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# The Rapid Benefits Indicators (RBI) Approach: A Process for Assessing the Social Benefits of Ecological Restoration

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# Project team/collaborators

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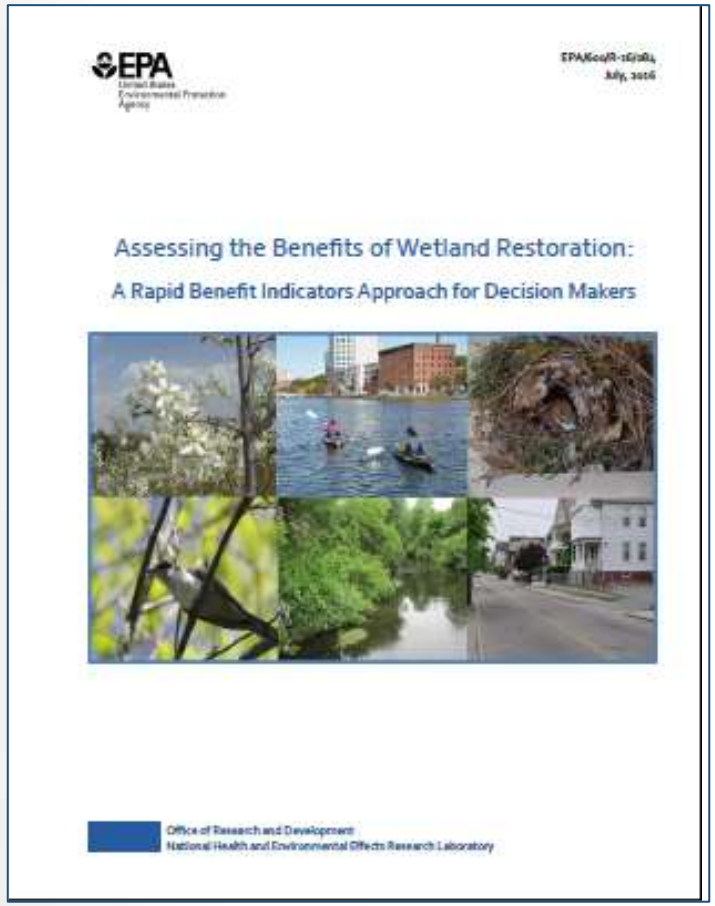
Photo: Woonasquatucket River Watershed Council

