg Virginia



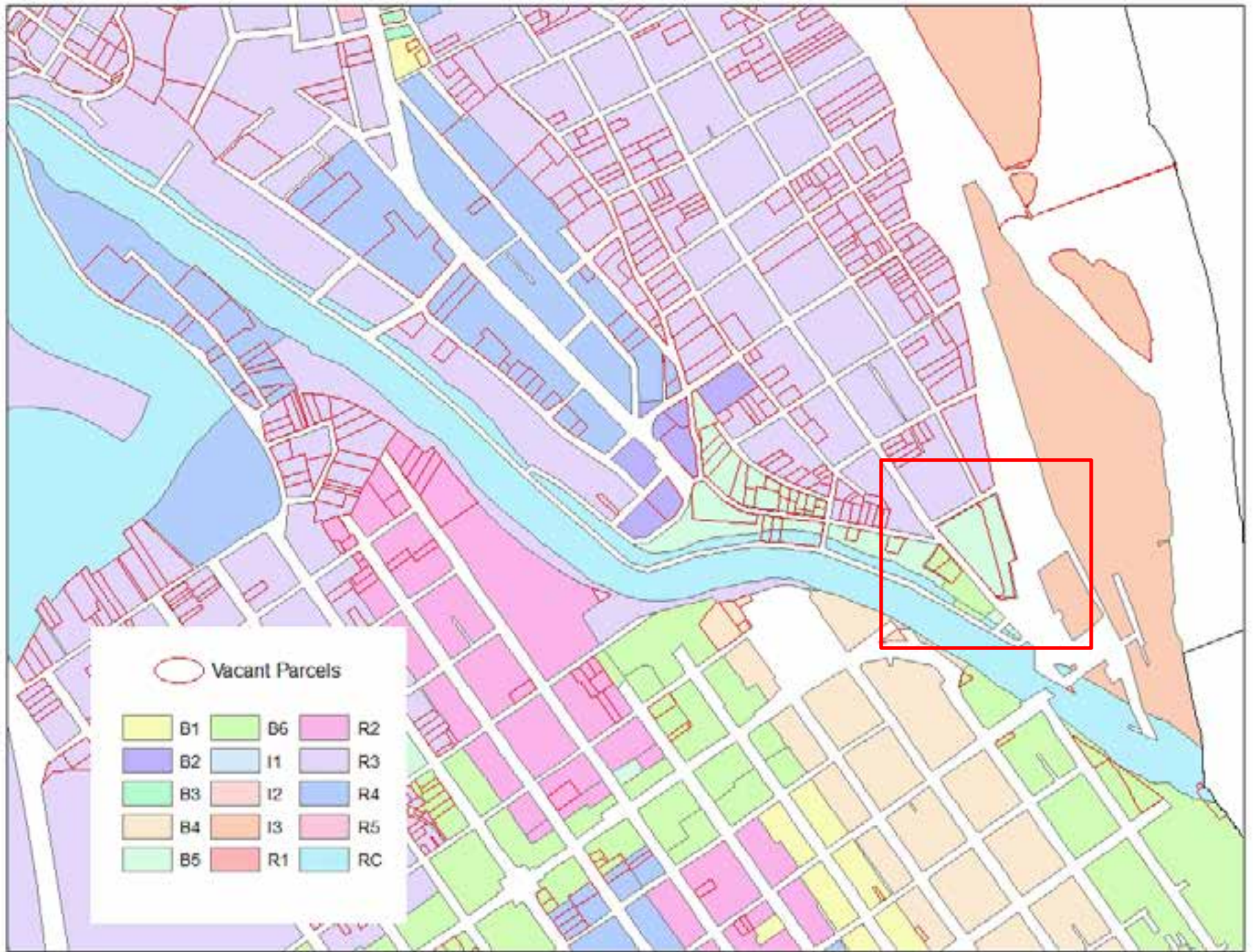


# Problem

A growing population within a finite area

Push to develop empty or “vacant” parcels

- any piece of property without a structure
- ~ 17% of City
- Zoning irrelevant





# Problem

A growing population within a finite area

Push to develop empty or “vacant” parcels

- any piece of property without a structure
- ~ 17% of City
- Zoning irrelevant

But . . .

- many of larger, more desirable vacant parcels not zoned for high-end residential or business
- developers requesting these parcels be rezoned

# Problem

Created a need for a tool that can help planners weigh conservation values of a vacant parcel when considering rezoning requests.



# Problem

Created a need for a tool that can help planners weigh conservation values of a vacant parcel when considering rezoning requests.

City recognizes this need:

Objective 4.B.9 of the Comprehensive Plan:

*Utilize GIS and other tools, . . . , to guide prioritization for conservation of current city open spaces and assessing impact of new development on surrounding natural systems.*


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# Developing the “Model”

Assess conservation value of vacant parcels

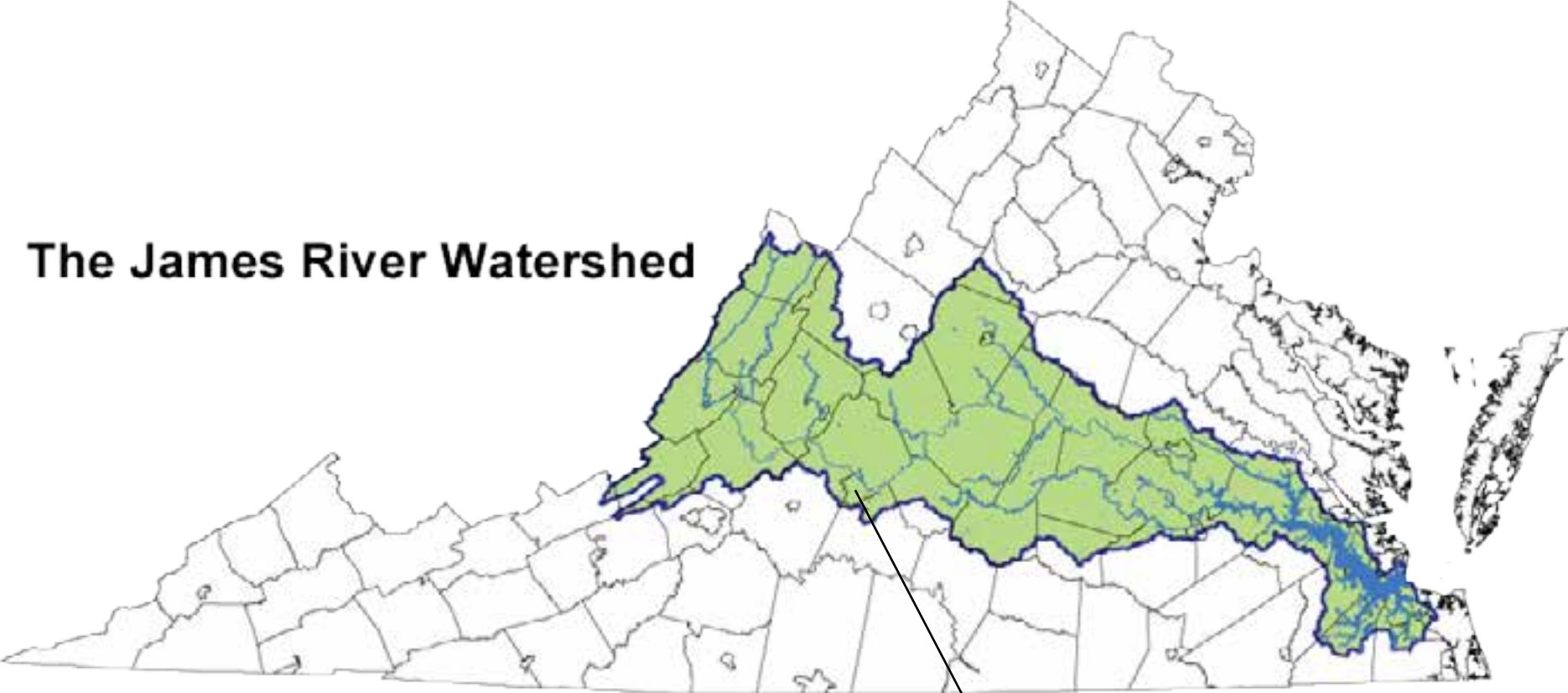




## Choose Conservation Variables

- Water
- Wetland
- Floodplain
- Slope
- Forest
- Greenway
- Park
- Resource Conservation

