

Eco-Logical Webinar Series



Updating the REF and Ecological Data

Step 9 of the Integrated Eco-Logical Framework

Presenters

William Ostrum, Federal Highway Administration

Meredith Dang, Houston-Galveston Area Council

Steps to Ensure Optimal Webinar Connection

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- Close all background programs
- Use a wired internet connection, if possible
- Do not use a Virtual Private Network (VPN), if possible
- Mute their webroom audio (toggle is located at the top of webroom screen) and use phone audio only

Eco-Logical Updates

- Annual Report describing projects by Implementing Eco-Logical funding recipients (late fall 2014)
- Starter Kit and Practitioners Handbook (fall 2014)
- On-Call Technical Assistance Team (fall 2014)
- SHRP2 C40A Eco-Plan data tool is undergoing open testing ([Eco Plan](#), [Eco-Plan Advanced](#))

Step 9: Updating the REF

This Webinar:

- An example of an agency that is updating its REF for new data and needs
- Discussion of actions and strategies that can help keep the REF relevant in decisionmaking
- **Presentation:** Federal Highway Administration
- **Presentation:** Houston-Galveston Area Council (H-GAC)
- **Discussion:** FHWA/H-GAC

Integrated Eco-Logical Framework (IEF)

- Process to guide transportation and resource specialists in the integration of transportation and ecological decisionmaking.
- Helps identify potential impacts to environmental resources very early in the planning process.

Steps of the IEF (and the Eco-Logical approach)

1. Build and strengthen collaborative partnerships
2. Integrate natural environment plans
3. Create a Regional Ecosystem Framework (REF)
4. Assess effects on conservation objectives

Partner
Share Data
Analyze Effects

5. Establish and prioritize ecological actions
6. Develop crediting strategy

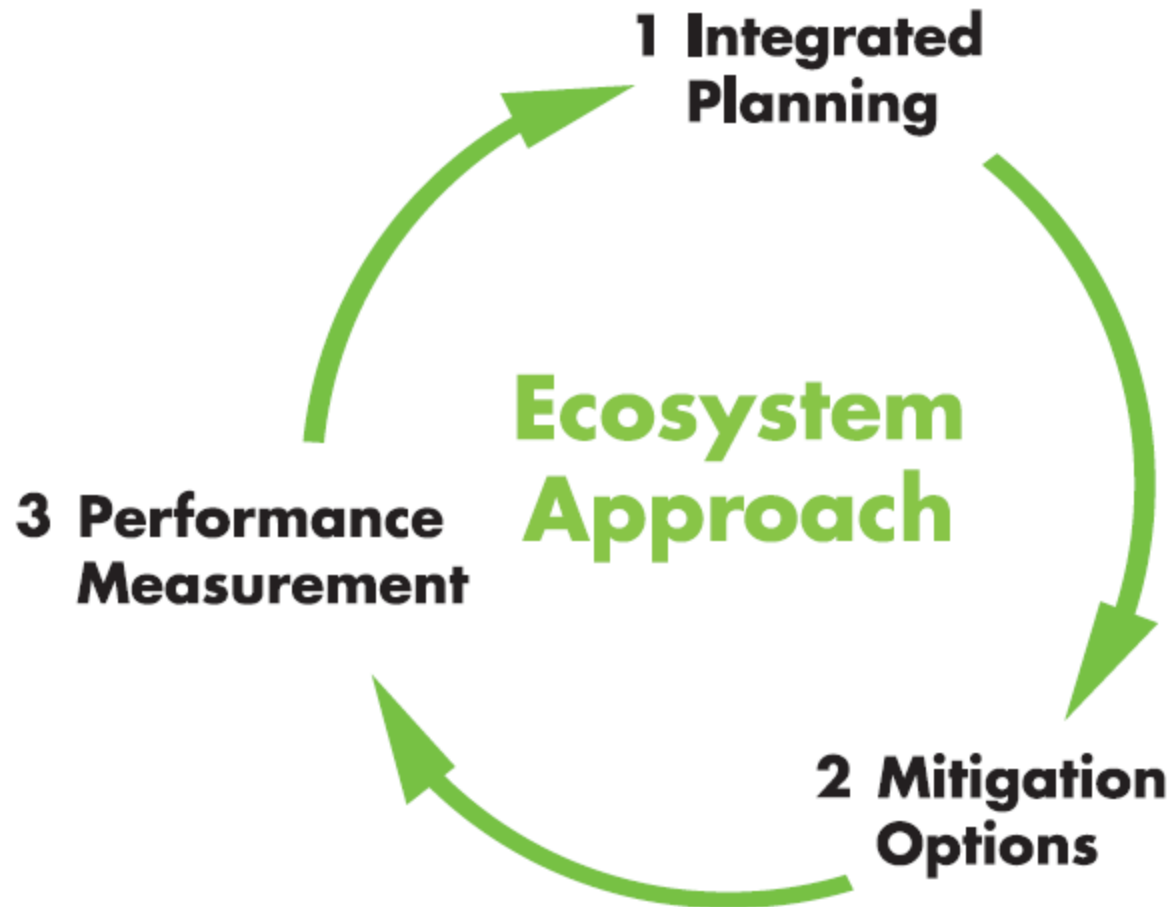
Identify key sites
and actions

7. Develop programmatic consultation, biological opinion, or permit
8. Implement agreements, adaptive management, and deliver projects

