

Water Managers and Decision Makers: Searching for Synergy *“Opening the Water Box”*

June 15, 2010
Washington, DC

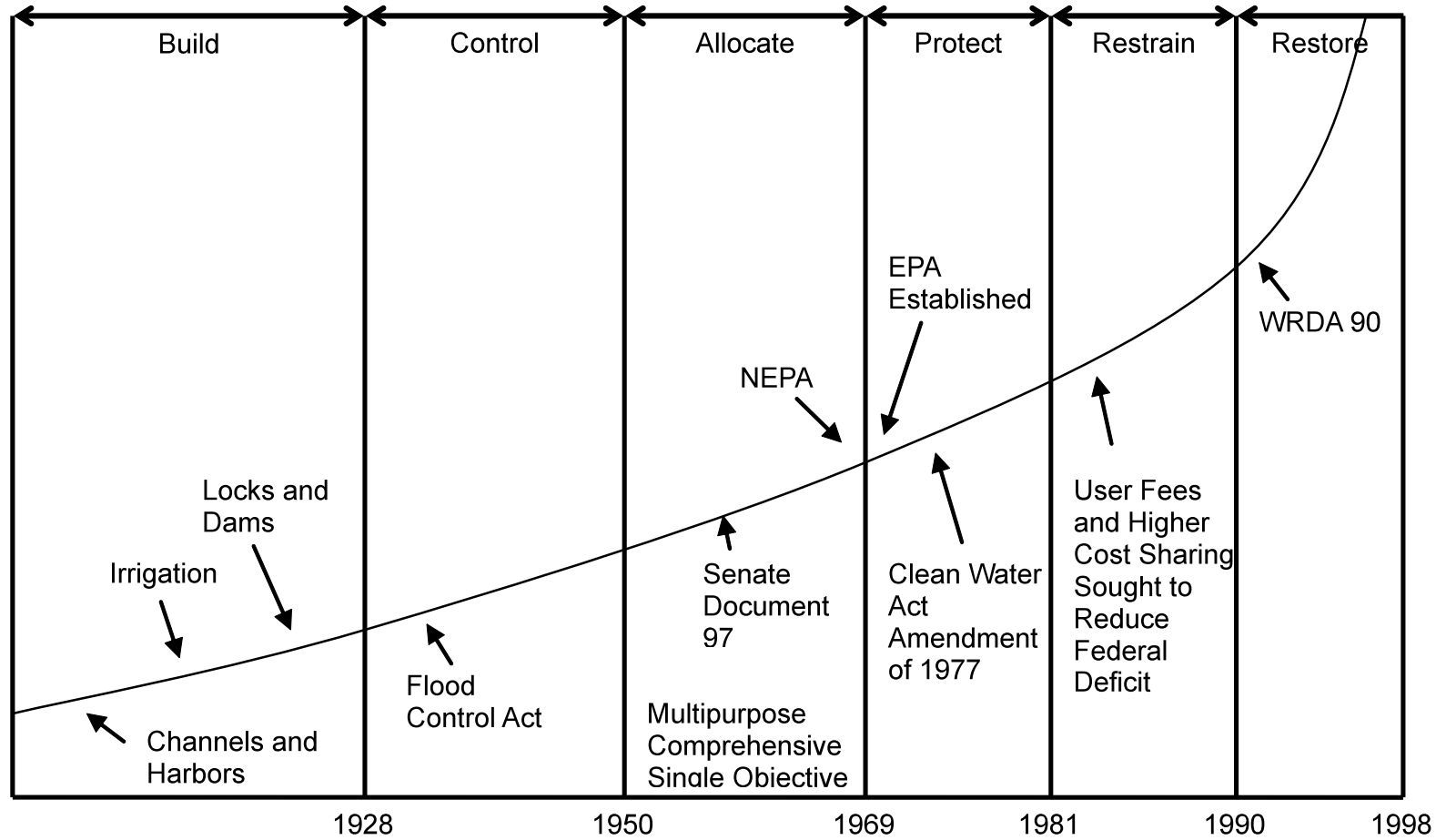


Gerald E. Galloway, Jr., PE, PhD
Water Policy Coll University of Maryland



Fear the Turtle

WATER RESOURCES



?

WHERE HAVE WE BEEN?

- **Seeing the Environment in a Different Light**
 - Cuyahoga; Silent Spring; NEPA; Endangered Species
- **Recognizing a Need to Cleanup a Legacy of Past Activity**
 - Legacy Pollutants; Mitigation; Restoration
- **Moving the Center of Gravity of Politics and Public Interest**
 - Local, Federal, Cost-Shared, Federal Interest Maintenance
- **Changing the Guideposts for Water Planning and Management**
 - Public Good, Economics; Systems, Economics, EQ, Public Safety
- **Exploiting New Technology**
 - Information Technology, Remote Sensing; New Materials

CURRENT ISSUES (1)

- **Implementing Adaptive Management**
 - What Is It? Fuzzy Ending? Costing
- **Broadening Benefit-Cost Analysis**
 - Quantitative v Qualitative; Valuing
- **Understanding Ecological Restoration**
 - Restore to What? How? Cost-Benefit
- **Taking Climate Change into Account**
 - Stationarity, Uncertainty, How Much?
- **Defining the Role of the Public**
 - Passive to Active; MRRRIC; Shared Visioning
- **Extending Planning Objectives and Measuring Results**
 - Social Equity; Generational Equity; Planning Horizon

CURRENT ISSUES (2)

- **Addressing Basin and Watershed Planning**
 - What Basin? Whose Basin? IWRM
- **Integrating Groundwater into Planning and Management**
 - Sustainability, Legal Framework, Knowledge
- **Reducing Flood Damage**
 - Risk, Flood Insurance, Non-structural, Responsibilities
- **Unjumbling Federal Water Policy, Legislation and Coordination**
 - Where Is It Written: National Policies; Conflicts
- **Wisely Replacing Aging Infrastructure**
 - Asset Management; Who Pays? Prioritization
- **Acknowledging the Private Sector**
 - Who Operates What? Contractor Roles

FUTURE DIRECTIONS

- **Dealing with Organizational Structure and the Policy Void**
- **Assessing the State of Water Resources in the Nation**
- **Working in an Interdisciplinary/Collaborative Manner**
- **Breaking Existing Rice Bowls**
- **Adequately Supporting Water-Resources Research**

The Big Issues?



Pressures

- Finance
- Exploitation
- Pollution
- Urbanization
- Land use
- Water use
- Climate variability

Impact

Water resources

- Rainwater
- Groundwater
- Lakes
- Reservoirs
- Wetlands
- Wastewater
- Desalinated water

Other sector
management

Create

Water
box

Affect

Water sector
management

Life and livelihoods

- Aspirations
- Poverty alleviation
- Health & well-being
- Security
- Employment

Demand

Demand

Water uses

- Domestic
- Agriculture
- Industry
- Energy
- Leisure
- Transport
- Environment

- Economic
- Social
- Environment
- Demographic
- Policy, law & finance
- Technology
- Climate change

Civil
society
actors

Political
actors

Business
& economic
actors

- Policy formation
- Resource allocations
- Political & operational decisions

Drivers of
change

Response
options

Modify

