

The Opportunity for Co-Benefits in Stream Restoration

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Why is Stream Restoration Done?

The primary drivers of Stream Restoration are:

1. **Pollution Reduction**
2. Flood Attenuation / Resiliency
3. Infrastructure Protection
4. Mitigation (Permittee-responsible, or Compensatory)
5. Habitat Improvement and Species Recovery

These are all essential objectives as they are driven by regulation (Clean Water Act) and the protection of public health, safety, and welfare (Engineering Code of Ethics).

What drives Stream Restoration in MD?: Pollution Reduction

91% of suspended fine sediment in streams comes from streambanks

(Cashman, USGS, 2018)



Co-Benefits: The opportunities:

- ◆ Habitat Improvement
- ◆ Long-term Conservation
- ◆ Forest Quality Enhancement
- ◆ Public Access
- ◆ Environmental Justice
- ◆ Aquatic Resources: Non-tidal wetlands
- ◆ Climate Resilience: Flood protection
- ◆ Carbon Sequestration
- ◆ Fish Passage: migratory species
- ◆ Local Economic Investment (Jobs)
- ◆ Infrastructure Protection

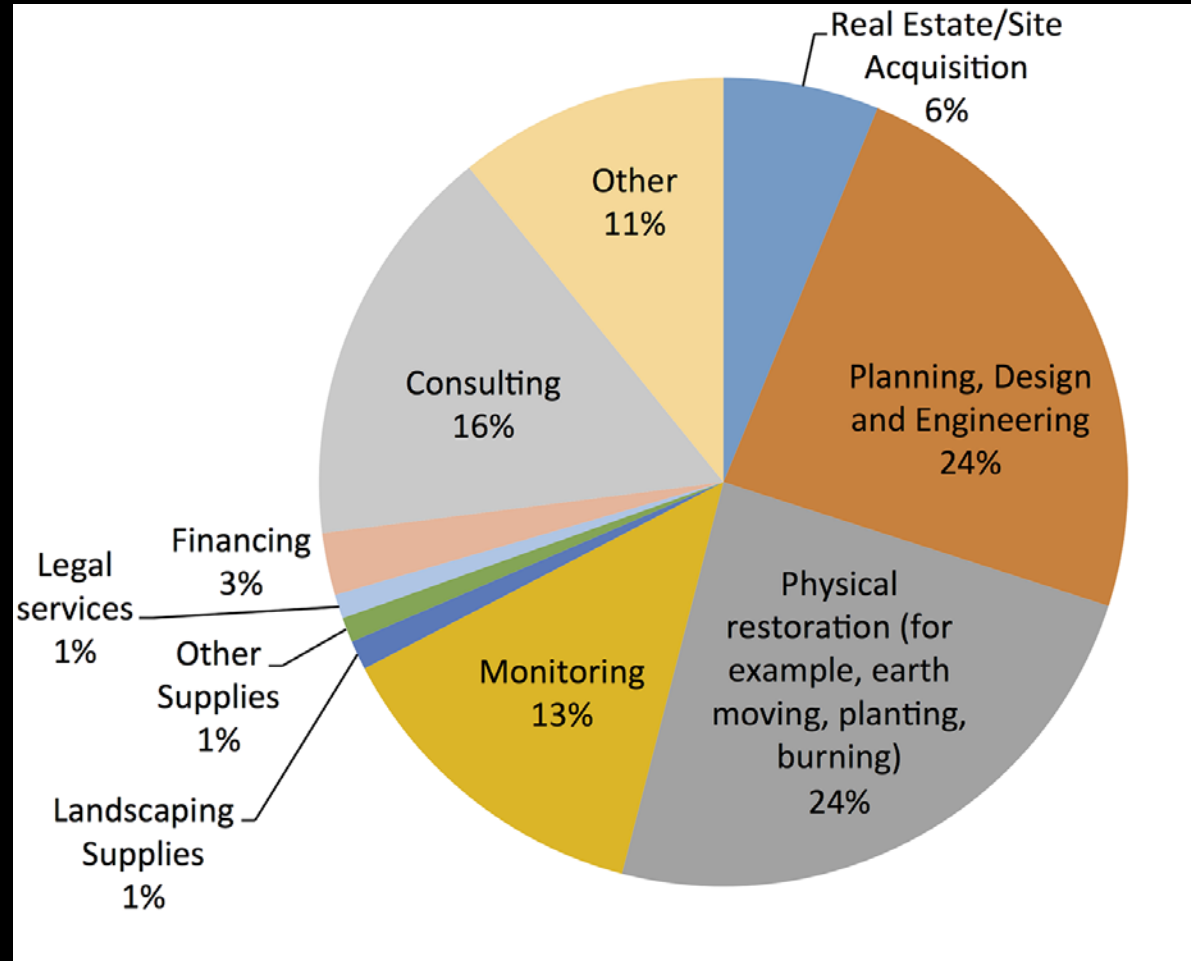
Co-benefits: Economy

- ◆ Labor-intensive, High-skill Work
- ◆ Innovation Engine recognized nationwide
- ◆ Benefits accrue locally— physical connection to the community.
- ◆ Citizens engaged in high-skill, well-compensated, professions that improve the environment. **366 Members of MSRA**
- ◆ Property Value



What is the Restoration economy? (National Data)

**Restoration
Activities =**



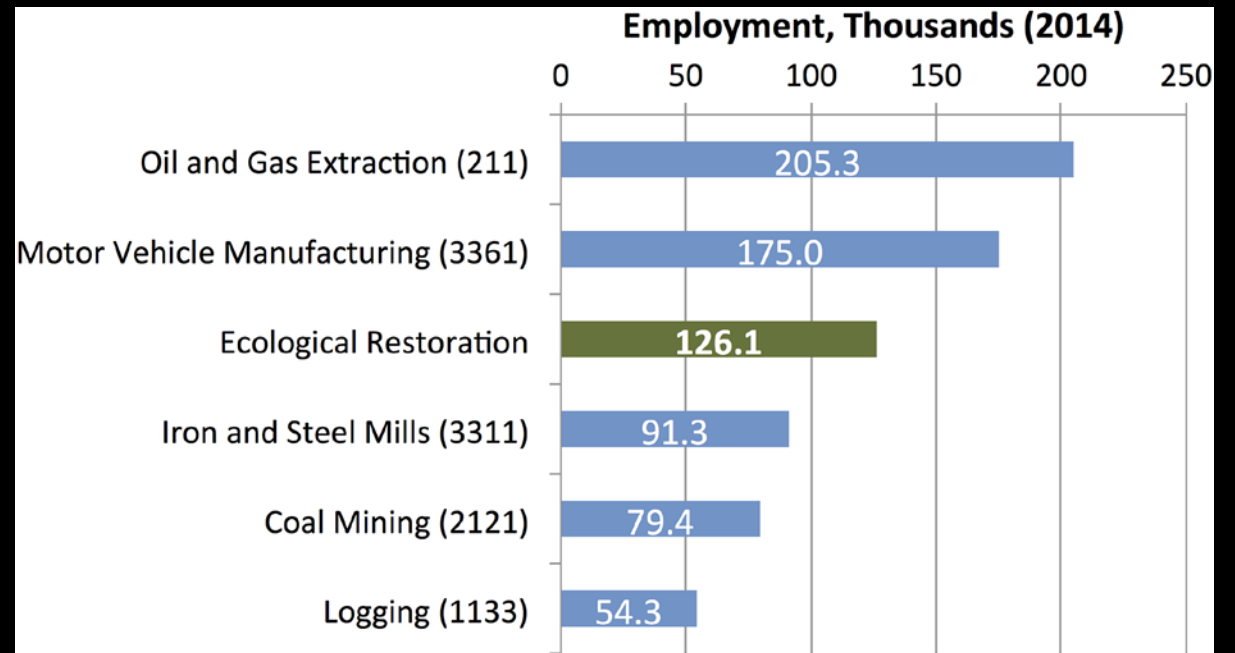
Source: BenDor, Lester, Livengood, Davis, Yonavjak, 2015 *Estimating the Size and Impact of the Ecological Restoration Economy*

How Many People Work In The Restoration Economy?

