



Senator George J. Mitchell
Center for Sustainability Solutions

Growing Capacities for Engaged Research: Lessons Learned in Sustainability Collaborations

David D. Hart and 200+ Colleagues
Mitchell Center for Sustainability Solutions
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Addressing sustainability challenges requires the ability to engage with diverse partners, goals, values, and knowledge

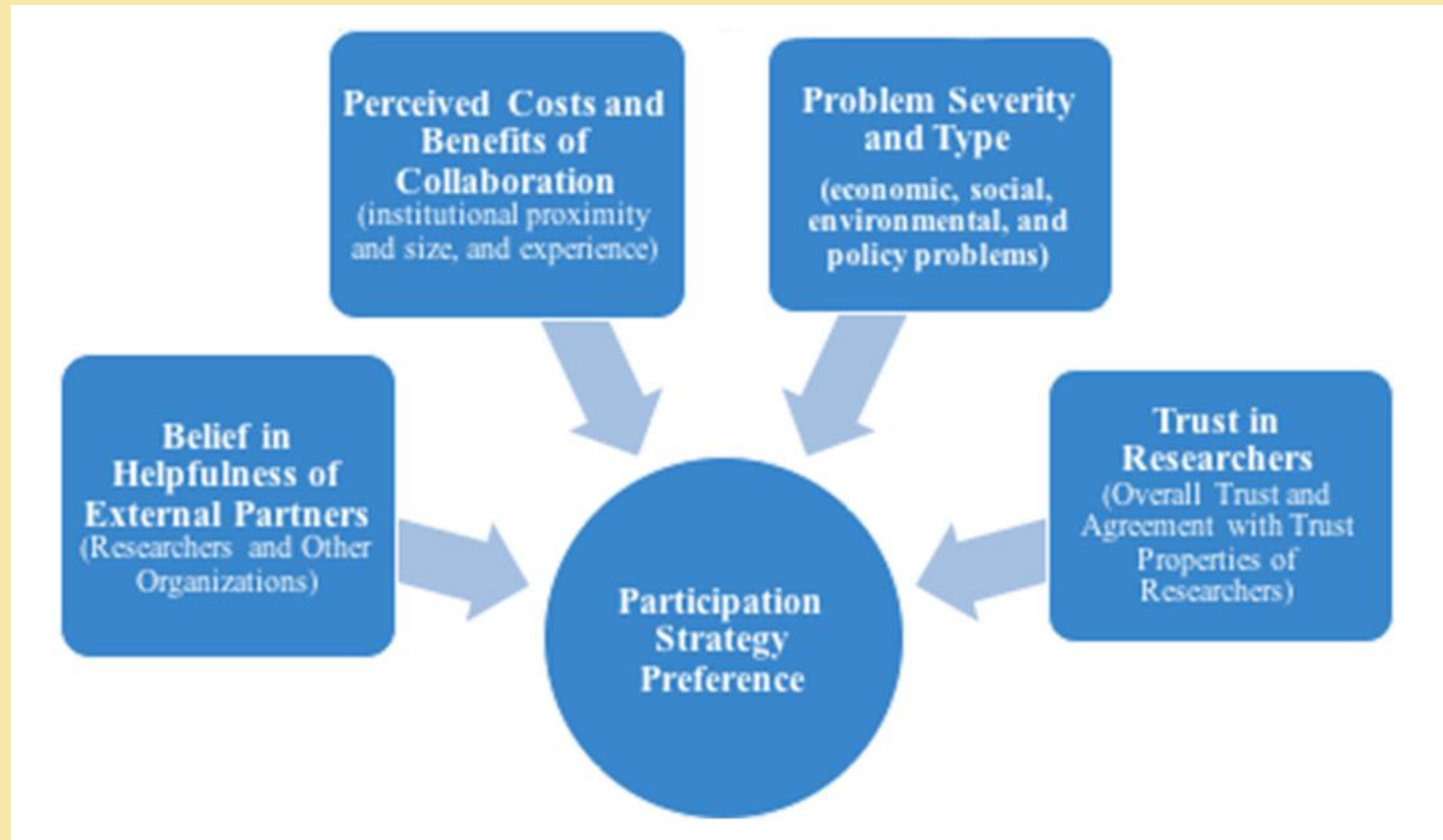


Engaging with stakeholders: Some key questions

- How To *Begin* the Research Partnership
- How to *Grow* the Partnership
- How to Decide *What* Will Be Studied
 - Who decides on the research agenda and research questions?
 - Is it more important to solve a problem or to understand the problem at a basic level?
 - When is enough known?
 - Who owns the data?

