

Determining Natural Resource Protection Areas for Bond Measure Acquisition

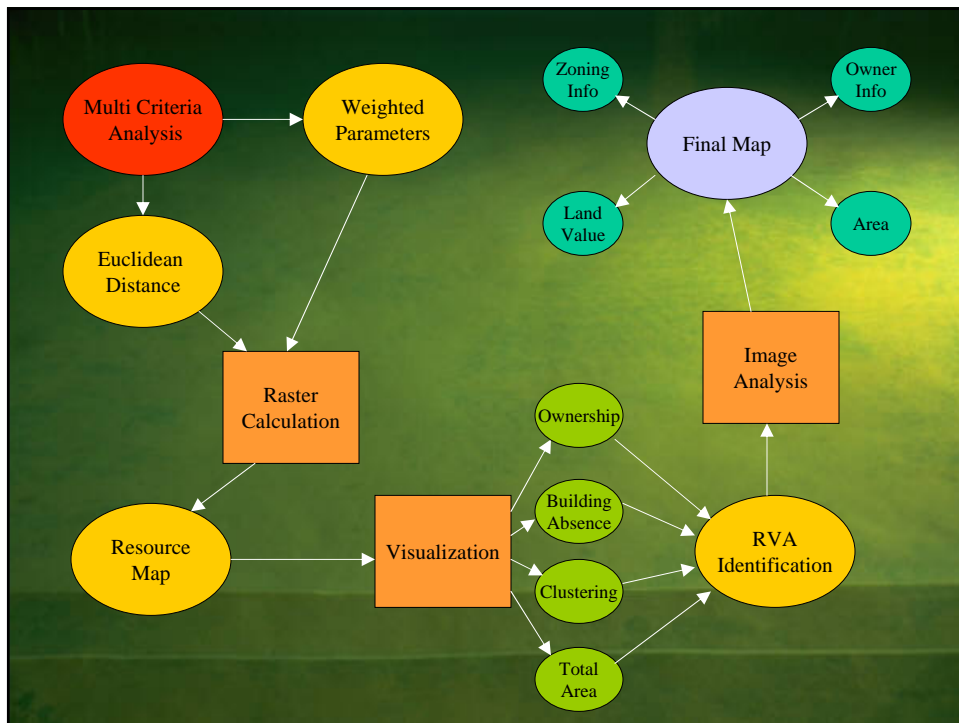
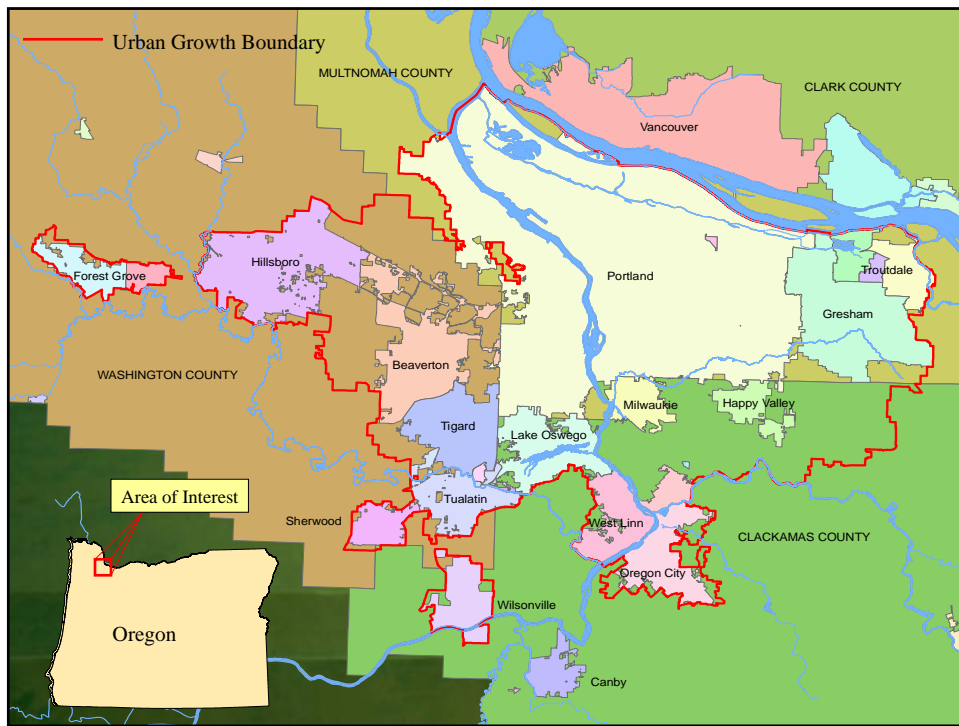
Urban Growth Boundary, Portland, OR

Michael Scisco
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Graduate Term Project
Department of Geography
Portland State University
Portland, OR 97207

