1. Introducing the Conservation Social Sciences
- *Nathan J. Bennett & Robin Roth*

Conservation and the social sciences

Conservation research has traditionally been dominated by natural scientists, who, with their methods and tools, have made important discoveries and contributions to conservation knowledge, policies, programs and practice. However, it is broadly recognized that natural science alone cannot solve conservation problems (Chan et al., 2007; Kareiva & Marvier, 2012). For example, Schaller (1992) argues that "Conservation problems are social and economic, not scientific, yet biologists have traditionally been expected to solve them." Conservation frequently occurs in spaces dominated by human uses "…thereby necessitating attention to human values, practices and ambitions" (Wilkie, Adams, & Redford, 2008; Welch-Devine & Campbell, 2010, p. 339). It is also well understood that the social sciences have an important role to play in understanding and overcoming conservation challenges: "close involvement of social researchers with their expertise, theories and methods, into conservation biology is a prerequisite for progress in the field" (de Snoo et al., 2013, p. 5). Over the last few decades, there has been increasing engagement with and development of the conservation social sciences (Mascia et al., 2003). The Social Science Working Group (SSWG) of the Society for Conservation Biology (SCB) was formed in 2003 with representation from nearly 50 countries around the world, it became the second largest group of all sections and working groups within the SCB by 2011. There are an increasing number of conservation social science publications, many conservation organizations have hired social scientists, numerous environmental management bodies have formed social science working groups and foundations are increasingly seeking to fund conservation social science work. Yet, overall, the social sciences have remained somewhat sidelined in conservation work and their role is often misunderstood by conservation organizations, practitioners, researchers and funders. This ultimately means that many of the potential contributions of the social sciences to improving conservation policies and practice are lost.

Challenges to engaging with the conservation social sciences

There are a number of reasons why social sciences may be less integrated into the mandates of conservation organizations and why natural and social scientists often find it challenging to work together in interdisciplinary teams (Christie, 2011; Fox et al., 2006; Moon & Blackman, 2014; Welch-Devine & Campbell, 2010). These barriers can be summarized as follows:

- Philosophy or Ontology – Natural and social scientists may have different theories of how the world works which may lead to distinct understandings of the connections

between nature and humans. This can lead to quite different ways of thinking about a problem or of approaching research.

- Epistemology – Natural and social scientists may view the nature and scope of knowledge differently, particularly what constitutes acceptable methods and valid data.
- Training and experience – The different disciplines and fields of conservation social science require specialist training to understand theories and methods and experience in their application and analysis.
- Language and theories – Conservation social scientists engage with discipline specific language and different theories to understand topics under study, which can be inaccessible to non-specialists.
- Practice – Social scientists often interact with nature and with humans in different ways than natural scientists. For example, social scientists might study human actions to understand impacts on the environment whereas natural scientists would study the environment.
- Tools and methods – Conservation social scientists use different tools and methods, including ethnography, interviews, surveys, focus groups, arts-based methods and participatory methods.
- Organizational Culture – Conservation organizations or funders may have an organizational culture that primarily employs, understands or values either natural or social sciences.
- Capacity - Limited social science capacity within conservation organizations may mean that conservation practitioners and organizations looking to fund conservation social sciences do not know where or how to begin engaging with social sciences.
- Knowledge - Conservation organizations and funders may lack a clear understanding of the breadth of the conservation social sciences, the types of questions that each field of conservation social science poses, the methods used by disciplinary specialists, or the potential contribution of each field of conservation social science to improving conservation practice and outcomes.
- Labels and Traditions – There are different labels that refer to somewhat distinct but overlapping traditions: “conservation social science”, “environmental social science”, “human dimensions of conservation” and “human dimensions of natural resource management." Those trained in one tradition may not be familiar with other traditions that have a similar emphasis. Furthermore, those trained in a specific discipline may not even be aware of applied areas of study focusing on conservation.
- Different interests – Organizations and individual scientists and practitioners are often simply more interested in nature or humans and motivated by concerns for one or the other.

It is important that both conservation social scientists as well as conservation organizations aiming to engage with social scientists recognize the potential challenges and barriers to collaboration. Working to overcome potential barriers and towards a better integration of the conservation social sciences requires respect, patience, humility, openness, and time. Specific actions may also need to be taken to increase social science capacity within conservation organizations. For example, engaging with social sciences may require hiring or partnering with

trained and experienced conservation social scientists. At the very least, conservation organizations require knowledge of the what, how, and why of the different conservation social sciences.

Overview fields of conservation social sciences

A basic understanding of the fields of conservation social science, including their focal areas, histories, theories, methods, and contributions, is a pre-cursor for organizations aiming to engage with or fund conservation social science research. Yet, even conservation social scientists are challenged to describe what it is that our colleagues in other fields of conservation social science do and contribute. In order to address knowledge shortcomings regarding the conservation social sciences, the editors of this report convened a workshop titled "The conservation social sciences: Clarifying "what?", "how?" and "why?" to inform conservation practice" at the North American Congress for Conservation Biology in Missoula, Montana in July 2014. The workshop brought together specialists from the breadth of the conservation social sciences to define and communicate the contributions of the different disciplines to conservation through exploring the "What?", "How?" and "Why?" of each area of expertise.