ECOLOGICAL RESTORATION DIRECT EMPLOYMENT:

- 126K DIRECT EMPLOYMENT
- 95K INDIRECT EMPLOYMENT

HOW MANY ARE EMPLOYED
IN MARYLAND? (NO DATA
BUT TENS OF THOUSANDS)

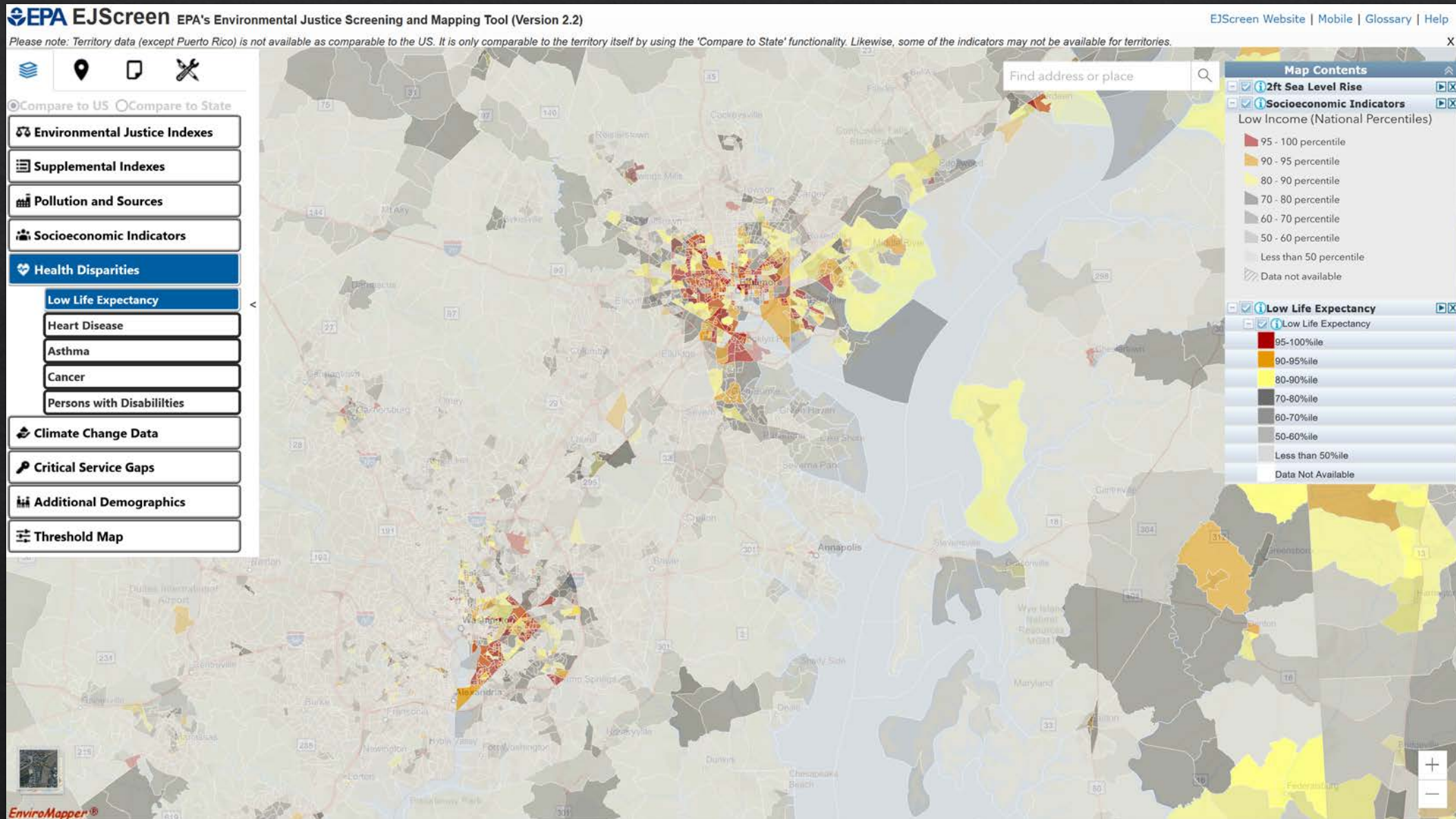




Co-benefits: Forest Quality

- ◆ Non-native invasive plants: → ◆ Native Vegetation Management
- ◆ Deer-pressure: → ◆ Deer Protection
- ◆ Bank Erosion: → ◆ Stability and Better Hydrology

Environmental Justice:



