



# UC DAVIS CENTER FOR ENVIRONMENTAL POLICY AND BEHAVIOR

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# BUILDING BETTER ENVIRONMENTAL POLICY

The challenge of incorporating natural science findings into policy decision-making stems from the divide between the *ideal* and the *actual* science-policy interface.

# BUILDING BETTER ENVIRONMENTAL POLICY

## Ideal

Scientists produce **new and better data** that **policy actors apply** to improve outcomes.

**Stakeholders join together** to solve environmental dilemmas, guided by best available data.

People act rationally to **maximize profits, utility, or goal attainment**. Their choices are guided by a **cost-benefit calculus**.

## Actual

**More or better data** does not necessarily translate to **increased use in policy**.

Stakeholders **may not collaborate** or may not do so successfully.

People often appear to make environmental management choices that **do not rationally advance self-interest**.

# WHAT EXPLAINS THE *IDEAL- ACTUAL* DIVIDE?

## Individual-level factors

- Access to and interpretation of scientific information
- Political ideology
- Beliefs and values
- Response to social pressure

## Structural factors

- Written and unwritten “rules of the game”
- Venues wherein decisions are made
- Socioeconomic and demographic attributes of groups/communities
- Structure of social relationships
- Group identities, ideologies, beliefs, and values

# HOW DO WE BRIDGE THE DIVIDE?

The CEPB investigates the nature of the *actual* science-policy interface in order to specify the **conditions under which ideal-type outcomes are more likely** and the factors that can be leveraged to encourage these outcomes

