

Reconciled Landscape

Urban watershed framework plan, Conway, AR, USA



Main author

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Project data

Project group: Landscape, urban design, transportation infrastructure and public utilities
Client: City of Conway
Project background: Public commission
Planned start: July 2018

Summary and appraisal of the project by the jury

This project reconstructs the wetland corridors lost to a previous generation of urban expansion. The new zones of green connectivity act as flood management and water filtration zones. The project crosses city boundaries, involving local and regional governments. To address different regulatory frameworks, it is structured as a toolkit of possible interventions. Each governing body can work within the kit of parts to implement the framework plan within existing policies. The water design aims to slow, soak, and spread urban runoff through landscape systems. It does so through retrofits to the existing urban fabric such as permeable paving and lakeshore stabilization.

The jury commended the project's approach to a common problem: the loss of coastal permeability. Working here with a freshwater site, the project's group of collaborators has developed a highly transferable approach. The project is seen more as common-sense additions to existing patterns of development. For example, its suburban areas remain suburban but do more to treat water and foster habitats than development as usual. As such, the project trades radicality for applicability, generating a toolkit of possibilities that could be implemented quickly with real, local impact.

Statements on the sustainability of the project by the author

Developing sponge city

More a rhizomatic plan than a master plan, soft infrastructural retrofits are value-added to conventional hard engineered infrastructure to remediate the city's five polluted and flood-prone headwater streams. The Urban Watershed Framework Plan's adaptive infrastructure components include green streets, water treatment art parks, urban eco-farms, conservation neighborhoods, parking gardens, lake aerators, vegetative harvesters, floating bio-mats, and a city greenway to improve riparian corridors. They combine the six ecologically-based water treatment technologies to create new rain terrains. Given funding challenges, political will, and complexity, the plan operates evolutionarily through modulated retrofits that are incremental, contextual, redundant, and successional, the vocabulary of resilience.

A transferable urban design vocabulary for resilience

The project's design tools and planning vocabulary provide communities with a transferable resilience framework to restore urban watersheds through urban design. The challenges in implementing resilience or risk-based decision-making in urban systems include the lack of a common language of assessment, and design and management for the characteristics that

makes those systems resilient. We need a language of resilience design and management that aligns with the language of city ordinances and policies. The plan employs the Ecosystem System Services Concept and the 17 ecological services provided by healthy ecosystems to improve the ability of communities to remedy stressors that adversely affect the resilience of urban systems.

Design that enables stakeholders to steward urban watersheds

The three-year collaborative planning process with the City was supported by resources and technical assistance from Metroplan (Central Arkansas' regional planning authority) and Arkansas government agencies including its Game & Fish Commission, Natural Resources Commission, and Department of Environmental Quality. Additional funding came from the Arkansas General Assembly, Lake Conway Property Owners Association, and area institutions like the University of Central Arkansas that built demonstration projects. A critical capacity-building goal involved founding of the Lake Conway-Point Remove Watershed Alliance in 2015. LCPRWA is a multicounty stakeholder coalition with elected officers and bylaws to administer water management projects and the plan throughout the larger watershed.

