

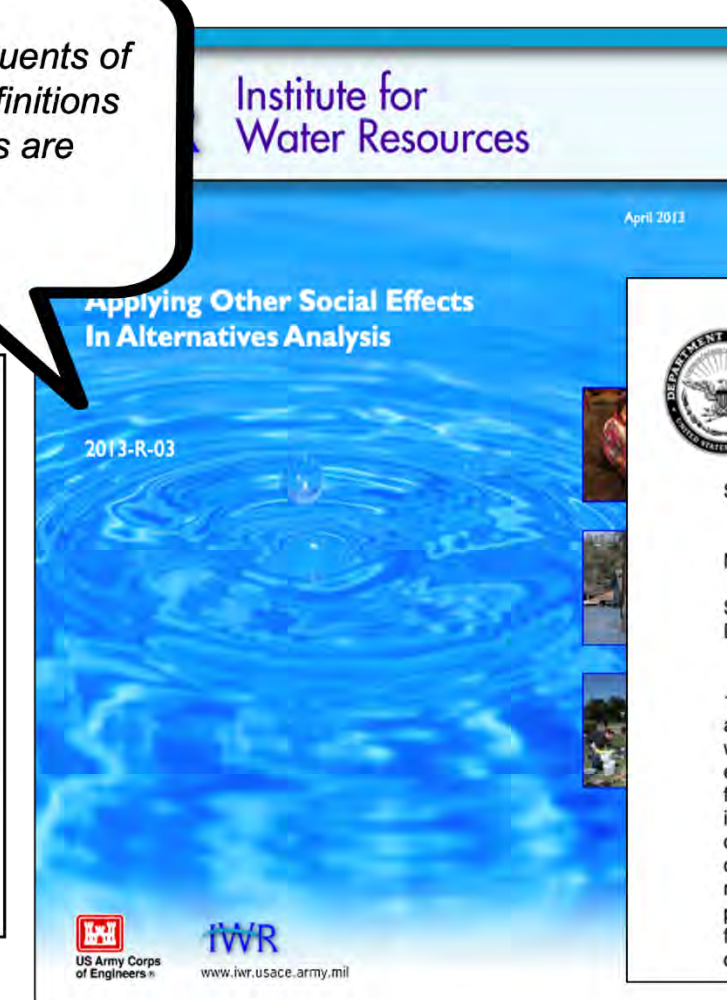
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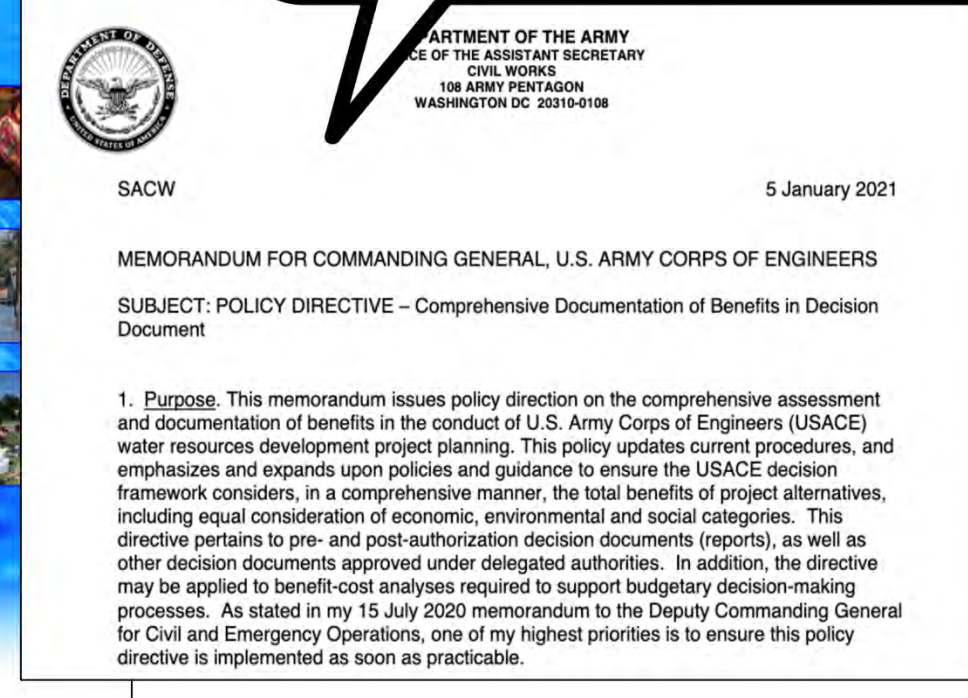
Project Impetus

- Large demand for natural infrastructure (NI) BUT lack of methods to account for NI co-benefits thwarts efforts to scale up
- Federal directives to comprehensively account for project benefits in decision-making

"Social effects...refers to how the constituents of life that influence personal and group definitions of satisfaction, well-being, and happiness are affected by some condition or proposed intervention."