**The James River Watershed**

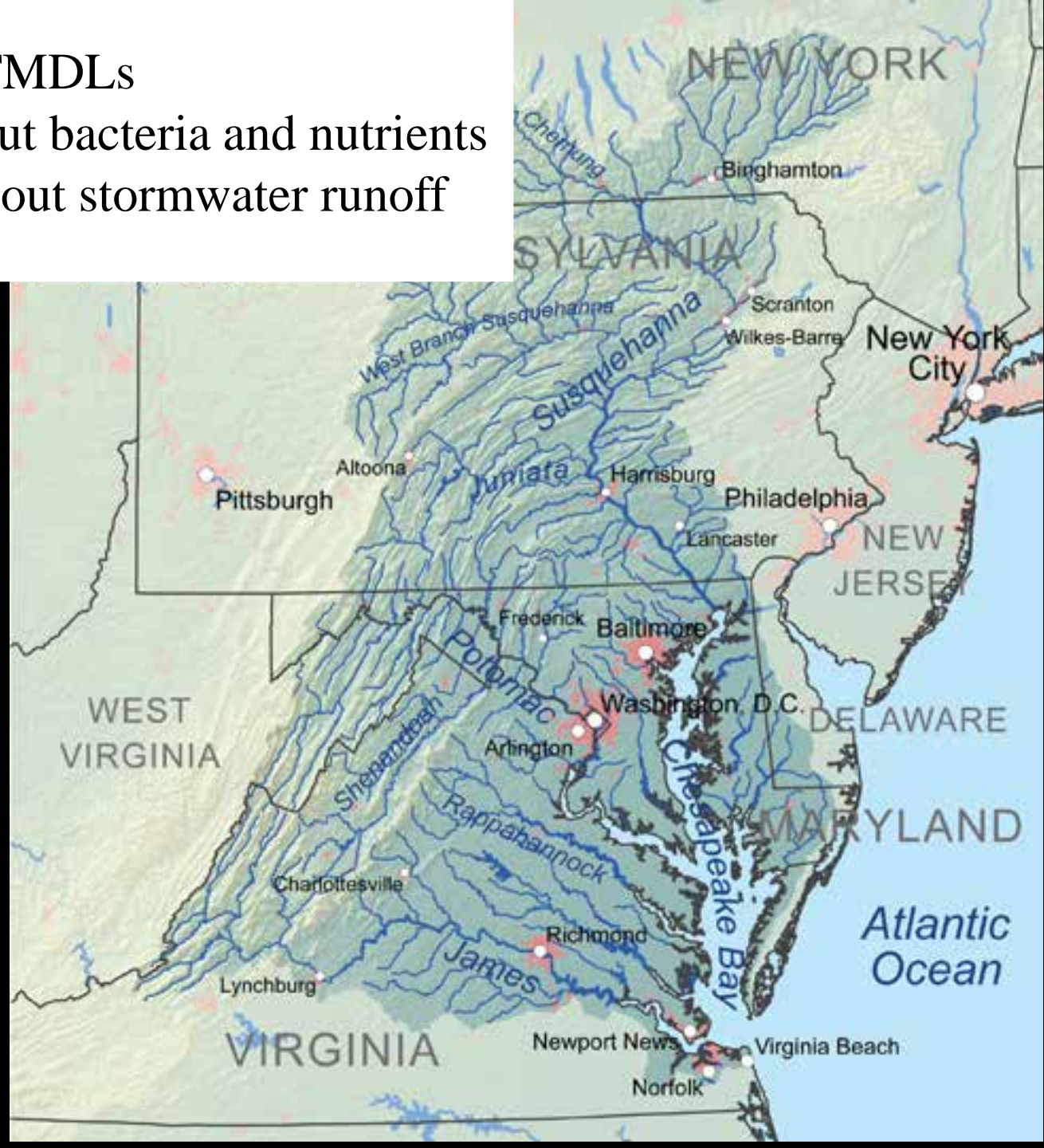


Lynchburg



EPA concerned about TMDLs

Virginia concerned about bacteria and nutrients

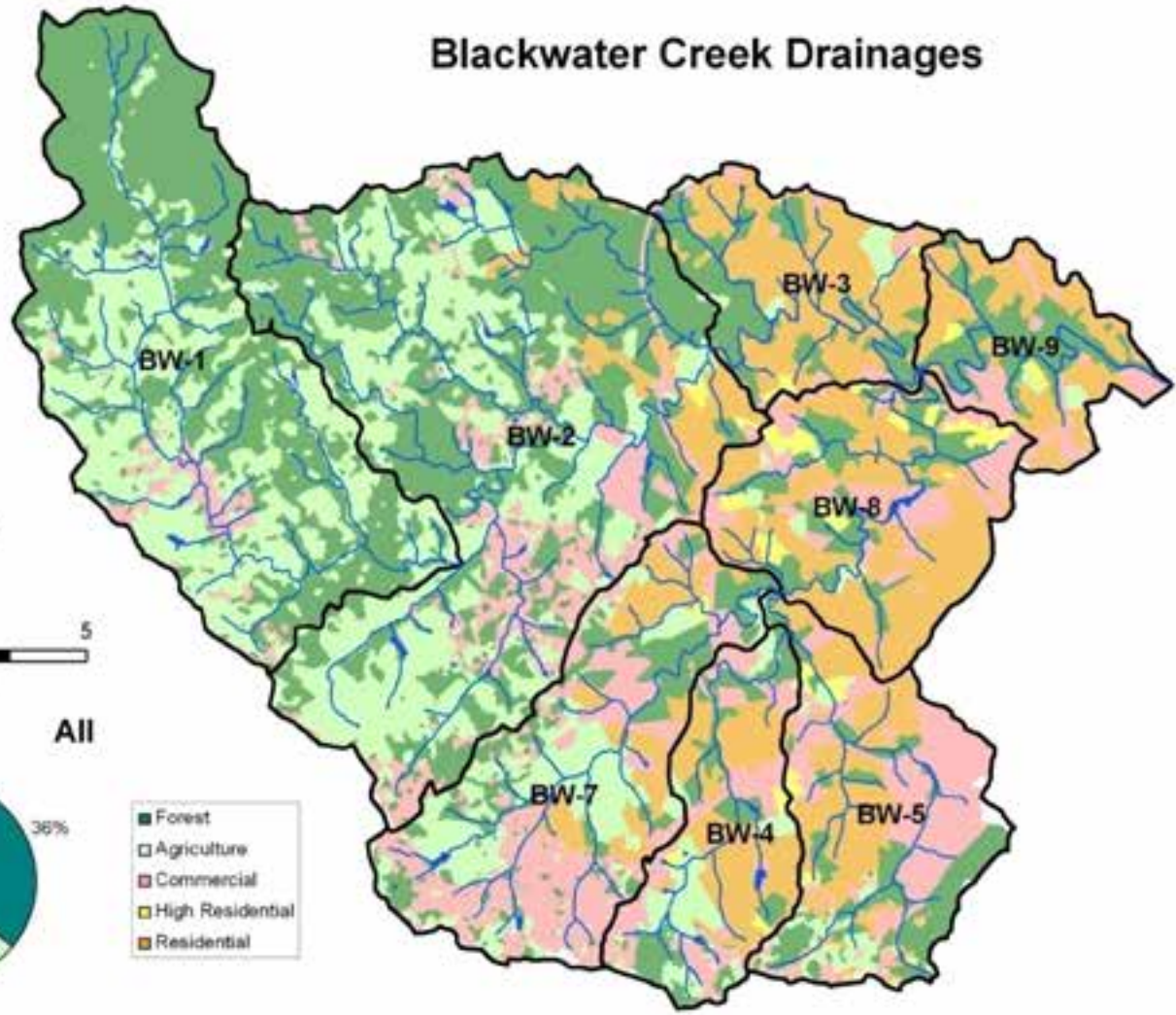
Everyone concerned about stormwater runoff



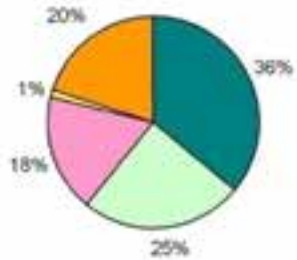


-  Blackwater Creek Watershed
-  City of Lynchburg

# Blackwater Creek Drainages



All

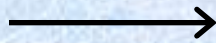


- Forest
- Agriculture
- Commercial
- High Residential
- Residential





Choose  
Conservation  
Variables

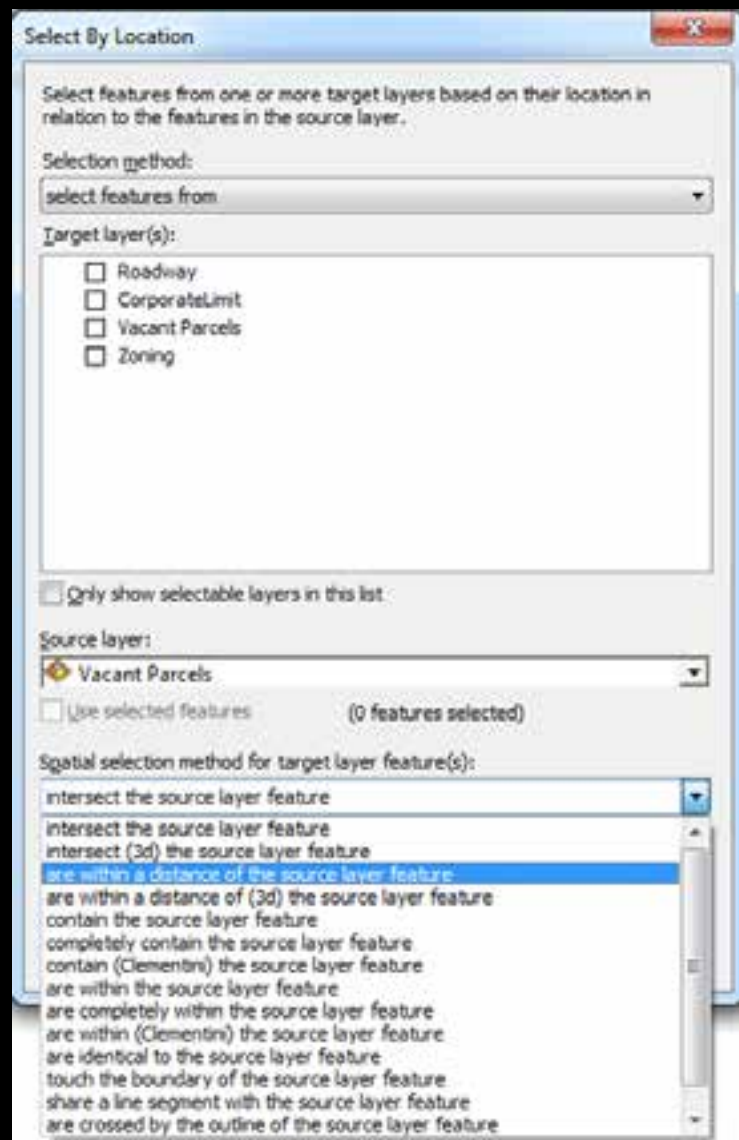
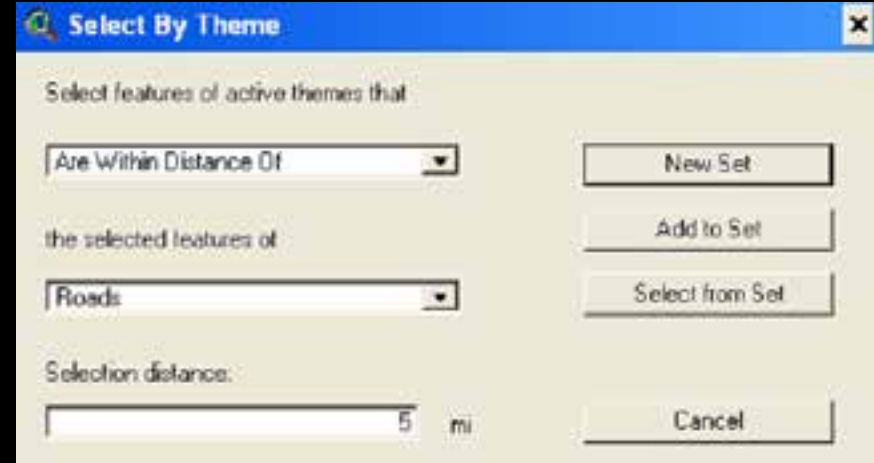


Combine  
with Vacant  
Parcels

- Water
- Wetland
- Floodplain
- Slope
- Forest
- Greenway
- Park
- Resource Conservation

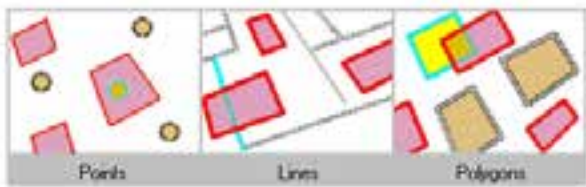
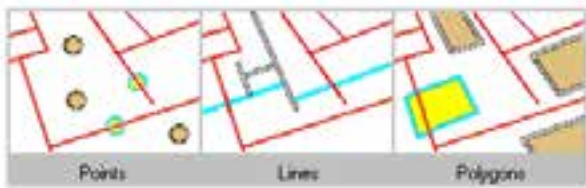
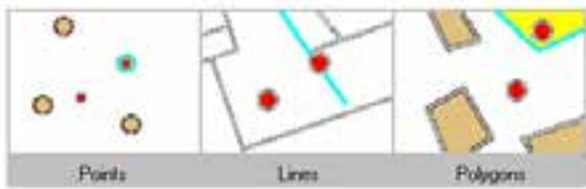






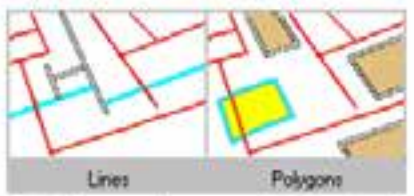
## Intersect

Intersect returns any feature that either fully or partially overlaps the source feature(s). Here are some examples:

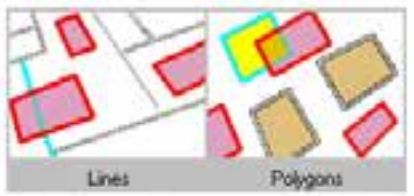


## Are crossed by the outline of

For this operator, the boundaries of the source and target feature must have at least one edge, vertex, or endpoint in common but must not share a line segment. The source and target features must be either lines or polygons.



