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## Effective Watershed Management Practices - Outcomes of the Watershed Science, Policy, Planning and Management Forum<sup>1</sup>

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Center for Natural Resources <sup>2</sup>

### Watershed Concerns in Florida

Mounting watershed concerns in Florida have displayed a need for an interdisciplinary think tank to candidly discuss potential watershed management solutions. On June 19-21, 2001, the second Natural Resources Forum – “*Watershed Science, Policy, Planning, and Management – Can We Make It Work in Florida?*” attempted to create such an environment.

The Natural Resources Forum provided an atmosphere where attendees could express their perspectives freely and use other participants as a sounding board. The interactive discussion regarding watershed management solutions proved to be the greatest success arising from the conference. Various comments and suggestions were received from the conference participants regarding effective watershed management. Attendees evaluated and ranked the suggestions for enhancing or improving the watershed management process. The suggestion list

was narrowed down to the highest-ranking proposals including ideas that concern improving public relations, policymaking, scientist communication, project processes and economic matters.

### Watershed Management Solutions/Four Most Preferred Suggestions

Four ideas that were consistently ranked the highest among the conference participants. The ideas were as follows:

- Scientific information, both written and oral, must be communicated in a way that is both comprehensible and useful to decision-makers.
- Decision-makers and scientists must be prepared to educate themselves on complex issues in the each others field and must be willing to accommodate and compromise

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1. This publication was produced by the Center for Natural Resources at the University of Florida. CNR 15 is part of a Program Summary Series. First published: 3/26/2002. Minor revision: March 2003. 1051 McCarty Hall D. Post Office Box 110230. Tel: (352) 392-7622 Fax: (352) 846-2856 Email: [cnr\\_mail@mail.ifas.ufl.edu](mailto:cnr_mail@mail.ifas.ufl.edu) Web: <http://cnr.ifas.ufl.edu/>

2. This document was produced by The Center for Natural Resources (CNR). CNR, was established in 1973, at the University of Florida. The Center plays a major role in the conservation, preservation and restoration of our nation's natural resources by facilitating interdisciplinary collaborations between UF faculty and external stakeholders.

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- Projects must have measurable goals and must be monitored to evaluate its success
- Projects must have sustained funding for monitoring and evaluation

## **Involvement of Decision Makers and Scientists**

### Decision Makers

- Decision-makers must be prepared to educate themselves on complex issues and must be willing to accommodate science.
- Regulators need to let the scientists know what kinds of answers they need as early as possible and should recognize the uncertainty of scientific forecasts.
- Politicians also need to accept that uncertainty and understand that science will frequently be politically incorrect and risky.
- Identify the final decision-makers who are accountable, and who the political powers are that oversee the conveyance system.
- Demand that decisions be made in the “Sunshine” and that Public Records laws are followed.
- Learn to deal with misinformation campaigns by those who don't want to be regulated.
- Make sure that every candidate is questioned about how they will protect and restore watersheds.

### Scientists

- Scientists should be proactive instead of reactive in presenting science to decision-makers. Information should be presented in an understandable and attractive format, not just data and academic papers.
- Educate scientists to have broader cross-disciplinary communication skills as well as interdisciplinary environmental science training. Anthropologists, sociologists and political scientists should be included on science

panels. Better prepare scientists for collaborative decision making.

- Do not let scientific paradigms dominate the discussion. It is unreasonable to expect scientists from different areas to have the same opinion. However, the scientific method should compensate for these differences.
- Scientists should meet with elected officials one-on-one to explain the science and build a working relationship. Scientists should attend meetings where decisions are developed and made (e.g., commission meetings, workshops, conferences, etc.).
- Scientists who move into the political arena need to let the audience know what role they are playing. Are they speaking as a scientist or as a private citizen?
- Encourage professional societies to be involved in public policy issues.

## **Improving the Process**

- Identify the basic problem, set goals that are measurable and monitor progress. Report the progress to the policy-makers and the public. Allow for updates or revisions to the plan or the project will die.
- Bring politicians into the goal setting process early and involve diverse scientists and stakeholders into the process. This may be more important than the outcome of the project. Involvement across disciplines and stakeholder groups results in consensus and buy-in.
- Use an unbiased facilitator or program manager to guide the activities of the involved agencies. Someone that everyone trusts should lead the collaborative process– selection is critical
- Set a time schedule for planning with deadlines or decision implementation..
- Consider cumulative impacts in the planning, not permitting phase.

