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Health Impact Assessment to Enhance the Benefits of Remediation and Restoration

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Remediation to *Restoration* to *Revitalization (R2R2R)*

To help transform remediation and restoration projects into sustainable revitalization of the surrounding community by maximizing the positive societal and environmental outcomes

Bringing A Community Back to the River

- By what means would the Kingsbury Bay-Grassy Point Restoration affect community health and well-being?
- How big are those effects?
- How likely are those effects?

Restoration

Ecosystem Services

Amenities

Wellbeing

Health Impact Assessment (HIA)

HIA is a process that uses

scientific data, health expertise and public input

to factor public health considerations into the decision-making process

HIAs give decision-makers the information they need to consider health in pending programs, policies, plans, and projects:

- *In advance* of a decision
- Identifies *public health* consequences
- Provides *recommendations*
- Health protection ***and*** health promotion

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How does the proposed project, plan, policy

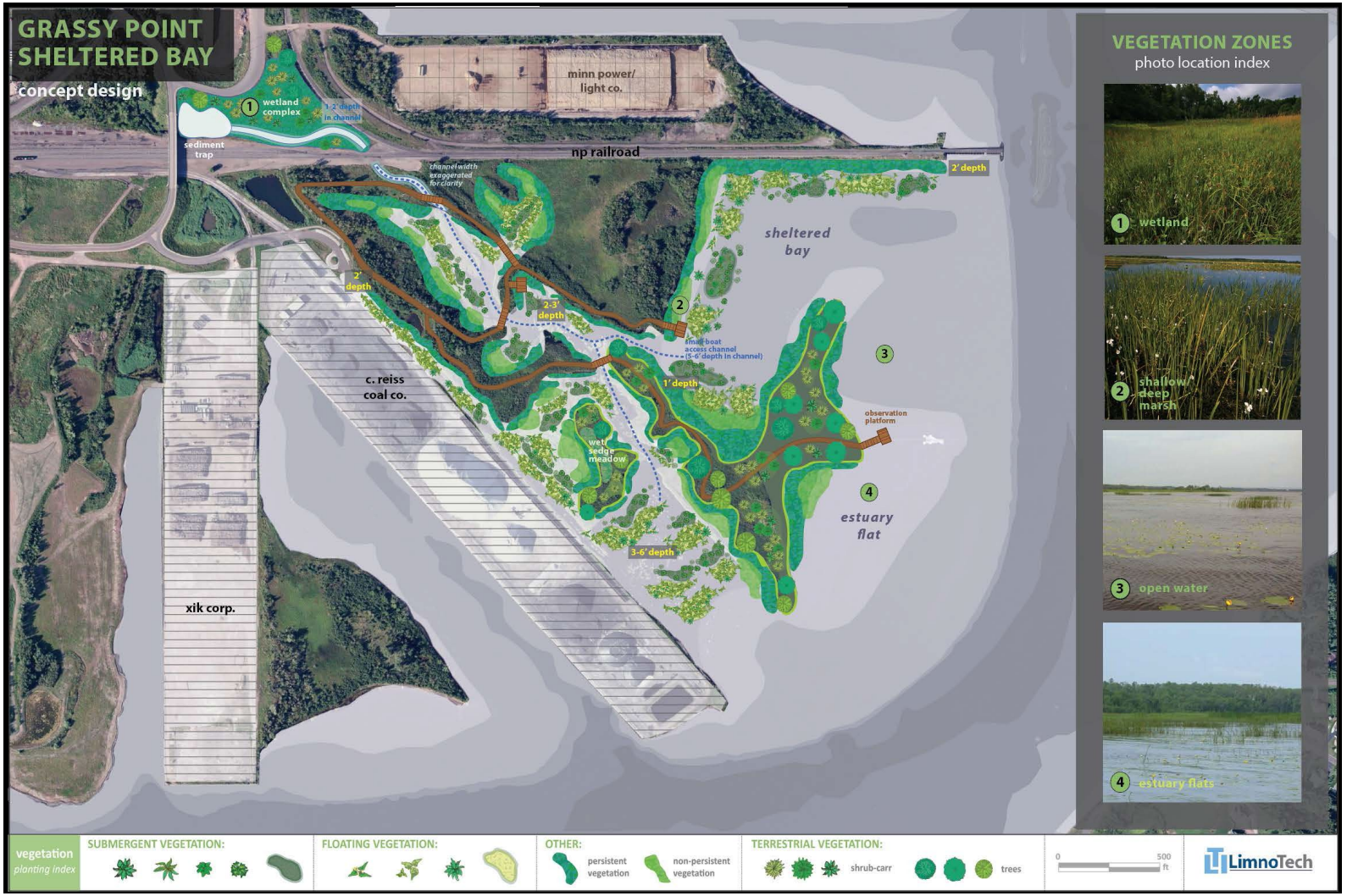
affect

lead to health outcomes

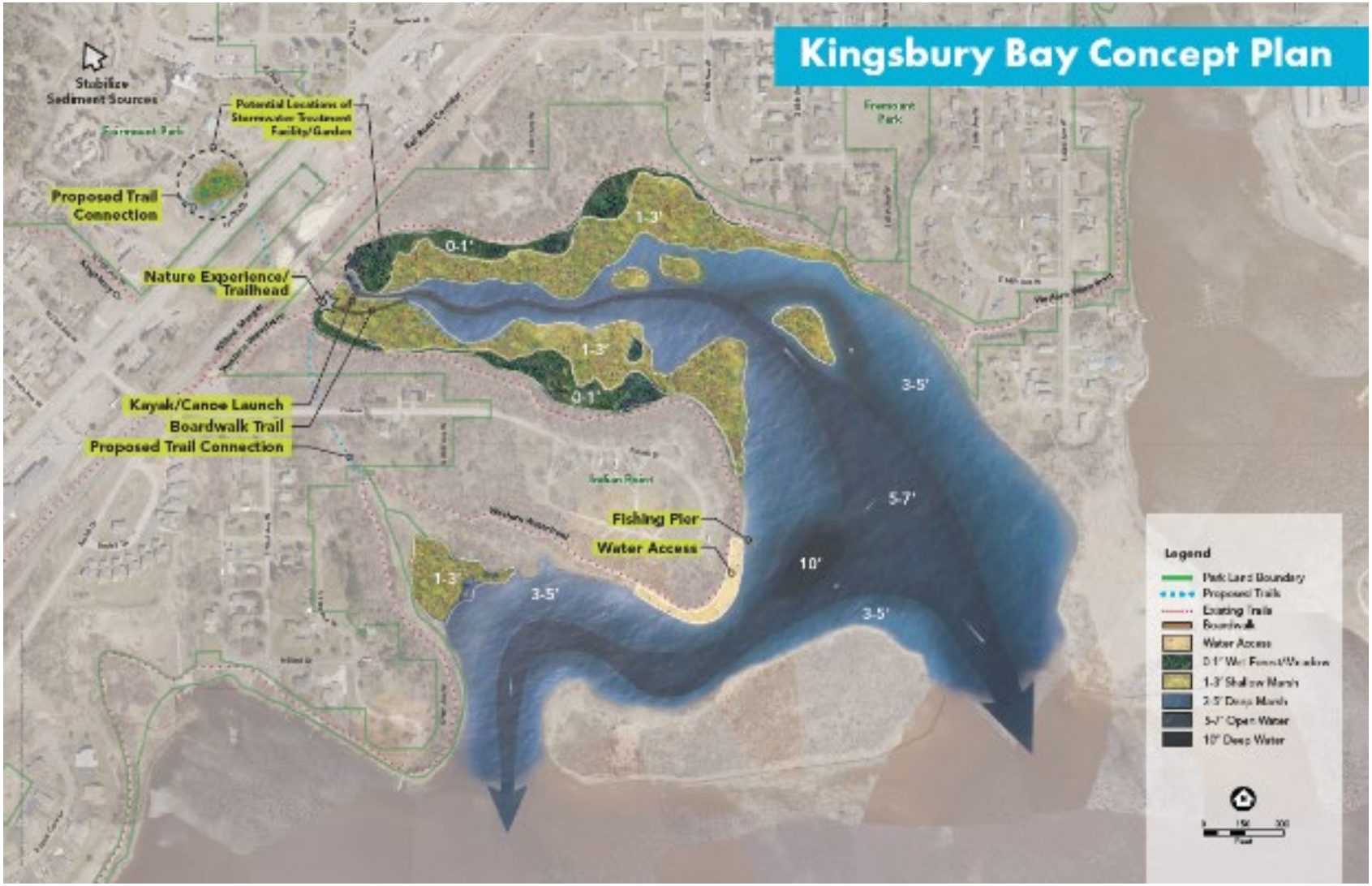
recommendations

Health determinants = factors that lead to health outcomes

Grassy Point Habitat Restoration



Kingsbury Bay Habitat Restoration



Kingsbury Bay-Grassy Point Habitat Restoration Project: A Health Impact Assessment

- Health Impact Assessment at St. Louis River AOC (FY17-FY19)
  - Grassy Point-Kingsbury Bay Projects
  - 81 ha, 270K m^3 sediment
- Work with AOC timeline
  - Conducted in a series of workshops
  - Start in JAN 2017; final design FEB 2018
- Needs from AOC partners
  - Project scopes/plans/options
  - Contribute throughout the process
  - Listen and respond

Multidisciplinary HIA Leadership Team

- Leadership Team provides oversight and direction
- Membership can be flexible
  - USEPA Region 5 and USEPA ORD
  - Contractors (technical expert)
  - Community group

