Community and Citizen Science on the Elwha: Past, Present, and Future

M.V. Eitzel, Chelsea Behymer, Sarah Morley, Ryan Meyer, Chris Jadallah, Heidi Ballard

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What is community and citizen science (CCS)?

**Definition**

A broad reference to the wide range of ways that people who are not professional scientists participate in science processes, from collecting data to co-leading investigation.

**Common Characteristics of CCS Projects**

- Actively engage participants, often with data.
- Use systematic approaches to produce reliable knowledge.
- Meet standards of scientific integrity and use practices common in science.
- Engage participants who are (primarily) not project-relevant scientists.
- Use the knowledge gained to contribute to science and/or community priorities.
- Confer some benefit to participants.
- Communicate results.

(NAS 2018)
Past Elwha CCS – Peer-Reviewed Literature

- 78 articles looked at so far
- No papers use “Community/Citizen Science”
- 11 mentioned volunteers in Acknowledgments sections, with another 8 possibly describing community contributions
- Mostly post-dam removal
- Range of academic disciplines/topics, with a bias towards the biological side (wildlife, fish, etc)
Past Elwha CCS – Examples

• Dick Goin’s long-term records
• Water quality via invertebrate surveys
• College students as part of field classes
• NatureBridge water quality data
• Clallam Streamkeepers
iNaturalist observations

10,650 observations
1,290 Identifiers
1,322 Observers
Present and Future Elwha CCS – Biotic

- More concerted effort to encourage iNaturalist observations
- Bird monitoring in estuary and on former reservoirs
- Camera traps, including recovery and initial data processing
- Backcountry redd surveys and/or temperature logging
- NatureBridge – stable isotopes
Present and Future Elwha CCS – Abiotic

- Clallam Streamkeepers – water temperature loggers
- Photo points/photo re-surveys
- Crowdsourced remote sensing data analysis
- Grain size surveys
- Subtidal dive surveys
Themes from existing and proposed projects

• Some projects require more **highly-trained volunteers** (e.g. expert birders/botanists) while others can be crowdsourced
• Some projects need **partners who can recruit and manage volunteers** (e.g. NatureBridge)
• Some projects need a **home for the data** to be curated/shared
Themes from existing and proposed projects

• Some barriers are **institutional**: red tape, paperwork reduction act
• Some projects can serve **multiple disciplines** (e.g. iNaturalist for vegetation & wildlife, photo-points and remote sensing for vegetation & geomorphology)
• Some projects require **more than one partner organization/group** depending on site accessibility
Questions from public event

• **Interest across topics:** fish, vegetation, sediment, people, and wildlife
• But **fish was most often-mentioned**
• Many people just said **“everything!”** or “all changes to the ecosystem”
• How has reality matched what was predicted? **Any surprises?**
• **Human aspects** least reported on
Justice, Equity, Diversity, and Inclusion

How can science better contribute to more just and equitable futures for local communities and ecosystems in the Elwha?

Questions to consider:

• How can we leverage partnerships to honor and uplift the perspectives of non-dominant communities?
• How can we center reciprocity and maximize positive impacts for volunteers and partners?
• How can we design projects that broaden participation across their stages - from defining research questions to disseminating findings?
Thank you!

Reach out to us:
Ryan Meyer (rmmeyer@ucdavis.edu)
Heidi Ballard (hballard@ucdavis.edu)
M.V. Eitzel (mveitzel@ucdavis.edu)
Chris Jadallah (ccjadallah@ucdavis.edu)