Virtual Academy of Sustainability

Lecture 5: Civic Ecology Praxis

Episode 3: Case Study

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Overview of the Lecture

Episode 1: Collaborative Inquiry

Episode 2: Adaptive Management

Episode 3: Case Study

Cypress Creek Project

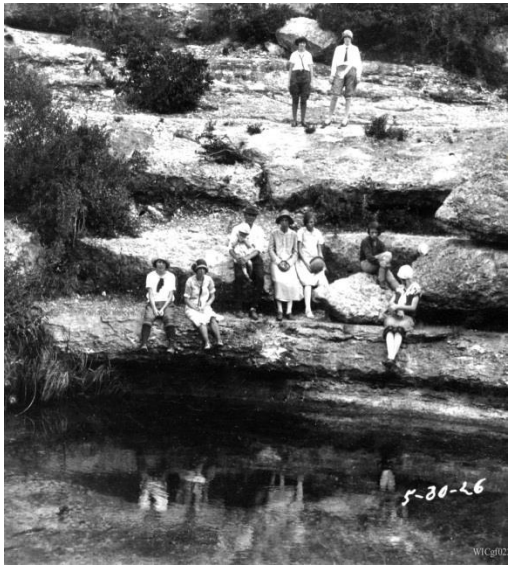
A Case Study from a Small Urbanizing Watershed in South-Central Texas

Source: Wimberley Valley Watershed Association

Cypress Creek Project

- Civic ecology praxis initiated by local stakeholders to protect water quality and restore ecosystem integrity in a small urbanizing watershed in south-central Texas.

- Project facilitated by RSI through the ICWS and financed by grants from TCEQ through US EPA.



Source: Wimberley Institute of Cultures

Cypress Creek Project

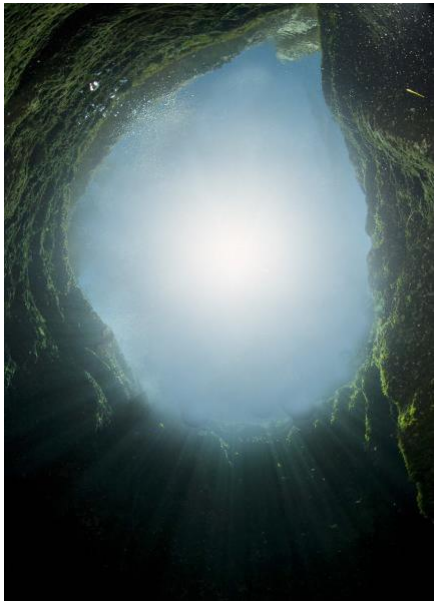
- Location: Hays County in the Edwards Plateau
- Watershed area: 98.4 km^2
- Population: 2,743 (2011)
- Precipitation: 846 – 944 mm
- Spring-fed stream (ground-water provides 92% of streamflow)

Source: Wimberley Valley Watershed Association

Cypress Creek Project

Small watersheds such as Cypress Creek are experiencing problems with regional aquifer impacts affecting local streams.

- Rapid development of urban areas dependent on groundwater supplies.
- Continued drilling of personal supply wells that are exempt from pumping regulation.
- Lack of adequate legal jurisdiction for managing development in rural and semi-rural areas.



Source: Wimberley Valley Watershed Association

Project Goals

To ensure that the long-term integrity and sustainability of the waterhed is preserved and that water quality standards are maintained for present and future generations.

- A core belief that good water quality is essential to all and watershed protection is an indovidual as well as governmental responsibility.
- Recognition that the balance between growth and protection is needed to ensure watershed health.

Project Phases

- **Phase One** (2008-2010) sets a process in motion that creates opportunities to develop a watershed protection plan.
- **Phase Two** (2011-2013) involves the development and implementation of watershed protection plan.
- Watershed protection plan (WPP) is a document collaboratively developed to manage water quality and protect/enhance watershed health.

Project Phases

Phase One:

- Assessment - where are we now?
- Reflection/Visioning - where do we want to be?

Phase Two:

- Action - how do we get there?
- Learning - how do we know if we are getting there?

