

# An Engaged and Ethnographic Approach to Transdisciplinary Collaboration

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## How Does Strategic Communication Shape Transdisciplinary Collaboration? A Focus on Definitions, Audience, Expertise, and Ethical Praxis

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Transdisciplinary collaboration offers great potential for meaningfully addressing complex problems related to climate change and social inequities. Communication shapes transdisciplinary collaboration in myriad ways, and interdisciplinary and rhetorical approaches to communication can help identify these influences as well as strategies to transform inequitable communication patterns. In this paper, we share results from an engaged and ethnographic research project focused on strategic communication in a large-scale transdisciplinary collaboration to develop environmental DNA (eDNA) science for coastal resilience. In this context, definitions of eDNA, perspectives about communication, and constructions of audience and expertise shape the ways in which collaborators co-produce knowledge across disciplines and with diverse partners. Identifying relationships among strategic communication, knowledge co-producers, and power enables the development of strategic collaborative practices, including asking questions as a means to identify and negotiate differences in definitions of eDNA and using participatory methods and anti-oppressive data management platforms for ethical praxis.

**Keywords:** strategic communication, rhetoric, transdisciplinary collaboration, epistemic authority, environmental DNA (eDNA), ethics

### INTRODUCTION

Complex problems at the nexus of ecological, social, cultural, technological, and economic concerns require diverse approaches to collaboration (Blythe et al., 2008; Brown et al., 2010). There are several factors that intensify the complexity that occurs at this nexus, including the influence of context and local histories, cross-scale interactions, and diverse perspectives about the nature of any particular problem or solution. For example, climate change is occurring so dramatically



Photo by Jennifer Smith-Mayo

## Researchers highlight value of communicating across disciplines

March 2, 2022

Collaborating across different fields of study is an important element of addressing climate change and societal challenges. By looking at a particular multidisciplinary project, a group of University of Maine researchers showed how communication shapes collaboration in many different ways.

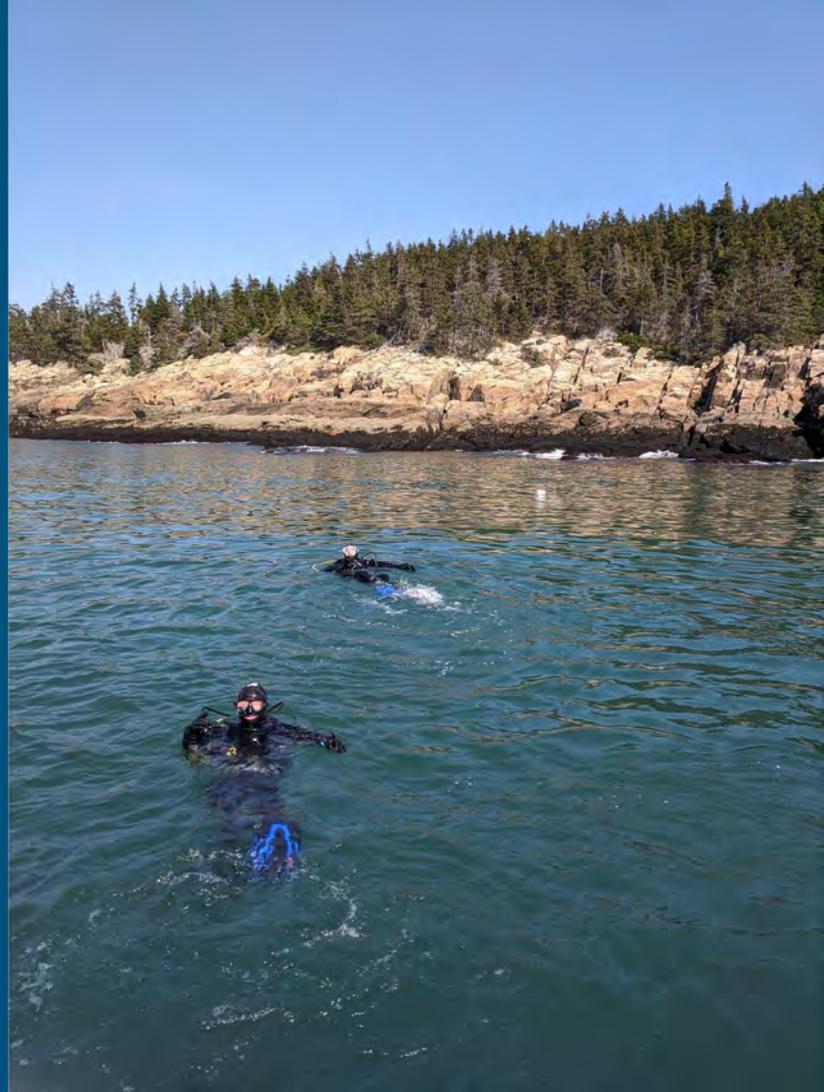
UMaine researchers from a range of disciplines — including anthropology, ecology and environmental science, genetics, journalism, marine science and Native American studies — collaborated on a [study](#) published in the journal *Frontiers in Communication*. The researchers looked at communication among partners from different disciplines in developing science for coastal resilience using environmental-DNA, or eDNA.