Co-Benefits: Public Access

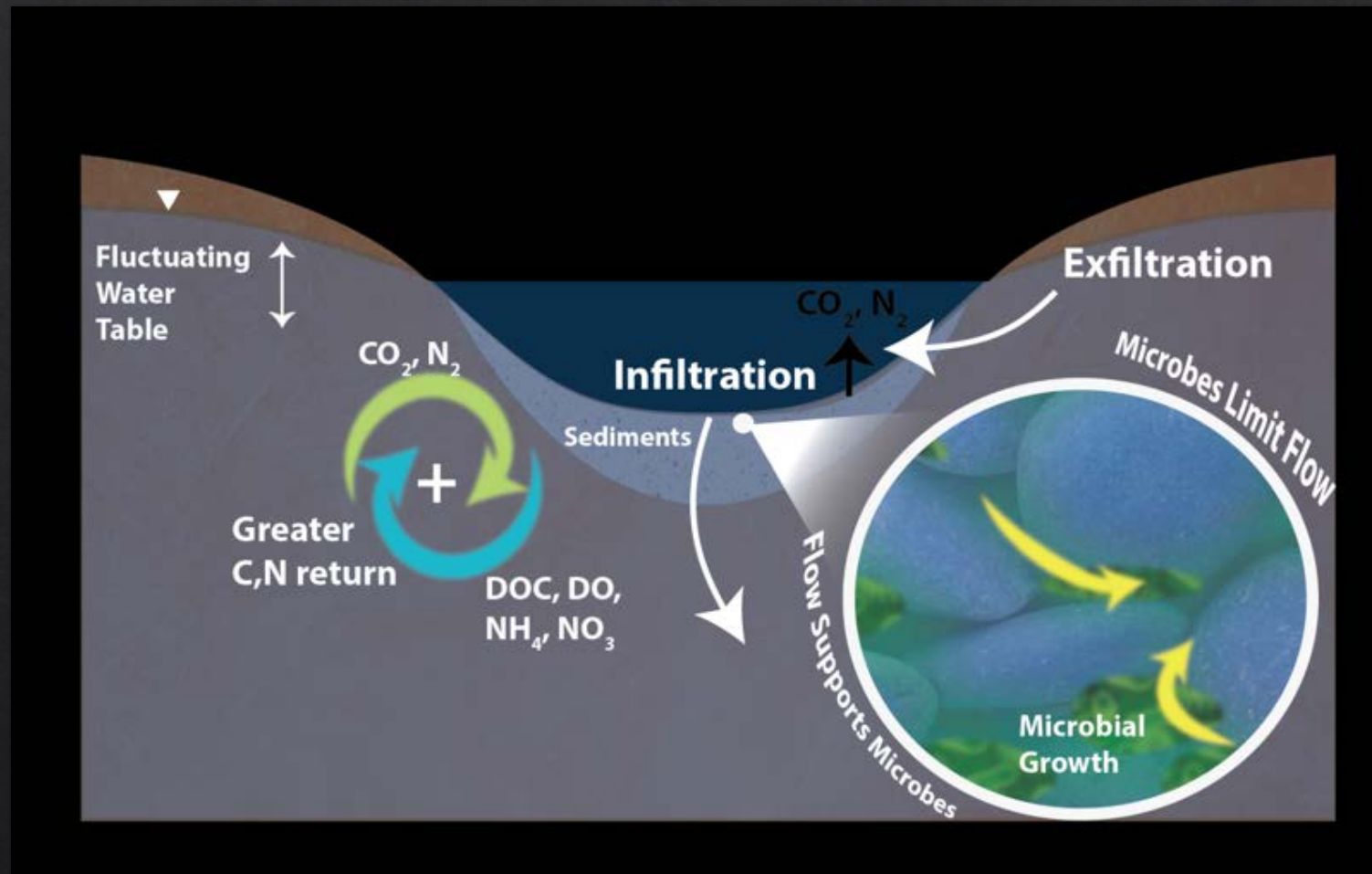


Co-Benefits: Climate Resilience/Flood Protection

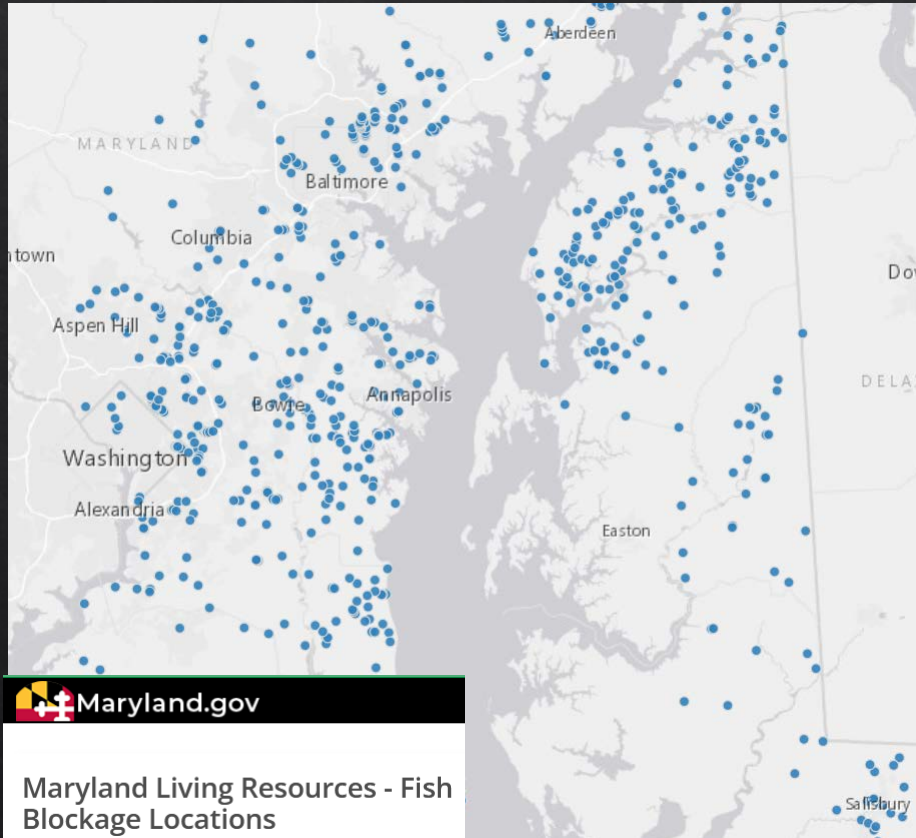


Carbon Sequestration: 48% more organic carbon processing in healthy streams

(Burrows, Nature, 2018)



Co-Benefits: Fish Passage



Co-Benefits: Infrastructure Protection



Long-term Land Conservation



Co-Benefits: Habitat Improvement:



Aquatic Resources: Wetland Creation



PSA: Keep the Cars out.





THANK YOU!

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QUESTIONS?