This

9

Scoping: Community Engagement

HIA began with the intention of knowledge co-production

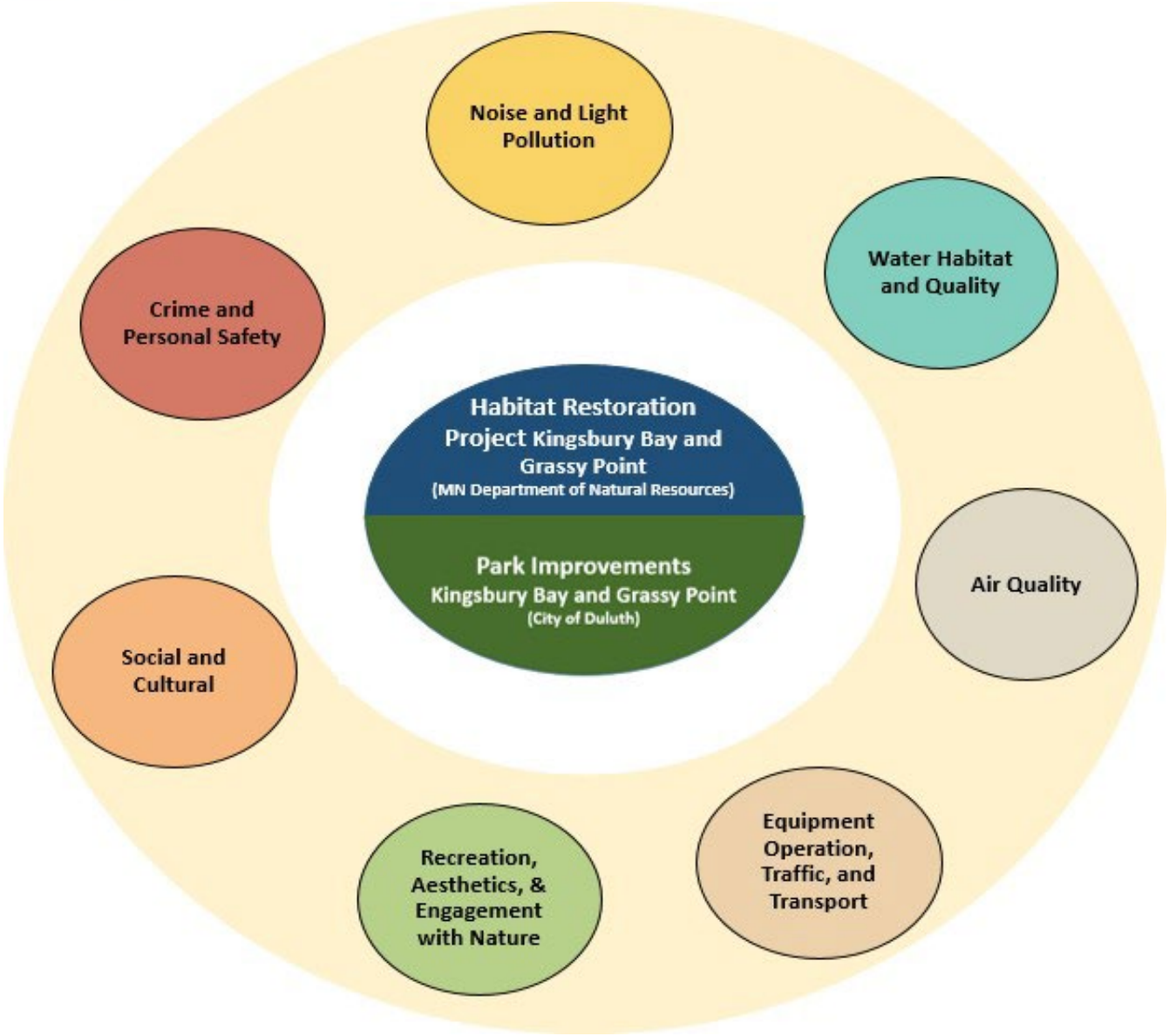
- Participatory mapping for HIA
- Engage in conversation around the restoration sites
- Used maps to capture different types of knowledge based on relationships to the river
  - Traditional
  - Professional
  - Local
  - Scientific

