
Northwest Straits Initiative

Science Advisory Committee
Training Series:

Understanding & Engaging Communities Using Social Sciences

October 2nd, 2024

Prepared by David Trimbach, Anne Beaudreau, Kathy Wolf & Tom Mumford



Meet the Science Advisory Committee!



Julia Parrish



Anne Beaudreau



Tom Mumford



Ron Thom



David Trimbach



Kathleen Wolf



Kathryn Sobocinski



Science Advisory Committee Roles

Purpose of SAC: The Science Advisory Committee (SAC) advances the use of science in all forms and from all sources within the Northwest Straits Initiative. In this pursuit, the SAC serves both as an advocate for scientific approaches to the work of the Commission and the Marine Resources Committees (MRCs), and as a resource and helps network scientific communities of practice.

SAC Advisory Roles include:

- MRC project development and proposal process
- Annual Conference planning
- Speed Dating with Scientists program
- NWS Commission and executive committees
- Guidance and trainings

Why does social science matter?

- We live in complex social-ecological systems!



(Lischka et al. 2018)

Illustrated by ConverSketch.com



Why?

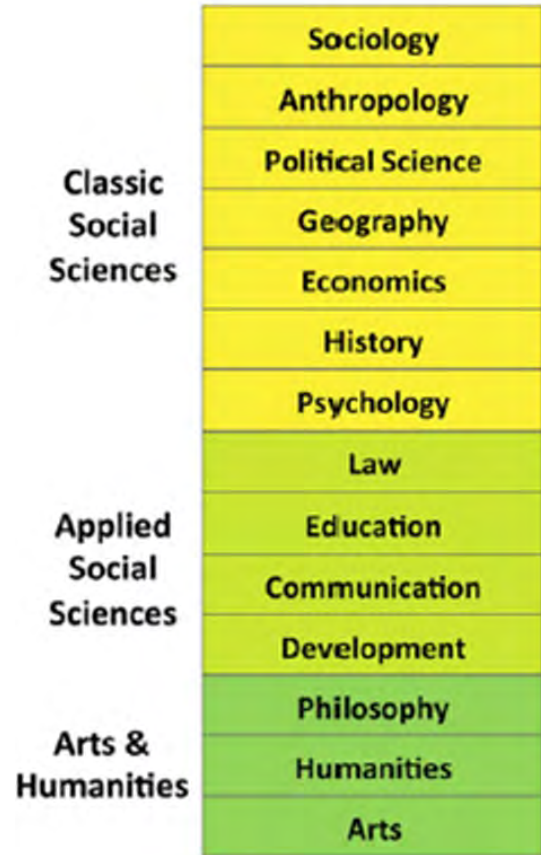
- All environmental problems are really people problems!
- Projects have social or behavioral change goals
- Help project leaders to plan project purposes & outcomes
 - Achieve goals?
 - What are the benefits & barriers?
- Learn what works! Best use of resources
- Share best practices with other communities
- Help MRC administrators to assure ongoing funding





What are the social sciences?

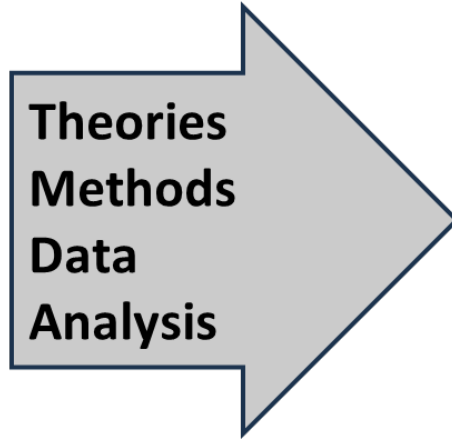
- Diverse **academic disciplines** that study **human societies** (there's no singular social science)
- Social sciences are **sciences** (not soft, nor less than other sciences)
- Social sciences **contribute science to many professional fields**
 - Example: social scientists study outreach, but social science is not outreach



(Bennett et al. 2017)



What do social scientists study?



(Bennett et al. 2017)



How do social scientists conduct their research?

Qualitative

Interviews

Focus Groups

Quantitative

Surveys

Cost-Benefit Analysis

Participatory

Community-based

Participatory Research (CBPR)


Spatial

Geographic Information

Systems (GIS)


Evaluative

Monitoring




Share your point of view with WDFW!

What do you think about local lands?



Washington Department of FISH & WILDLIFE



If you live in south central Washington, the Washington Department of Fish and Wildlife (WDFW) wants your input about local landscapes and habitats. How do you think about, and use, your local habitats and landscapes? Please take our survey: wdfw.wa.gov/landscape-survey

Request this information in an alternative format or language at wdfw.wa.gov/accessibility/requests-accommodation, 833-885-1012, TTY (711), or CivilRightsTeam@dfw.wa.gov.