*Finding features that are crossed by the outline of line features*

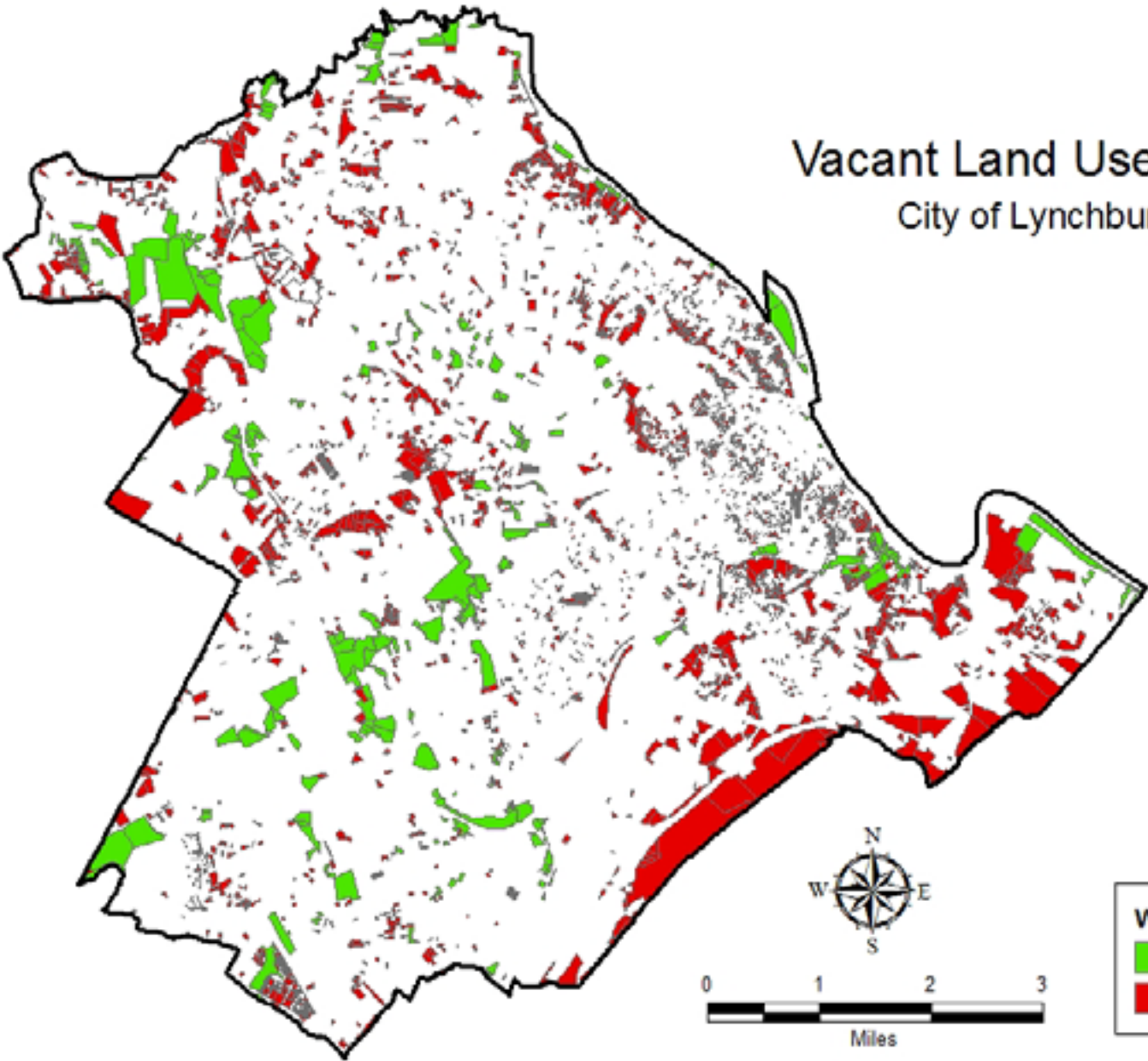


*Finding features that are crossed by the outline of polygon features*

<b>Category of Data</b>	<b>Source</b>	<b>GIS Criterion</b>	<b>Conserve if</b>	<b>Develop if</b>
Wetlands	City	within a distance of	< 100'	> 100'
Floodplains	City	within a distance of	< 50'	> 50'
Hydro	City	within a distance of	< 100'	> 100'
Steep Slopes	City	contains	> 25%	< 25%
	City, Green			does not
Woodlands/Treeline	Infrastructure	intersects	intersects	intersect
	Greenways	crossed by the		
Greenways	Plan	outline of	crossed by	not crossed by
Parks	City	within a distance of	0'	> 0'
FLUM Resource				does not
Conservation	City	contains	contains	contain

