

Complexity, Confusion, and Complacency in Water Supply Management

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Summary (Reviewing Yesterday)

- 1. The Big Picture**
- 2. Perspectives and Framing the Issues**
- 3. Florida Water Issues**
- 4. Main Drivers of Water Regulation**
- 5. My Evaluation of the Situation**
- 6. Seeking your input Today**

Viking Theory of Economics



The Big Picture

There are at least two views of history

These shape the ways we perceive reality.

These views guide our policy prescriptions.

Consider the views in the context of water:

View I: Conspiracy Theory

Particular groups are deliberately manipulating public attitudes to gain private advantage.

These groups are powerful and difficult to pin down.

The inability to obtain tangible evidence regarding the conspiracy is “evidence” of the conspiracy’s effectiveness.

Crisis is often the result of such forces.

View II: The Confusion Theory

The technological, political, economic, legal, and social arenas present issues that periodically rise onto our radar screens.

These issues are so complex that we have trouble understanding the nature and scope of the problems.

Crisis is often the result of such forces.

Different Fields of Study offer tools for analyzing the issues and solutions for resolving the problems.

Believing is Seeing

<u>Discipline</u>	<u>Key Concepts</u>	<u>Favored Approach</u>
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Engineering	Technology,	New Sources
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Believing is Seeing

<u>Discipline</u>	<u>Key Concepts</u>	<u>Favored Approach</u>
Engineering	Technology,	New Sources
Hydrology	Resource management	Water Permits

Believing is Seeing

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Engineering Hydrology	Technology, Resource management	New Sources Water Permits
Political Science	Power, Legitimacy	Consensus?

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Ethics	Stewardship/Values	Protection/restoration

Complexity reflected in the variety of approaches.

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Some Issues

Is one approach “best” from the standpoint of developing and evaluating public policy?

Do we have the right level and mix of professionals in the agencies addressing water issues in Florida?

Do these agencies share information and coordinate their policies in a way that leads to good outcomes. (The “best” is the enemy of the good).

Where is Florida Today?

- Consensus regarding the best policy?
- Clarity regarding the underlying science?
- Commitment of all stakeholders to the process and the objectives?
- Citizen contentment with the outcome

Consider Political Power, Scientific Knowledge, Personal Values, and Community Perspectives

Spectrum of Situations: Danger

Power/*Authority* **conflict**

Knowledge **complexity**
Science/eng

Personal **confusion**
Values

Community **crisis**
Perceptions/*Interests*

Spectrum of Situations: Progress (Chamber of Commerce Task Force)

Power

collaboration

Knowledge
Science/eng

coherence

Personal
Values

comprehension

Community
Perceptions

concern

Spectrum of Situations: Complacency

Power

consensus

Knowledge
Science/eng

clarity

Personal
Values

commitment

Community
Perceptions

contentment

Full Spectrum of Situations

Power conflict collaboration consensus

Knowledge complexity coherence clarity

Science/eng

Personal confusion comprehension commitment
Values

Community crisis concern contentment
Perceptions

Certainties

Leaders and citizens in Florida seek a sustainable supply of clean water.

Current Strategy: Avoid Competition; Use Command and Control

Create a larger water pie through alternative water sources.

Costs

Do water users face to true costs of the water they use?

First axiom of public investment:

■ **Get someone else to pay.**

Costs

Do water users face the true costs of the water they use?

First axiom of public investment:

- Get someone else to pay.

First axiom of private investment:

- **It is voluntary.**

Comparative Water Price Levels for some Developed Countries (1999)

Country	Water price (US \$/m ³)
Germany	1.81
Denmark	1.61
Netherlands	1.19
France	1.17
United Kingdom	1.15
Spain	0.54
United States	0.50
Canada	0.41

Fragmented State Regulation

Resource Regulation (WMDs and DEP)

- water rights/licensing
- surface water protection
- groundwater extraction

Economic Regulation (Municipalities, FPSC)

- water tariff
- quality of service
- contract compliance

Environmental/Public Health (DEP and others)

- water quality

Inter-state Issues and National Standards

Identify Organizing Concepts

- Willingness and Ability to Pay
 - Nonpayment
 - Poverty
- Scarcity and Opportunity Costs
 - Groundwater
- Environmental Impacts: Sustainability and Externalities
- Trade-offs (vs. Indivisibilities and Irreversibilities)
- Procedural Fairness and Legal Precedents
- Centralization vs. Decentralization
- Resource Allocation via Markets, Politics, or Integrative Institutions

Sappington: Four Main Drivers of Regulatory Decisions

Eminent Scholar—Economics at UF
Chief Economist at FCC (2001-02)

Asked: What are the four main drivers of regulatory policy decisions in U.S. telecommunications?

(The factors would “probably” apply to water as well)

Sappington: Four Main Drivers of Regulatory Decisions

1. Politics

Sappington: Four Main Drivers of Regulatory Decisions

1. Politics

2. Politics

Sappington: Four Main Drivers of Regulatory Decisions

1. Politics

2. Politics

3. Politics

Sappington: Four Main Drivers of Regulatory Decisions

1. Politics
2. Politics
3. Politics
4. **Economics**

Berg's Evaluation

Power

conflict with some collaboration

Knowledge
Science/eng

complexity with some coherence

Personal
Values

confusion

Community
Perceptions

concern with some complacency

Elaboration

- **Conflict:** behind the scenes—no one wants to give up power, no one wants to pay.
- **Complexity:** Scientific Community vs. Policy Community.
- **Confusion:** variety of personal values and wishful thinking (cognitive dissonance).
- **Concern:** Newspapers, opinion leaders
- **Complacency:** thoughtful response to reality or are political leaders unwilling invest in the future? (short time horizons)

Roles for Universities

1. Collaborative Forums (Conflict Resolution Processes with Stakeholders)
2. Science-Based Policy and Education
3. Citizen Education and Awareness
4. Outreach Activities: publicize studies
 - Crisis?
 - Areas of concern?
 - Satisfactory situation?

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ONCE YOU BECOME
INFORMED, YOU START
SEEING COMPLEXITIES
AND SHADES
OF GRAY.



THE MORE YOU KNOW, THE
HARDER IT IS TO TAKE
DECISIVE ACTION.



9-21

WITTEBACH

YOU REALIZE THAT NOTHING
IS AS CLEAR AND SIMPLE
AS IT FIRST APPEARS.
ULTIMATELY, KNOWLEDGE
IS PARALYZING.



BEING A MAN OF ACTION,
I CAN'T AFFORD TO TAKE
THAT RISK.

YOU'RE IGNORANT,
BUT AT LEAST
YOU ACT ON IT.



Concluding Observations

Complex Issues

Confusing (mixed) messages from Politicians and Citizens

Community perceptions are mixed

Conflicts can lead to Consensus (but that requires adaptive leadership)

Unwarranted Complacency can lead to Crises (single large events or cumulative poor performance)

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