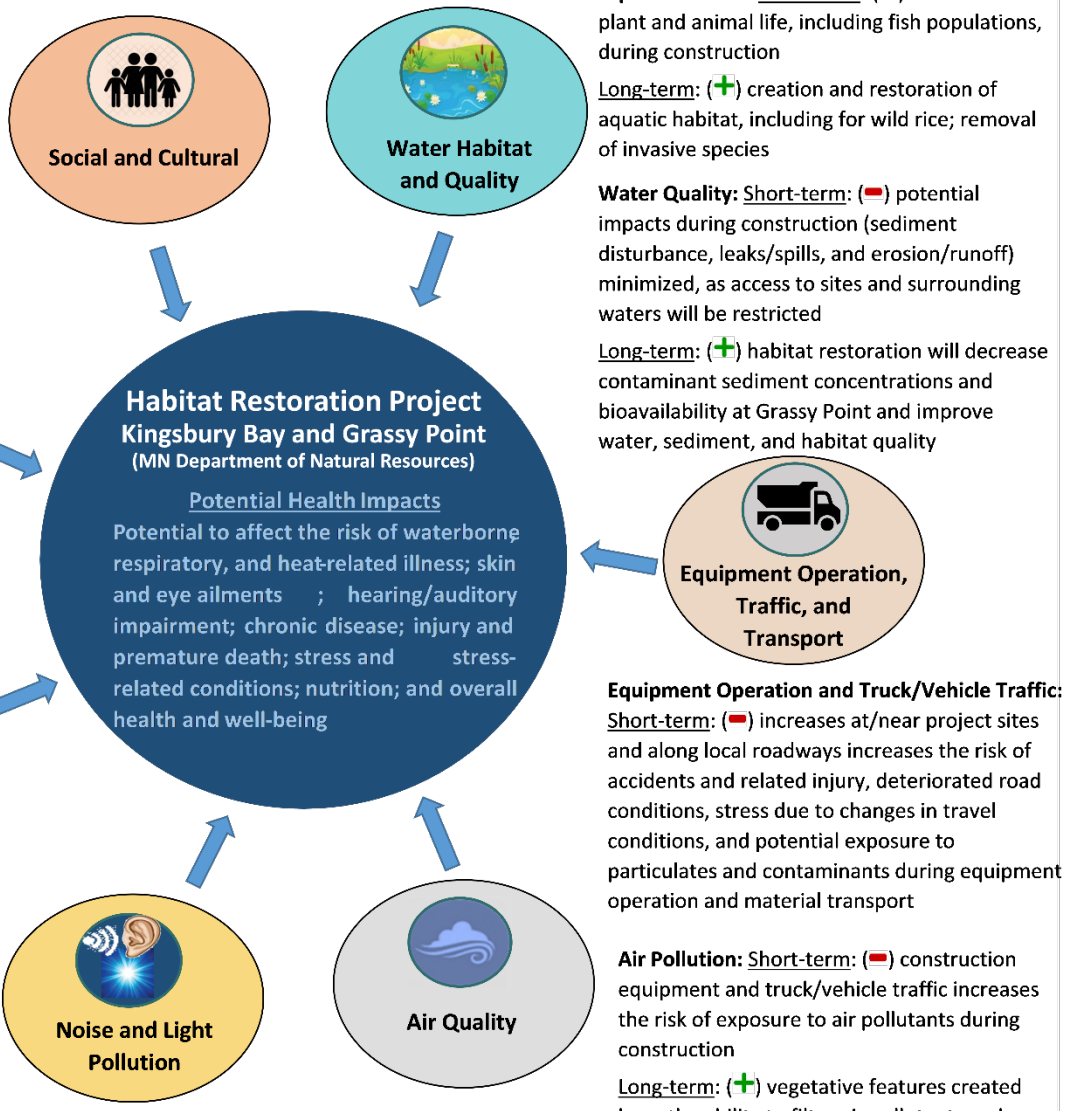
Exercise: Participatory Mapping

Imagine we are embarking on GL-wide restoration project

- We want to know how people will be impacted.
- Tell us about your experience with places in the Great Lakes
  - Place a sticky note
  - Tell us about your experiences
    - Work
    - Family
    - Recreation
    - Research

Health Pathways Assessed





Social, Cultural, and Spiritual Well-being: Short-term: (−) lack of access or impaired social, cultural, and spiritual experiences at these sites during construction; (+) community input and communication of project plans and activities important

Long-term: (+) creation of space for social interaction and enhanced safety improves social cohesion and social capital; also provides opportunity for wild rice generation (a culturally important and highly nutritious food source) and spiritual reflection

Recreation: Short-term: (−) lack of access or impaired experiences at Grassy Point, Indian Point Campground, and Western Waterfront Trail during construction

Long-term: (+) habitat restoration provides opportunity for recreation

Aesthetics/Engagement with Nature: Long-term: (+) creation of aquatic habitat and beautified natural areas improves aesthetics and provides space for engagement with nature

Crime: Long-term: (+) beautified natural areas deter crime

Safety: Short-term: (−) increased truck and vehicle traffic impacts pedestrian and bicycle safety

Long-term: (+) improvements in personal safety expected at sites with beautification and deterred crime

Noise: Short-term: (−) increased noise from construction equipment and truck/vehicle traffic at/near project sites and along roadways during construction

Light: Short-term: (−) if nighttime dredging needed, lighting impacts to individuals and animals at/near project sites and along roadways possible

Aquatic Habitat: Short-term: (−) disturbance of plant and animal life, including fish populations, during construction

