

HEALTHY LAND & WATER

A PLAN FOR NORTHWEST ILLINOIS

Urban and Developed Lands Working Group Scenario Planning Meeting 2 – Aug 27, 2020

“Urban conservation practices include collecting rainwater, landscaping to reduce runoff, aerating soil, installing porous pavement, picking up pet waste, reducing fertilizer use and installing green roofs. These practices maintain healthy soil, reduce air pollution and keep wastewater out of sewers. The Urban and Developed Land working group brings together policy makers, homeowners, municipalities, businesses, industry and others to make conservation practices commonplace.”

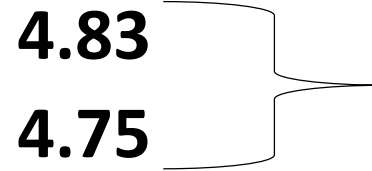


RECAPPING MEETING 2

- Recapping Scenario Planning
 - Develop unknown, but comprehensible, array of future end states
 - Scenario planning “lite”
- Discussing Driving Forces
 - Climate Change, Policy, Politics, & Governance, Resource Management, Regional Values & Behavior, Land Use & Transportation, Industry & Agriculture, Economy, Water Infrastructure, Hydrology, Demographics, etc.

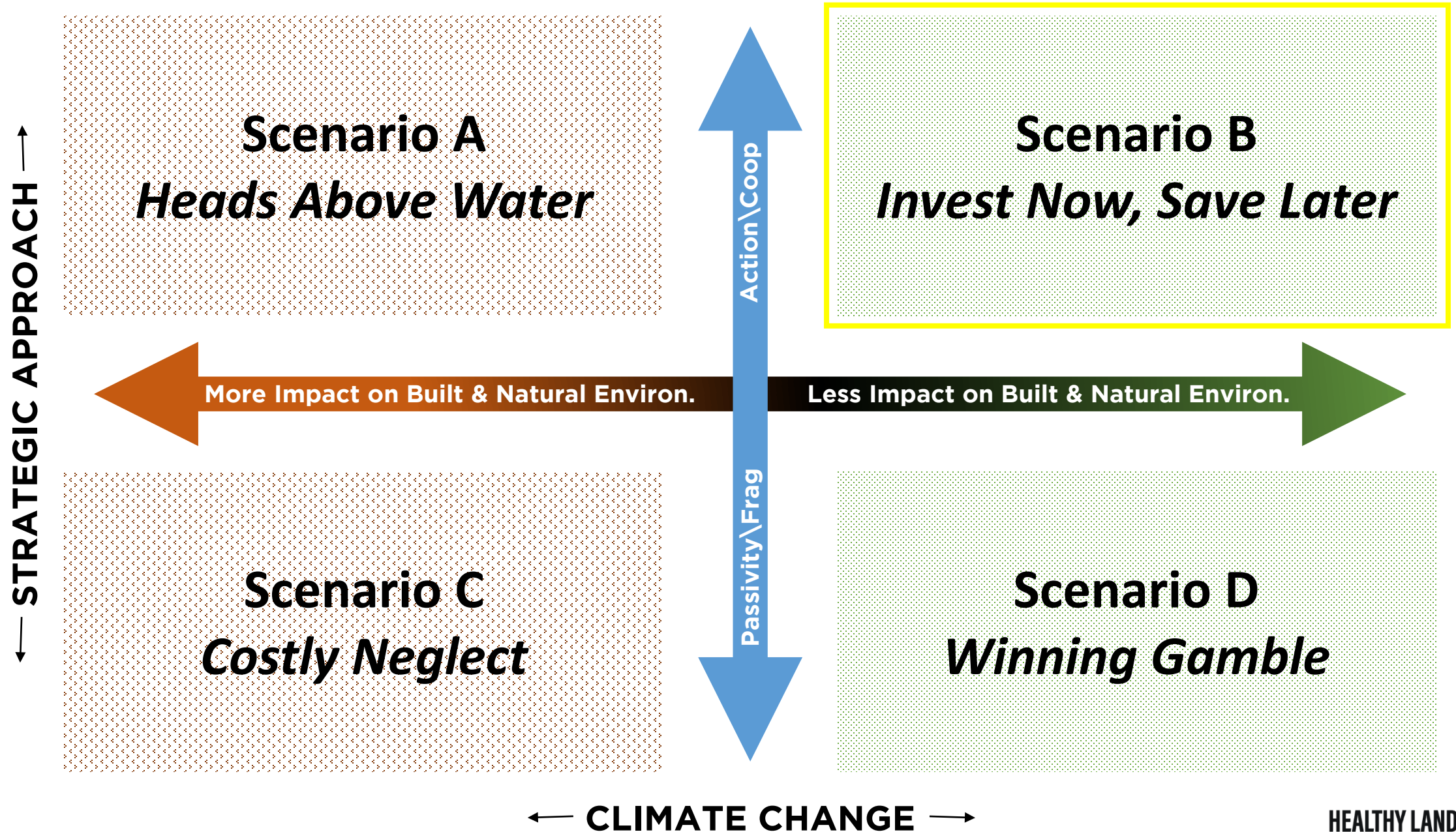
DRIVING FORCES

- **Climate Change** 4.83
- **Policy, Politics, & Governance** 4.75
- Resource Management 4.2
- Regional Values & Behavior 4.0
- Land Use & Transportation 3.25
- Industry & Agriculture 3.25
- Economy 3.2
- Water Infrastructure 3.0
- Hydrology 2.67
- Demographics 2.25



Critical Uncertainties (focus of our process)

CRITICAL UNCERTAINTIES MATRIX



ABOUT SCENARIOS

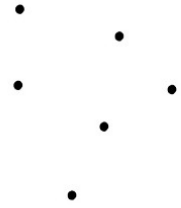
- Scenarios have identifiable and influential stakeholders and actors
- Each scenario has a story
- Each scenario has characteristics
- Each scenario has actions
- Indicators describe entire matrix of scenarios

CHARACTERISTICS - SCENARIO B: INVEST NOW, SAVE LATER

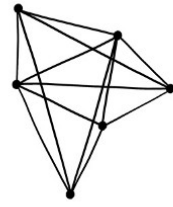
What characterizes Scenario B?