# A rapid assessment approach using benefit indicators



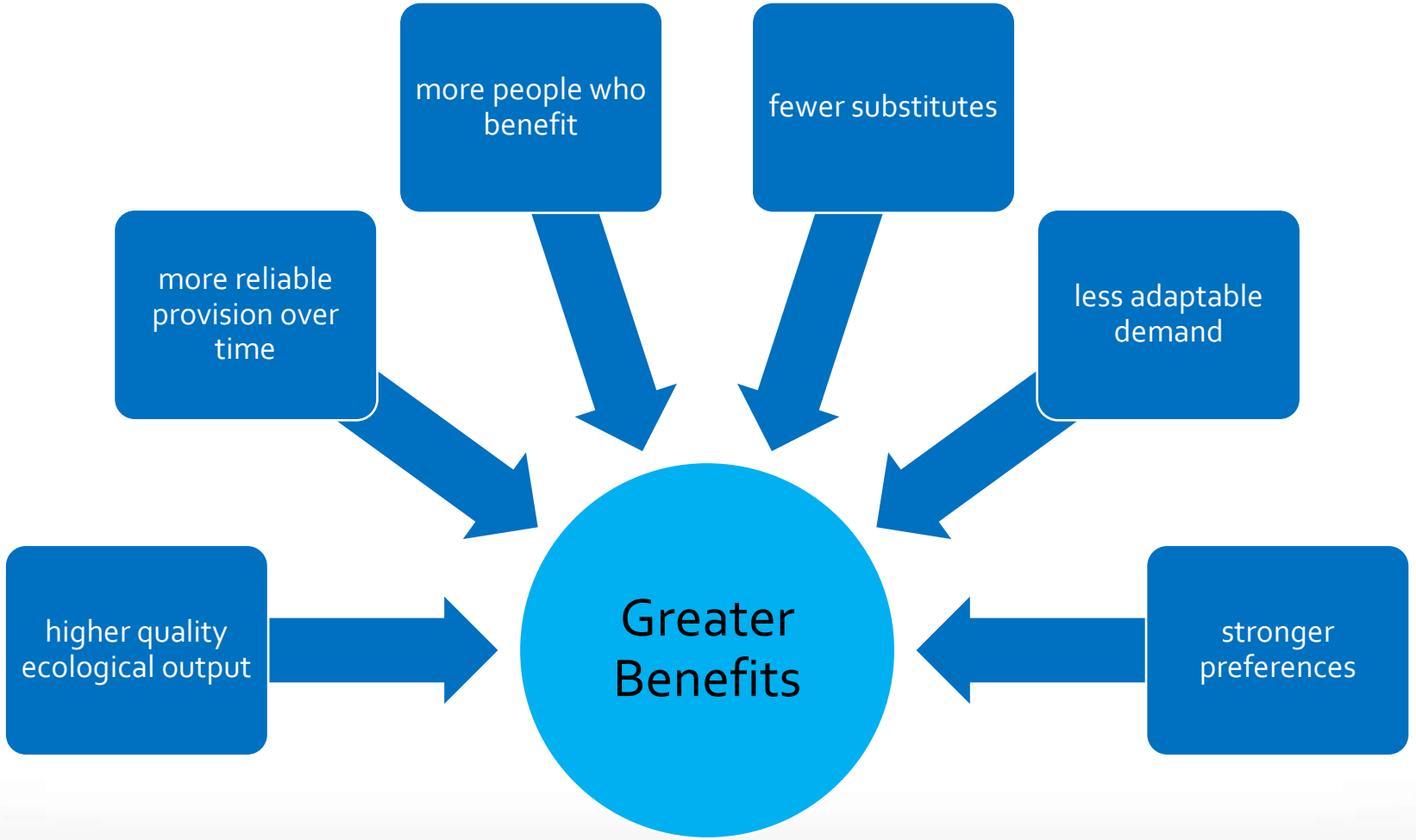

- A method for developing and using benefit indicators
  - Based on economic first principles
  - Non-monetary
  - Focus on benefits to people
- User-friendly
  - Set of questions answered by quantitative indicators
  - Can be applied with different levels of expertise, available information, and with different ecosystem service benefits
- Variety of tools to use
  - Checklist to be used along with a biophysical/functional assessment
  - Spatial tools (arcGIS toolbox)
  - National flood benefits assessment
- Useful for comparing sites in more urban areas
  - Small sites with lower functioning
  - Many people may benefit

# Benefit indicators answer these questions:


Photo: Rick McKinney

1. Can people benefit from an ecosystem service?
2. How many people benefit?
3. How much are people likely to benefit?
4. What are the social equity implications?
5. How reliably will services be provided over time?