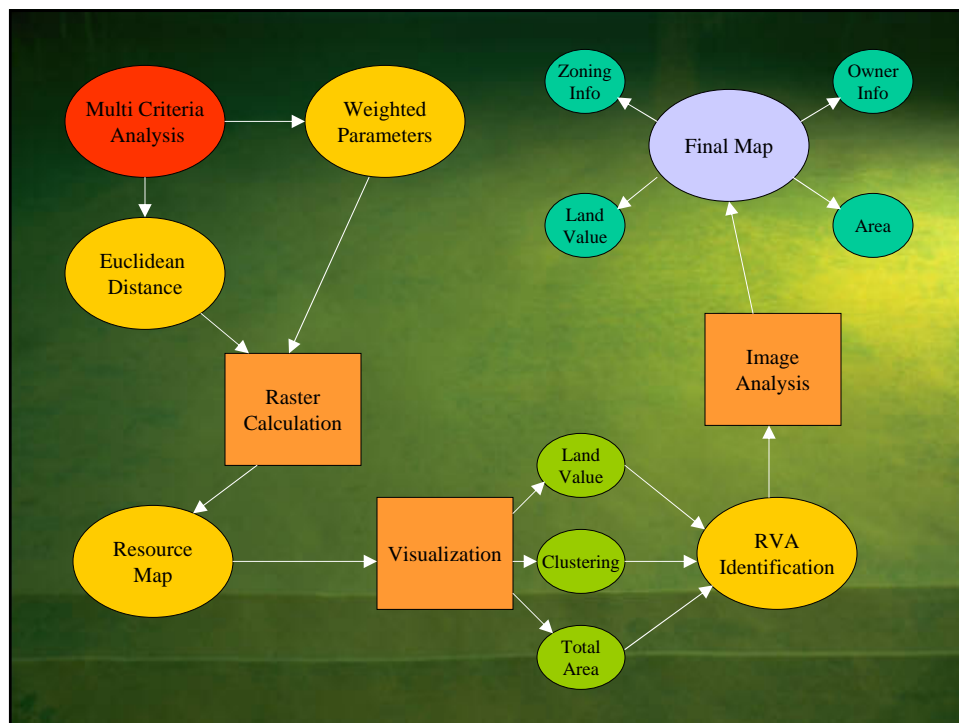
Bond Measure Acquisition

- Possible Metro Bond Measure in 2006 for the acquisition and maintenance of current and potential land areas
- Land areas include open spaces and areas of high natural resource value
 - Recreation
 - Wildlife Habitat/Connectivity
 - Water Quality
 - Open Spaces
 - Invasive Species Removal
- Resource protection area identification crucial for optimal land acquisition

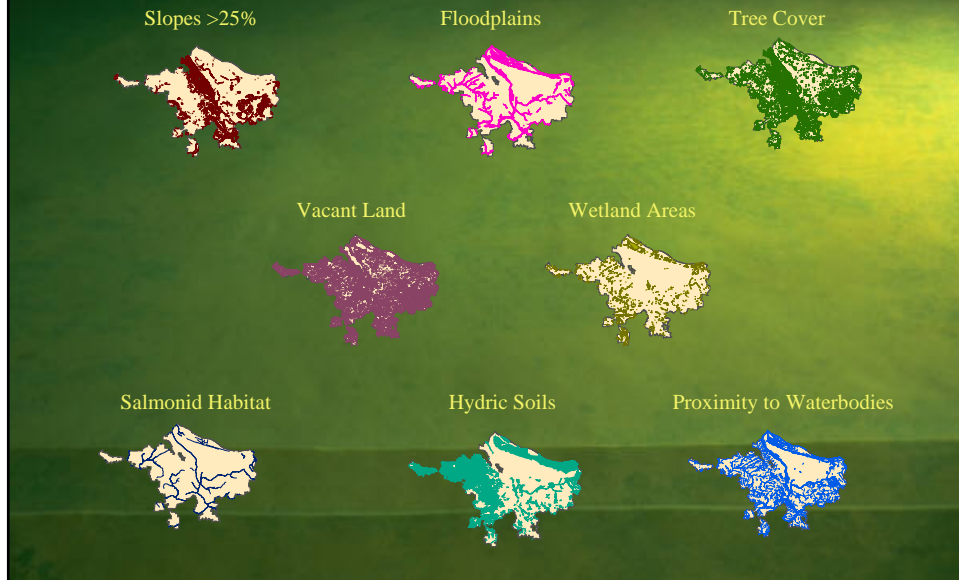


Multi-Criteria Analysis

- Situation with multiple parameters influencing the outcome of an analysis
- Delphi Group Method is desirable for multi-criteria analysis
- Used informal conversations with natural resource experts from the Audubon Society, USFS, Metro, and local watershed organizations
- Assigned weighted parameters based upon expert opinion, literature review, and personal knowledge