- Require that water management address the dual goals of providing water for growth and the environment in land use and other plans. Transform water supply planning into watershed management planning. Incorporate water management principles into land management plans, urban design manuals, development codes, etc. Provide leadership in defining and curtailing “non-essential” water uses
  - Allow government staff experts to participate in public forums so science is considered and misinformation is challenged
  - Public officials should note science isn't sovereign. In other words, although the most important policy decisions may be informed and shaped by science in some manner, they will not be driven primarily by scientific data.
  - Science that supports regulation should move from documenting the problem to evaluating the solutions (e.g., determining the impact of Best Management Practices).
  - Ensure that models and predictions are reliable and used appropriately.
  - Identify critical areas to leave natural. Evaluate the true cost of development.
  - Don't be cynical. (The enemy is us!) Understand our individual and collective roles in watershed management, rather than pointing the finger.
  - Incentives: Have awards program for projects that produce the best results. Share success stories that county commissions can use. Reward the scientists in a forum that the public will see. Make these available on the web. Recognize people in both urban and rural areas for their stewardship efforts.
- coverage on editorial pages and in letters to the editor.
- The public should be informed regarding who will be making the decisions and when they will be made.
  - Provide information to citizens at a time of day and in a way they are willing and able to listen.
  - Legitimate public concerns need to be validated by management agencies rather than dismissed.
  - Adaptive management is an important process and despite the uncertainty of restoration, the public needs to be informed about what they're going to get down the road.
  - To reach the public, use collaborative partnerships between science and education (e.g., Florida Yards and Neighborhoods). Show how it affects them in their homes and recreation. Continue to educate children regarding environmental issues so that we have an informed public.
  - Educate the public that science does not know all the answers (i.e., acknowledge the uncertainty of science) especially at the watershed level. Caution people about invalid science on the Internet.
  - Use local case studies to minimize public distrust of politicians and agencies and to increase stakeholder involvement.

### **Money Matters**

#### **Involving the Public**

- Public support is essential and to maintain their support you must continually inform them about the project. Keep ideas before the public through repetition. Use the mass media to inform the public. Make sure watershed needs get good
- Mechanisms need to be in place that ensure continued funding of research so that adaptive management can succeed (i.e., sustained funding for monitoring and evaluation is necessary). Resolve tension between short term funding and the need for long term studies. Include social science components in research project funding. Provide funding for both basic and applied research
- Provide funding and education to support irrigation conversions and water reuse.

- Get science involved with economics by creating innovative business products (e.g., permeable surfaces).
- Have developers pay for mitigation on forestlands (mitigation bank) which will pay for water management improvements there.
- To get research and resources for pristine areas that don't have support, find out what is important to the areas stakeholders and build alliances around those needs.

### Quotes from Keynote Speakers

**Wayne Daltry Executive Director of the Southwest Florida Regional Planning Council;** "Watershed management is heavily influenced by politics and the only sure way to lose the political game is to not play. In the U.S. the politicians have the "listening ear". Given the prominent role politics play on the watershed management process, it is critical that Florida finds a way to formally link watershed boundaries to political units. This will provide the necessary infrastructure to carry out the task. The first step to watershed management takes place at city/county commissions and at the water management district. These are the key contacts in watershed management."

**Terry Logan President of N-Viro International and Emeritus Professor of Ohio State University;** "The public and policy makers need to continually get information to maintain their interest and support. Involvement across the disciplines and stakeholders groups results in consensus and buy-in. Scientists need to reach consensus. Contacts, information exchanges and networking can be more valuable than the published products."

**Tony Rosenbaum, Political Science Professor, University of Florida, Gainesville, Florida;** "Collaborative decision making about science-based policy encourages broad stakeholder participation, compromise, negotiation and shared goals. It discourages adversarial legalism, scientific fundamentalism and political reductionism. In this process there is no assured outcome and no infallible flow chart or template to follow. Negotiation through

the entire process is necessary and often the best decisions are no decisions. Members must be prepared to think about the unthinkable and consider choices and outcomes that might be "unacceptable" at times."

**John Dohrmann, Policy Director for the Puget Sound Water Quality Action Team, Washington;** "It is essential to recognize that environmental problems were created by system failures—fixing the system prevents future failures. Different geographic scales must be used to address different parts of the problem and a structure must be in place to oversee the plans implementation."

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