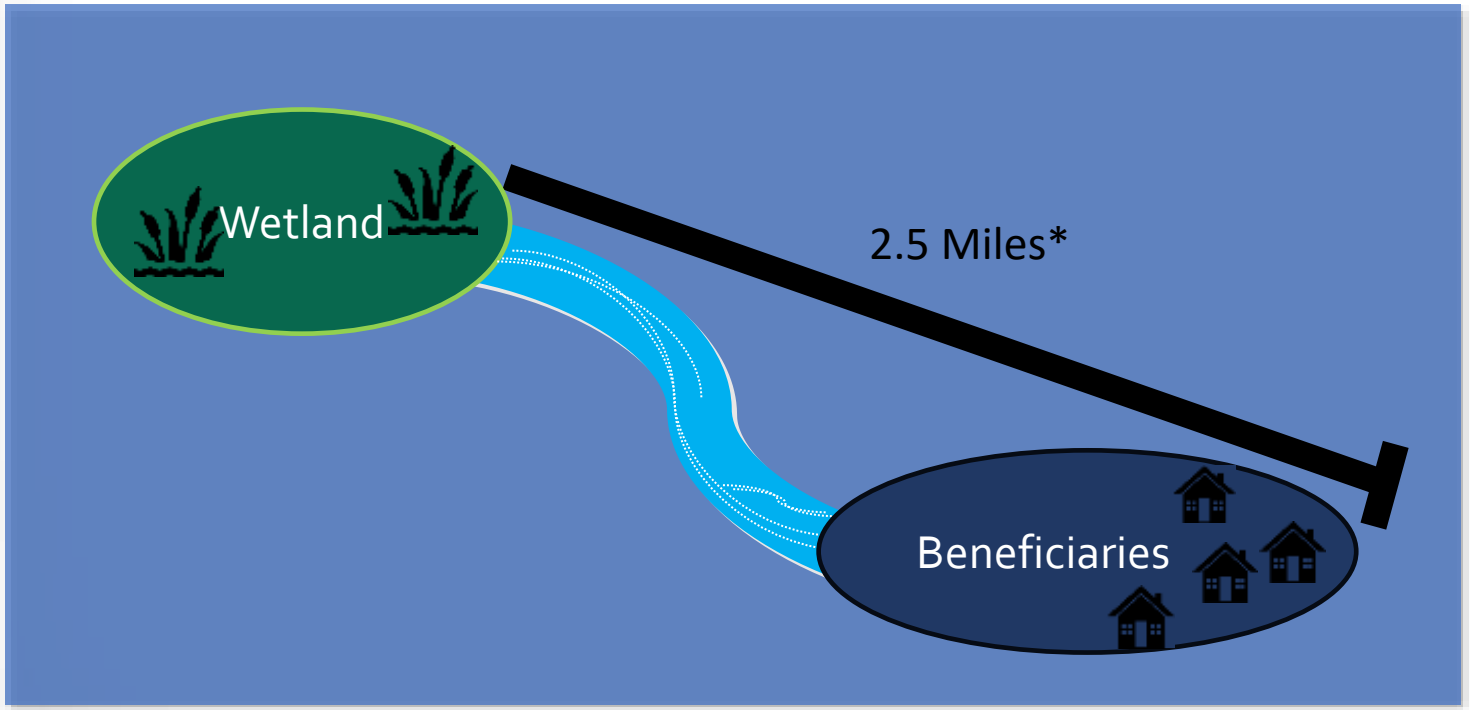
# Putting it all together – a set of benefit indicators



# 2. How many people benefit?

How many people are within the relevant benefits area?