Parameters for Analysis



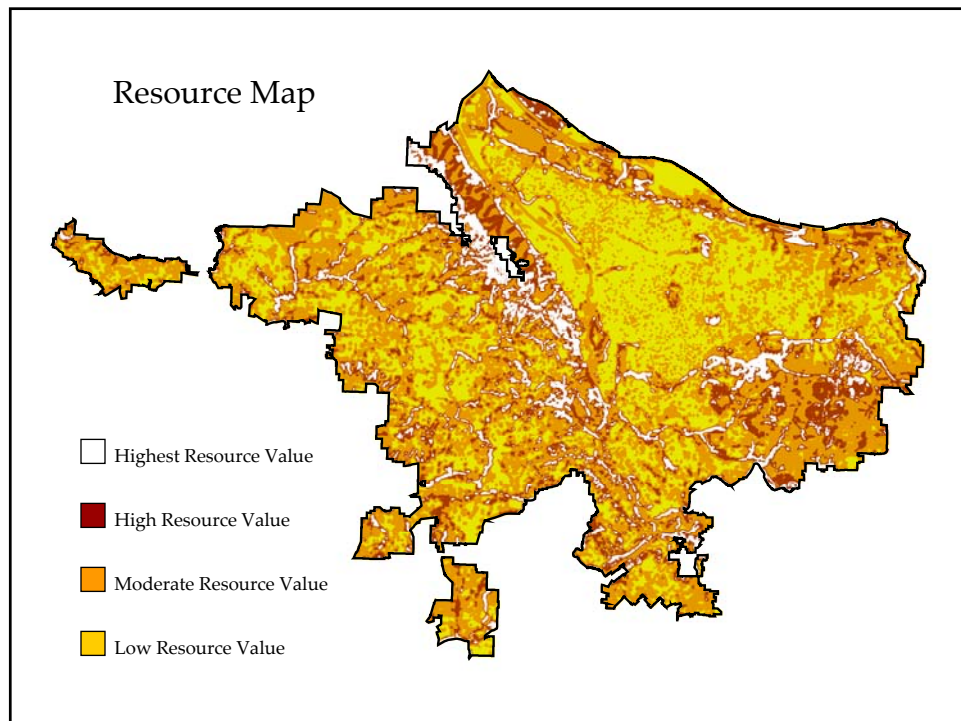
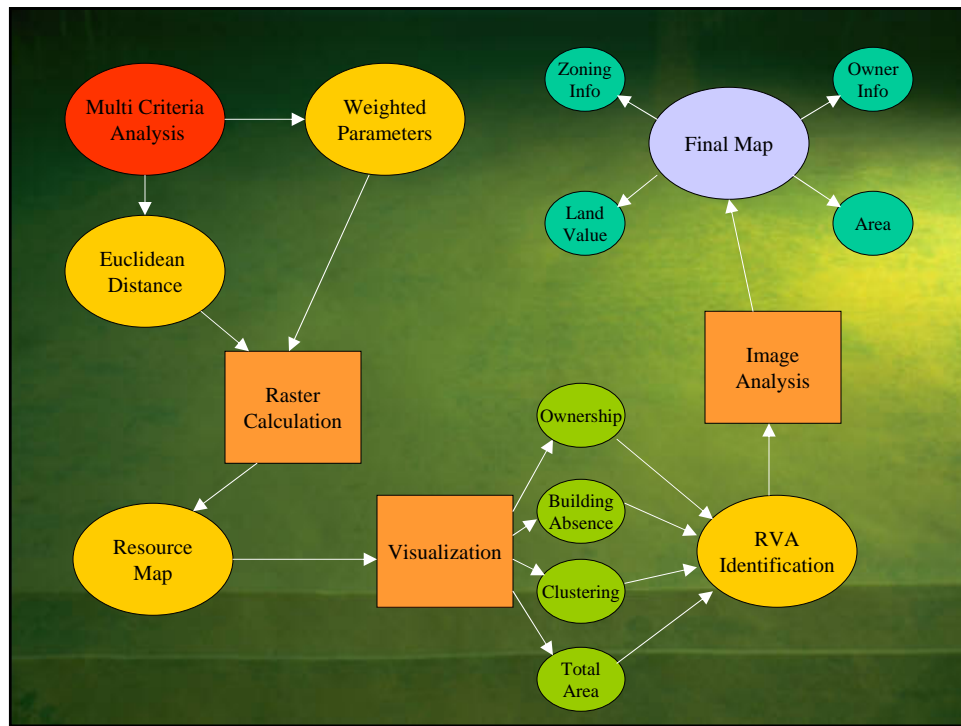
Euclidean Distance Model Used in the Spatial Analysis

Distance From Resource Area (in feet)	Weighted Value*
60	10
120	9
180	8
240	7
300	6
360	5
420	4
480	3
540	2
Extent of Study Area	1

*Higher values indicate greater influence in determining resource areas

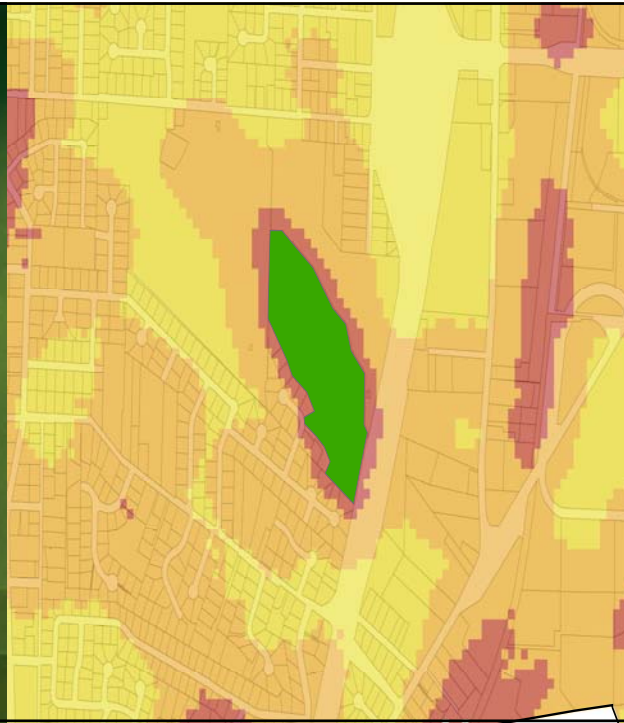
Assigned Weights of the Parameters Used in the Multi-Criterial Analysis