- **Methods:** a tool for data collection and analysis
- **Not all tools are the same,** nor are they appropriate for all projects



Human Scale & Social Sciences

- Social sciences can be **applied to questions & situations across different scales**
- Ranging from individuals to entire regions or nation-states
- The research question, interest, or resources help determine scale



Roles	Recovery Actions
legislators policy makers scientists	governance incentives/regs knowledge building
tribes NGOs watershed councils	planning regional policy 'brokering'
elected champions technical agencies planning depts	political 'grounding' best practices applied technologies
design firms commercial/industrial resource dependent communities	best practices goods & services sustainability programs
schools civic organizations associations	civic engagement social networking place making
residents homeowners visitors	awareness behavior adoption stewardship

(Bennett et al. 2017)



Planning for a social science assessment?

- There are precedents (questions & method) - no need to reinvent the wheel
- Surveys are but one method
- Social evaluation is a means to an end, informing good solutions
- Early planning is best

Washington Department of FISH & WILDLIFE ASIA PACIFIC CULTURAL CENTER

귀하의 생각과 경험을 말씀해주세요!

Come share your thoughts and experiences!

Nature and Health Workshop

참가자는 \$50의 보상을 받습니다. 다과가 제공됩니다.

Participants will be compensated \$50. Refreshments will be provided.

자연과건강 워크숍

4/18 2023

11:00 - 12:30 pm

아시아 태평양 문화 센터 및 워싱턴주 어류 및 야생동물부.
Organized by the Asia Pacific Cultural Center and Washington Department of Fish and Wildlife
후원 Funded by: Puget Sound Partnership

아시아 태평양 문화 센터
Asia Pacific Cultural Center

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Study Purpose = Evaluation Design



Indirect Social
secondary study purpose
Outcomes
experiential
mental health boost
place attachment



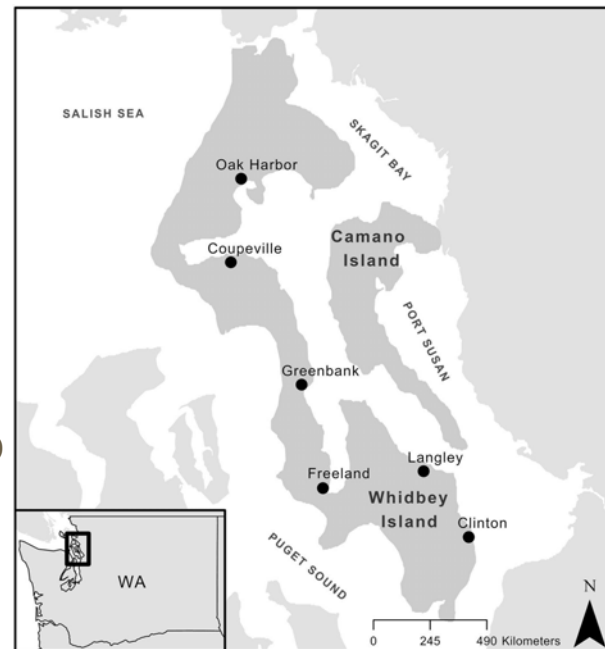
Direct Social Outcomes
primary study purpose
build knowledge
behavior change
political action



Case Study 1: Island County Resident Survey

Motivation

- Island Local Integrating Organization (ILIO) (included Island MRC) sought to gauge residents' perspectives on ecosystem recovery goals
- Sought to inform local recovery planning and to better understand residents' local *senses of place*



Trimbach et al. 2022, p. 4



Case Study 1: Island County Resident Survey

Research Questions

- Are ILIO's ecosystem recovery goals aligned with those of local residents?
- What are local residents' senses of place of Island County's shoreline?



Trimbach et al. 2022, p. 6



Case Study 1: Island County Resident Survey

Approach

- Multilingual web-based (*Qualtrics*) survey of local residents
- Co-created with ILIO
- Snowball sampling method
- Multiple sampling mechanisms
- *Sample size: n=327 respondents*

English

Survey Purpose: This survey aims to gauge Island County residents' values regarding natural resource priorities and shorelines. This survey mirrors regional efforts aimed at better understanding residents' values of and experiences with the natural environment in Puget Sound. The Island County Local Integrating Organization in collaboration with Oregon State University's Human Dimensions Lab created this survey in order to: (1) better include Island County residents' perspectives and voices in local natural resource management decisions; (2) update Island County's ecosystem recovery plan; and (3) understand how residents feel about the county's shoreline. For more information on Island County's recovery plan, please click [here](#) to see the current version. All residents over the age of 18 may complete the survey, including part-time and full-time residents. The survey should take approximately 10-15 minutes to complete and all responses will be recorded anonymously. All responses collected will contribute to Island County natural resource management decisions, including those related to ecosystem recovery planning and shoreline management. If you have any questions related to the survey and its contents, please contact Dr. David Trimbach at david.trimbach@oregonstate.edu.