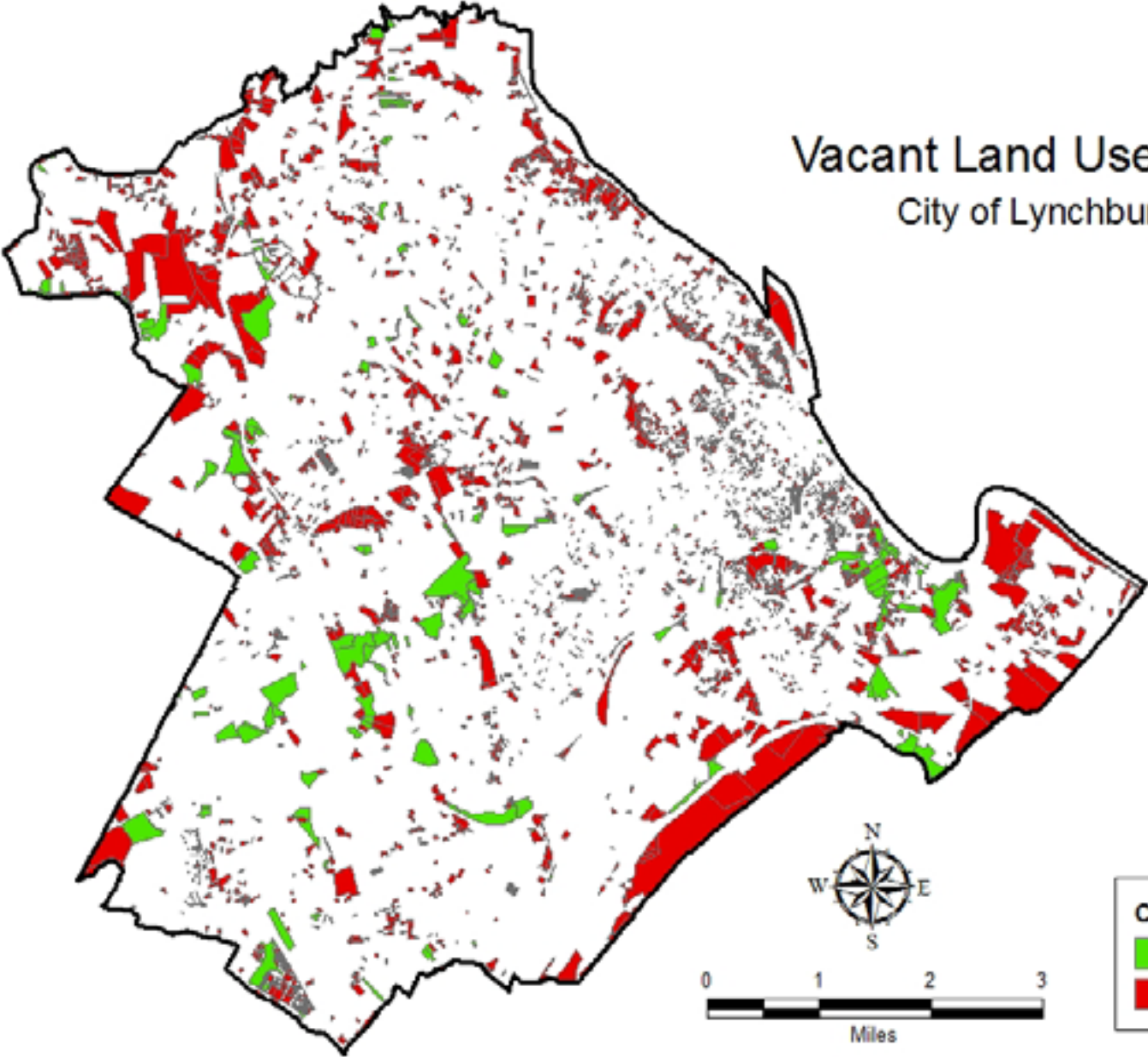
# Vacant Land Use Analysis

City of Lynchburg, VA



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City of Lynchburg, VA

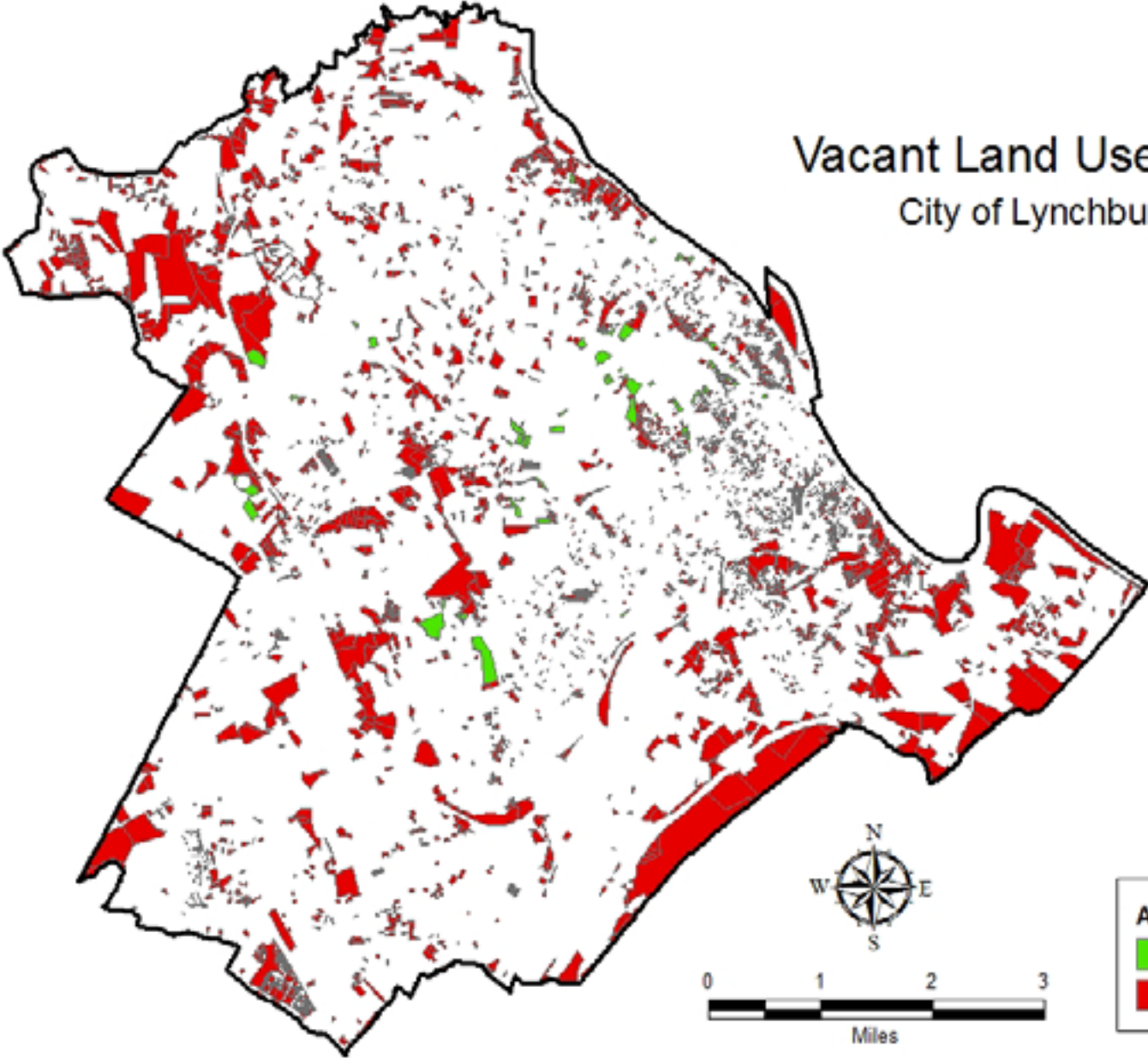


**Crossed by Greenway**

- Conserve
- Develop

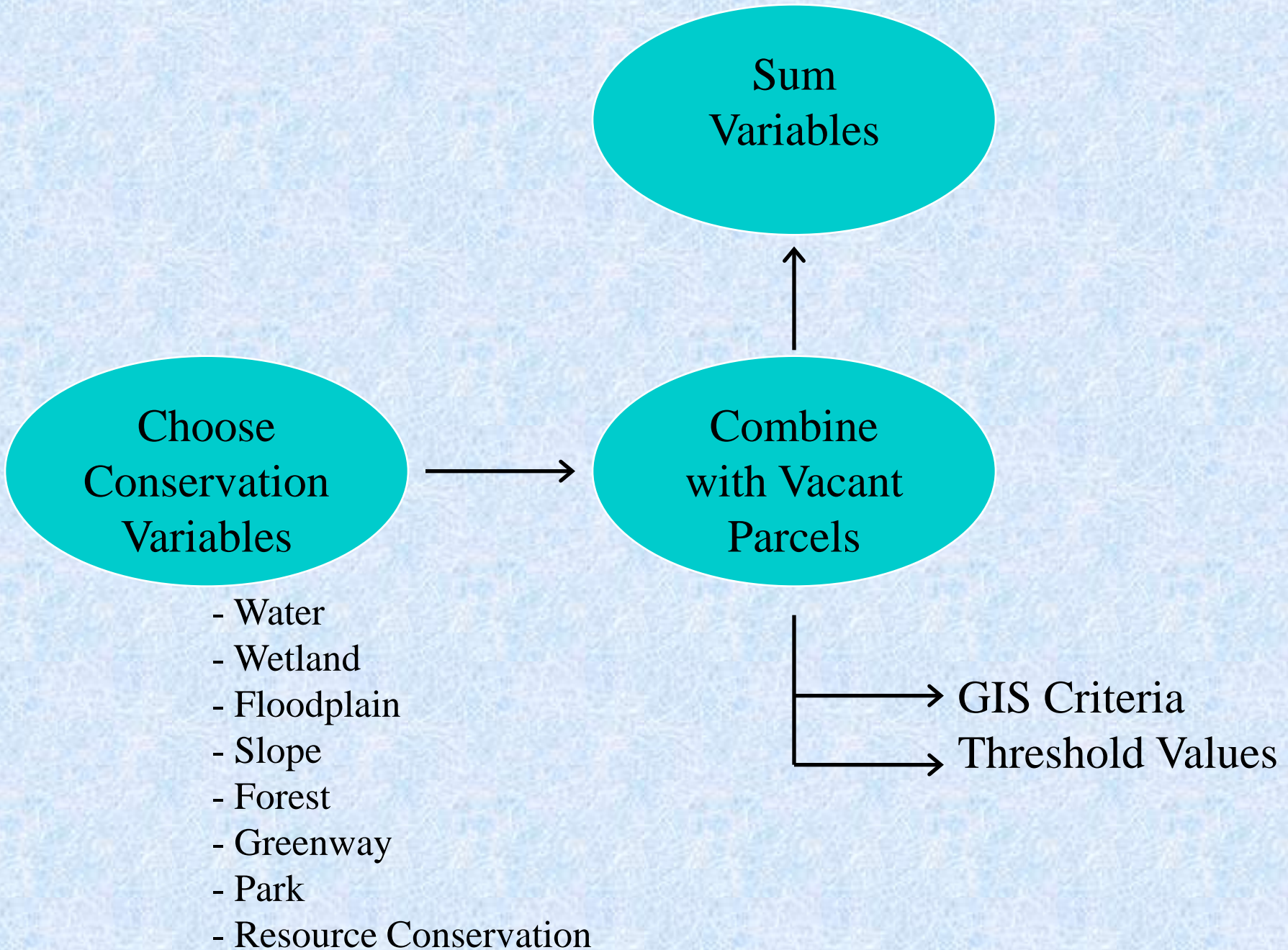
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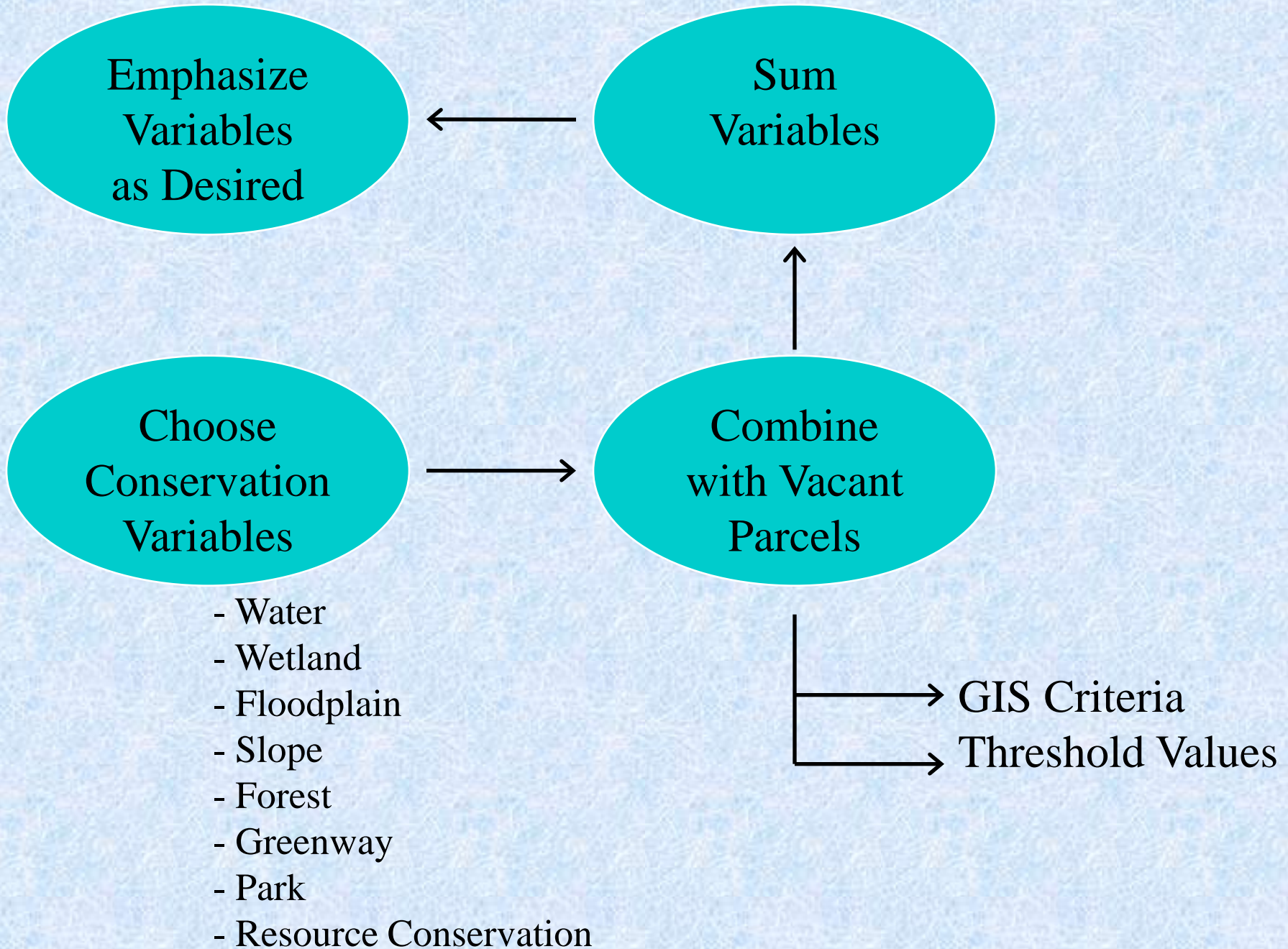
**Adjacent to Parks**

