

Updating Integrated Watershed Plans

Addressing ongoing and emerging
challenges

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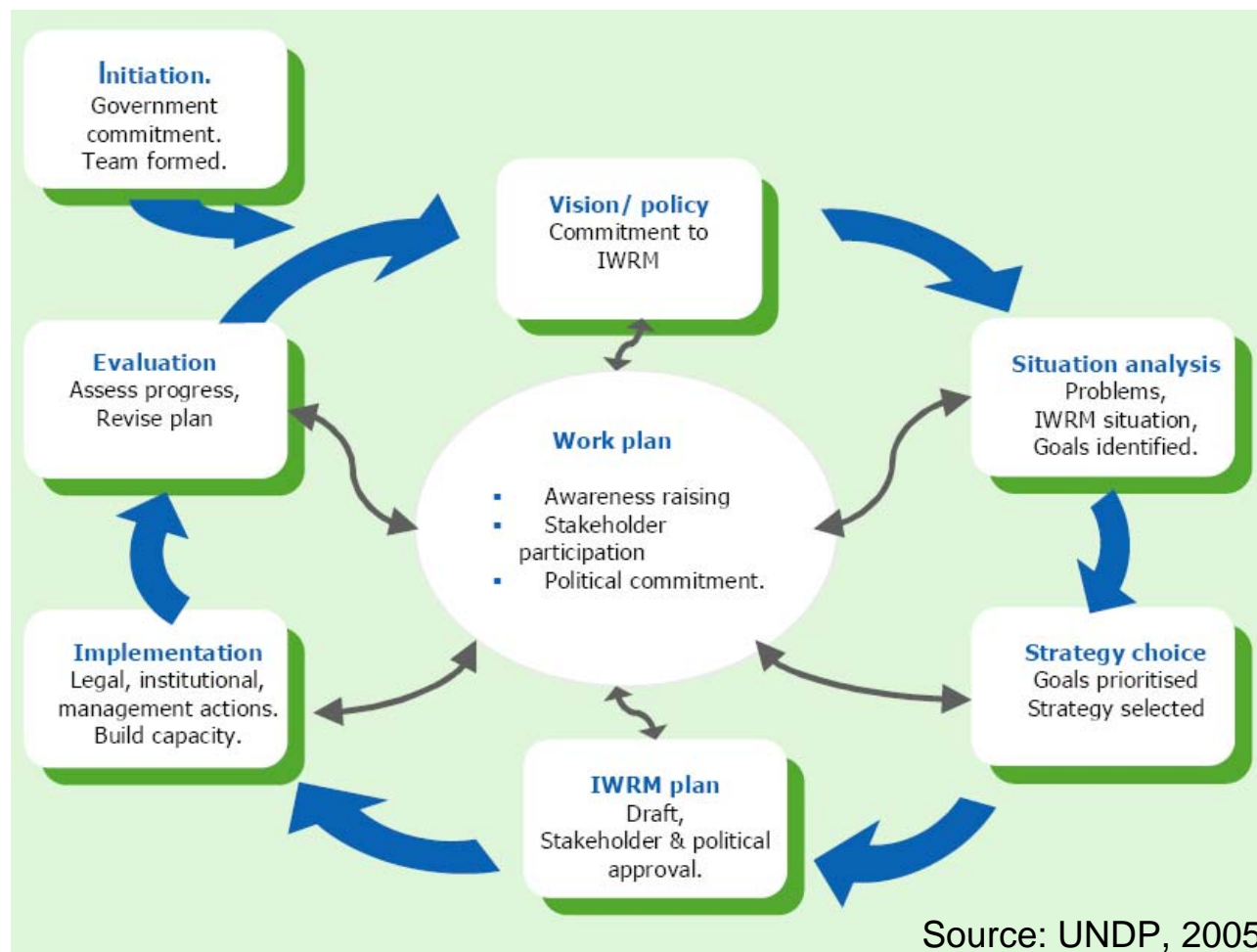
- ❑ Ongoing and emerging principles in integrated watershed management (IWM)
- ❑ Ontario has strong tradition in IWM and in updating plans should:
 - Build on existing strengths
 - Learn from experience
 - Consider incorporating lessons from other jurisdictions
- ❑ A key challenge is implementation of the principles