You can also take the survey in English or Spanish. Please select the language above.

La encuesta está disponible tanto en inglés como en español. Por favor seleccione el idioma arriba.



Case Study 1: Island County Resident Survey

Question

From the list below, please prioritize the list of **natural resource goals** from 1-10. 1 equals your highest priority, while 10 equals your lowest priority. Please click and drag (with cursor on finger, depending on device) each goal to place them in order. Please click the goal ([link](#)) for more details, if needed.

Air quality
Cultural wellbeing
Drinking water
Economic vitality
Good governance (health of our management process and the degree to which we are effectively engaging the community in the recovery effort)
Local foods
Outdoor activity
Sense of place
Shellfish beds (commercial)
Sound stewardship

Results

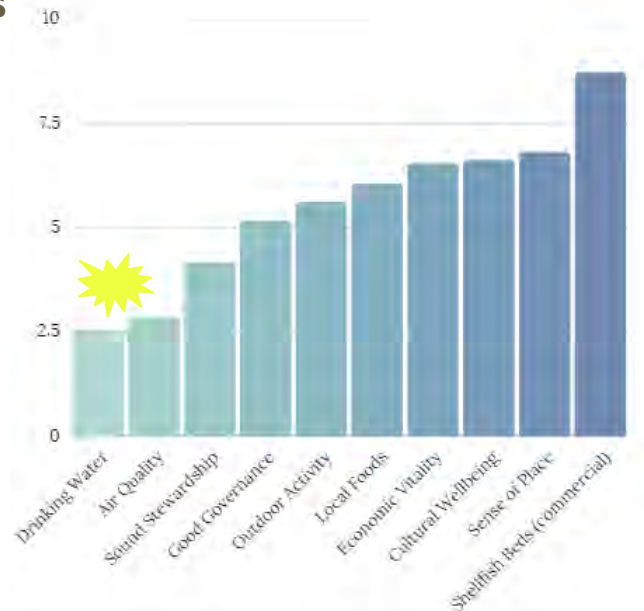


Figure 1. Respondents (N=316) prioritized the following HWB components: (1) drinking water; (2) air quality; and (3) sound stewardship.



Case Study 1: Island County Resident Survey

Question

Please respond to the following statements with your level of agreement (Strongly disagree to Strongly agree).

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
I feel dependent on the county's shoreline for recreation, work, community activities, and/or relaxation.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel very attached to the county's shoreline.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel responsible for taking care of the county's shoreline.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The county's shoreline is important to my identity.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The county's shoreline provides me with a sense of belonging.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that it is important to see the county's shoreline on a weekly basis	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that it is important to interact (recreation, work, community activities, and/or relaxation) with the county's shoreline on a weekly basis.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Results

(n=327)

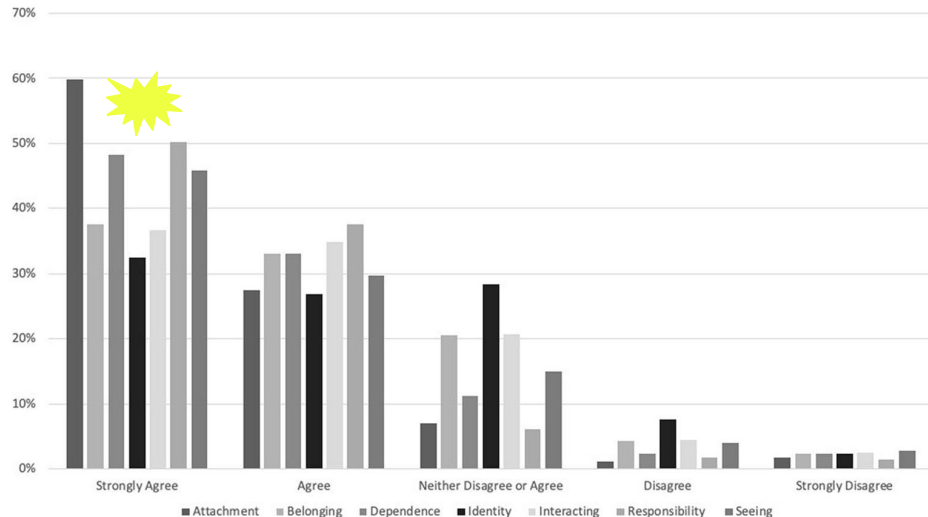


Table 3. Place meaning thematic layers (n = 195).

Meaning layer	Frequency (%)	Example
Instrumental	55	'Recreation, economic and psychological wellbeing.'
Identity-expressive	55	'I feel the shorelines provide me with an important connection to my environment.'
Inherent	30	'To provide habitat for marine invertebrates, forage fish in a clean non-polluted and the interface they provide to marine estuaries and rivers.'
Sociocultural	25	'It is a large part of what makes Whidbey Island special.'
Other	3	'My dog loves the beaches.'