# METHODS FOR INVESTIGATING THE SCIENCE-POLICY DIVIDE

Agent-based modeling

Interviews

Participant observation and engagement

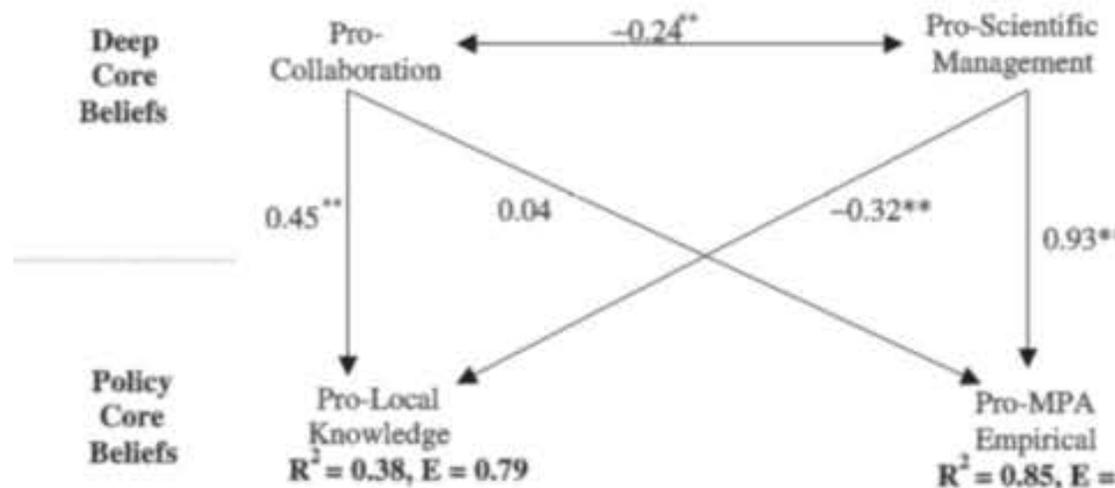
Social network analysis

Statistical modeling

Surveys

# COASTAL AND MARINE PROJECTS INCLUDE:

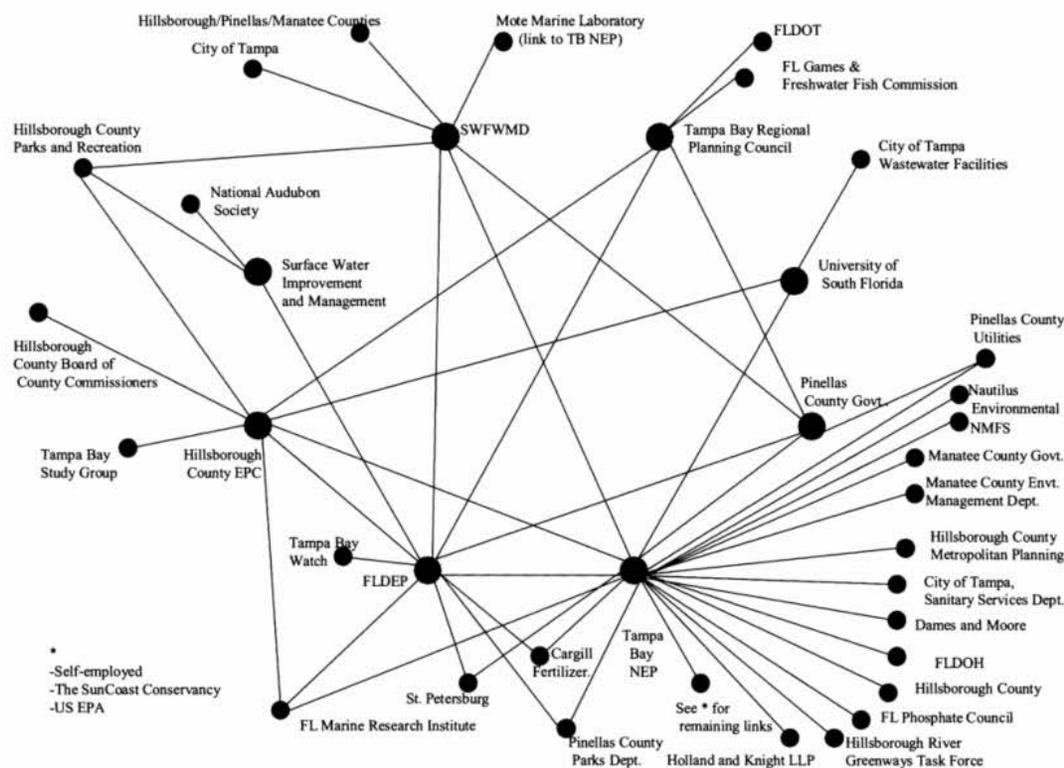
- Analysis of stakeholder preferences for linear, top-down master planning versus bottom-up, stakeholder-driven processes when making decisions about establishment of Marine Protected Areas in California (Weible, Sabatier, Lubell).
  - **Key finding:** Stakeholder preferences for either approach flow from core beliefs about the importance of ideal-type scientific management versus collaborative processes that tap local knowledge.



# COASTAL AND MARINE PROJECTS INCLUDE:

- Analysis of the impact of the U.S. EPA's National Estuary Programs (NEP) on consensus and collaboration among estuary stakeholders (Lubell).
- **Key finding:** While stakeholders in NEP estuaries exhibit a higher level of consensus about how to deal with management dilemmas, they do not actually exhibit any greater cooperation than stakeholders in non-NEP estuaries.

FIGURE 1 Networks Are Denser in NEP Areas: The Case of Tampa Bay



# COASTAL AND MARINE PROJECTS INCLUDE:

- Analysis of how the increasing use of artificial habitat (condos) for spiny lobsters is affecting social and ecological conditions in the Bahamian spiny lobster fishery (Doerr, Farlin).
  - **Key finding:** Beliefs about whether it is socially appropriate to collect lobsters from condos established by another fisherman varies significantly with the fisherman's home island, resulting in inter-island/inter-group conflict.



# COASTAL AND MARINE PROJECTS INCLUDE:

- Analysis of how the Honduras-based Spiny Lobster Initiative, a private-public-community collaboration intended to develop common goals and management approaches, is affecting stakeholder interactions over time (Robbins, Lubell).
- **Key finding:** In the first three years of the initiative, it appears to have catalyzed the development of new ties among different, previously unconnected groups of stakeholders.