More people who benefit → Greater value



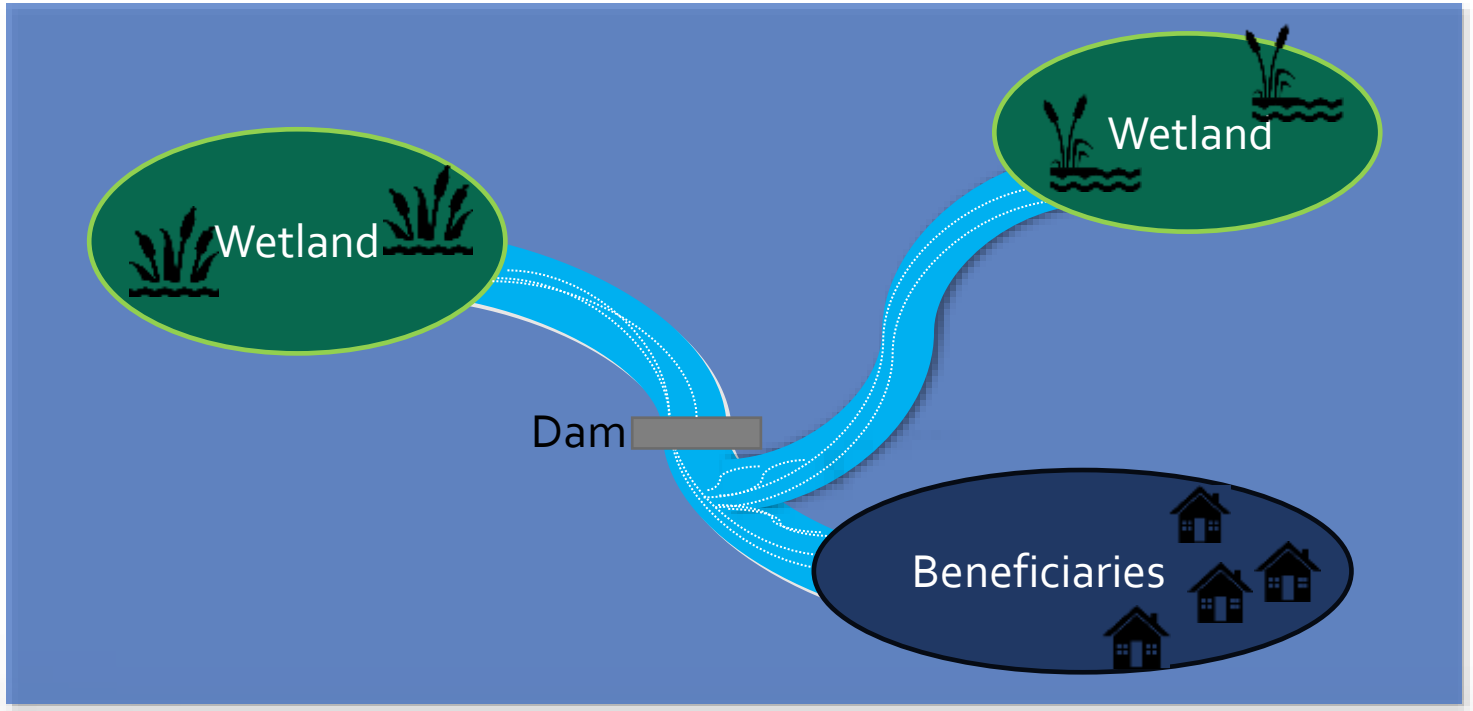

The number of people who benefit is often a stronger determinant of aggregate social value than value per person (Bateman et al., 2008)

# 3. By how much do people benefit?

**Substitutes:**

How many natural and technological substitutes are there?

