# Use of Ecological Expertise for Communicating Sound Management Advice

Caitlin Young  
NOAA RESTORE Science Program

Kathy Goodin  
NatureServe

Kelly Darnell  
The University of Southern Mississippi

Ruth H. Carmichael  
Dauphin Island Sea Lab/ USA

Renee Collini  
Mississippi State University

Rebecca Allee  
NOAA Office for Coastal Mgmt

---

National Conference on Ecosystem Restoration                  
New Orleans, August 28, 2018
Supporting Co-Production

**What is Co-Production?**
- Coproduction of knowledge is the process of producing usable, or actionable, science through collaboration between scientists and those who use science to make policy and management decisions.

**Key elements in a successful Co-Production**
1. Building ongoing relationships between scientists and stakeholders
2. Ensuring two-way communication between the groups
3. Maintaining a focus on the production of usable science

Generalized conceptual model for Co-Production (i.e. using ecological expertise for communicating sound management advice)
Data, Tools, and Expertise to Support Restoration

**Plan**
- Assess existing data and baseline conditions
- Identify reference sites
- Determine indicators for evaluation
- Set restoration goals
- Identify restoration sites based on goals

**Do**
- Plant the right species for the site

**Evaluate & Learn**
- Monitor indicators
- Manage data
- Analyze and visualize data
- Model future conditions
- Share data and experiences

**Diagram**: RESTORE SCIENCE PROGRAM

**Logos**: Biodiversity Indicators Dashboard, SeedSmart, NatureServe VISTA, Ecological Integrity Assessment, LandScape America, EXPLORER
Manager Engagement: Lessons Learned

- Make human connections
- Read management plans
- Invite managers to be on the proposal team
- Invest in gathering requirements for the entire project cycle
  - prototype as soon as you can
  - iterate
- Understand manager’s capacity
  - engage their leadership
  - reveal constraints early
- Provide workshops and training
The Adaptive Research Cycle

Engage stakeholders
Identify needs
Plan research
Conduct research
Maintain engagement
Gulf-wide assessment of habitat use and production estimates of nekton in turtlegrass

• Driven by management needs identified by end-users
  – Reports, Stock Assessments
  – External Advisory Panel

• Initial engagement with end-users
  – Guide project design, study site selection

• Maintain engagement with end-users
  – Collaborative partnership
The Adaptive Research Cycle

Plan
- Engage stakeholders
- Identify needs
- Plan research

Adjust
- Conduct research
- Maintain engagement

Do

Evaluate & learn
- Modify research plan

Stakeholders
- Identify needs
- Plan research
- Conduct research
- Maintain engagement

The cycle is as follows:
1. Plan
2. Adjust
3. Do
4. Evaluate & learn
5. Modify research plan
6. Engage stakeholders
7. Identify needs
8. Plan research
9. Conduct research
10. Maintain engagement
The Adaptive Research Cycle

- **Plan**
  - Engage stakeholders
  - Identify needs
  - Plan research

- **Do**
  - Develop products
  - Maintain engagement

- **Adjust**
  - Evaluate & learn

- **Modify & share products**

Engage stakeholders, Identify needs, Plan research, Develop products, Maintain engagement, Evaluate & learn, Modify & share products.
Legacy effects of land-use change in a nGOM estuary system

- Local problem with transferability
- Increased end-user engagement
- Communication with stakeholders guided application of scientific data
- Stakeholders need tangible & accessible products & recommendations
- Grant programs may need modification to support adaptability & product development
Messy Reality
Messy Reality: Integrating science into decision-making

- **Partnerships**
  - Long-term, trusted
  - Engagement outside of specific projects
  - Identify and address gaps in knowledge

- **Products**
  - Flexibility in application
  - Longevity
  - Broad applicability
  - Useful science ≠ usable science

- **Opportunistic = people on the ground**
Questions?