Parameter	Weighted Value (%)
Slope >25%	15
Proximity to Waterbodies	15
Tree Cover	10
Salmonid Habitat	15
Wetlands	10
Hydric Soils	5
Floodplains	10
Vacant Land	20



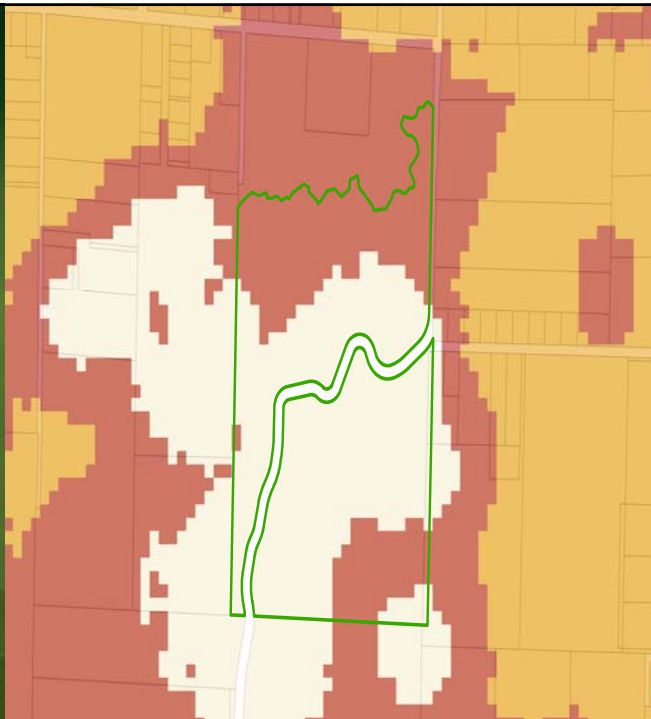
Accuracy Assessment

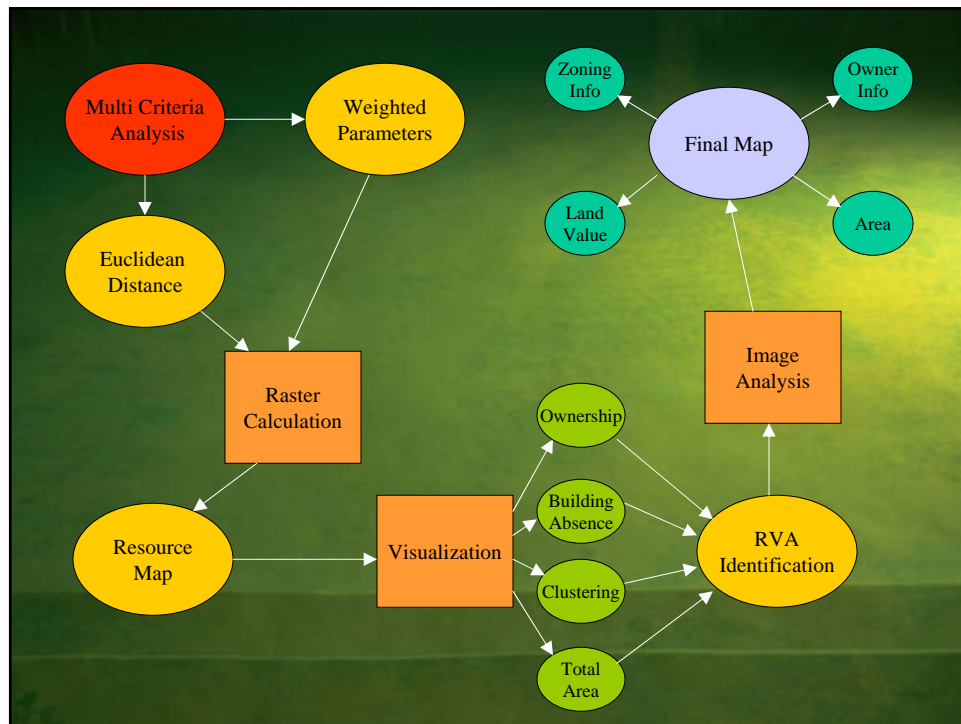
The green area shown
here is owned by the
Wetlands
Conservancy