"...equally across a full array of benefit categories...even if non-monetary measures are used, these benefits and impacts must be accounted for in the most substantive way possible."
USACE Policy Directive (Comprehensive Documentation of Benefits)



- Other Social Effects**
- Health & Safety
 - Economic Vitality
 - Social Connectedness
 - Identity
 - Social Vulnerability & Resilience
 - Participation
 - Leisure & Recreation

Objectives

- Investigate the relationship between human well-being & nature
 - What evidence exists?*
 - What does it mean for NI?*
- Use understanding of that relationship to develop decision-support products for well-being benefits accounting & equitable distribution of NI projects

Research Questions

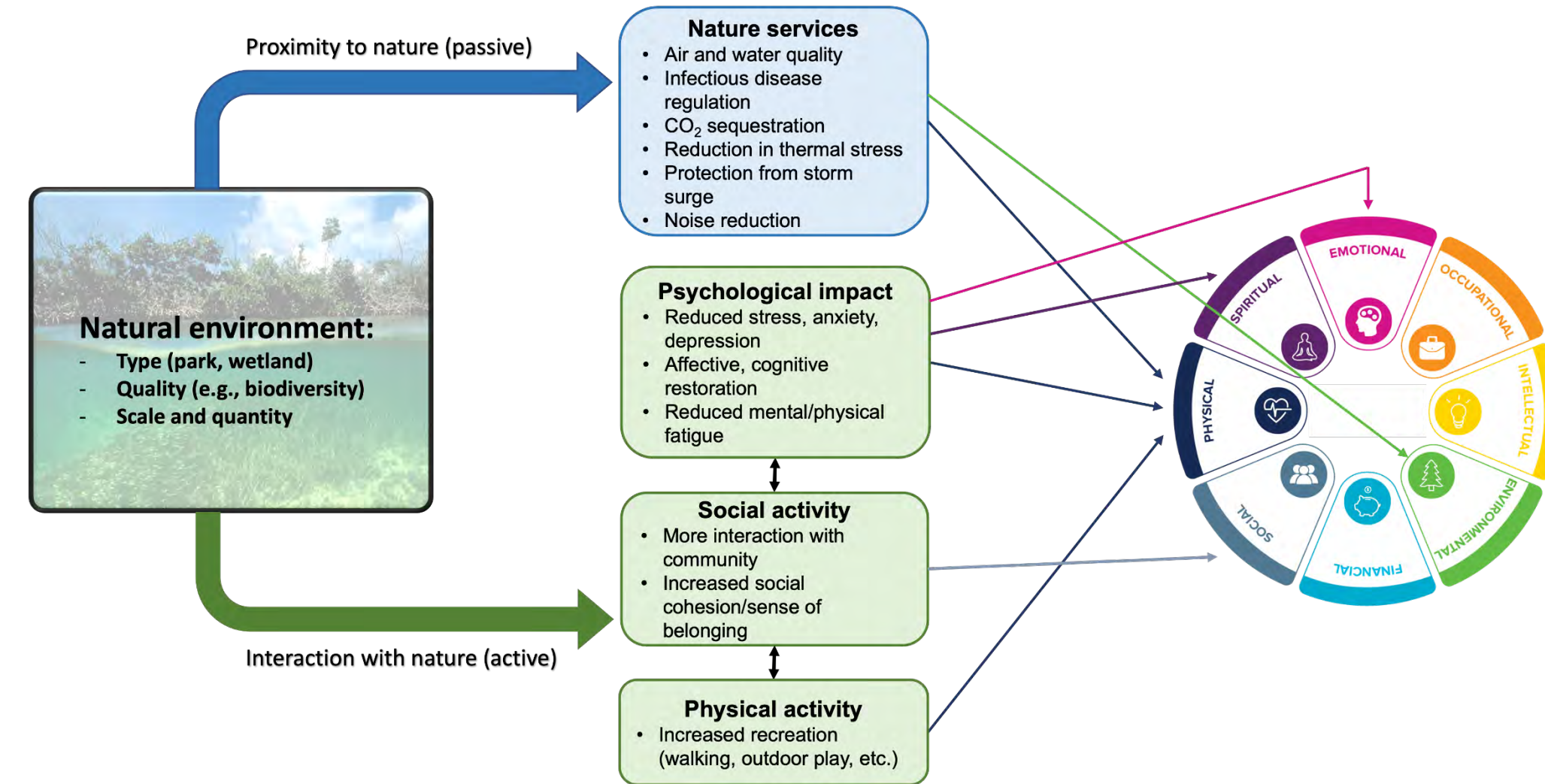
How can social factors, such as human well-being and health, be used to prioritize locations for EWN projects with the goal of promoting equitable distribution of nature benefits?