IWM Principles and Management Responses

- 1) Meet basic human needs today and for the future
- 2) Safe guard ecosystems
Management Response: Science-based approach
- 3) Respect system complexity, emphasize precaution and resilience
Management Response: Planning for Change
- 4) Encourage efficiency and conservation
- 5) Seek multiple sustainability benefits from water centered initiatives
- 6) Establish open, fair and participative decision-making processes
Management Response: Coordinated and participatory approach

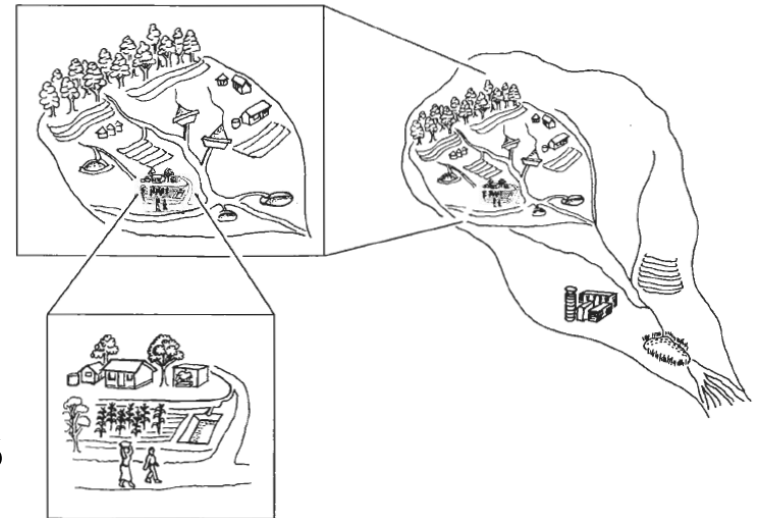
Presentation theme: Addressing ongoing and emerging challenges

Developing IWM plans



Ontario's IWM planning

- ❑ Ontario's *Clean Water Act*, *SDWA*, *Conservation Authority Act*, *Nutrient Management Act*, *Planning Act*...(directly and indirectly)
 - Science-based approach
 - Planning for change
 - Coordination mechanisms



Science-based Approach in Ontario (e.g. Source Water Protection)

- ❑ Characterization (Water budget and quality)
- ❑ Municipal drinking water source boundary delineation (wellhead, intake)
- ❑ Threats