Assessment

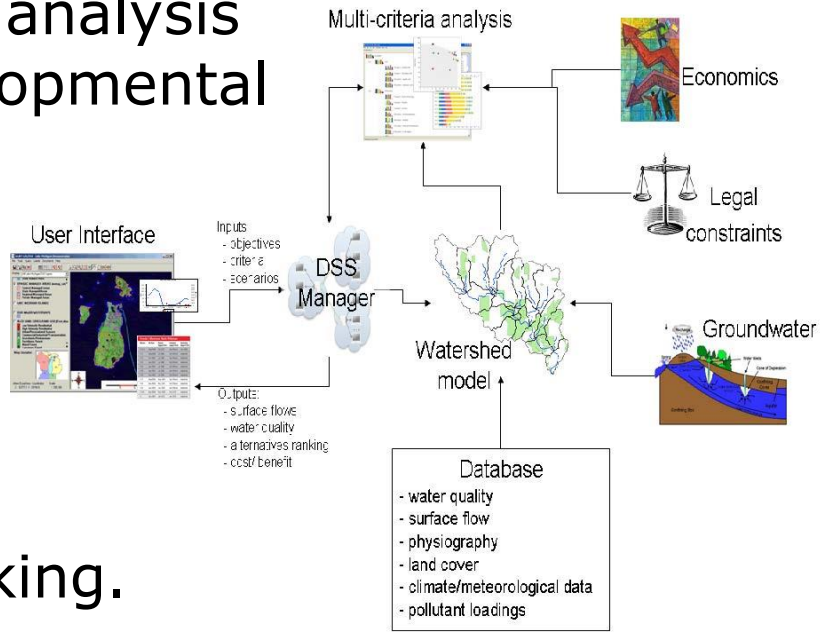
- Compile, analyze and characterize surface and ground-water resources to assess water quality trends, and identify potential areas of nonpoint source pollution.

- Identify categories of stakeholders: landowners, county and regional representatives, state and federal agencies, business and industry representatives, citizen groups, community organizations, etc.

- Identify and engage stakeholders through various forums, interact with the community through public meetings and special events.