Case Study 2: Mapping with Fisher

Motivation

- Three species of rockfish listed for protection under the ESA in 2010 (one since delisted)
- Lack of data on historical populations → Challenge setting recovery goals
- Fishers' knowledge provides long-term insights into changes in fisheries and ecosystems
 - Changes in fishing areas can relate to changes in the ecosystem



Case Study 2: Mapping with Fishers

Research Questions

- How has the spatial footprint of recreational fisheries in Puget Sound changed since the 1950s?
 - rockfish, flatfish, salmon, crab
- Why have fishing areas changed?
 - For rockfish, do these changes reflect declines in particular areas?

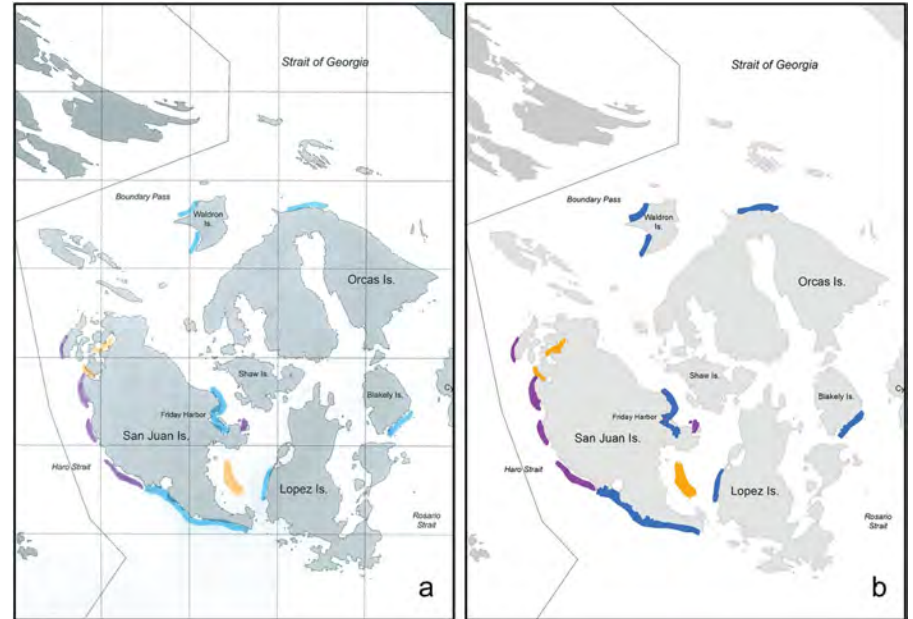


Photos shared by research participants

Case Study 2: Mapping with Fishers

Approach

- Interviews
 - 101 interviews, 2009-2010
 - snowball sampling
 - 24 – 90 years old; median = 60
 - Olympia to Bellingham
- Participatory mapping
- Digitization and spatial analysis in ArcGIS



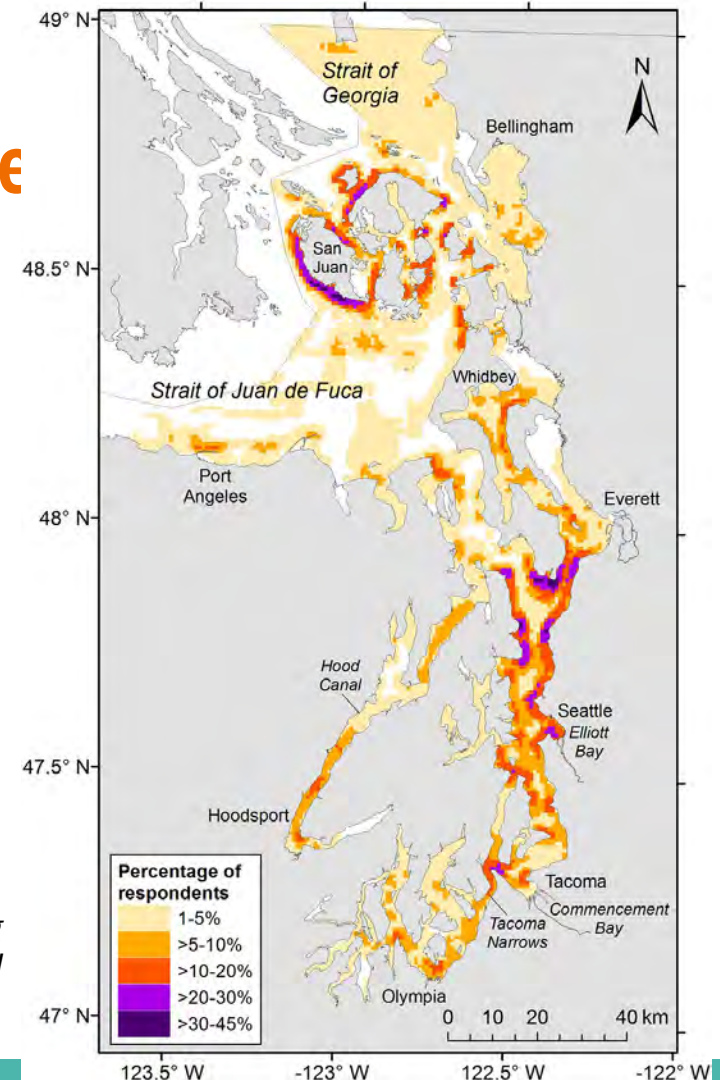
Fishing areas drawn by a recreational fisher (a) and digitized (b). Separate areas were drawn for rockfish (purple), salmon (blue), and crab (orange).