- Systems thinking/holistic approach to water resources management
 - Ecology and equity prioritized with economic priorities
- Land use and zoning practices that integrate water resources management best practices
 - Intergovernmental agreements that reflect cooperation and silo elimination
- Diverse water sources, each with associated measures for protection and preservation of quality, availability
 - Watershed protection
- Diverse sustainability efforts, by both grassroots/decentralized leadership and elected/institutional officials
- Cities are livable
 - Aquifers and riparian systems maintain healthy levels of clean water, self-heal
 - Ample supply of high-quality water for industry, public safety, recreation, residential, and other types of use
 - Urban heat islands are reduced
- Key stakeholders recognize quality, availability is important, requires action
 - Public sector budgets and expenditures reflect established water resources management priorities
 - Investments made up front
 - Investments in integrated infrastructure systems
- ???

CHARACTERISTICS - SCENARIO B: INVEST NOW, SAVE LATER



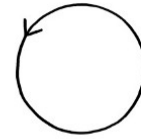
DISCONNECTION



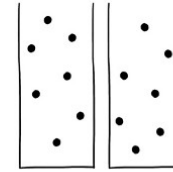
INTERCONNECTEDNESS



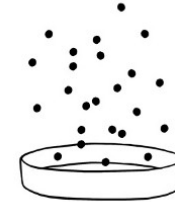
LINEAR



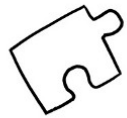
CIRCULAR



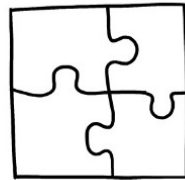
SILOS



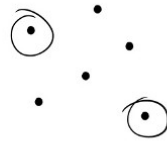
EMERGENCE



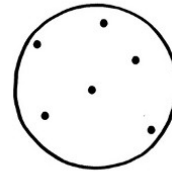
PARTS



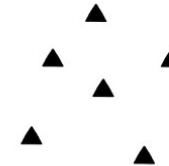
WHOLES



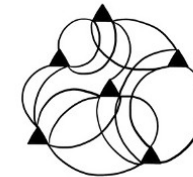
ANALYSIS



SYNTHESIS



ISOLATION



RELATIONSHIPS



ACTIONS - SCENARIO B: INVEST NOW, SAVE LATER

What can be done to make Scenario B more likely to occur?

- Model various systems' recharge rates, other variables influencing water quality/quantity
 - Include urban watersheds, as well as aquifers and riparian water sources
- Review municipal laws, policies, implementation/enforcement mechanisms, and enforcement
 - Review should include land use, transportation systems, and zoning ordinances
 - Review should address potential border issues
 - Suggest improvements
 - Ex: enact regulation concerning the purchase and application of retail fertilizer
- Identification of low yield or flood-prone farmland and plant riparian buffers
 - Ditto for residential and commercial land (note: must address consequences to equity and economy)
 - ID where new growth goes and shouldn't go and how should new structure be designed
- Incentivize development actions that incorporate best practices in water preservation/conservation
 - Covenants that address environment while promoting equity
- Establish relationships between key stakeholders (the impacted, the influential) and institutional mechanisms
 - Water preservation/conservation land banks to acquire brownfields, ecologically sensitive areas, etc.
 - Intergovernmental agreements between states, counties, municipalities, etc.
 - Conduct source water identification and monitoring
 - Public-private partnerships (to improve chances of success, develop alternative funding mechanisms)
- Develop preservation/conservation curriculum with educations and tie learning to local (ex: understanding "the Milkshed")
- Incentivize particular land uses (conservation subdivisions, multi-family housing development, etc.)
- Review existing institutional capacity to monitor progress and/or implement
 - Consider new institutions for monitoring and/or implementation

INDICATORS - SCENARIO B: INVEST NOW, SAVE LATER

How do we know where we are?

- Surface temperatures of impoverished Census blocks, block groups, tracts
- Portion of city under tree canopy (covered vs uncovered)
- Extent of city with pervious surface (pervious vs impervious)
- Aquifer and riparian recharge rate
- Number of IGAs, easements governing water quality and quantity
- Quantity of parks in impoverished neighborhoods
- Storm water flows through treatment plants (gallons pumped vs gallons treated)
- Change over time on GIS indicators (wetlands change, urban forest/canopy change)
- Change in flood plains over time
- Urban flooding sites (not related to rivers/storms necessarily)
- Access to parks, residents within walking distance to a park, urban heat islands (trust for public land online map)
- Change over time re: LIDAR/IR imagery, ortho imagery
- Crop insurance claims (not insect and other damage); flood claims
- Reduced number of homes impacted by stream/river flooding and street flooding
- Measure of cross-community projects lead by diverse groups (covering watershed improvements, streambank restoration, cover crop planting)
- How many farmers are involved and how? Are farmers driving progress?
- How many industries are involved and how?
- Age of WWTPs/dates of recent updates to WWTPs/number of WWTPs in flood plains/WWTP that require critical updates