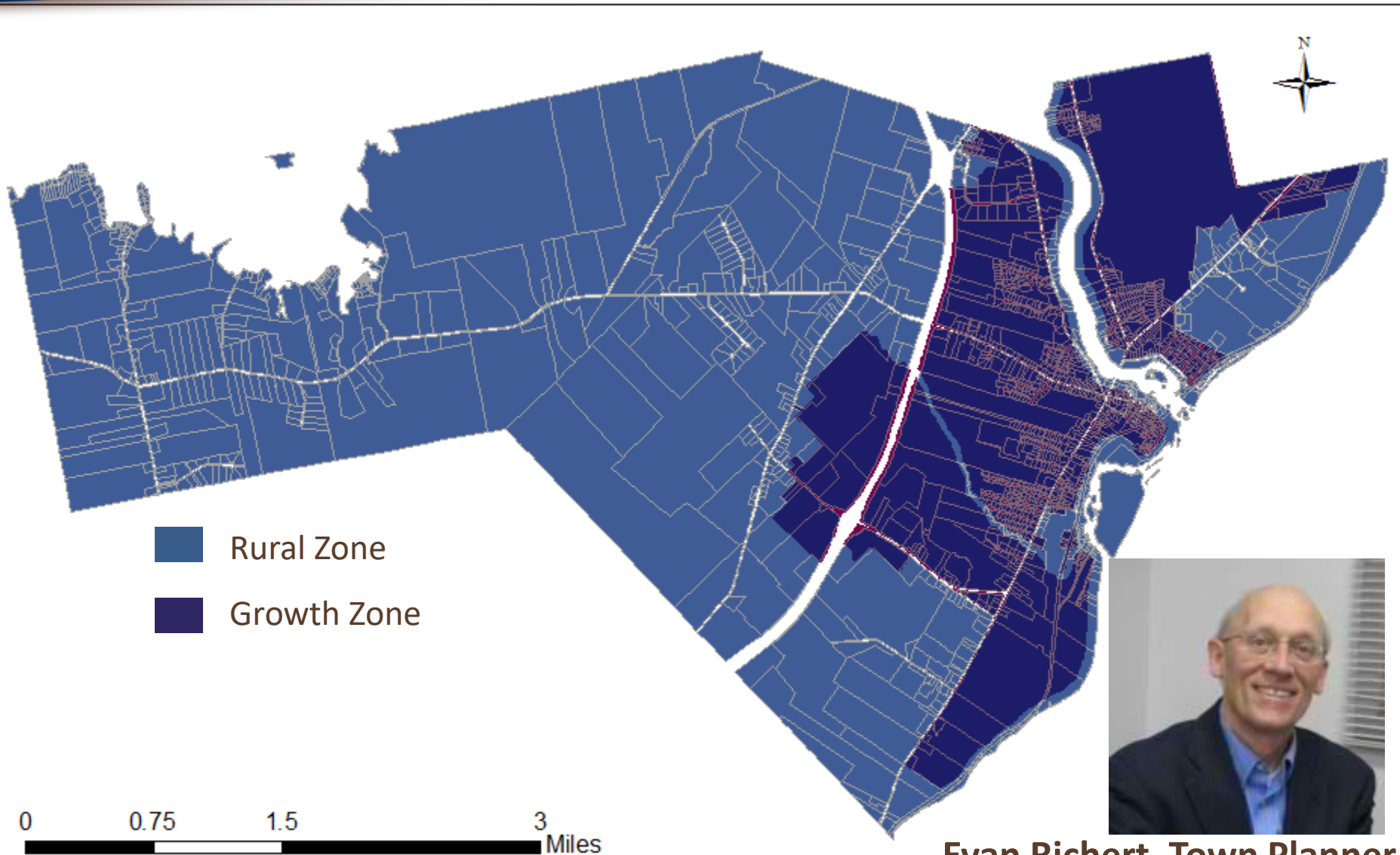
Silka, L. et al. 2008. Creating community –based participatory research in a diverse community: A case study. *J Empir Res. Human Res Ethics* 3: 5-16.

Engagement preferences of stakeholder can sometimes be quantified



Bieluch et al. (2017). Transdisciplinary research partnerships in sustainability science: An examination of stakeholder participation preferences. *Sustainability Science*, 12(1), 87-104.

Using towns as engaged research laboratories



Evan Richert, Town Planner

Local engaged research can generate solutions of relevance to larger scales and other contexts

Improving management of small natural features on private lands by negotiating the science–policy boundary for Maine vernal pools

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Vernal pools are far more important for providing ecosystem services than one would predict based on their small size. However, prevailing resource-management strategies are not effectively conserving pools and other small natural features on private lands. Solutions are complicated by tensions between private property and societal rights, uncertainties over resource location and function, diverse stakeholders, and fragmented regulatory authority. The development and testing of new conservation approaches that link scientific knowledge, stakeholder decision-making, and conservation outcomes are important responses to this conservation dilemma. Drawing from a 15-y history of vernal pool conservation efforts in Maine, we describe the coevolution of pool conservation and research approaches, focusing on how research-based knowl-

fish, they provide an ideal breeding habitat for invertebrate and amphibian species susceptible to depredation by predators associated with permanent waters. Vernal pool systems include the pool and adjacent forests that provide shade and organic material for the pool and postbreeding habitat for pool-breeding amphibians that live the majority of their lives on the forest floor (5). Besides habitat for many aquatic and terrestrial species, vernal pools provide other ecosystem services, such as export of carbon and nutrients to adjacent forests (4, 6).