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# Preview

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- Research insights
  - Defining and negotiating meanings
  - Constructing communication, expertise, and audience



# Collaborating for complex problems

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# The Maine-eDNA Project

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Focus on capacities for:

- eDNA data collection
- Processing and analysis
- Communication and team science research
- Education and workforce development



# A transdisciplinary endeavor

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- More than 100 participants
- 9 core partner institutions
- Partnerships include:
  - Academic research institutions
  - Wabanaki Tribal Nations
  - Municipal governments, businesses, and non-profit organizations



# How does strategic communication shape transdisciplinary collaborations?

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# Methodology

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# Insights

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1. Defining and Negotiating Meanings
2. Constructing Communication, Expertise, and audience



# 1. Defining and Negotiating Meanings

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Ask questions about definitions.

# Definitions of eDNA

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- Material entity
- Tool, technology, and technical process
- Science and forensics
- Communication and social construction

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# Definitions of eDNA

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- Tool, technology, and technical process
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# Definitions of eDNA

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- **Tool, technology, and technical process**
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# Example: Biocultural Labels

## Labels applied by communities

Provenance



Consent Verified



Multiple Communities



Open to Collaboration



Open to Commercialization



Research Use



## Notices applied by researchers

Biocultural Notice



Traditional Knowledge Notice



## Notices applied by institutions

Open to Collaborate



Attribution Incomplete



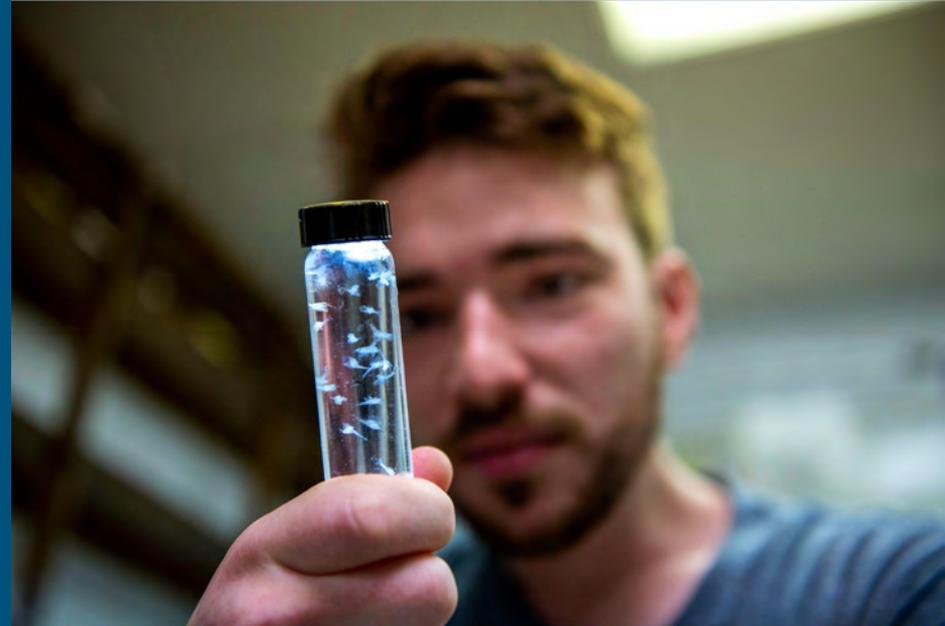
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# Definitions of eDNA

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# Definitions of eDNA

- Material entity
- Tool, technology, and technical process
- Science and forensics
- **Communication and social construction**



## 2. Constructing Communication, Expertise, and Audience

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“It starts with knowing who you’re talking to, right?”

- *eDNA participant interview response*

# Communication

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Definitions of communication are diverse, overlapping, and contradictory.



# Expertise

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The construction of 'scientific' expertise

# Audience

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- Asking questions
- Reflexive consideration of audience interest



# Implications

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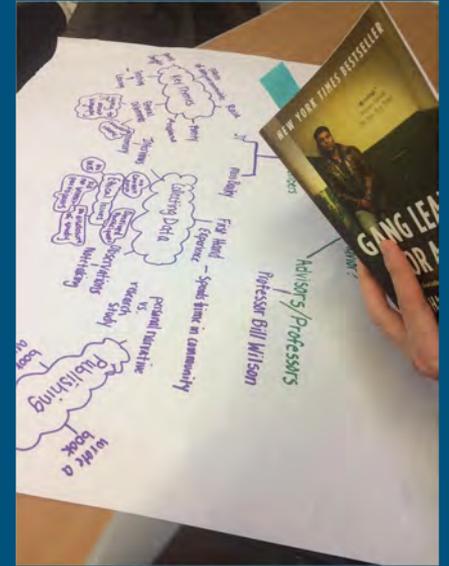
An engaged, communication-focused approach would benefit other transdisciplinary collaborations



# Practices

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1. Pose questions
2. Use knowledge mapping
3. Center questions about/as ethics



# Thanks!

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