- Conserve
- Develop





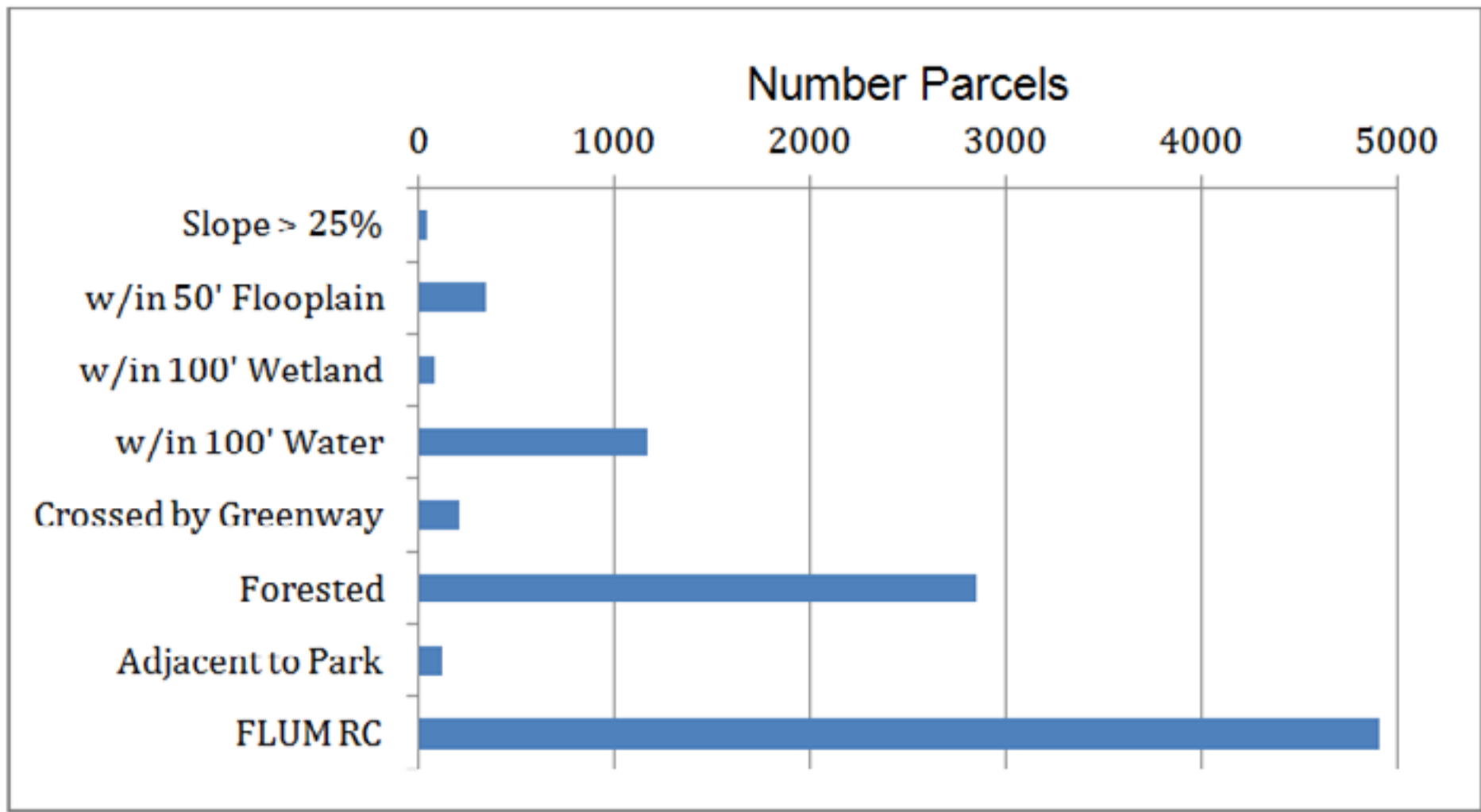






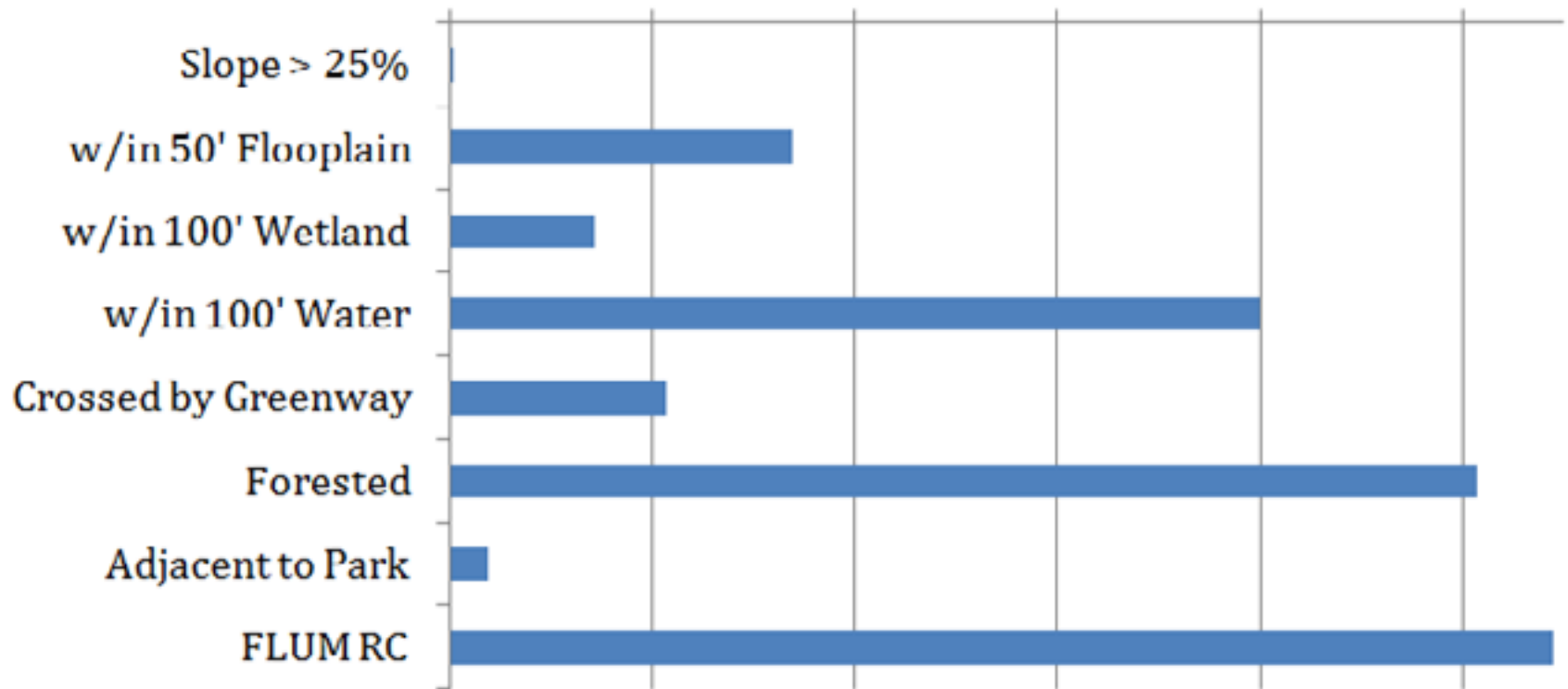
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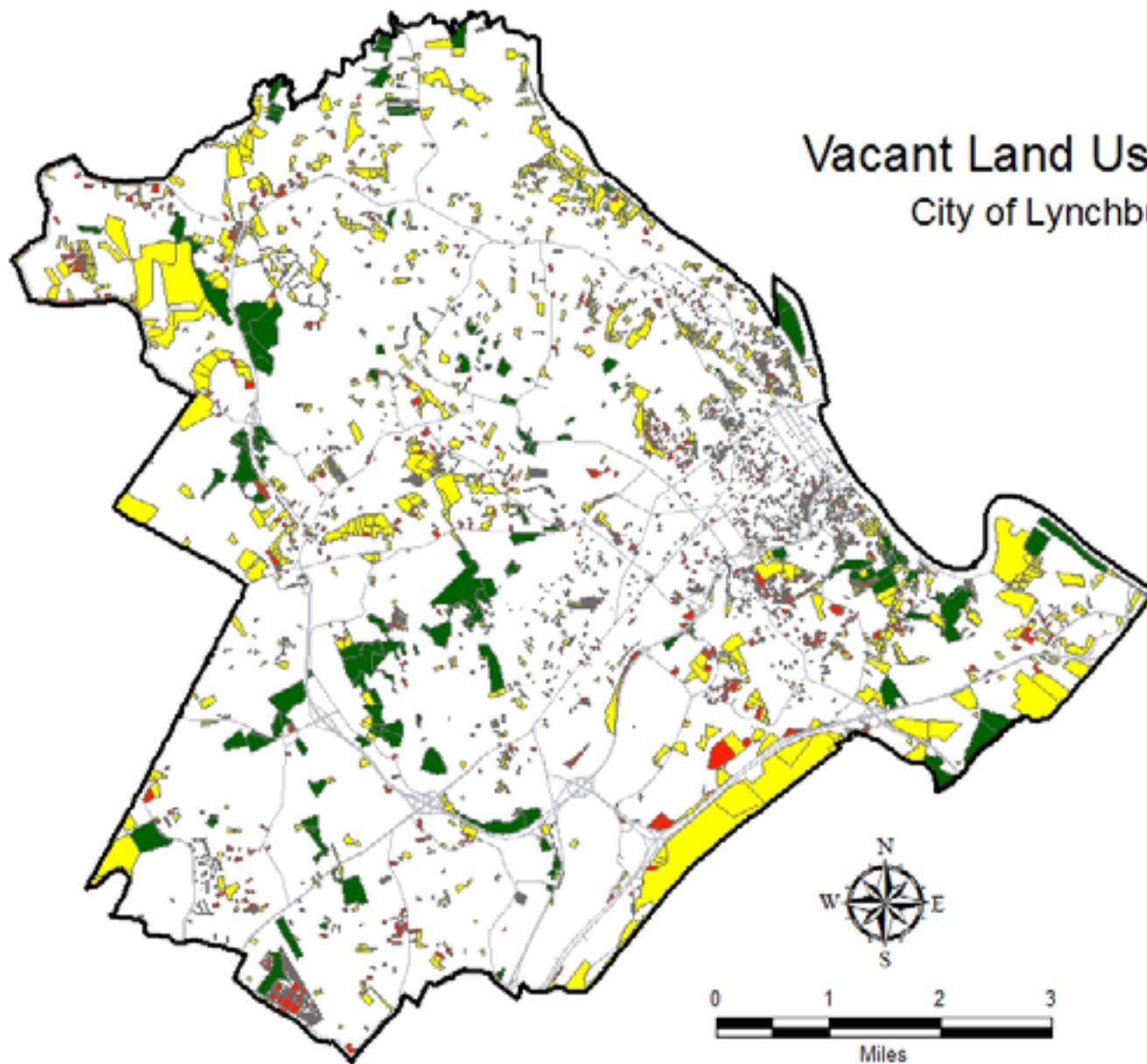
### Total Area (Acres)