Although vernal pools are unique ecosystems that perform important functions at the landscape scale (7), they face significant management challenges. In the United States, vernal pools are regulated at the federal level and may or may not be regu-

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ORIGINAL ARTICLE



Science in Indigenous homelands: addressing power and justice in sustainability science from/with/in the Penobscot River

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Abstract

Sustainability science offers an alternative space for research that challenges colonial histories of western science, especially in its orientation to interdisciplinarity and for addressing complex problems through equitable knowledge co-production processes. However, the justice-oriented commitments within sustainability science remain underdeveloped, in particular for centering indigenous research methods (IRM) and promoting decolonization of academic institutions. In this paper, we draw from more than 10 years of experience across three cases of conducting sustainability science in Indigenous home-

We subject our engaged research to empirical scrutiny!

(Representative papers – more than 60 publications to date)

Gardner, S. K. et al. (2014). Bridging the divide: Tensions between the biophysical and social sciences in an interdisciplinary sustainability science project. *Environment and Natural Resource Research* 4 (2): 70.

Levesque et al. (2017). Turning contention into collaboration: Engaging power, trust, and learning in collaborative networks. *Society & Natural Resources*, 30(2), 245-260.

McCoy, S. K., and Gardner, S. K. (2012). Interdisciplinary collaboration on campus: Five questions. *Change: The Magazine of Higher Learning*, 44 (6): 44-49.

McGreavy, B. et al. (2018). Enhancing adaptive capacities in coastal communities through engaged communication research: Insights from a statewide study of shellfish co-management. *Ocean & Coastal Management*, 163, 240-253.

Saber, D. A., & Silka, L. (2020). Food waste as a classic problem that calls for interdisciplinary solutions: A case study illustration. *Journal of Social Issues*, 76(1), 114-122.

Some of the disciplinary expertise used in examining the effectiveness of our engaged research

- Communication
- Psychology
- Anthropology
- Sociology
- Behavioral economics
- Decision science
- Geography
- Political science
- Public policy
- Planning
- Law
- Design

What structures are needed to enable collaboration?

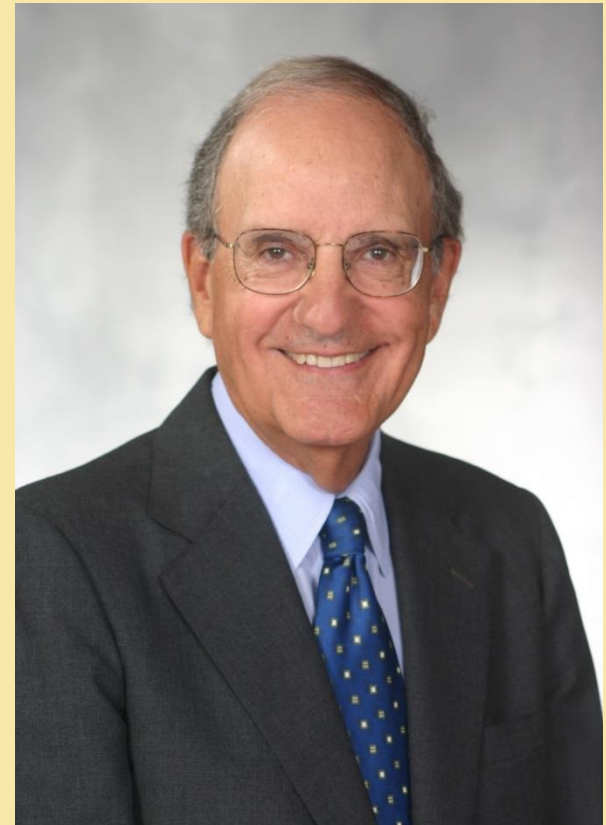
“The prescription for universities is what business...would call *project management*.... You organize people to build a car, and you’ll know when the job is complete because someone can drive from Point A to Point B in an affordable way. This is not commonly the way universities are organized, which is why it is interesting to see Maine so far out front in introducing a solutions center.”

- *William Clark, Harvard University, Mitchell Lecture on Sustainability*

Engaged research can be enhanced by developing a shared ethos

“The ethos of the Mitchell Center reflects one of my deepest beliefs: the importance of public service. The Center’s faculty and students have committed themselves to a goal larger than their individual lives: the goal of helping build a better world.”

Senator George J. Mitchell



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Engaged research: Views from inside and beyond the Academy

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