Accuracy Assessment

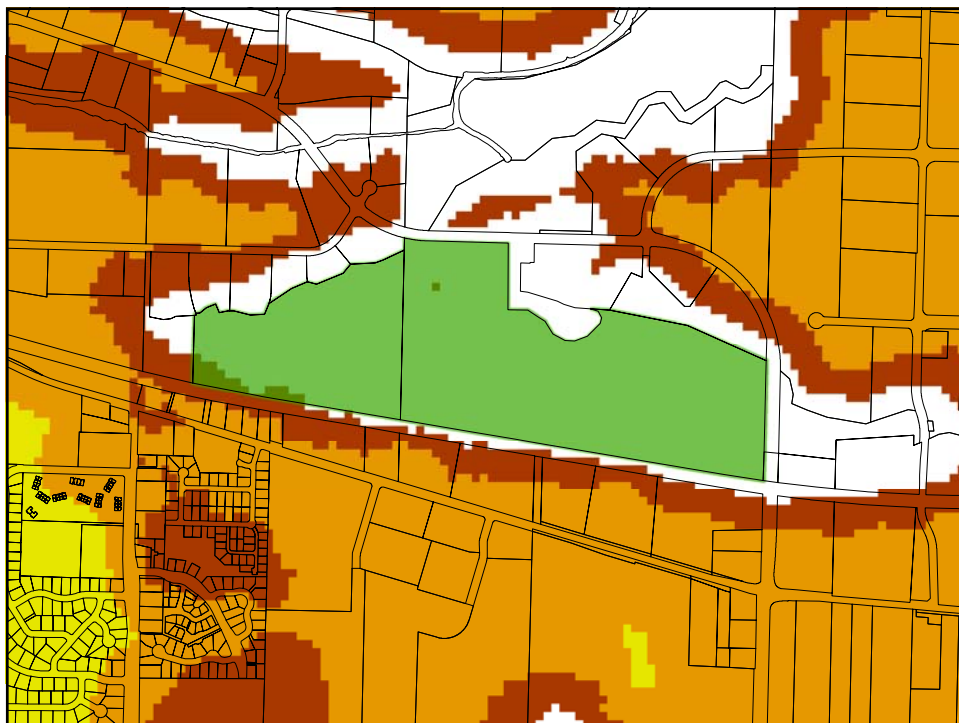
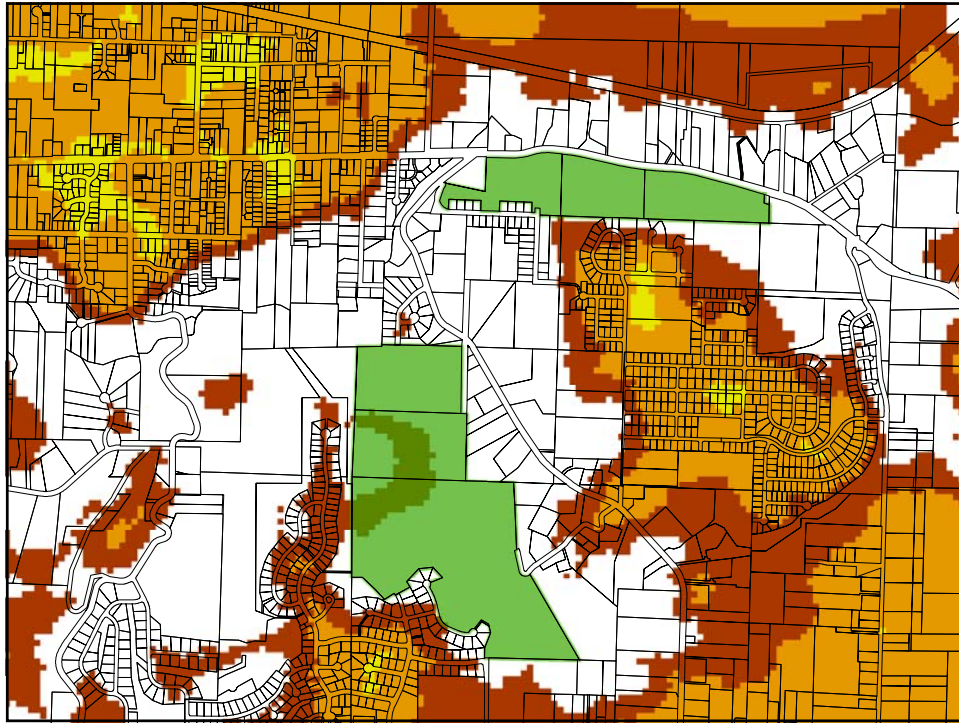
The area outlined in
green is currently
owned by Metro