0.00 1000.00 2000.00 3000.00 4000.00 5000.00






# Vacant Land Use Analysis

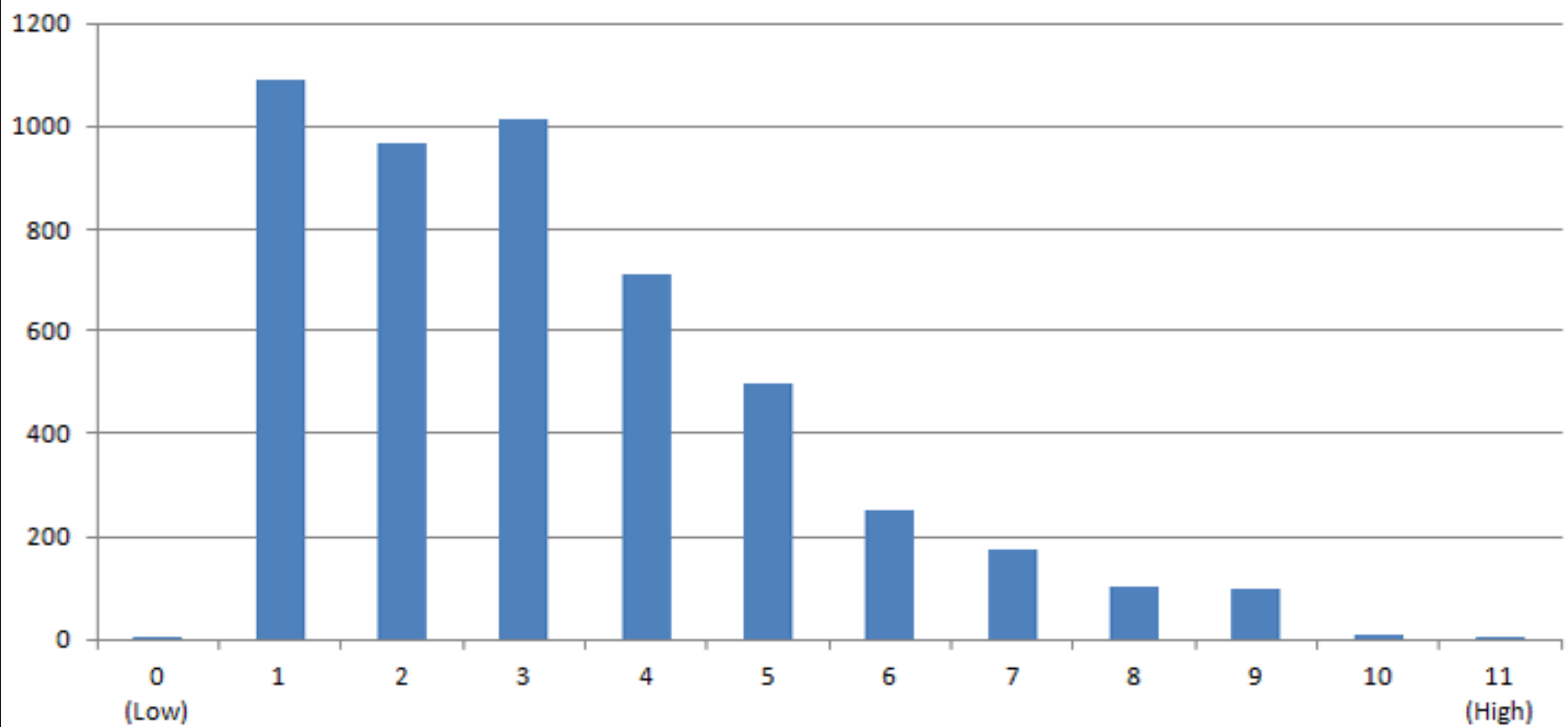
## City of Lynchburg, VA



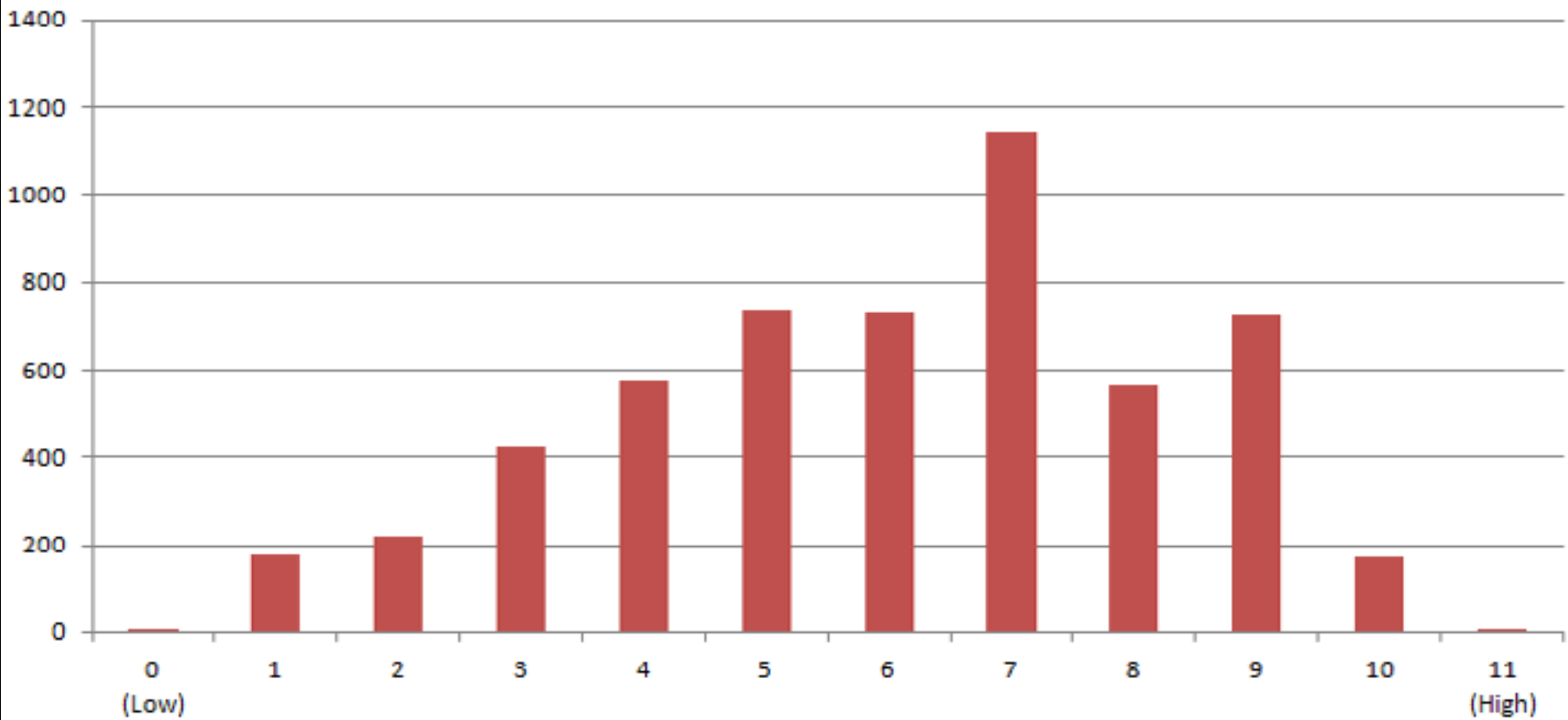
### Conservation Priority Groups

-  Low
-  Medium
-  High

## Count



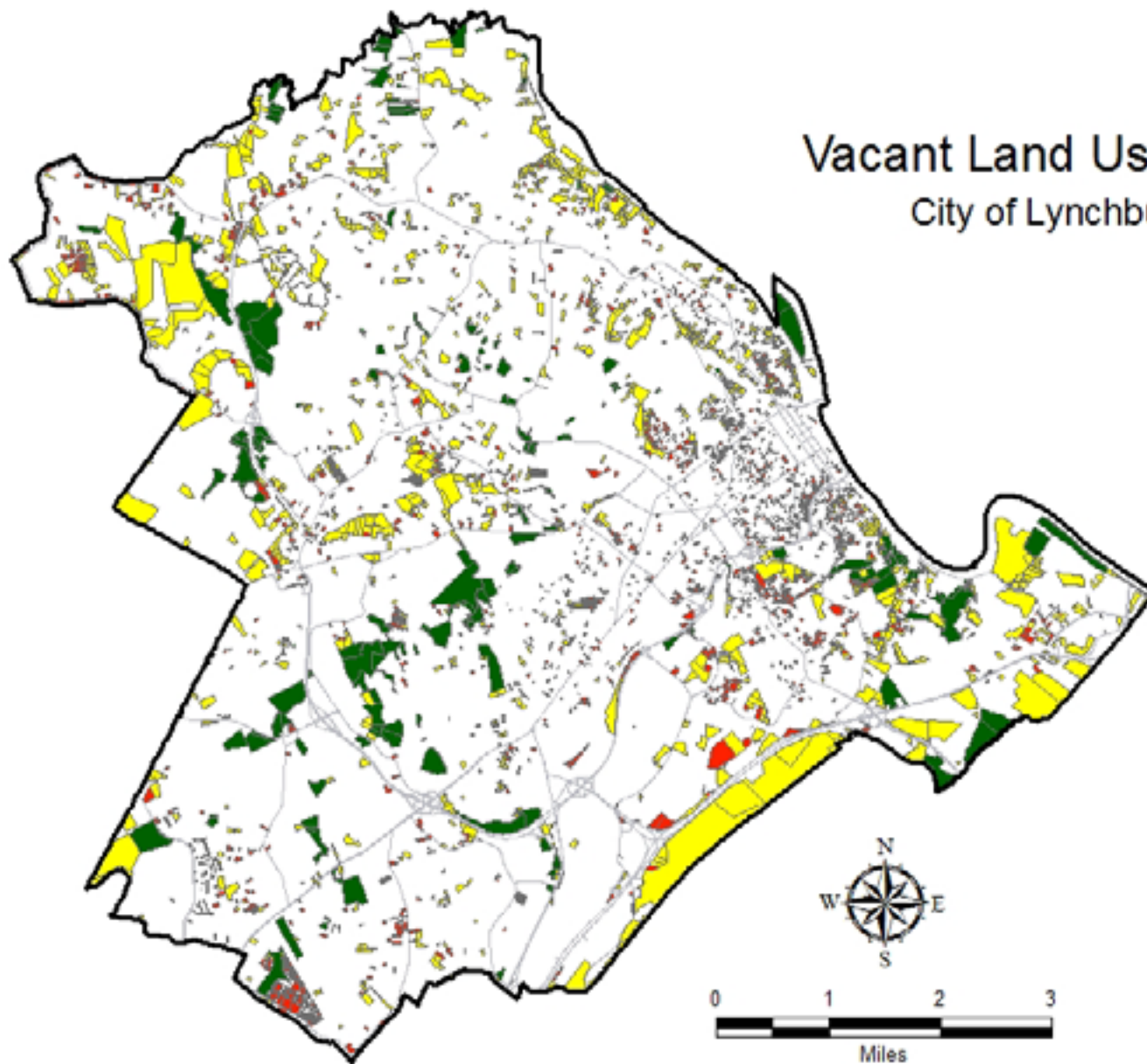
## Acres





# Vacant Land Use Analysis

## City of Lynchburg, VA



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# Applications

- A. Make available to City Planning Commission
  - help evaluate rezoning requests
- B. Make available to general public