Science-based Approach: Challenges and Responses

□ Ongoing Challenges

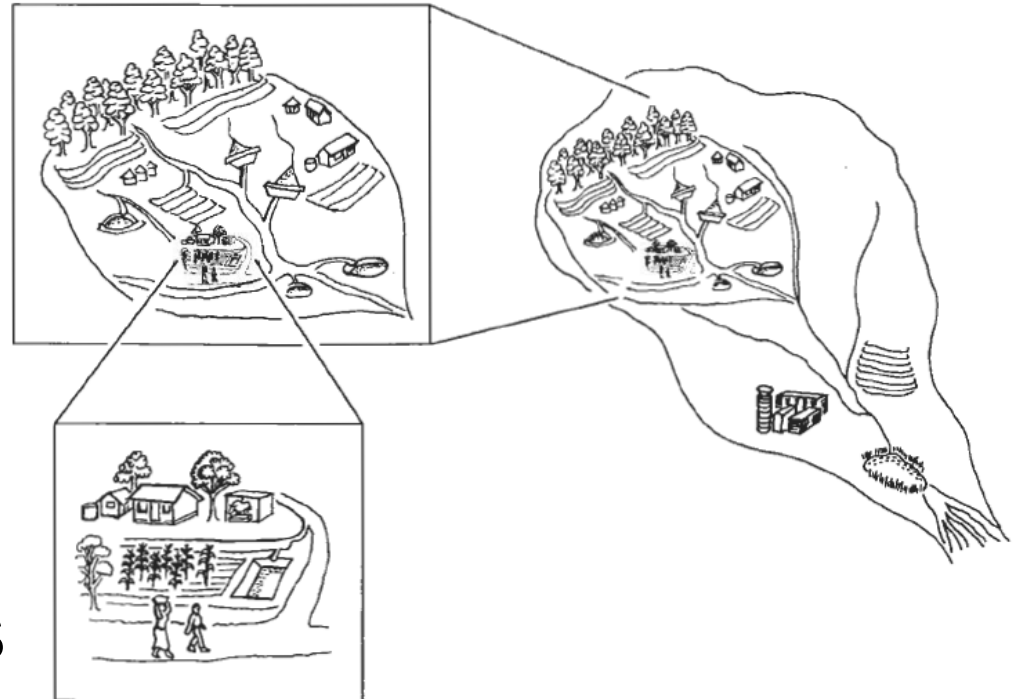
- Uncertainty
- Scale
- Information

Response: adaptive

□ Emerging Challenges

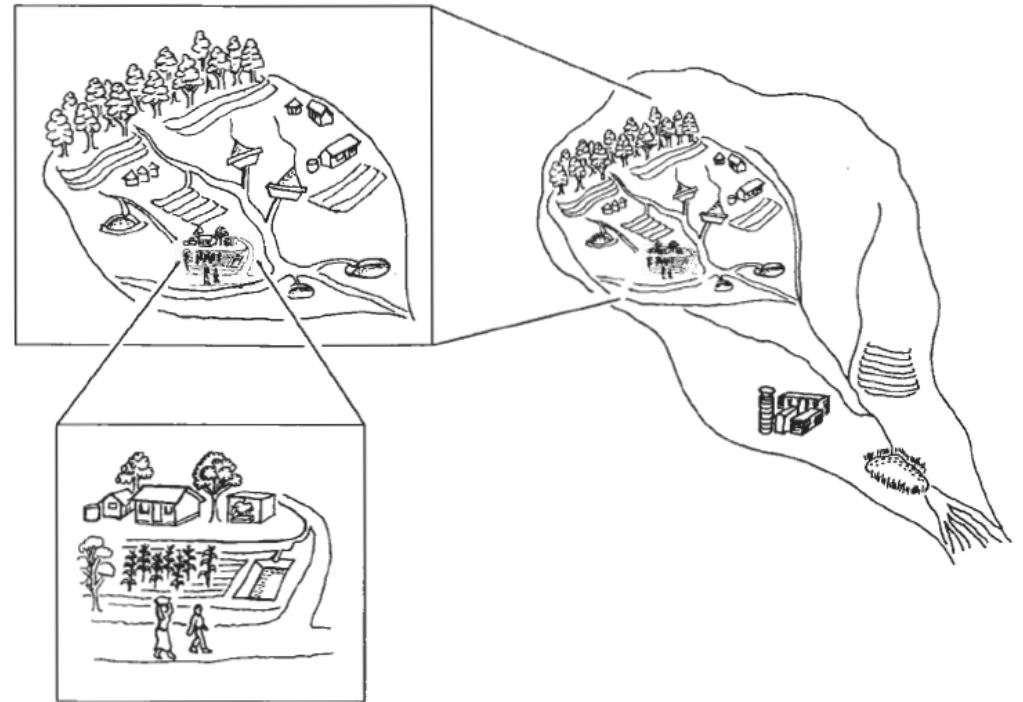
- Balance needs

Response: *'socio-ecohydrological'*



Planning for Change in Ontario

- ❑ Identify issues and concerns
- ❑ Continuous monitoring and data analysis
- ❑ Limited term permits