Further authors

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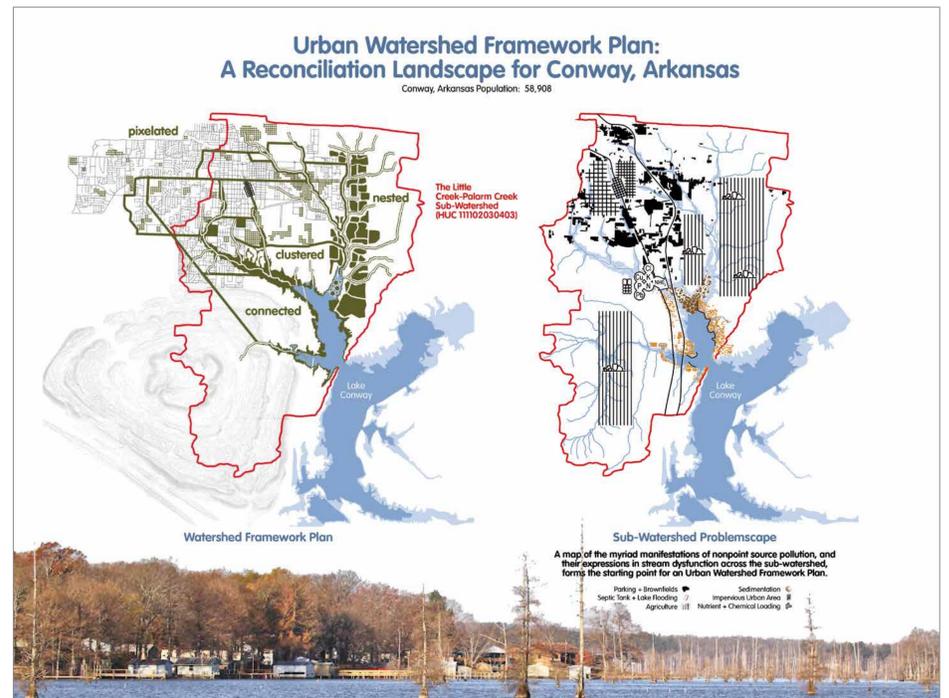


Image 1: Cities are fragmented whereas ecosystems are continuous. The framework plan addresses water management problems in the 42mi² (108 km²) subwatershed through four city-water interface strategies developed in the plan. Pixelated, nested, clustered, and connected interfaces are configured according to prevailing opportunities shaping downtown, suburban, exurban, or rural territories.

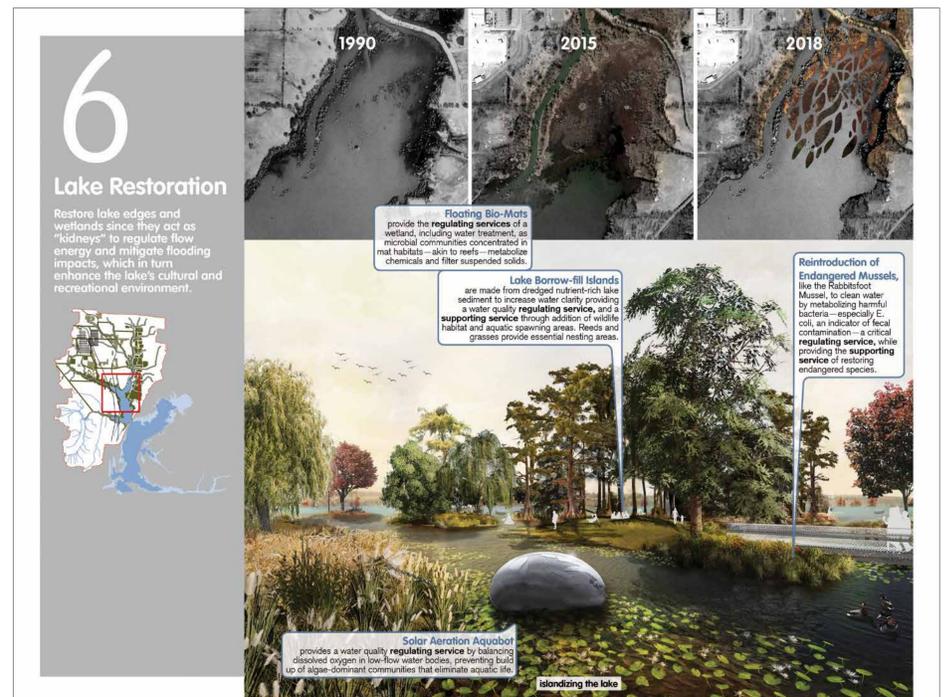


Image 2: One of six adaptive infrastructure components constituting the framework plan, lake restoration involves soft and hard infrastructure, and mobile technologies to enhance lake ecology. To satisfy anglers who desire lake flooding, and waterfront property owners who do not want flooding, islands are created to normalize water flow, flood storage, and aeration while creating new habitat for fish and fowl. A portfolio of floating bio-mats and habitat islands expand useful waterfront.