Fewer substitutes or lower quality substitutes → Greater value

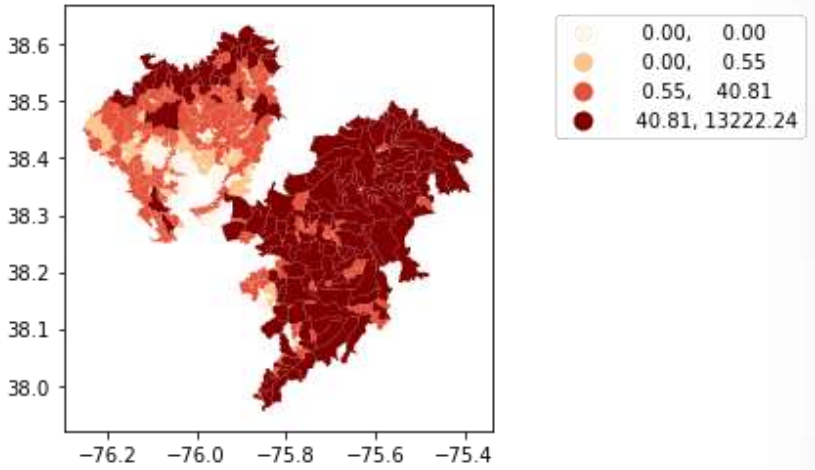


# National Assessment – Flood benefits

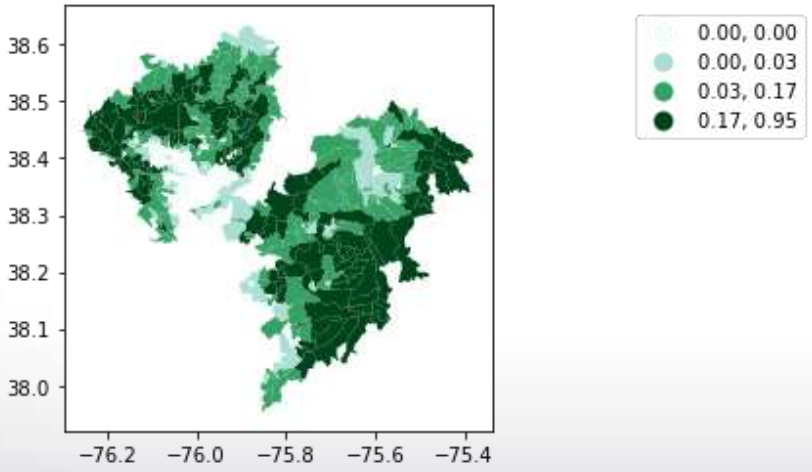
- **Aggregated metrics to NHDPlus V2 Catchments**
- **Steps to retrieve/map:**
  - **Get catchment:**
  - **Get RBI metrics**:

    https://pasteur.epa.gov/uploads/10.23719/1503669/NHDPlusV2_Catchment_RBI_data.zip
  - **Join the RBI metrics on COMID**

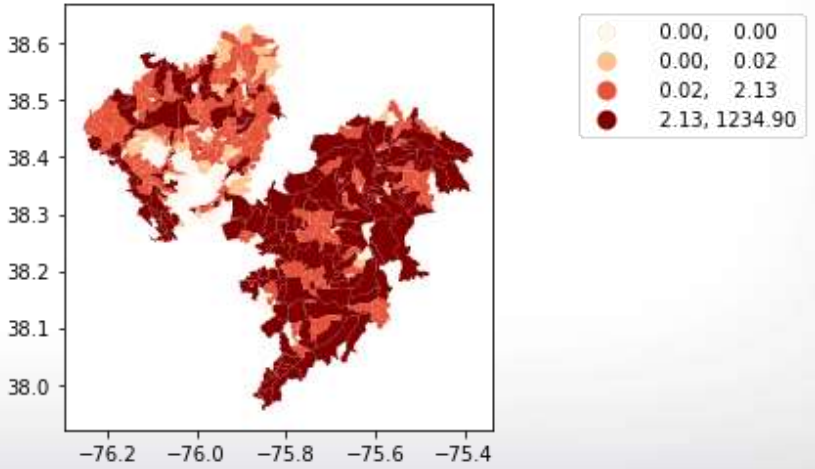
Dasymetric Population (USEPA)




Wetland Scarcity



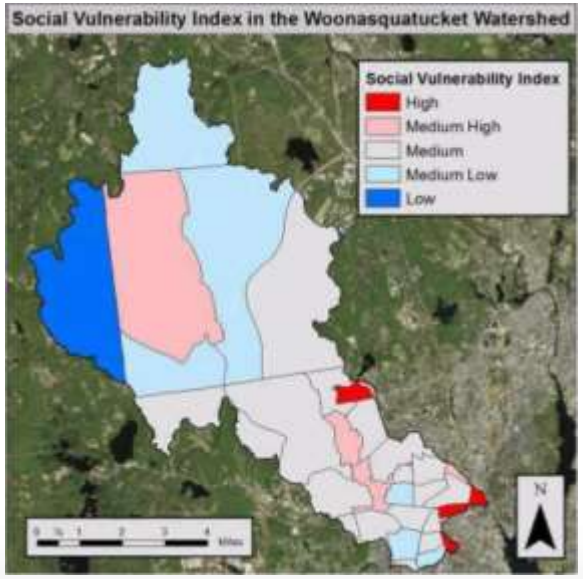

Population in flood-prone area (USEPA)