- What are robust indicators of well-being that are useful for assessing EWN projects?
- What are robust indicators of nature abundance?
- To what extent are indicators of well-being related to nature abundance?

Hypothesis: Nature abundance is related to well-being

Approach

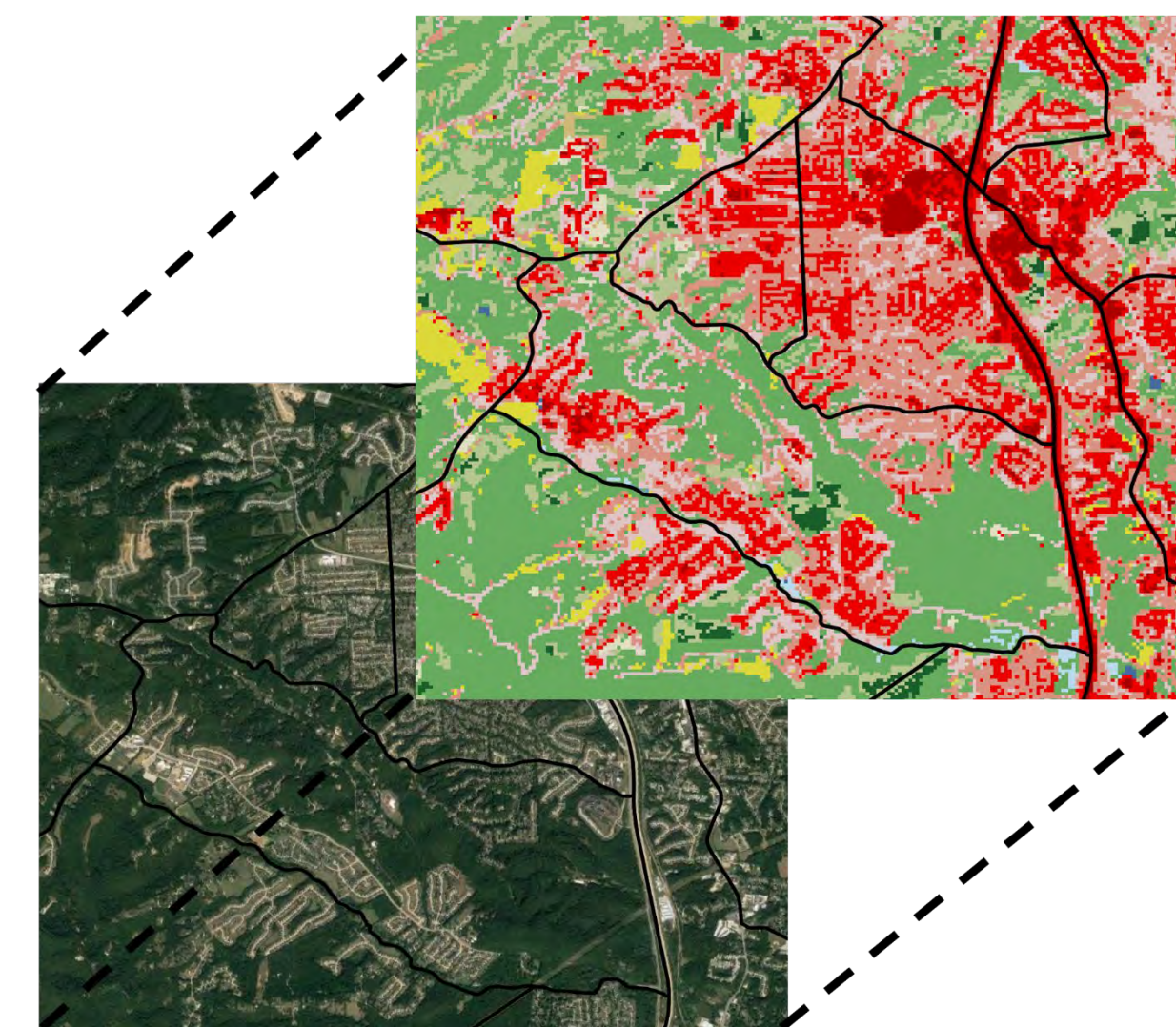
1. Identification of well-being benefits of nature via literature review