Long-term: (+) creation and restoration of aquatic habitat, including for wild rice; removal of invasive species

Water Quality: Short-term: (−) potential impacts during construction (sediment disturbance, leaks/spills, and erosion/runoff) minimized, as access to sites and surrounding waters will be restricted

Long-term: (+) habitat restoration will decrease contaminant sediment concentrations and bioavailability at Grassy Point and improve water, sediment, and habitat quality

Equipment Operation and Truck/Vehicle Traffic: Short-term: (−) increases at/near project sites and along local roadways increases the risk of accidents and related injury, deteriorated road conditions, stress due to changes in travel conditions, and potential exposure to particulates and contaminants during equipment operation and material transport

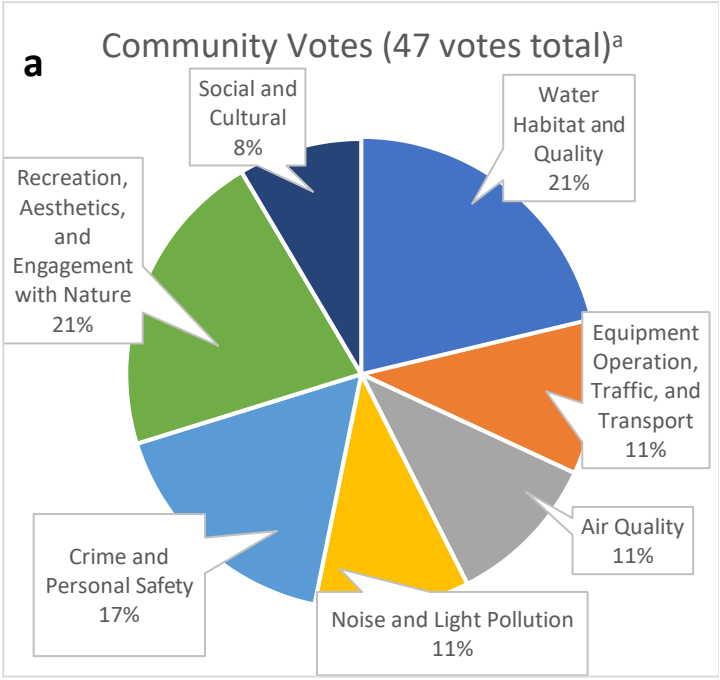
Air Pollution: Short-term: (−) construction equipment and truck/vehicle traffic increases the risk of exposure to air pollutants during construction