Case Study 2: Mapping with Fish

Results

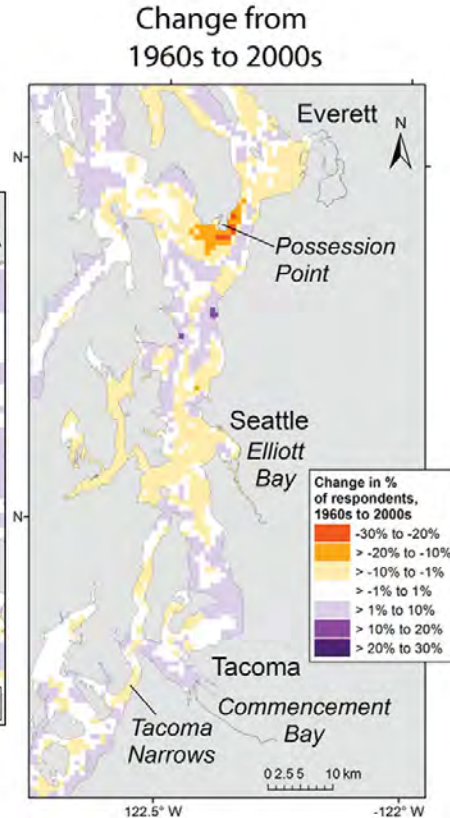
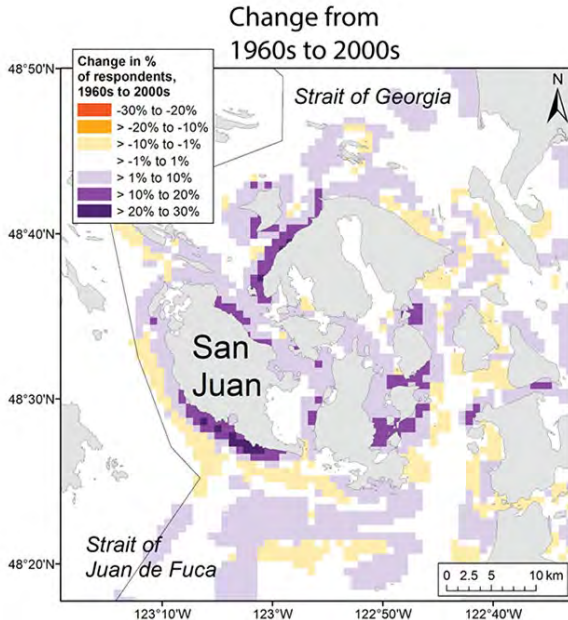
- Location of core fishing areas similar over time
- Size of the areas and intensity of use changed
 - Areas smaller for rockfish since the 1980s

Spatial distribution of recreational fishing for salmon, rockfishes, flatfishes, and crabs in Puget Sound, 1960–2010.



Case Study 2: Mapping with Fishers

Results



- Changes in fishing areas most commonly attributed to changes in residence and declines in target species
- Least tied to fishery regulations
 - despite implementation of at least 25 marine reserves since 1970

Citation:

Beaudreau AH, Whitney EJ (2016) Historical Patterns and Drivers of Spatial Changes in Recreational Fishing Activity in Puget Sound, Washington. PLoS ONE 11(4): e0152190. doi:10.1371/journal.pone.0152190