Search Results Details **Map**

- Map Layers** Results
- ParcelViewer**
    - Corporate Limit
    - Addresses
    - Street Labels
  - Property Information**
    - Property Labels**
      - Property Notes
        - Property Notes
        - Parcel ID
      - Legal Lot Number
        - Legal Lot Number
      - Alley/Street Vacation
        - Vacation
      - Legal Subdivision Name
        - Legal Subdivision N
      - Legal Block Number
        - Legal Block Number
      - Parcel Dimension
        - Parcel Dimension
    - Easements**
      - Ingress Egress

Analyze Navigate Share Help



Basemap

2 mi

Deg Min Sec ^ Lon (X): 79° 19' 50.97"W Lat (Y): 37° 20' 26.86"N



Search

Results

Details

Map

Map Layers

Results

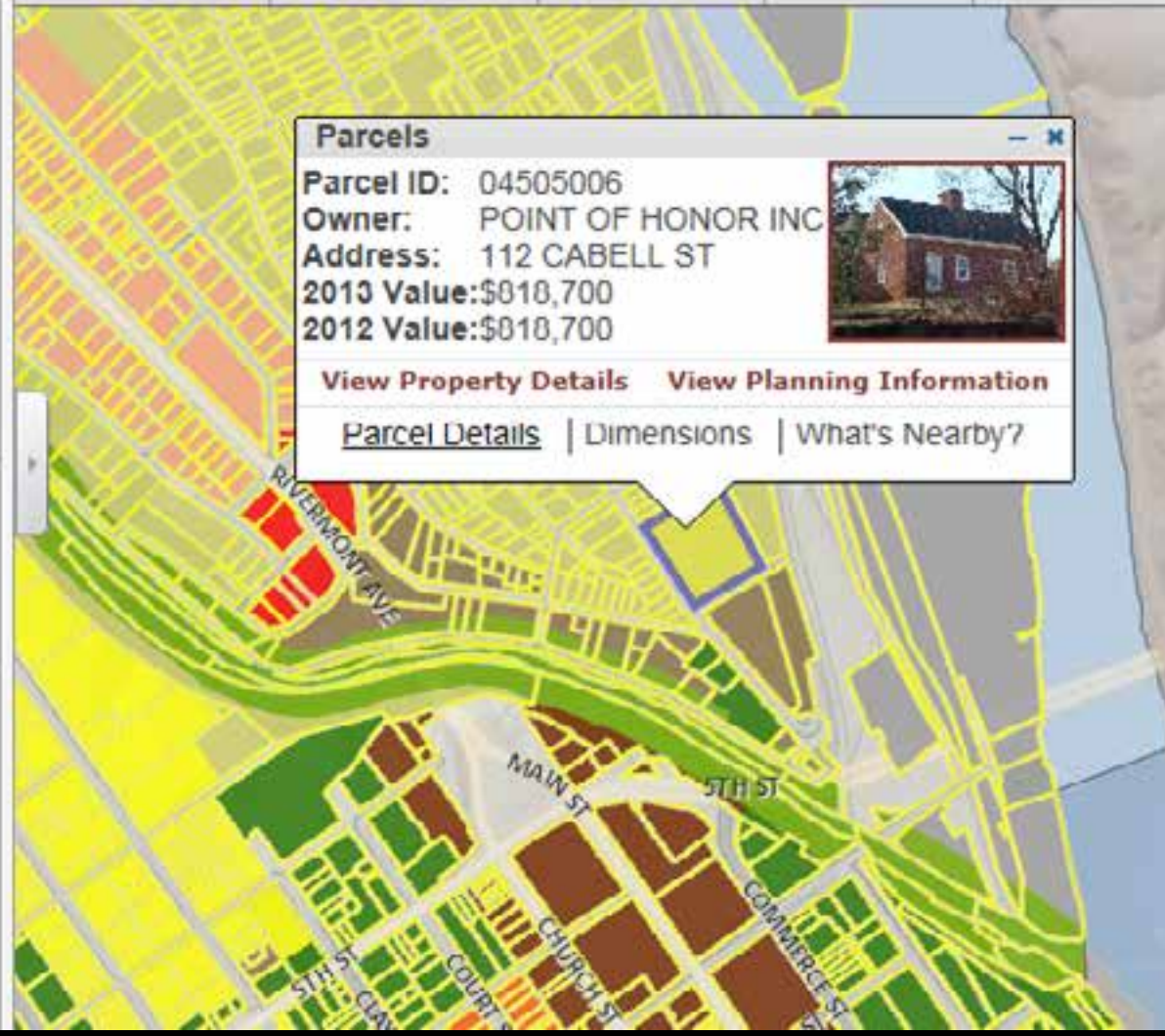
Analyze

Navigate

Share

Help

- Conditional Use Permits
- Conditional Use Permit Area
- Zoning Variance
- Zoning Labels
- Zoning
  - B-1
  - B-2
  - B-3
  - B-4
  - B-5
  - B-6
  - I-1
  - I-2
  - I-3
  - R-1
  - R-2
  - R-3
  - R-4
  - R-5
  - R-C
- Scenic Corridor
- Fifth St Revitalization
- Commercial Corridor
- Historic Districts
  - Local Historic District



**Parcels**


**Parcel ID:** 04505006

**Owner:** POINT OF HONOR INC

**Address:** 112 CABELL ST

**2013 Value:** \$818,700

**2012 Value:** \$818,700



[View Property Details](#)   [View Planning Information](#)

[Parcel Details](#) | [Dimensions](#) | [What's Nearby?](#)

# Applications

- A. Make available to City Planning Commission
  - help evaluate rezoning requests
- B. Make available to general public
  - useful for reducing applications
    - i. Avoid requests for high conservation parcels
    - ii. Increase value of low conservation parcels
- C. Classroom use

## Lab 6

# City of Lynchburg Vacant Parcels Analysis

In this chapter, you will conduct an extensive analysis of vacant parcels across the City of Lynchburg in order to assess conservation value. You will also perform a weighted overlay to emphasize factors of special interest.

### Project Overview

This project applies principles of conservation development to the City of Lynchburg. It is based on Objective 4.B.9 of the City of Lynchburg Comprehensive Plan (2002):

*Utilize GIS and other tools, such as the Virginia Conservation Plan, to guide prioritization for conservation of current city open spaces and to guide the siting of new development on surrounding natural systems.*


To help accomplish this, the City has asked you to develop a map of vacant parcels in Lynchburg based on multiple environmental criteria. You will consult with city planners as well as the general public to help make informed development decisions.

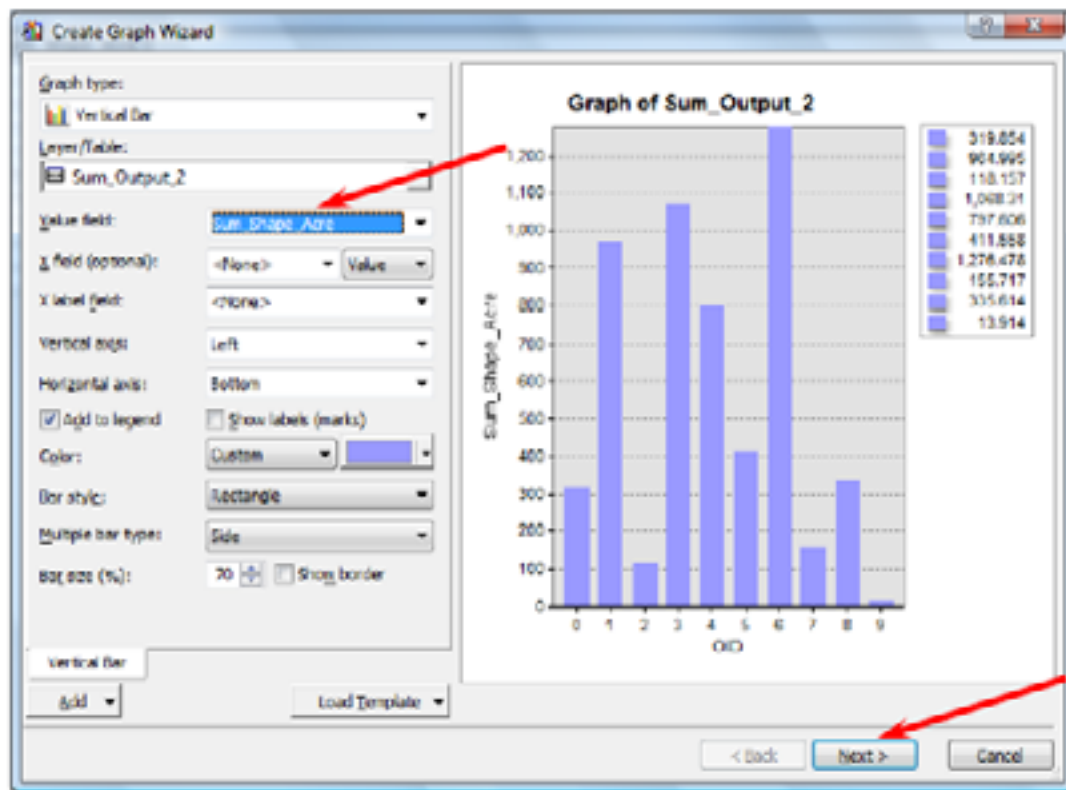
More specifically, you will rank the conservation value of vacant parcels based on the following environmental parameters. These include:

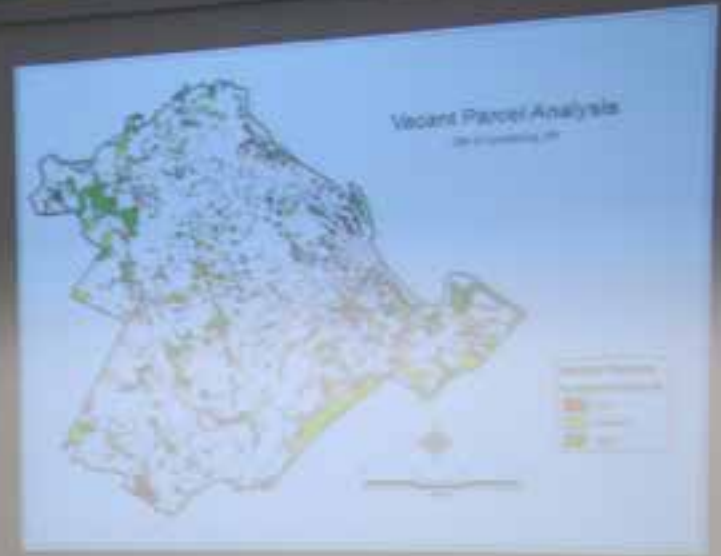
- 1) proximity to water
- 2) proximity to wetlands

To calculate the number of vacant parcels and the acreage for each new value, right-click the **Value\_W** field header, and select **Summarize**. As before, expand the **Shape\_Acre** field and place a check next to **Sum**. Ensure the output table is set to the lab 6 directory on your p-drive and accept the default output table name. Click **OK** and then **Yes** to add the table to your map.