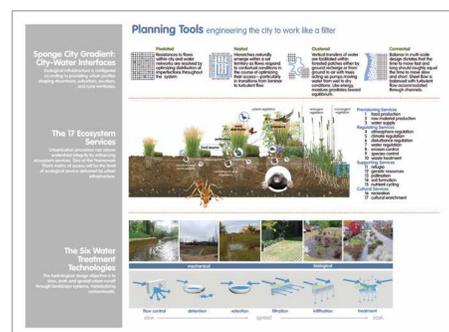


Image 3: Planning tools.

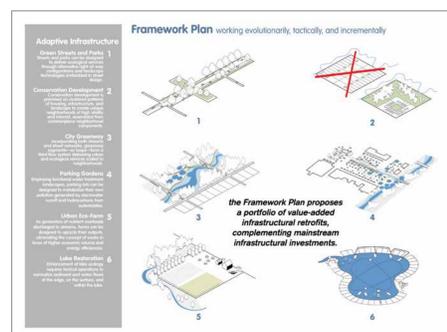


Image 4: Adaptive infrastructure.



Image 5: Green streets and parks.

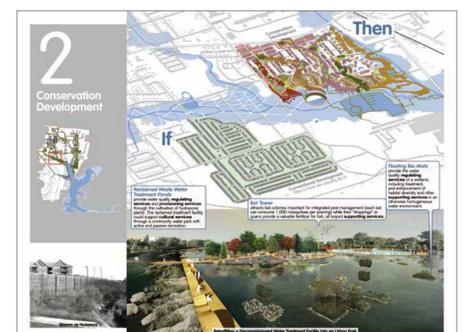


Image 6: Conservation development.

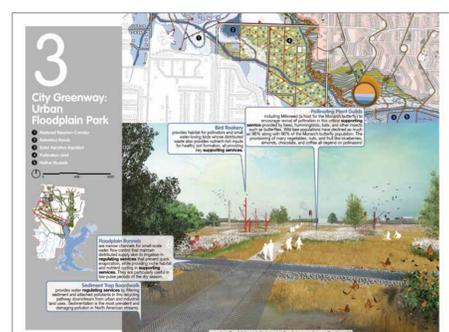


Image 7: City Greenway: Urban floodplain park.

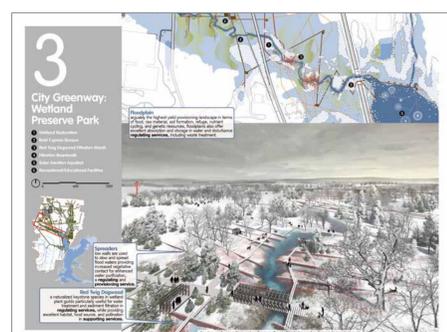


Image 8: City Greenway: Wetland preserve park.

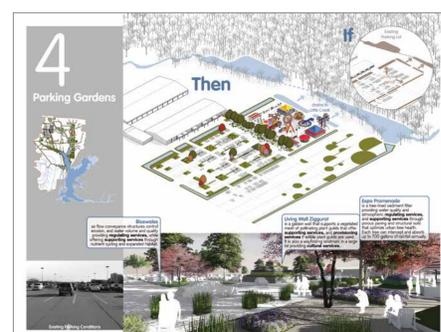


Image 9: Parking gardens.

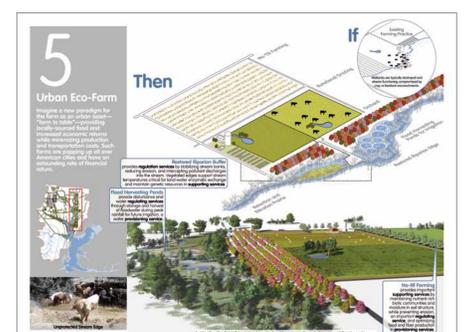


Image 10: Urban eco-farm.