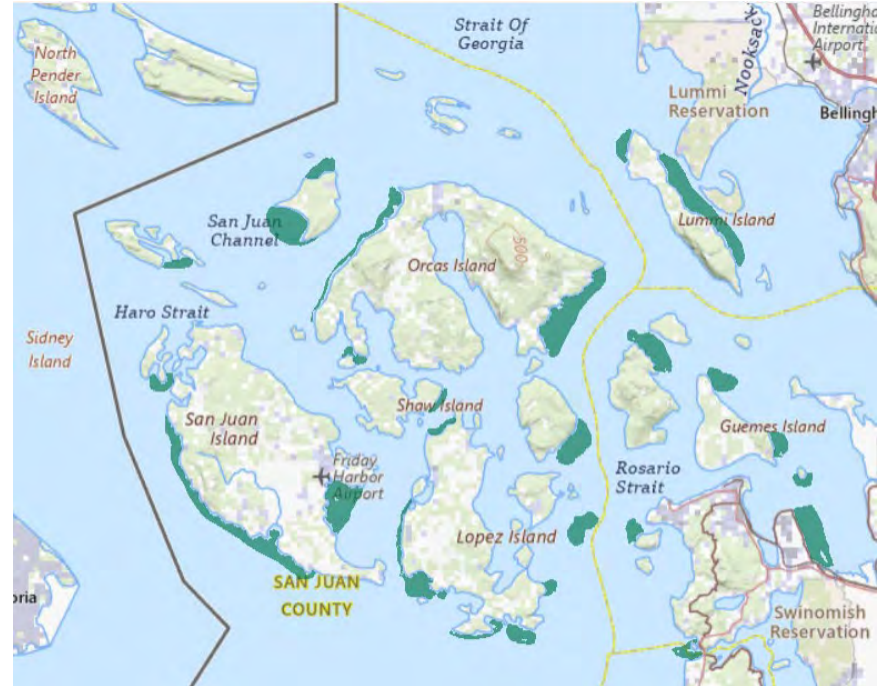
Case Study 2: Mapping with Fishers

Applications

- Example: Samish Indian Nation - Kelp Storymap
- Goal: generate baseline data to monitor long-term trends in **kelp**

Link:

<https://storymaps.arcgis.com/stories/b9f979a547004c32a616b5319a6410c0>



Samish DNR gathered Traditional Ecological Knowledge (TEK) from two tribal fishermen who have been fishing this area for decades and have nearly 100 years of combined knowledge of the waters surrounding the San Juan Islands.

Reflections from Tom

Environmental protection comes through **People**

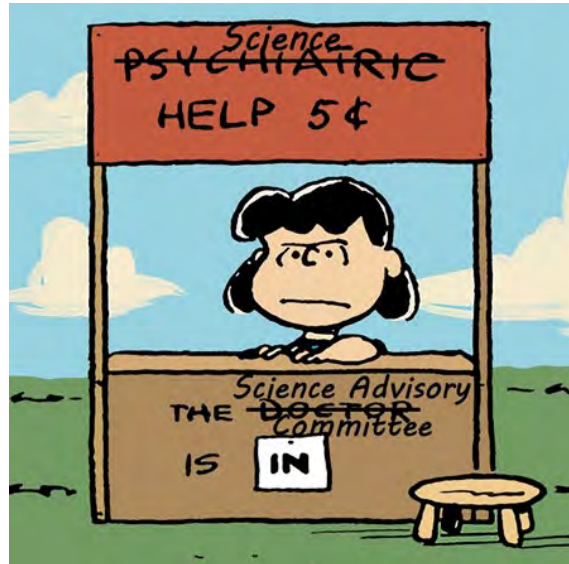
- Their **Attitudes**
- Their **Support**
- Their **Knowledge**

And building **Trust**



Additional resources & where to find us next!

- This presentation was recorded. The recording along with powerpoint will be made available along with a selection of additional resources provided by the SAC.
- November NWS Conference:
Come interact with the SAC
November 16th at 11:45 am





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Feedback Please!