Close the *VacantParcels* attribute table. Right-click *Sum\_Output\_2* → **Open** to see the total number of vacant parcels for each conservation value, and their total acreage. How many values are now available, and what is their range? *Answer: 10, 0-9*

To graph these data, click the **Table Options** button  → **Create Graph**. Change the Value Field to **Sum\_Shape\_Acre**; click **Next**, then **Finish**.





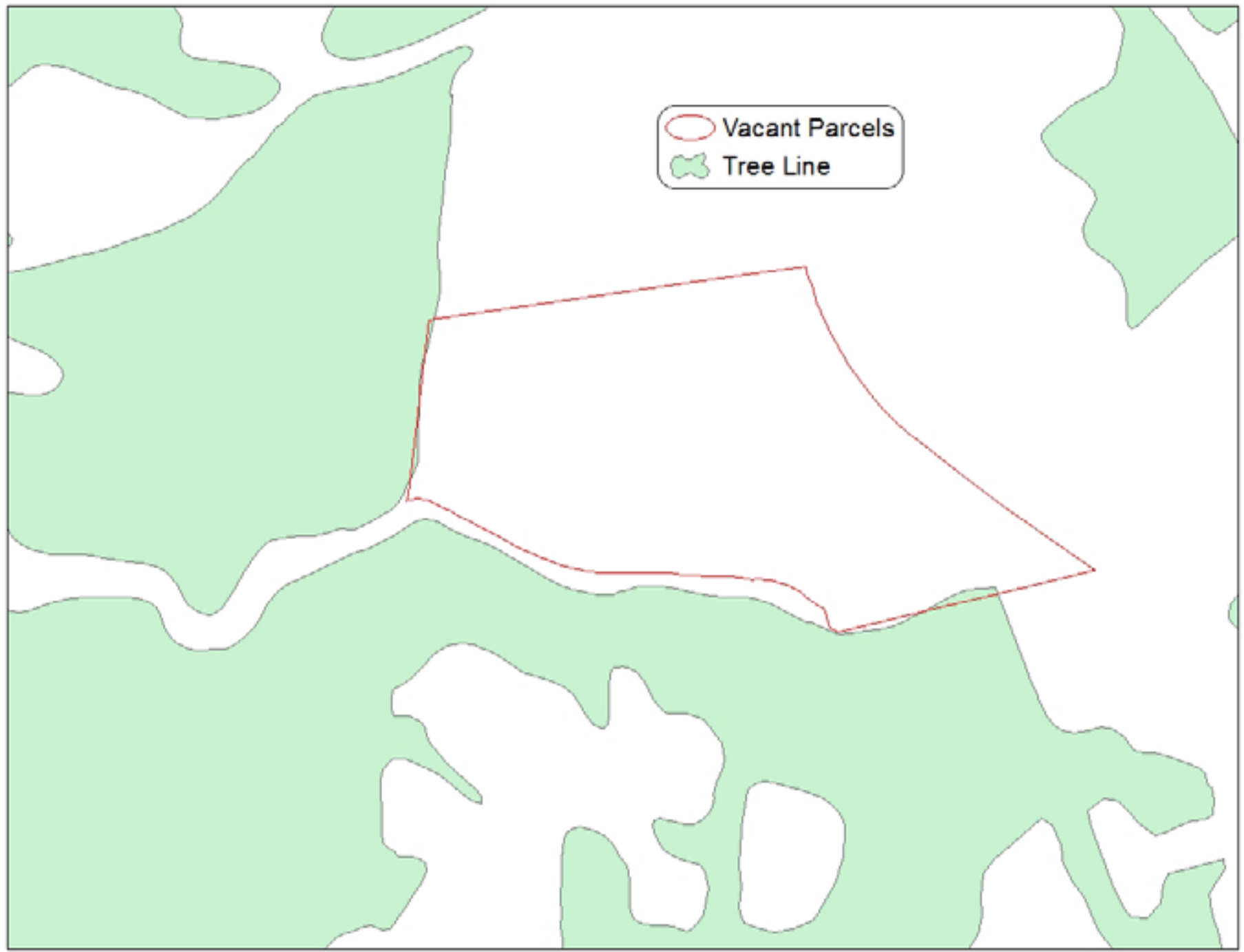


# Applications

## Limitations/Problems

1. Challenge to keep current
  - i.* Update data layers
  - ii.* Redo analyses (students?)
  - iii.* Provide to City GIS/Online Viewer
2. Parcels assessed as whole entities

○ Vacant Parcels  
■ Tree Line



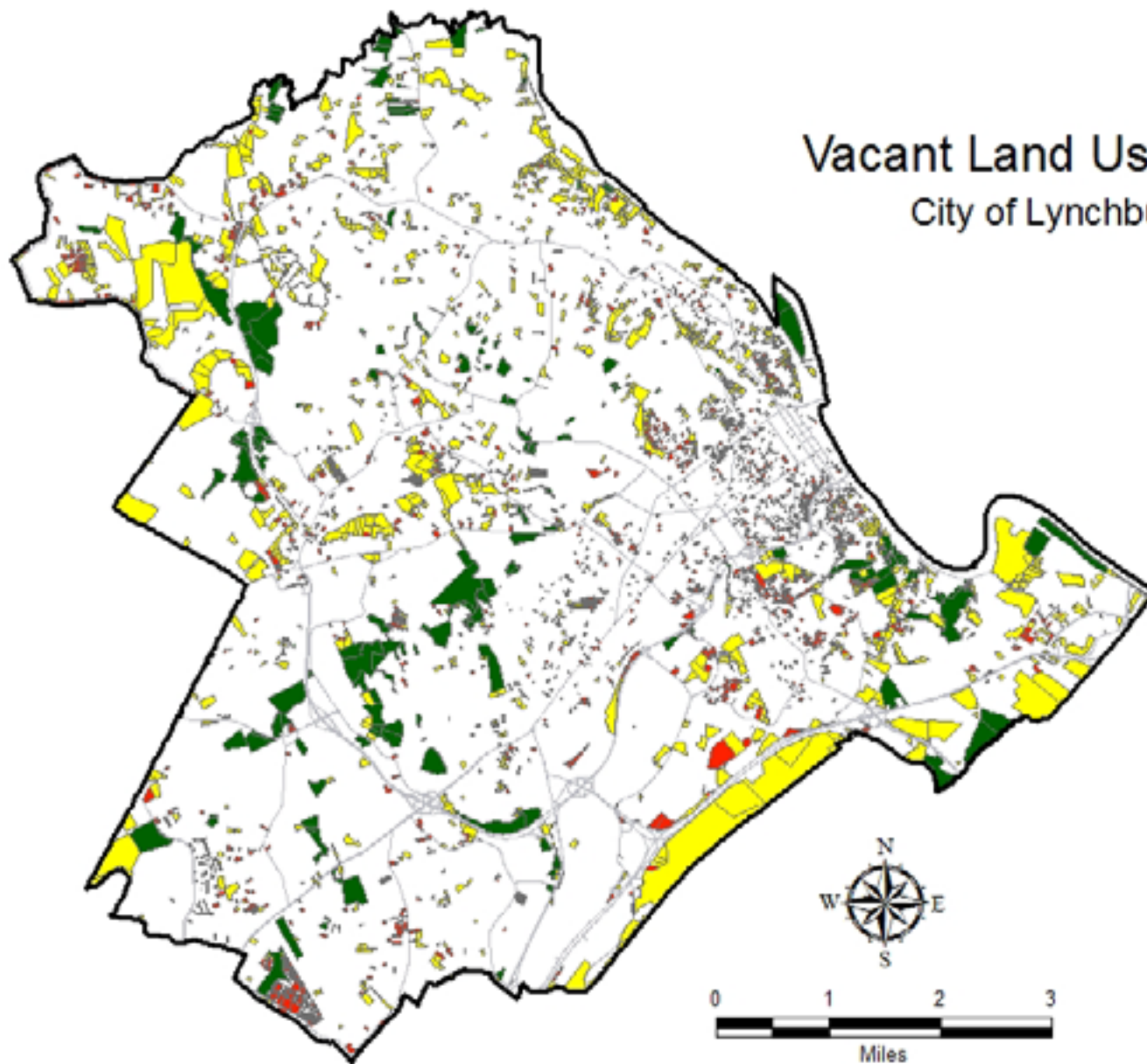
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# Vacant Land Use Analysis

## City of Lynchburg, VA



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2. Parcels assessed as whole entities
3. Use by developers?

Another tool in the full arsenal.

# Applications

## Future Work

Apply similar analysis to brownfields as opposed to vacant parcels.



# Applications

## Future Work

Apply similar analysis to brownfields as opposed to vacant parcels.

- move towards redevelopment, not new development
- consider financial and logistical criteria







# Applications

## *Coda*

Collaborations between academia and government agencies are often productive for both:

- researchers can gain access to otherwise inaccessible data
- governments can save time and money by having analyses conducted by others



No, no - **WE** just  
**write** about the  
world...  
**YOU GUYS** have to  
go out and **save**  
the bloody thing!



# Boards-Commissions-Committees Application Form

November 5, 2013  
Date

Completing this form is one way to indicate your interest in being considered for appointment to some of the Boards, Commissions and Committees appointed by the City Council. **Only City residents may make application to serve on a Board or Commission with the exception of the following: Airport Commission, Lynchburg Business Development Centre Board and Regional Tourism Board.** All appointments remain at the discretion of the City Council. Please complete and mail this form to: City of Lynchburg, Attn: Valeria P. Chambers, MMC, Clerk of Council, 900 Church Street, Lynchburg, VA 24504 or e-mail to [valeria.chambers@lynchburgva.gov](mailto:valeria.chambers@lynchburgva.gov) or fax to (434) 847-1536.

Mr.  \_\_\_\_\_  
Mrs. \_\_\_\_\_ Name: David R. Perault  
Ms. \_\_\_\_\_

List a maximum of three (3) Boards, Commissions or Committees on which you are interested in serving.

1. Planning Commission
2. \_\_\_\_\_
3. \_\_\_\_\_