So, what are the conservation social sciences? We take a broad view of the conservation social sciences that embraces the environmental humanities (Castree et al., 2014). The conservation social sciences draw on such diverse disciplines as anthropology, sociology, political science, economics, psychology, human geography, education and communication studies and law. Many disciplines have applied sub-disciplines that focus specifically on the environment or conservation – e.g., environmental anthropology, environmental sociology, environmental governance, ecological economics, conservation psychology, environmental education, environmental geography and environmental law. Interdisciplinary fields, such as science and technology studies, conservation and development, human dimensions of natural resource management, and political ecology, draw upon various social sciences or both social and natural science. Though not considered social sciences, the environmental humanities, including environmental history, environmental ethics and philosophy, eco-literary studies and eco-cultural studies, and the arts can also help us to better understand and communicate about historical, current and envisioned relationships between humans and nature.

Role of the conservation social sciences

Just as there is often a dichotomy between the natural and social sciences, there are a number of divergent ways of understanding the purpose and role of the social sciences in contributing to conservation. For example, there are divergent perspectives and opinions among natural scientists about whether social sciences should serve an instrumental role (e.g., communication and policy translation, facilitation of environmental management) or a non-instrumental role (e.g., understanding human values and interests, understanding human actions and impacts) (see Lowe, Whitman, & Phillipson, 2009). Many social scientists differ on whether their role is to conduct research *for conservation* or research *on conservation* (Sandbrook, Adams, Büscher, & Vira, 2013). Sandbrook et al (2013) explain that research for

conservation "is a response to the recognition that the natural science methods of conservation biology are insufficient to find solutions to complex conservation problems that have social dimensions" (p. 1488). Research on conservation "…seeks to increase understanding of the practice of conservation" (p. 1488). Potentially divergent understandings and opinions include that the conservation social sciences:

- … should focus on basic or applied research.
- … should contribute to theory or policy.
- … must be descriptive or prescriptive.
- … should be constructive or critical and disruptive.
- … need to support management effectiveness or social equity considerations.
- … are the purview of practitioners or academics.
- … should employ quantitative or qualitative methods.
- … need to be guided by normative, instrumental or non-instrumental beliefs.
- … ought or ought not to lead to advocacy (for humans or for nature).

Of course, conservation social science is all of these things and it can serve overlapping and complementary purposes. This complexity makes it all the more important that organizations seeking to engage the social sciences have a clear idea of the type of approach that suits their needs while recognizing that engaging with all manner of and approaches to conservation social sciences can aid in improving conservation policies and practice (Redford, 2011). There is one common misperception that needs to be dispelled – social scientists are not merely meeting facilitators, public educators, behavior changers or implementers (Welch-Devine & Campbell, 2010). Conservation social scientists are data collectors and analysts who can, however, provide insights that will help to improve these processes.

Overview of the report

Each of the fields of conservation social science, as well as the environmental humanities and arts, has made and can make a unique contribution to understanding the relationship between humans and nature and to improving conservation practice. The body of this report provides conservation organizations, practitioners, agencies and academics with succinct overviews of different conservation social sciences by specialists in each field (Table 1.1). In conclusion, we review the conservation social sciences and propose a process by which conservation organizations or funders can define and prioritize a conservation social science research agenda.

Table 1.1 - Speakers who presented on different fields of conservation social science

Disciplines and Fields of Conservation Social Science	Speaker
Anthropology (Environmental Anthropology)	Georgina Cullman (American Museum of Natural History)
Sociology (Environmental Sociology)	Richard Stedman (Cornell University)
Economics (Ecological Economics)	Kai Chan (University of British Columbia), Michael Barkusky (Pacific Institute for Ecological Economics), Sarah Klain (University of British Columbia)
Psychology (Environmental Psychology)	Tara Teel (Colorado State University), Alia Dietsch (The Ohio State University), Michael J. Manfredo (Colorado State University)
Political Science (Environmental Governance)	Graham Epstein (Indiana State University)
Philosophy (Environmental Ethics)	Michael Paul Nelson (Oregon State University), John A. Vucetich (Michigan Technological University)
Science and Technology Studies	Carina Wyborn (University of Montana)
Environmental Education and Communication	Rebecca Thomas (Colorado State University)
Conservation and Development	Nathan Bennett (University of British Columbia)
Political Ecology	Robin Roth (York University)
Human Dimensions of Conservation and Natural Resource Management	Douglas Clark (University of Saskatchewan)

*Notably absent from the workshop and this report are summaries of human geography, environmental law, environmental history, and environmental humanities.

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