Document
Implement
Evaluate

9. **Update REF**

Step 9: Updating the REF



Potential Update Actions



Expand REF geography and data types



Incorporate most recent data layers



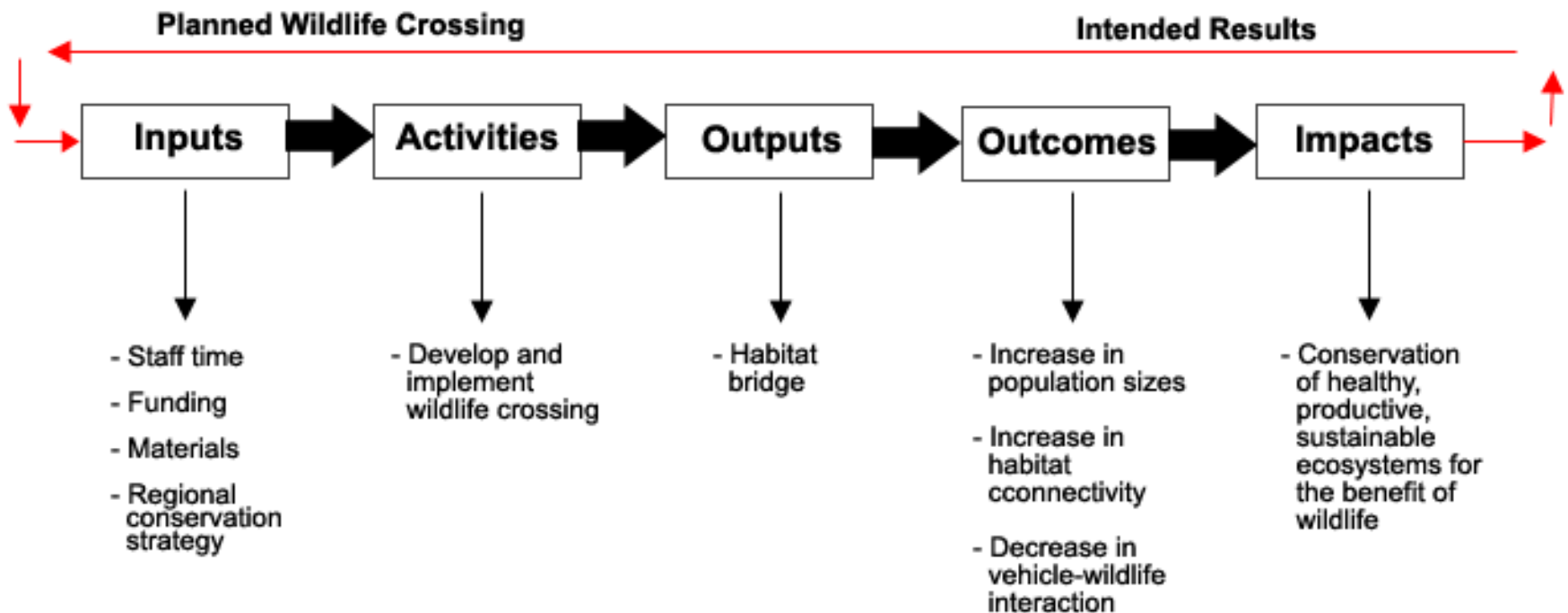
Consider effects of implemented transportation and mitigation projects



Re-evaluate regional environmental and infrastructure priorities

Performance Feedback in the REF

Example Logic Model for a Wildlife Crossing*



Potential Update Strategies

- Regularly-scheduled or real time data updates from partners
- Continued engagement with stakeholders
 - Formal (e.g. MOUs, data-sharing agreements)
 - Informal
- Performance management and planning that includes ecological data

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Updating the REF and Ecological Data

Step 9 of the Integrated Eco-Logical Framework

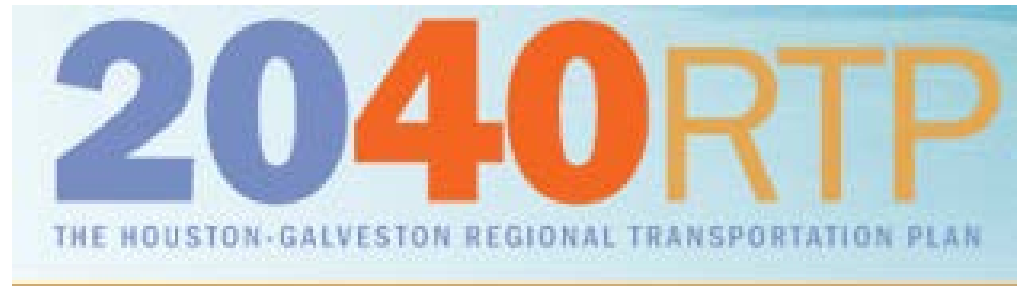
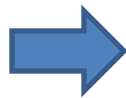
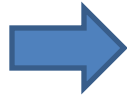
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- Mike Ruth, Federal Highway Administration (Mike.Ruth@dot.gov)
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Meredith Dang, AICP
Houston-Galveston Area Council
June 25, 2014

Houston-Galveston
Area Council

Working with Existing Plans

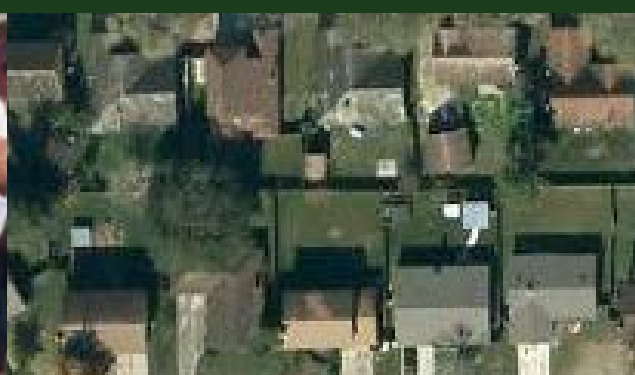




By 2040 The Region Will Add



**3.5 million more
people**



**306 sq. miles of
development**



8,526 lane miles

Can We Also Have This?