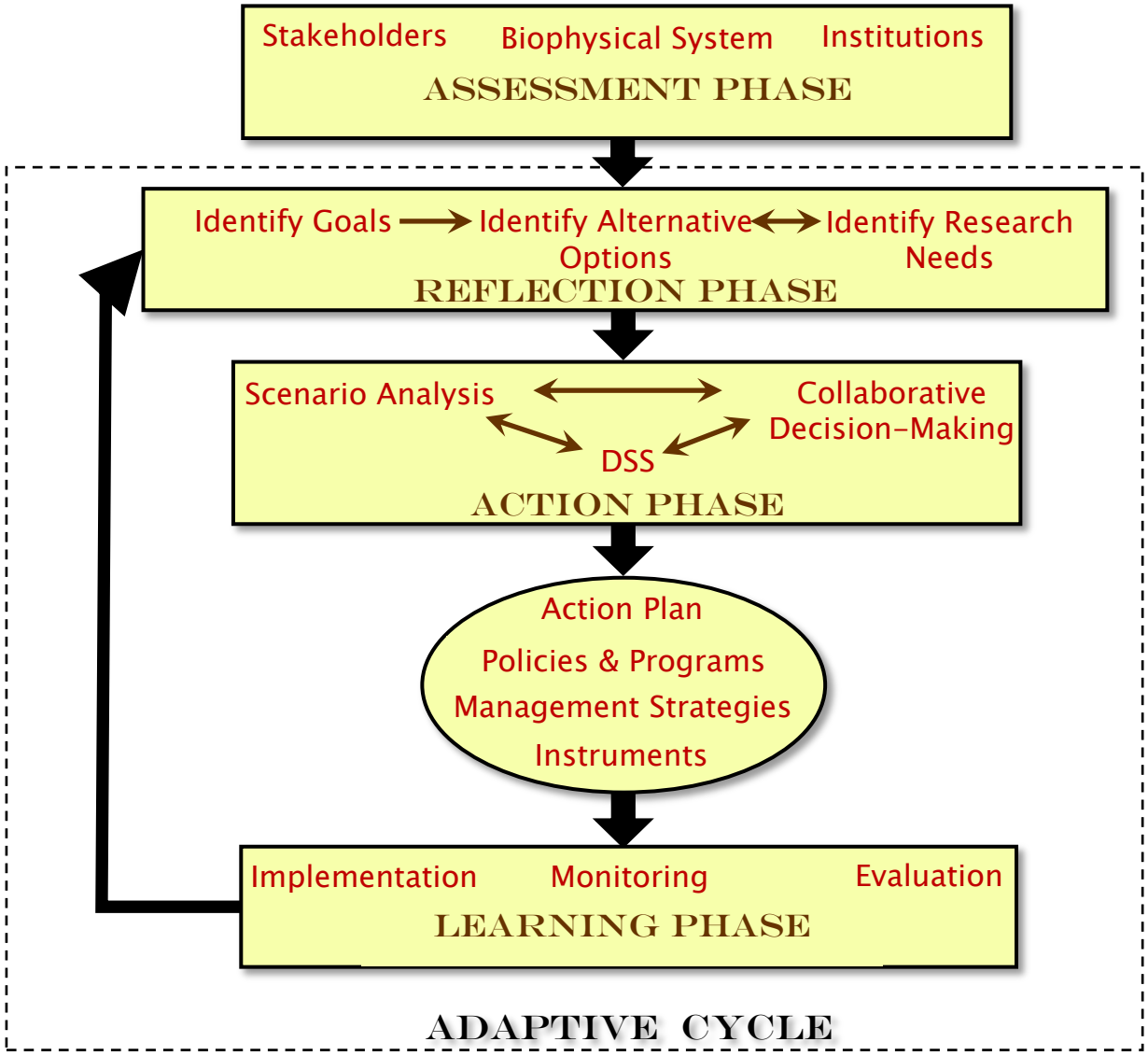
Reflection/Visioning

- Develop a computer-based decision support system (DSS) for scenario analysis and decision making.
- Perform detailed scenario analysis including a range of developmental patterns
and climate conditions.
- Determine preferred future state for the watershed through collaborative decision-making.



Source: Vogl, Adrian L. (2011). A systems Approach to Modeling and Impact Assessment in an Urbanizing Watershed. PhD Dissertation, Texas State University, San Marcos, Texas.

Adaptive Management



Source: Modified from Lal et al. (2001).

Lessons Learned (Phase One)

- Strong leadership is critical to bring people together and to maintain the momentum of civic ecology projects.

- Mediated (participatory) modeling increases citizens' perceptions of model's legitimacy and utility for planning and decision-making.

- Scenario analysis improves citizens' understanding of system dynamics and facilitates decision making.

Source: Vogl, Adrian L. (2011). A systems Approach to Modeling and Impact Assessment in an Urbanizing Watershed. PhD Dissertation, Texas State University, San Marcos, Texas.

References

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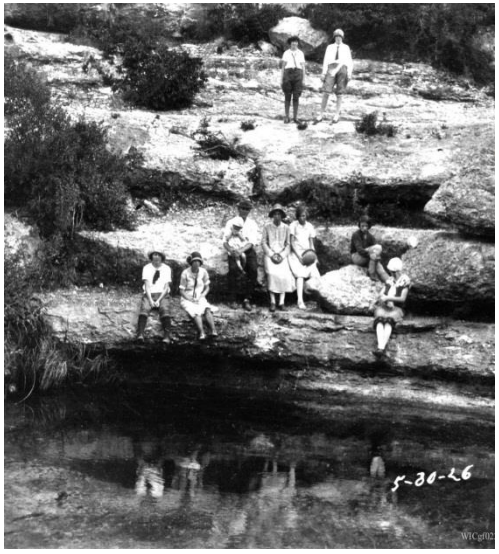
"Never doubt that a small group of thoughtful, committed citizens can change the world. Indeed, it is the only thing that ever has."

Margaret Mead (attributed)



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