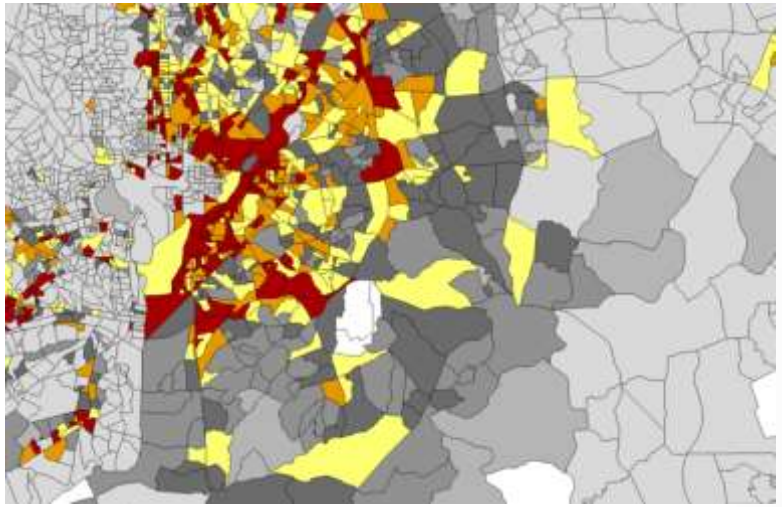
# 4. What are the social equity implications?

**Social Equity:**

Are groups that are particularly socially vulnerable affected?

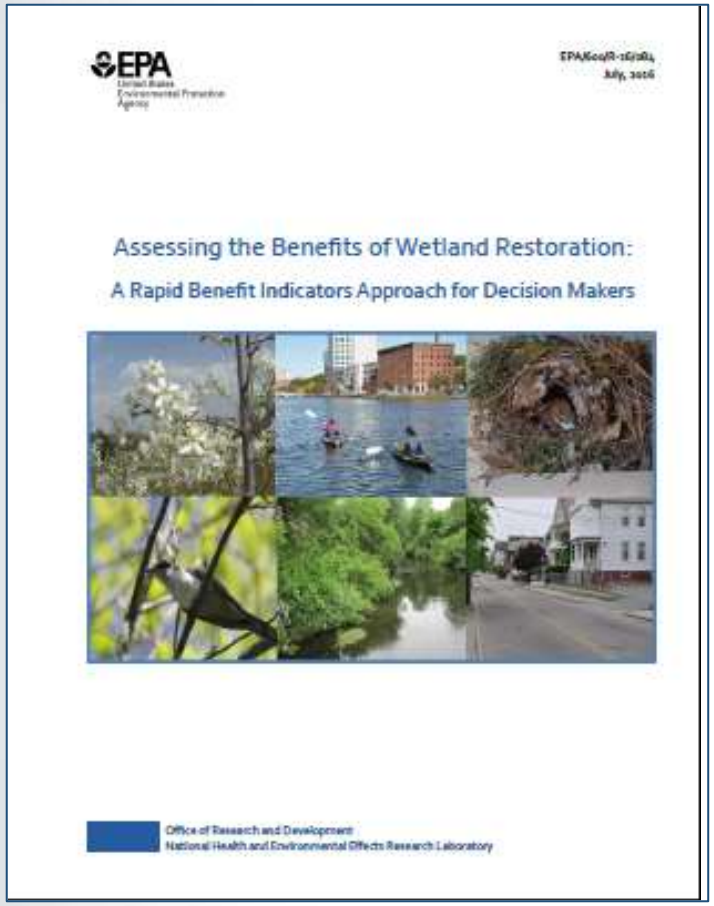



USEPA EJ Index



ejscreen.epa.gov/arcgis/rest/services/ejscreen/

# Applying the approach




1. Download our Guidebook and tools from:

   https://www.epa.gov/water-research/rapid-benefit-indicators-rbi-approach

2. Read the Guidebook – learn from our example application
3. Try out one of our tools for compiling benefit indicator information

Questions?

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