Eco-Logical Project Need

- Lack of ecosystem approach to long-range planning
- Coordinating transportation and conservation needs early in the process



Purpose of Eco-Logical

- Decision support system for regional planning
- Inventory of high value environmental resources
- Data clearinghouse for organizations and the public

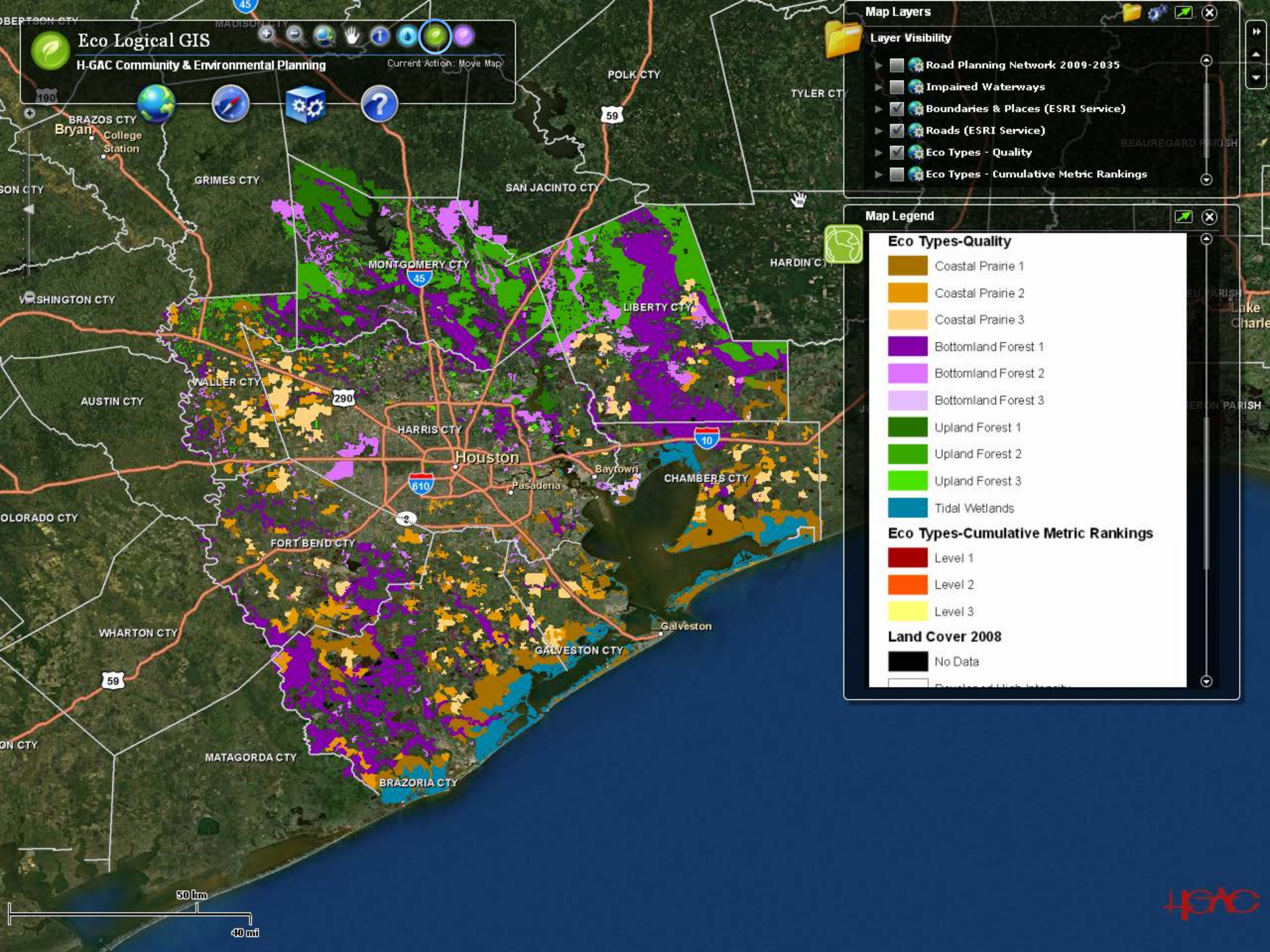




Eco Logical GIS

H-GAC Community & Environmental Planning

Current Action: Move Map



Map Layers

Layer Visibility

- ☐ Road Planning Network 2009-2035
- ☐ Impaired Waterways
- ☒ Boundaries & Places (ESRI Service)
- ☒ Roads (ESRI Service)
- ☒ Eco Types - Quality
- ☒ Eco Types - Cumulative Metric Rankings

Map Legend

Eco Types-Quality

- Coastal Prairie 1
- Coastal Prairie 2
- Coastal Prairie 3
- Bottomland Forest 1
- Bottomland Forest 2
- Bottomland Forest 3
- Upland Forest 1
- Upland Forest 2
- Upland Forest 3
- Tidal Wetlands