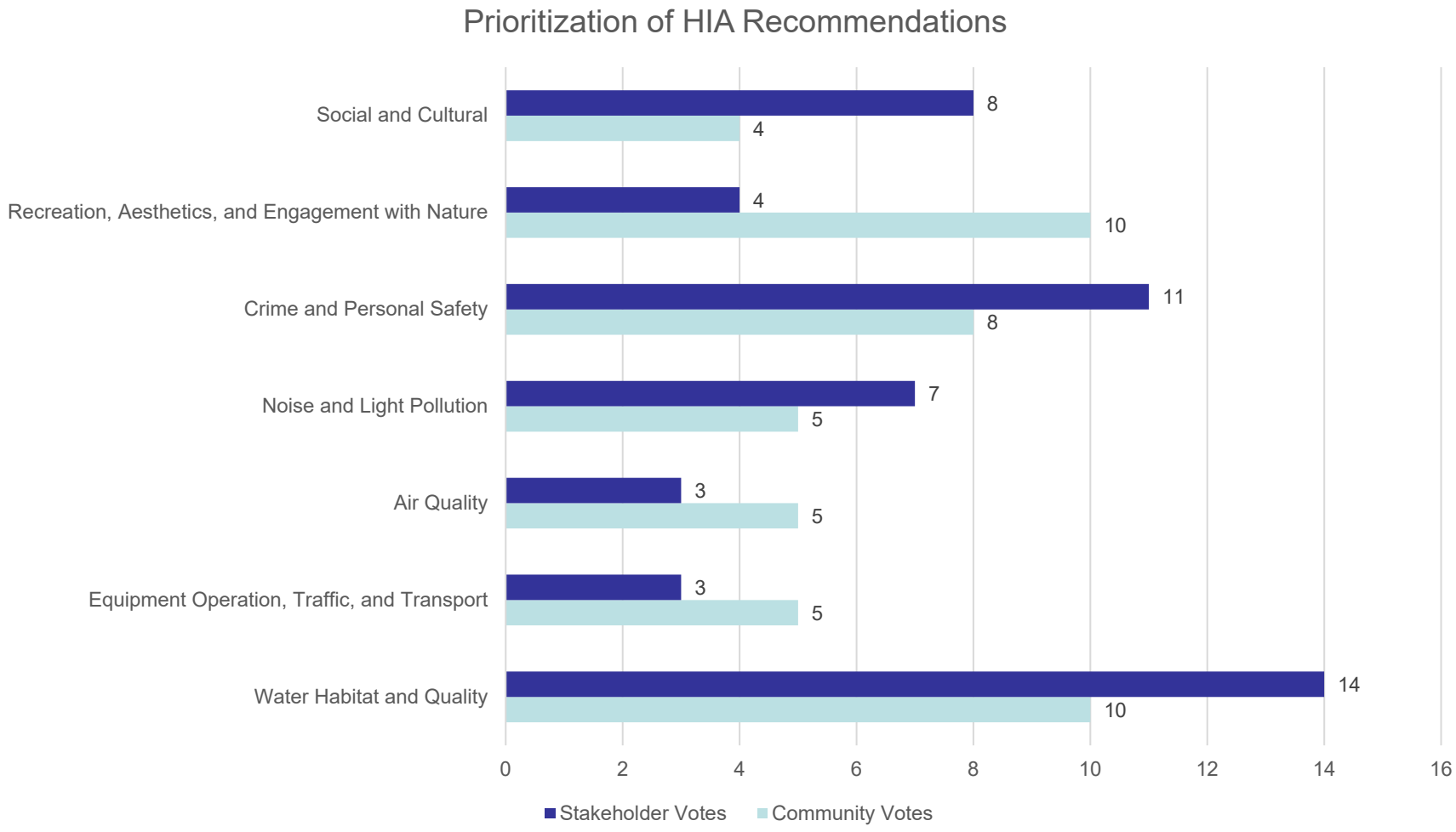
Long-term: (+) vegetative features created have the ability to filter air pollutants and particulates and reduce localized surface and air temperatures

Mitigating Health Impacts, Improving Health Outcomes

73 evidence-based recommendations

- water, sediment, and biota management;
- aquatic and terrestrial habitat plans;
- equipment operation, traffic, and transport of materials;
- mitigation of air, noise, and light pollution;
- crime and safety;
- park access and amenities;
- cultural and social resources;
- communication and informational signage; and
- health supportive measures, such as means for resident and stakeholder engagement and feedback




Prioritization of HIA Recommendations
Social and Cultural
8
4
Recreation, Aesthetics, and Engagement with Nature
4
10
Crime and Personal Safety
11
8
Noise and Light Pollution
7
5
Air Quality
3
5
Equipment Operation, Traffic, and Transport
3
5
Water Habitat and Quality
14
10
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10
12
14
16
Stakeholder Votes
Community Votes

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Lessons learned

- Social science research important for identifying community values
- Community and stakeholders both care about water quality, project priorities may differ
- ORD must do homework
- Reciprocity matters

Currently planning post-project ecological and social monitoring

Thank you!

Contact

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KB-GP HIA Report

www.epa.gov/healthresearch/health-impact-assessments

HIA Resources

www.cdc.gov/healthyplaces/hia.htm

www.who.int/health-topics/health-impact-assessment#tab=tab_1