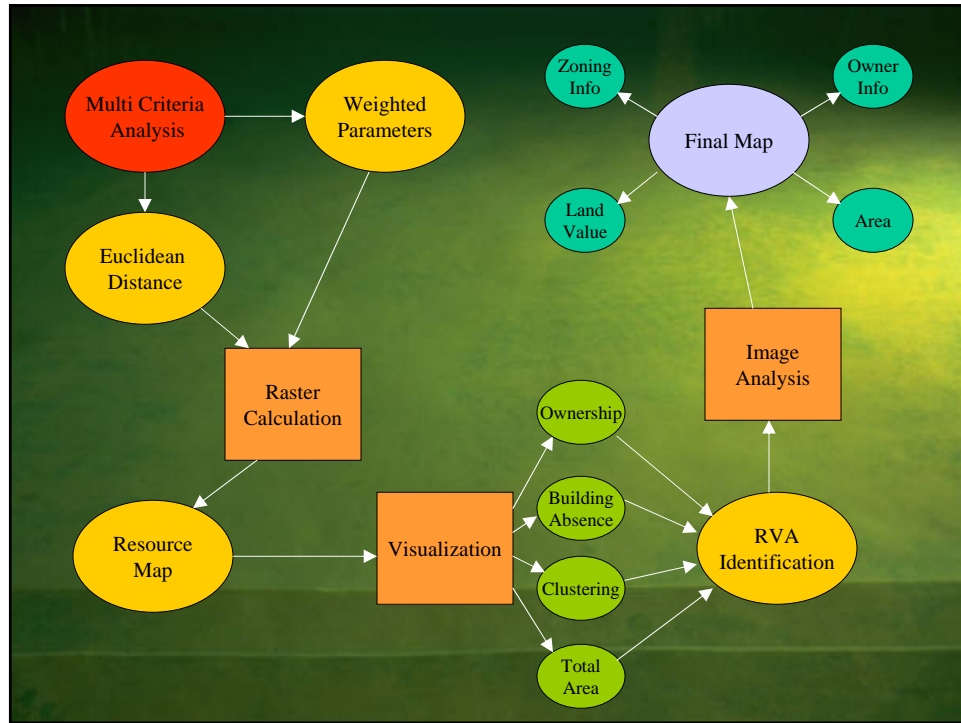




Additional Criteria Analysis

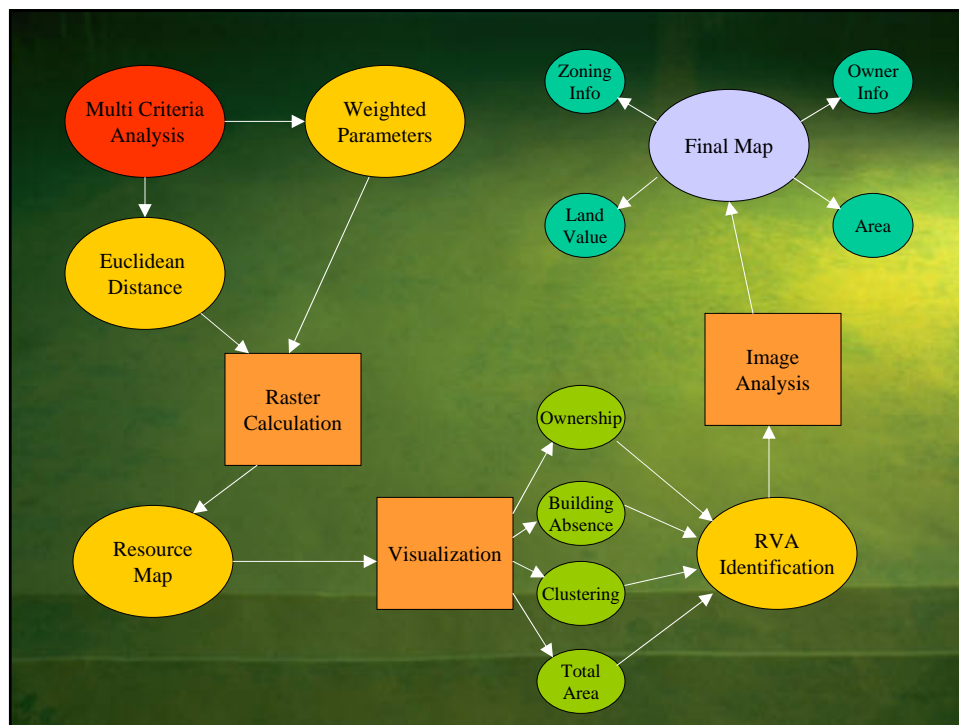
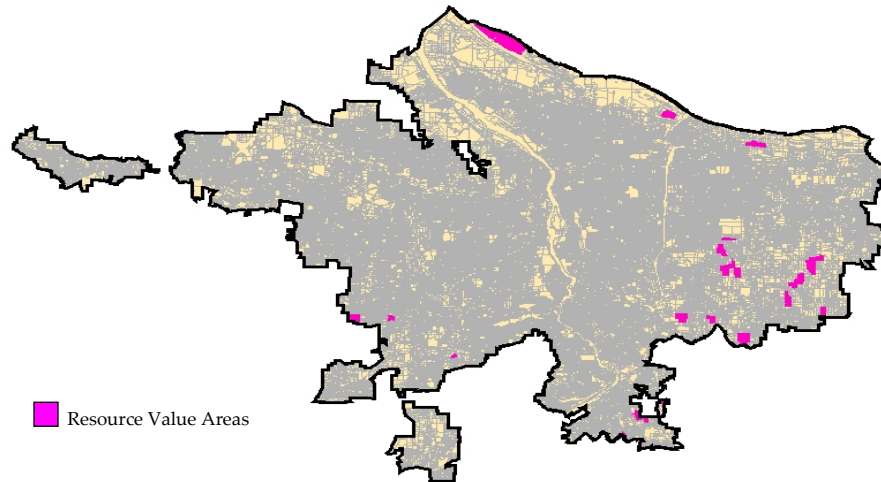
- Selected RVAs using four additional criteria
 - Adjacency to other RVAs (clustering)
 - Total Area
 - Ownership
 - Absence of buildings