Eco Types-Cumulative Metric Rankings

- Level 1
- Level 2
- Level 3

Land Cover 2008

- No Data

50 km
40 mi

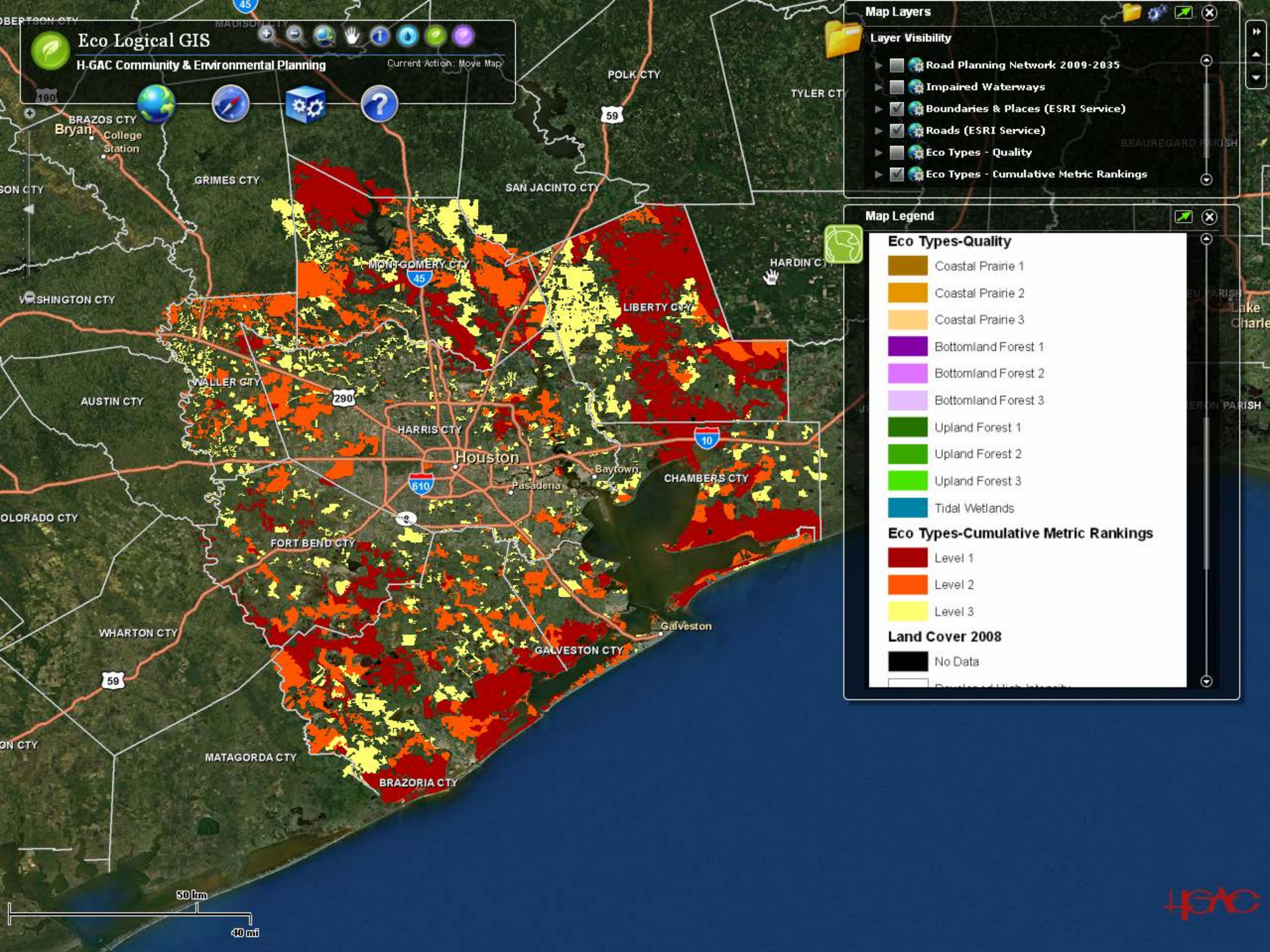




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Eco Types-Cumulative Metric Rankings

- Level 1
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Land Cover 2008

- No Data



Eco Logical GIS

H-GAC Community & Environmental Planning

Current Action: Select Pathway



Map Layers

Map Legend

Eco Types - Weighted Queries

Enter buffer and importance rankings - then use a tool to define area

Buffer: 1 miles

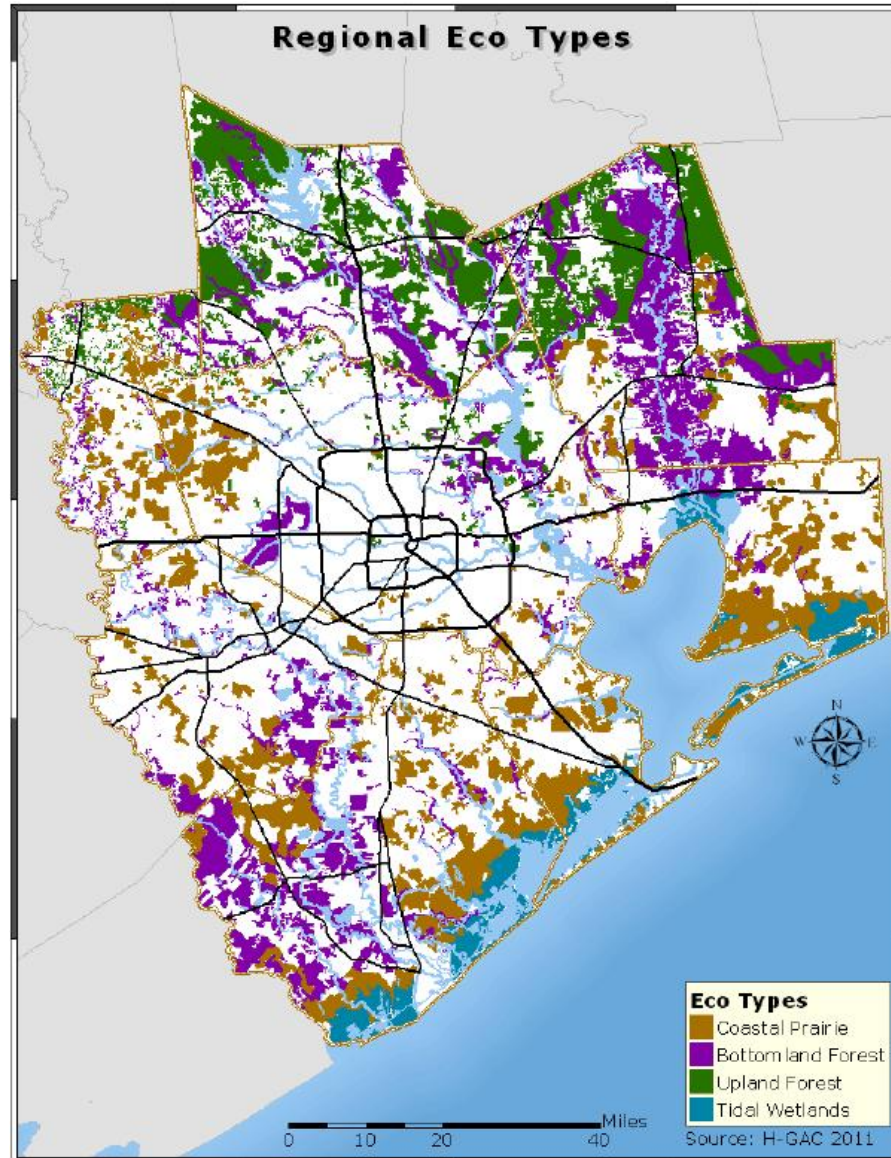
- | | | | |
|--------------------|---|-------------|---|
| Size | 3 | Isolation | 4 |
| Shape | 1 | T/E Species | 3 |
| Regional Scarcity | 1 | Diversity | 1 |
| Watershed Scarcity | 1 | Quality | 1 |
| Adjacency | 2 | | |