Go to **menti.com**

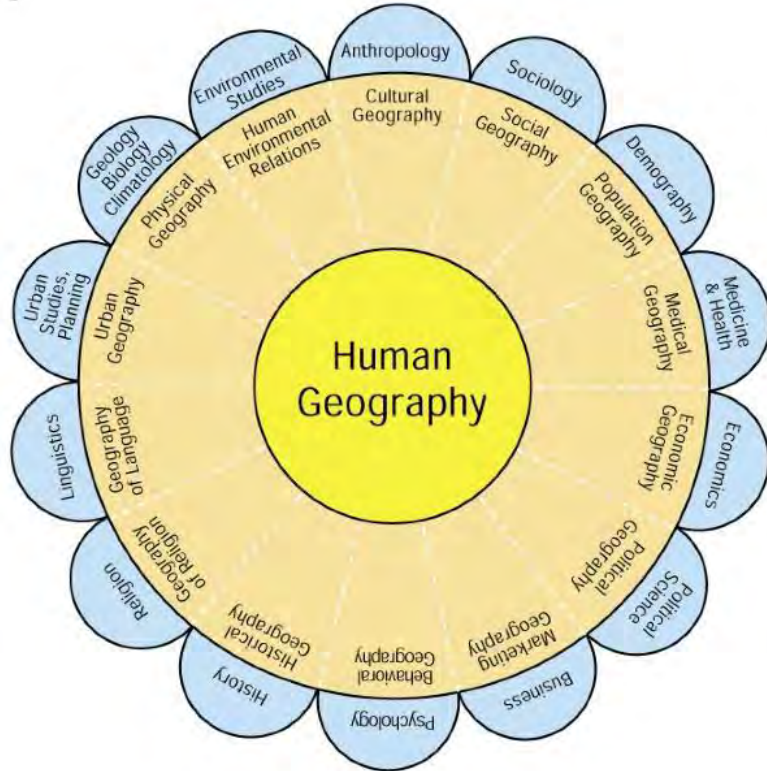
or use QR code

Code: **69 88 43 1**

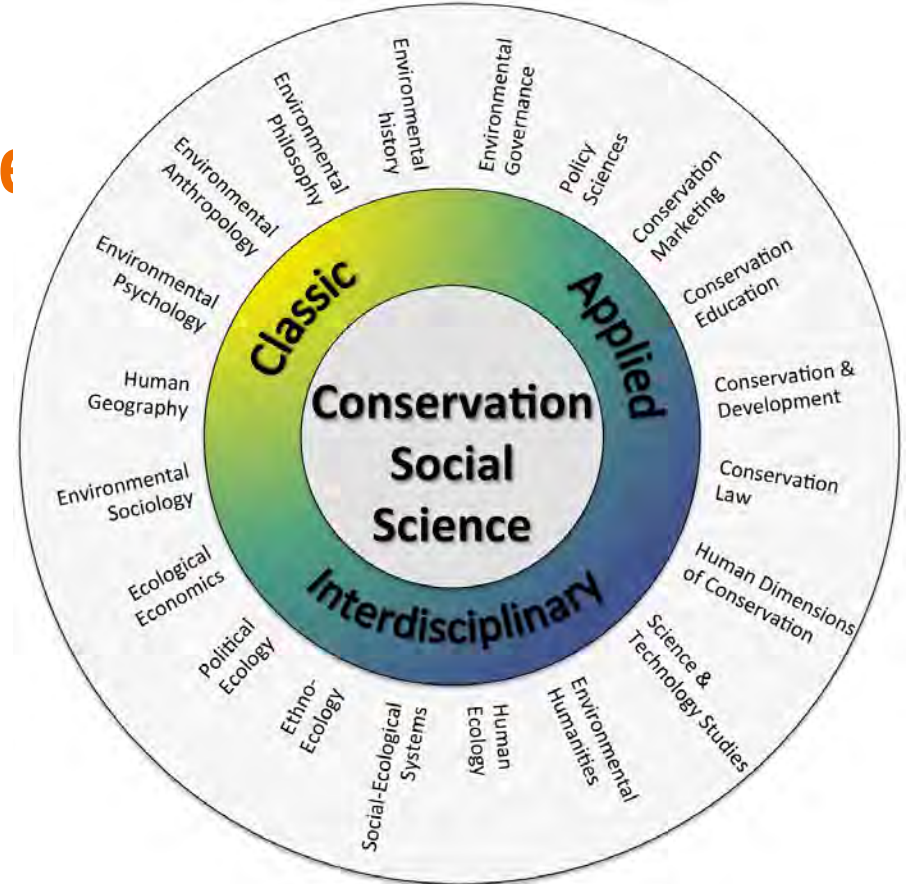


Additional Slides

What are the social science



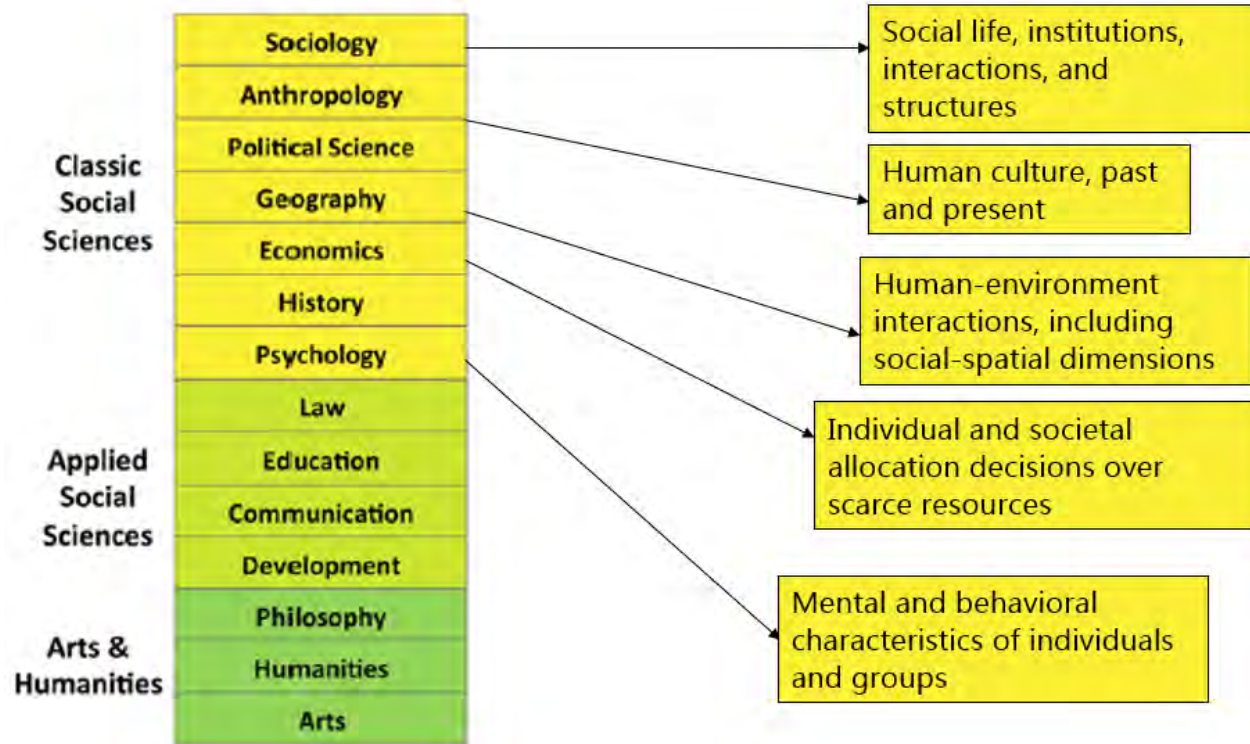
- Disciplines are internally diverse



- Disciplines have subfields focused on conservation

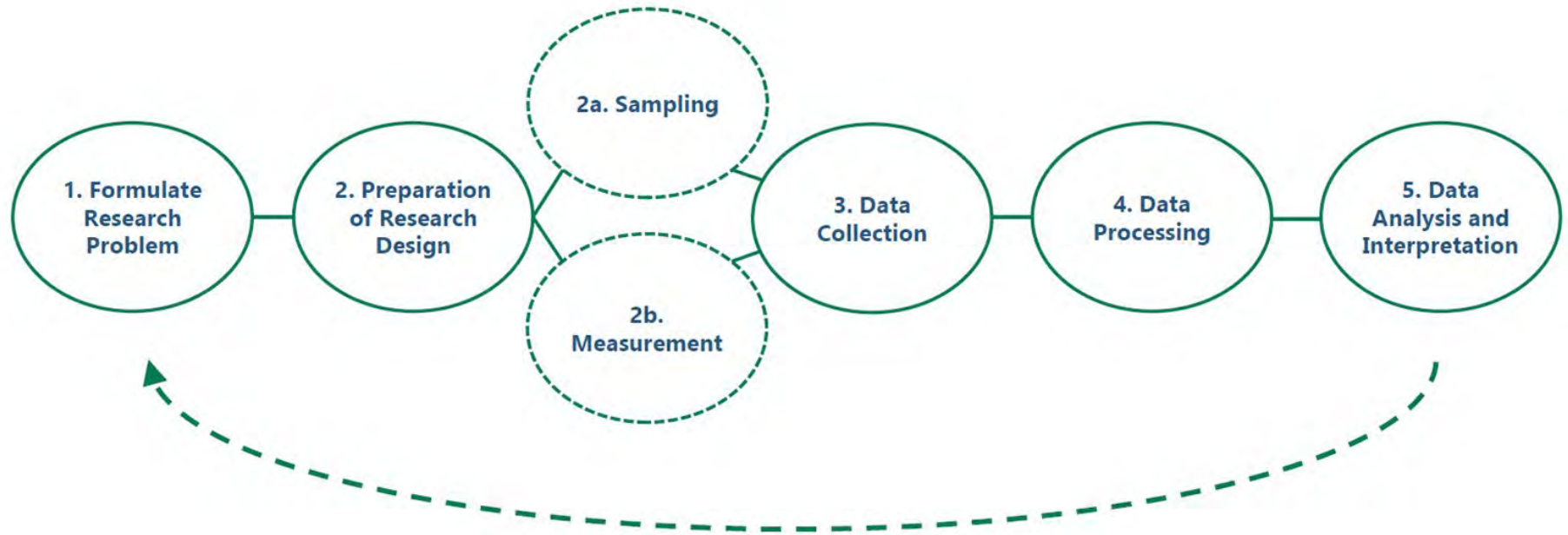
(Bennett et al. 2017; [Human Geography Quotes. QuotesGram](#))

What do social scientists study?



(Bennett et al. 2017; Charnley et al. 2017)

What is a typical research design?



What to consider when engaging the social sciences?

- The social sciences are diverse and not all social scientists study or have training in the same fields or methods.
- If interested in collaborating, engage a social scientist early.
- The social sciences require ethical standards and considerations, especially when engaging historically excluded communities.
- The social sciences are vast and have likely already started answering questions like the ones you or your groups experience.
- Not all studies or research questions need a survey.
- The social sciences cannot easily solve all the people problems.