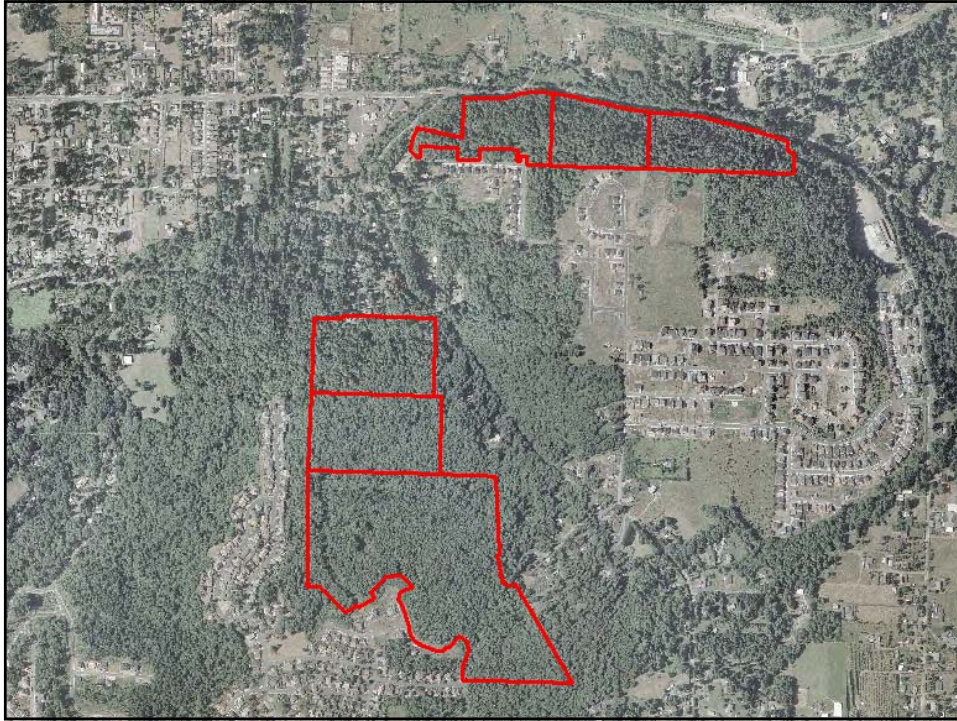


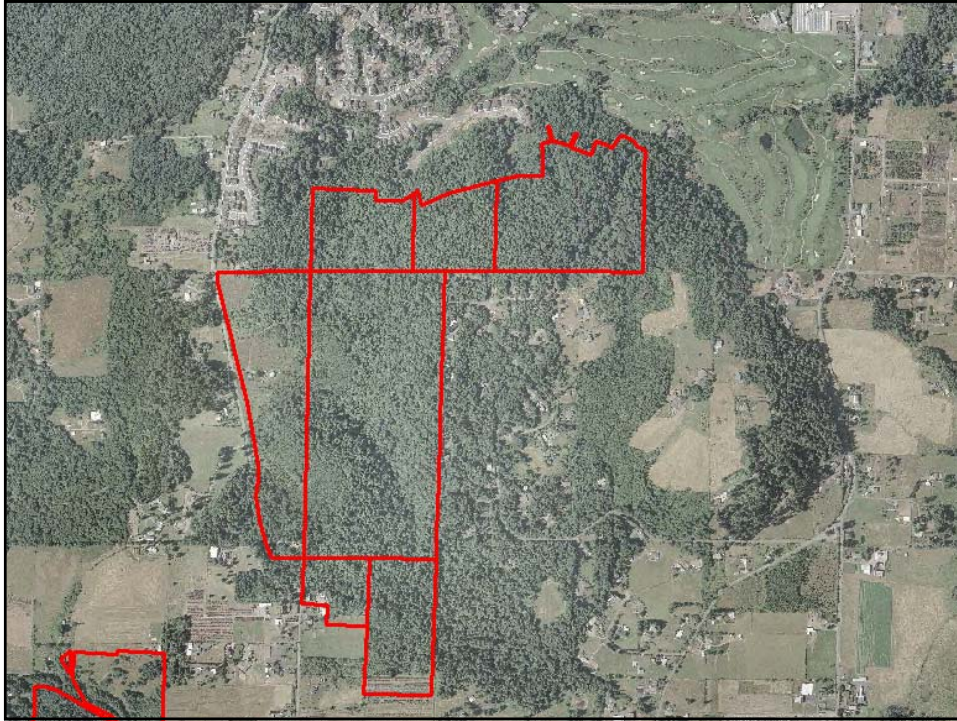


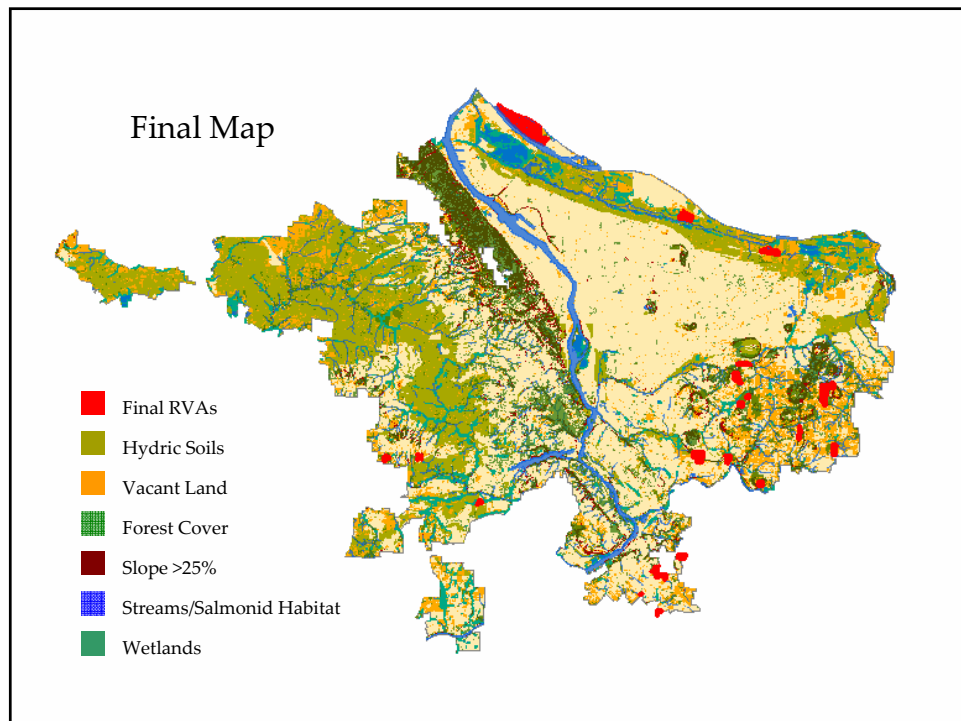
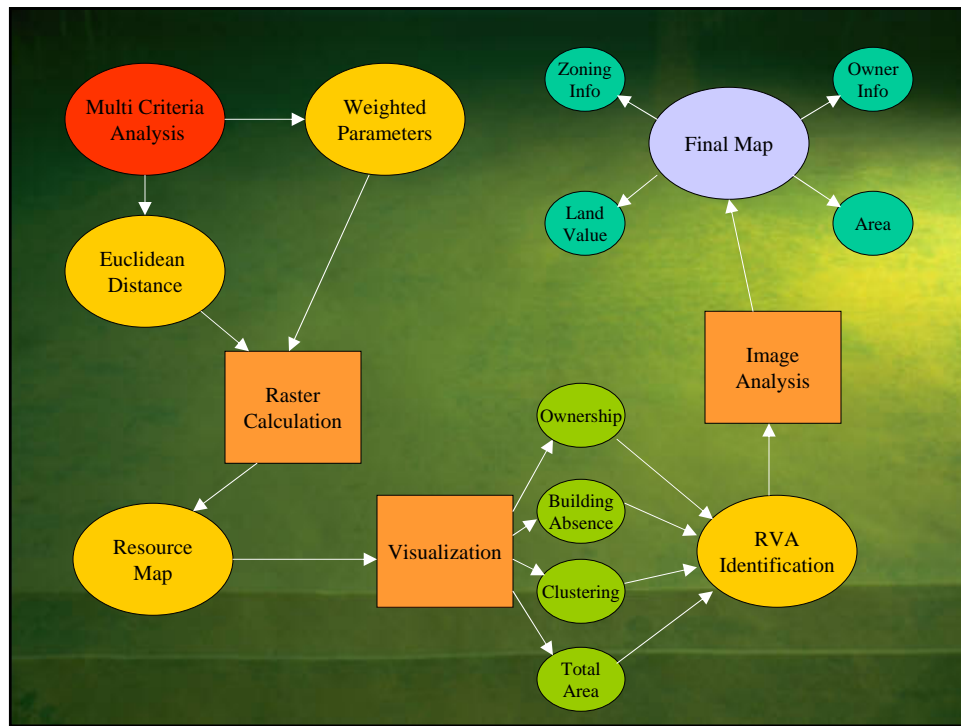
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Resource Value Area Map









Summary and Obtainable Data from RVAs

(lots without buildings)

- Total value of RVAs = \$33,303,386
 - 1996 Bond Measure was \$25,000,000
- Total Acreage of RVAs = 1,761 square acres
 - \$18,912 per acre average
- Owner's name and address
- Type of Land Use
- Taxlot number
- County tax code

Limitations and Shortfalls

- Over-parameterization may be an issue with the number and type of parameters chosen
- Subjective selection of parameter weights
- Lack of field referencing
- Politics of the region and Metro's decision-making process not considered

Conclusions

- RVAs successfully identified
- Analysis completed using readily available data and relatively simple GIS methods
- May be used in the initial identification of areas to consider for acquisition
- Framework for further analysis