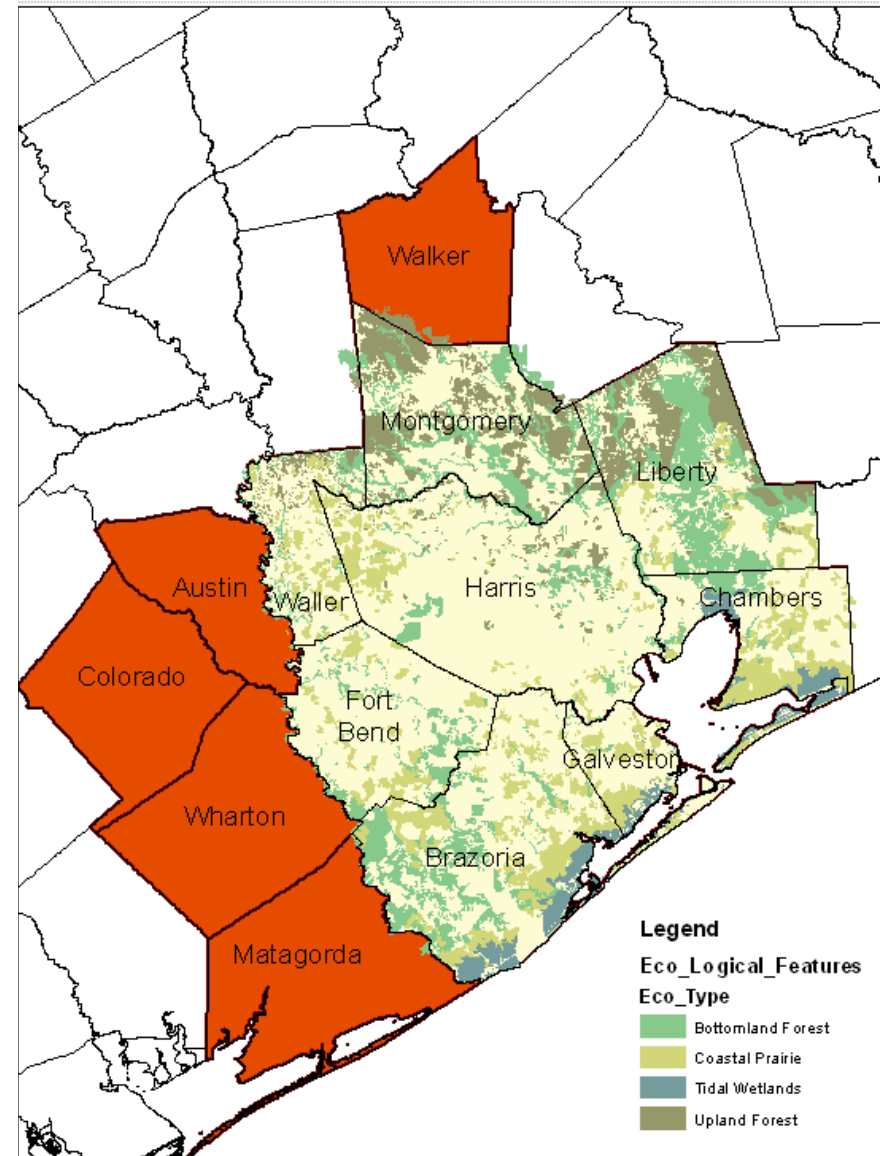
Result	Value
Ecotype Acres Impacted	23,808.90
Coastal Prairie Acres	15,707.66
Bottomland Forest Acres	0.00
Upland Forest Acres	0.00
Tidal Wetland Acres	8,101.24
Level 1 Ecotypes	5
Level 1 Acres	73,790.37
Level 2 Ecotypes	3
Level 2 Acres	5,981.04
Level 3 Ecotypes	0



