

INTERDISCIPLINARY TEAM RESEARCH

**W.L. Hargrove, Director
Center for Environmental Resource Management
(CERM)**



OUTLINE

- WHY interdisciplinary team research?
- WHAT is interdisciplinary team research?
- HOW to do interdisciplinary research?



WHY INTERDISCIPLINARY RESEARCH?

- Many researchable problems involve complex interactions among human systems and biophysical systems
- NIH: Many of the nation's most pressing health problems involve biological, behavioral, social, and environmental factors
- Expectation: scientists who can integrate diverse scientific approaches and work in teams to solve complex health problems

HEALTH
SCIENCES

ENVIRONMENTAL
SCIENCES

SOCIAL
SCIENCES

ENVIRONMENTAL
HEALTH
DISPARITIES

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graph TD; HS[HEALTH SCIENCES] --> EHD((ENVIRONMENTAL HEALTH DISPARITIES)); ES[ENVIRONMENTAL SCIENCES] --> EHD; SS[SOCIAL SCIENCES] --> EHD;
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TERMINOLOGY

- Disciplinary
- Multi-Disciplinary
- INTERDISCIPLINARY
- Transdisciplinary



WHAT IS INTERDISCIPLINARY TEAM RESEARCH?

- Teams develop common research problem and mutually develop conceptual framework
- Teams coordinate the key research questions, methods, and scales of analyses
- Research outcomes include data impacting knowledge of each of represented disciplines, a synthetic product instead of a disciplinary product

CHARACTERISTICS OF SUCCESSFUL INTERDISCIPLINARY TEAM RESEARCH

- The “whole” should be greater than the “sum of the parts”
- Not cookbook; adaptive
- Takes more time
- Communication, understanding, trust
- Shared responsibility, shared credit

BUILDING AN INTERDISCIPLINARY TEAM

- “Right size”
- Regular intellectual discussions; seminars
- Joint planning
- Communications and sharing
- Regular self evaluation



FUNCTIONING AS A TEAM

- Clear purpose
- Shared commitment to success
- Empowering team structure and organization
- Administrative support
- Mutual respect and positive internal relationships (sense of community)
- Effective communications and efficient information management
- Shared accountability

BARRIERS AND BRIDGES

- Individual
- Disciplinary
- Institutional



TENSIONS

- Quantitative vs. Qualitative
- Scientific rigor vs. Broader dimensions
- Mechanisms vs. Systems
- Senior authorship vs. Junior authorship
- Academic Departments vs. Interdisciplinary Teams



HOW IS SUCCESS DEFINED?

- Outputs and outcomes
- Team satisfaction
- Lessons learned



QUESTIONS?