2. Development of a nature-centric well-being index

a. Select metrics of nature / greenspace

- Normalized Difference Vegetation Index
- Tree canopy
- Number of parks in walking distance
- Tree counts
- Biodiversity indicators



Considerations

- Continuous or binary?
- Deprivation vs access
- Nature-related variable needs to be sensitive to addition of green space
- Distribution is important; favor locations that have lots of variability, not skewed distribution
- Must be able to test whether nature variables influence the other selected variables

b. Select metrics of well-being

- Socioeconomic
- Demographic
- Health

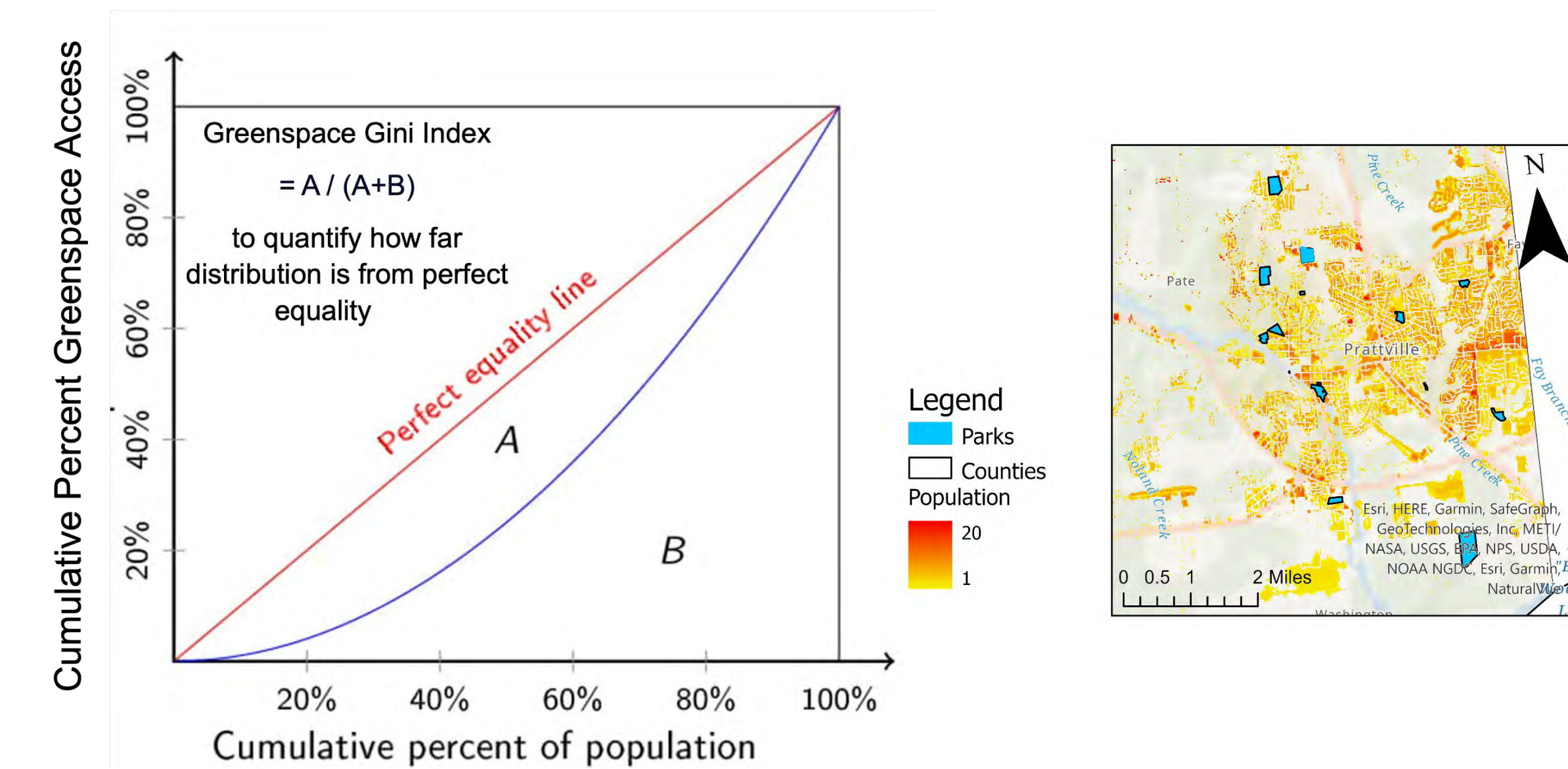
Potential Sources:

- CDC PLACES and SVI

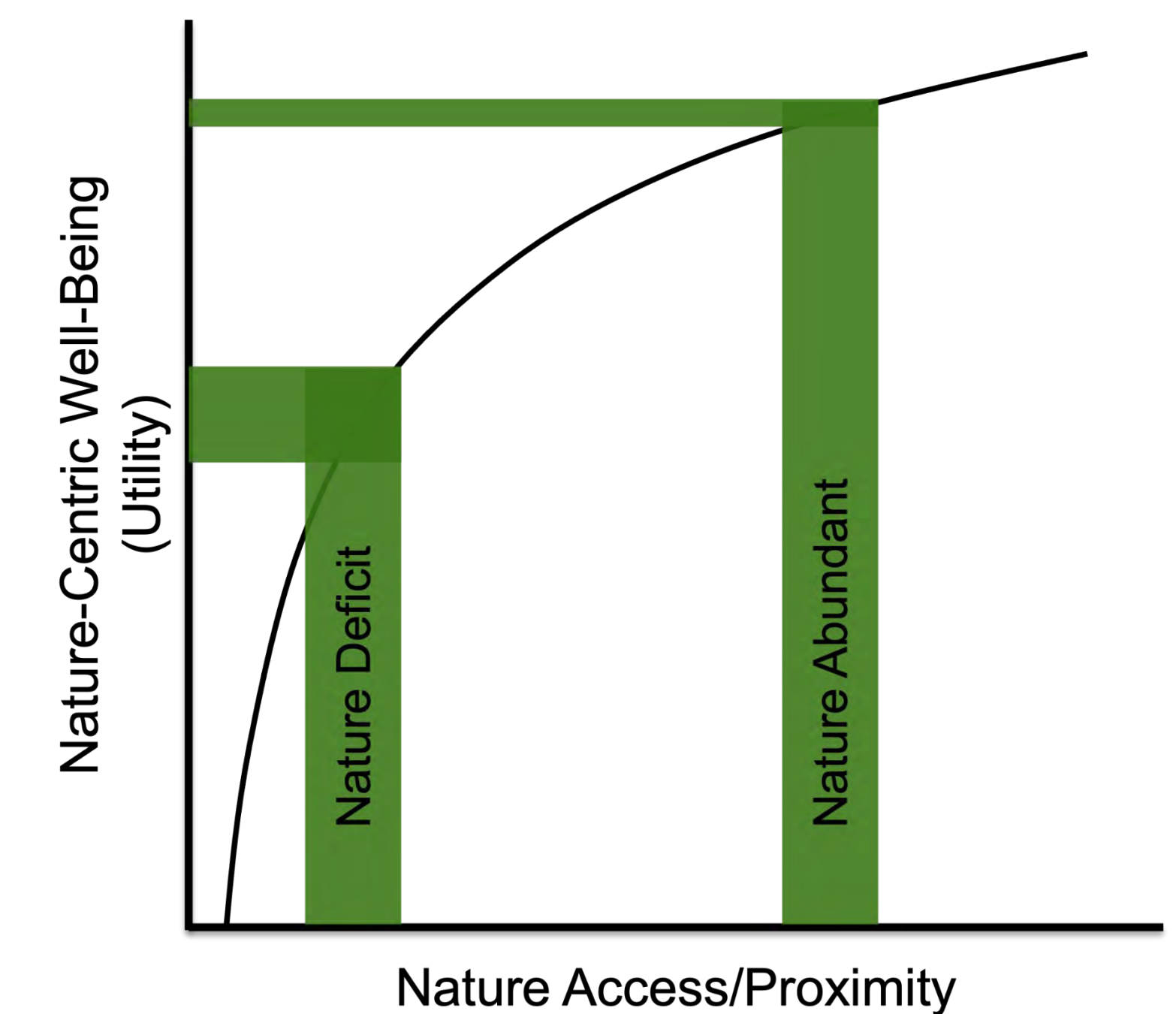


Future Directions

- **GINI analysis of inequality in distribution of nature**
 - How equal is greenspace distribution?
 - What are the impacts of adding/removing a greenspace project on equality?



- **Utility-weighted benefits of nature to capture distributional effects**
 - Additional unit of access to nature provides more utility to those with limited exposure
 - Weights make the evaluation more sensitive to the needs of nature-deprived communities



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