Expanded Mapping



Original Eco-Logical 8 Counties

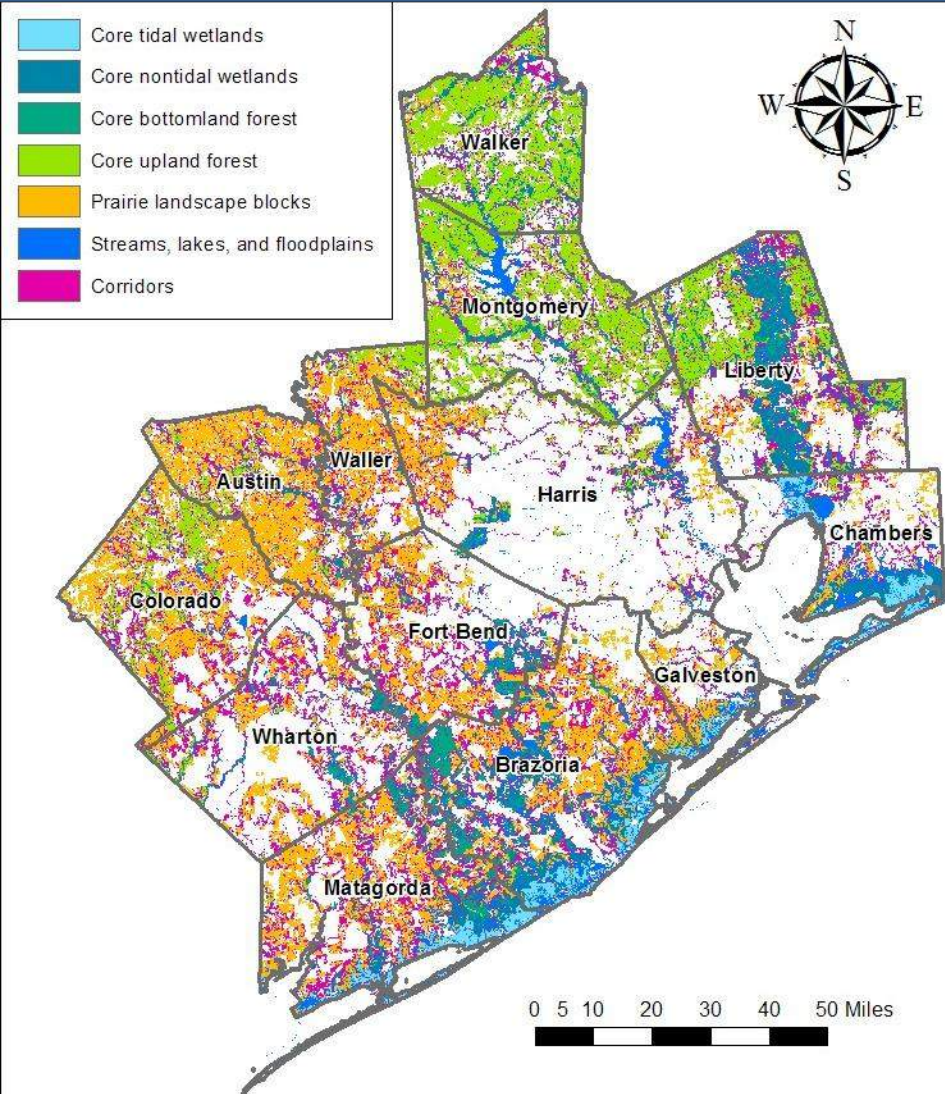
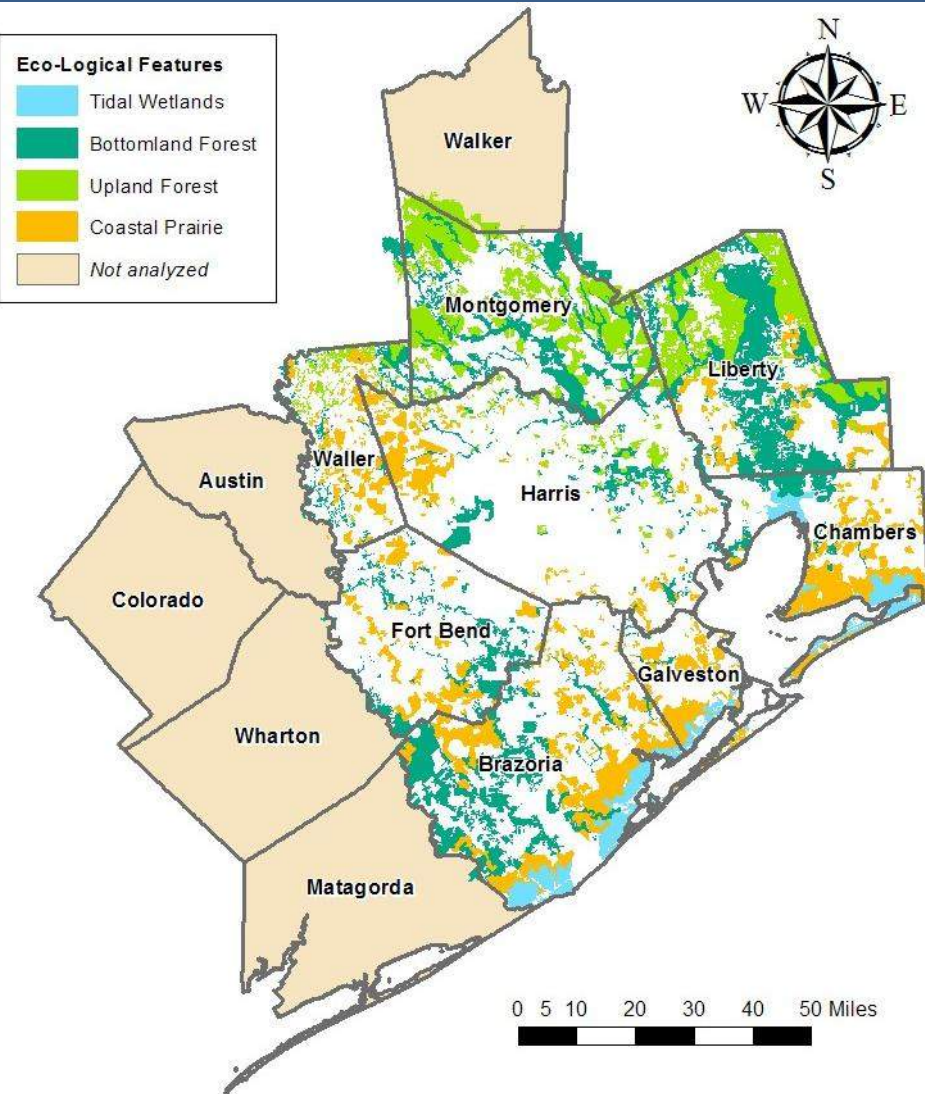