Planning for Change: Challenges and Responses

□ Ongoing Challenges

- Backcasting
- Monitoring and reporting

Response: Information Systems and Models

□ Emerging Challenges

- Address climate change

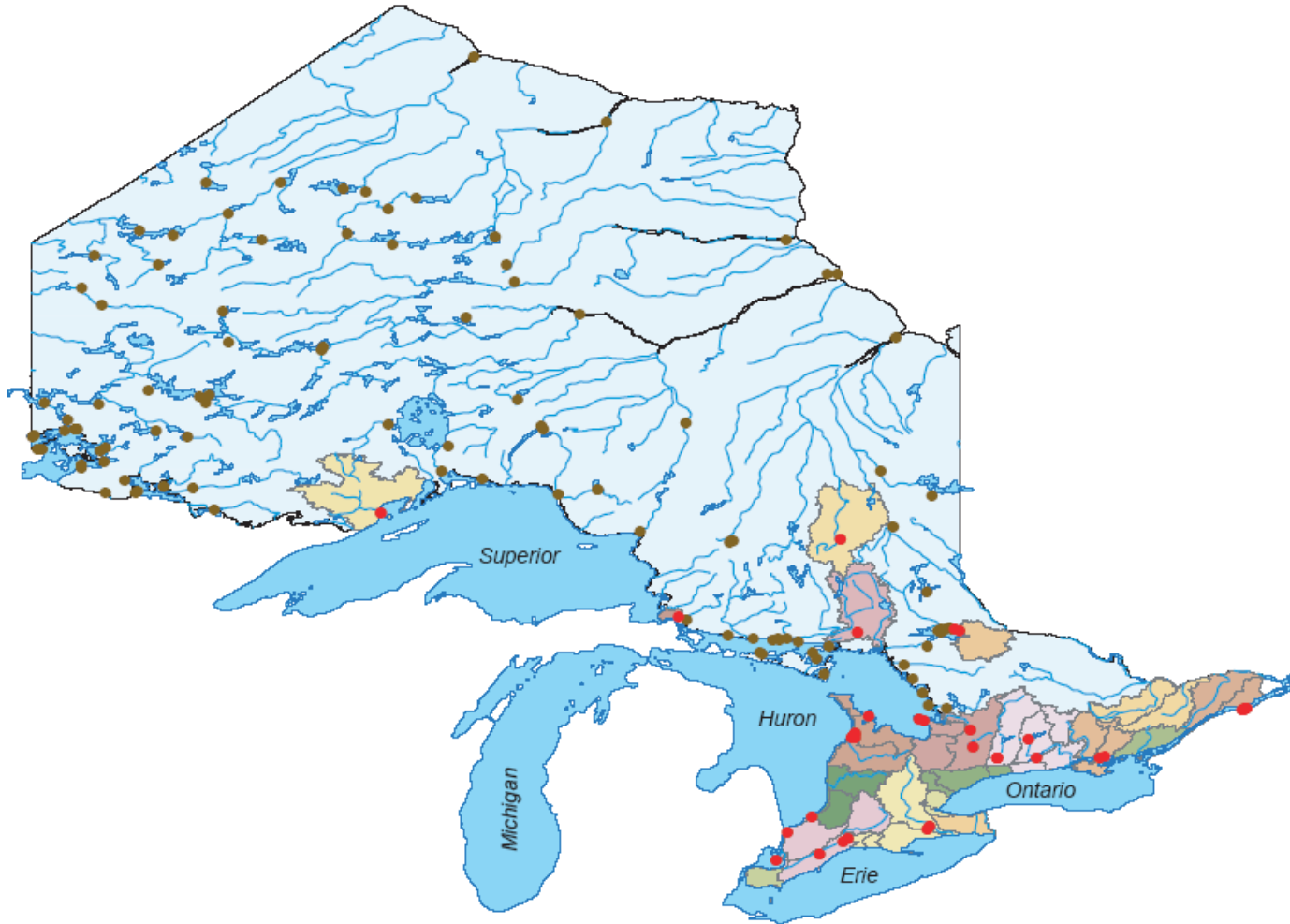
Response: Incorporating climate variability into watershed planning

Coordinated and Participatory approach in Ontario

- Interjurisdictional cooperation
- Interagency coordination
- Stakeholder and public involvement
- First Nations

Collaboration is a process through which “parties who see different aspects of a problem can constructively explore their differences and search for solutions that go beyond their own limited vision of what is possible” (Gray, 1989, p. 5)

Coordinated and Participatory approach in Ontario



Coordination mechanisms: Challenges and Responses

❑ Ongoing Challenges

- Capacity

❑ Emerging Challenges

- New partnerships
- Integration of scientific and experiential knowledge

Response: Participatory (empowerment)

Ongoing Challenge: Implementation of IWM plans

- ❑ United States and European Union
 - Science-based approach
 - Planning for change
 - Coordination mechanisms