Sustainable Community 13 Counties

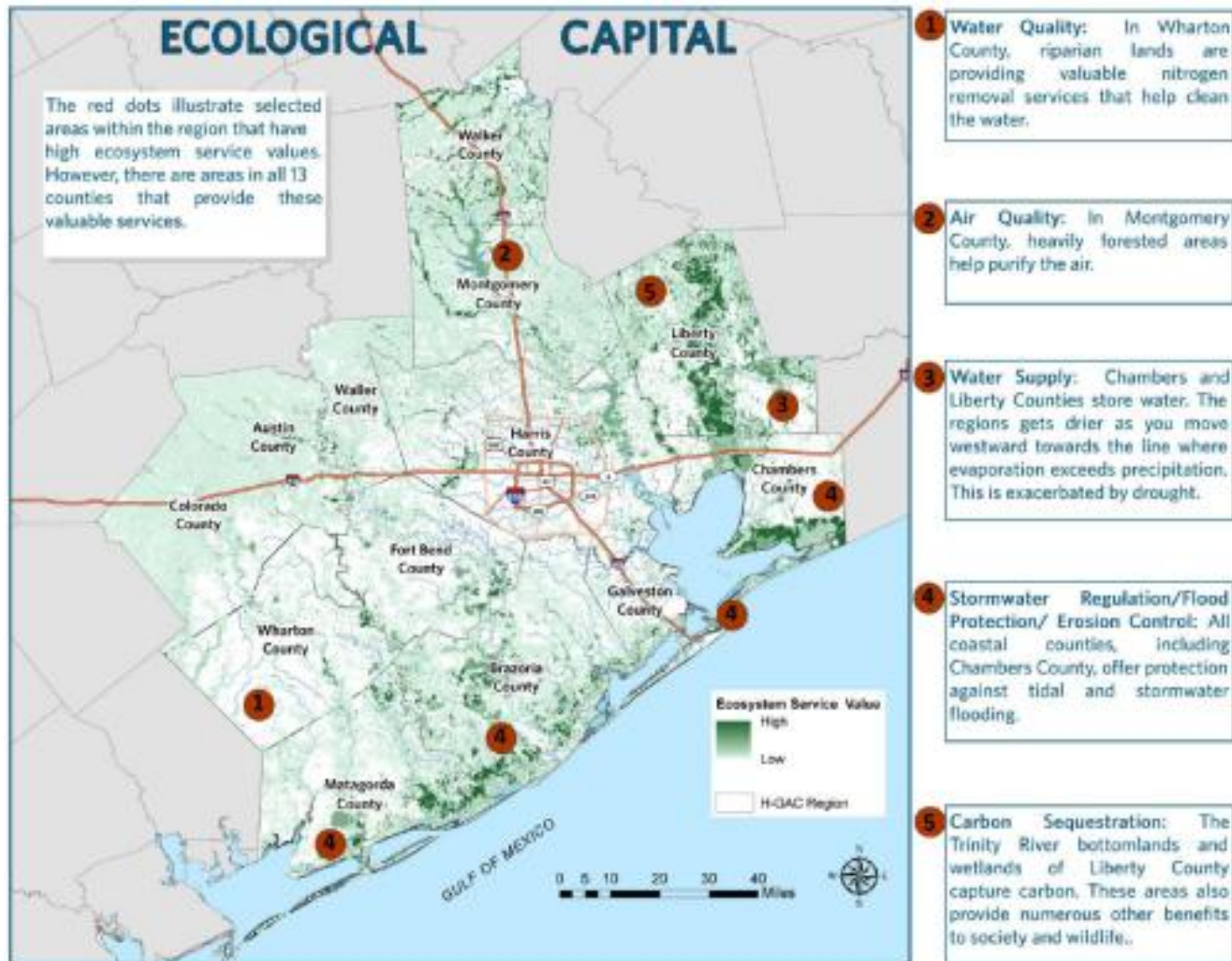
Eco-Logical GIS Update for 13-Counties

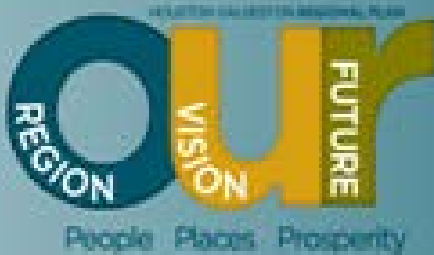
THE CONSERVATION FUND

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Eco-Logical Services Assessment





➤ Help make the
vision for a better
tomorrow a reality!

What choices should we make when planning for the **future of our region?**

Forecasts by the Houston-Galveston Area Council
predict that by the year 2040, our region will:

- Grow by 3.5 million people
- Gain 1.9 million jobs
- Become a “majority minority” population

For this survey, please consider three possible futures for the region. Each represents one of the top three areas residents indicated were important during a survey conducted in early 2012 - **Less Time on the Road**, **Greener Region**, **Competitive Workforce**. As a baseline when thinking about these three alternative futures, please consider the **Current Course**, or what the future may look like if we don't make any changes to our current growth, environmental and educational trends.



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2040 Current Course

- Existing trends continue
- No major policy changes
- Most of growth occurs outside of existing towns and cities
- Traffic congestion increases
- Large amount of natural areas lost to development
- Education concerns not addressed, leading to a less competitive workforce

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2040 Alternative Future: Less Time on the Road

- Reduction in travel times, costs
- Most of growth occurs in existing places
- More jobs and housing located closer together
- Some new housing is smaller sized, in walkable areas
- More investment in sidewalks, bikeways, public transportation
- Better air quality

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2040 Alternative Future: Greener Region

- Air and water quality improved
- Development reduced in flood and storm surge vulnerable areas
- Best natural areas preserved
- New businesses, workers, tourists attracted by natural areas
- Greener practices adopted by local governments

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2040 Alternative Future: Competitive Workforce

- Increase in education attainment of residents
- Community factors, such as poverty and crime, addressed
- Highly skilled workforce
- Competitive economic region
- Good jobs and job training opportunities



Greener Region

In this alternative, the region has made a major effort to preserve its best natural areas—wetlands, forests, prairies and shorelines—and to reduce air and water pollution. Suburban growth trends continue, with the exception that development is greatly reduced in those areas most vulnerable to flooding and hurricane storm surge—which are also some of the region's best wildlife habitat.

Public and private funds are used to preserve many prime natural areas and provide access to residents and visitors for outdoor recreation. These efforts increase the quality of life for residents and enhance the region's ability to recruit new business and skilled workers and to attract tourists.

This alternative preserves high-quality natural areas.

-  HIGH-QUALITY NATURAL AREAS
-  EXISTING COMMUNITIES



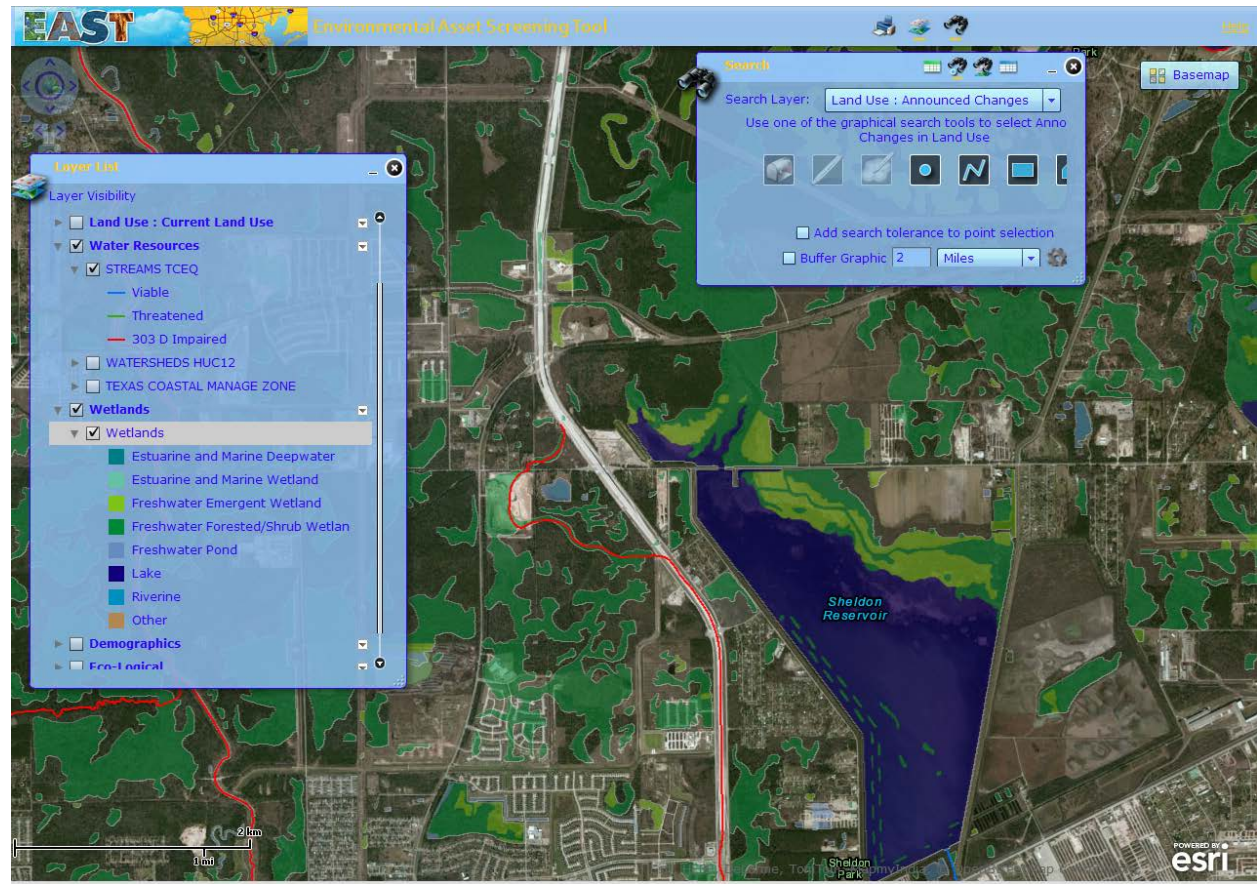
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Integration with Future Plans



- Analyze the potential impacts to natural resources
- Capture impacts as a performance measure



Next Steps



- Regional mitigation plan
- Mitigation banks and credit availability
- Share data and analysis
- Broaden partnerships



Questions?

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www.h-gac.com/go/eco-logical

www.ourregion.org

www.2040plan.org