Updating IWM plans: USA and European Union

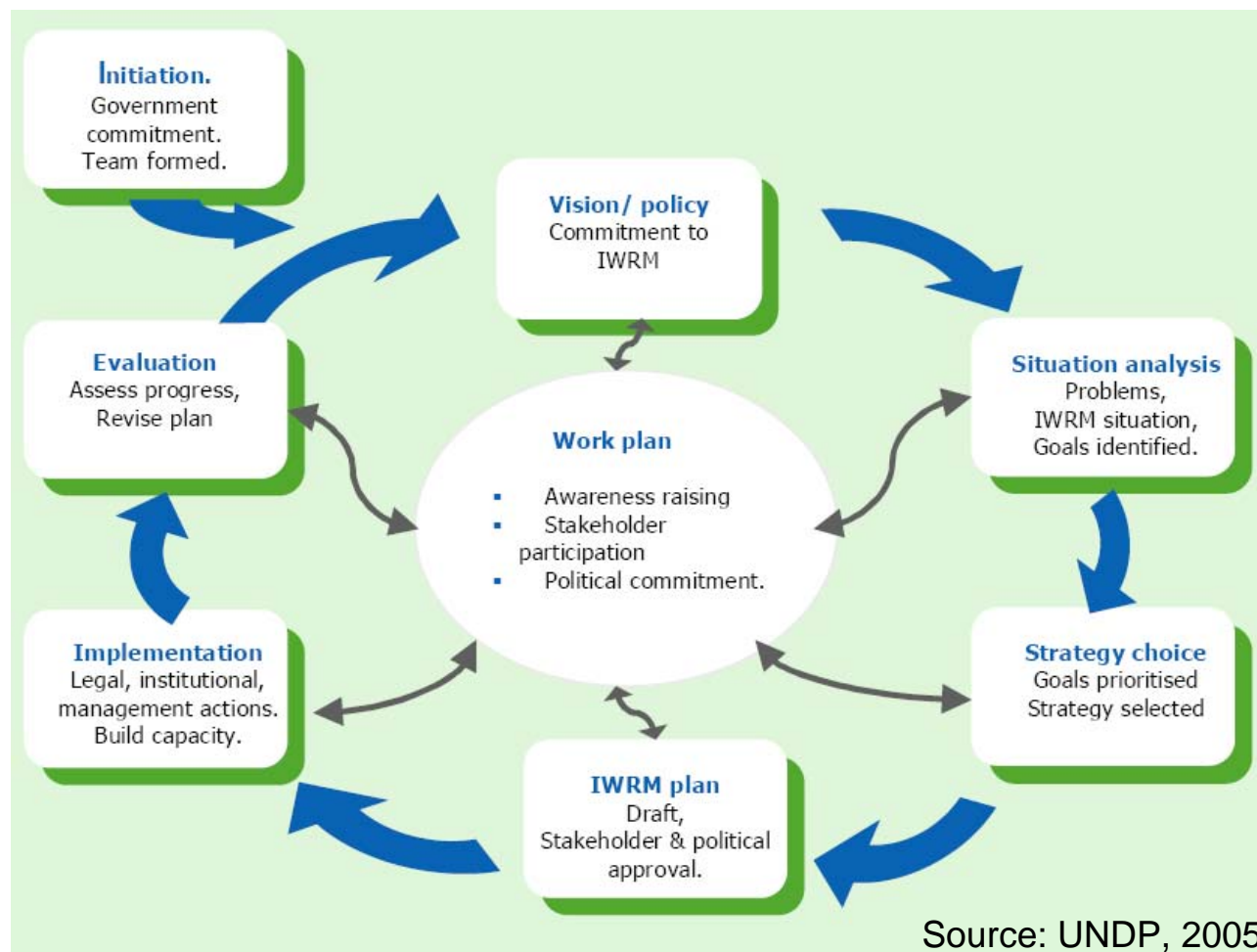
- ❑ *Monitoring environmental outcomes is overly simplistic, examine 'soft' accomplishments*
- ❑ *Initiative come in varied forms (learning)*
- ❑ *Complementary role of local and government support*
- ❑ *Government critical to the sustenance of partnerships*
- ❑ *Creative cost-sharing, funding and program delivery*
- ❑ *Exhibit a degree of organizational formality*
- ❑ *Adequate scientific data and analytical capacity (experimental learning)*
- ❑ *Overlapping planning processes create confusion*

Summary: Implications for Ontario

□ Updating IWM plans:

- Full ecological services, rather than particular water problems and sites
- Articulate clear integrated goals (roles and responsibilities, actions, timelines, and cost)
- Avoid silo funding in capacity building efforts
- Responsive to local conditions
- Equitable delineation of membership
- Learning and reflection should be valued and rewarded
- Incorporate rehabilitation
- Watersheds as the planning unit
- Conflict resolution mechanisms
- Maintain momentum

Summary: Implications for Ontario





Thank you.

Questions?

Implementation of IWM plans: European Union

□ European Union *Water Framework Directive*

“Good ecological, chemical, morphologic status”

- Science-based approach
- Planning for change
- Coordination mechanisms

