

Examining the Application of Theoretical Ecosystem Restoration Principles:

A pilot study in the Kootenay Region of British Columbia, Canada

Zachary Moore, Emily Pejic, and Rebecca Wilson

Purpose

The Society for Ecological Restoration (SER) identifies 8 Principles for Successful Restoration. We sought to examine whether these principles accurately reflect the project considerations and priorities of restoration practitioners in Western Canada. We also categorized the primary factors instigating restoration projects ("Drivers"), thinking they may be related to principles underlying restoration work.

Methods

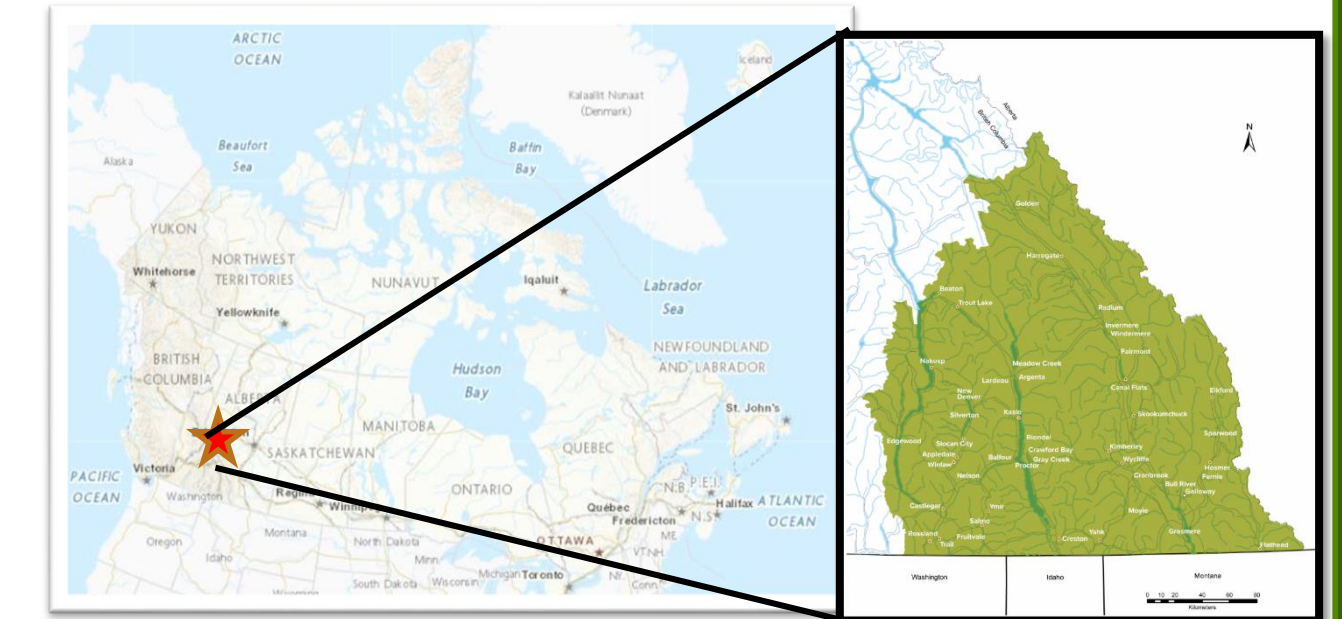
n = 20

We invited representatives of 56 organizations known to work in restoration in our study region to complete a survey examining:

1. What drives their work and
2. If they use SER's 8 Principles for Successful Restoration in their work.

Pilot Study Area

Kootenay Conservation Program Service Area,
Southeastern British
Columbia, Canada



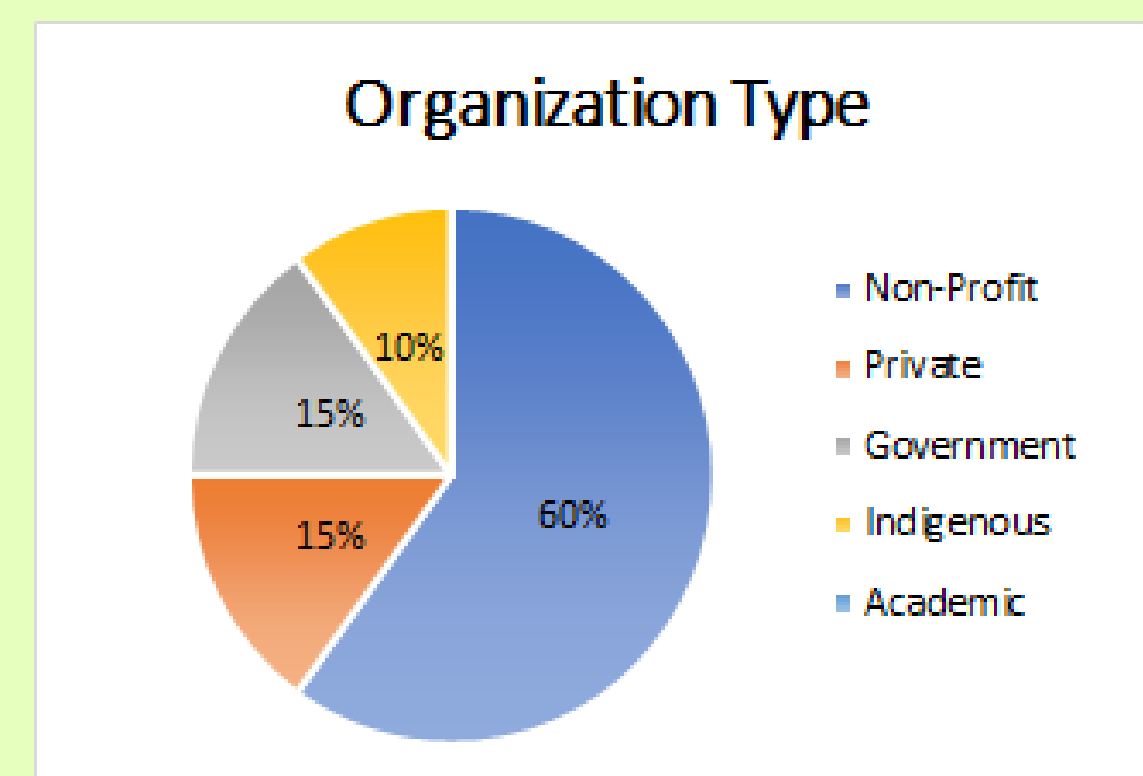
Results – Drivers of Ecosystem Restoration

Ecological restoration projects can be instigated by a variety of drivers. It is possible that these drivers may affect the underlying principles used to guide the project itself.

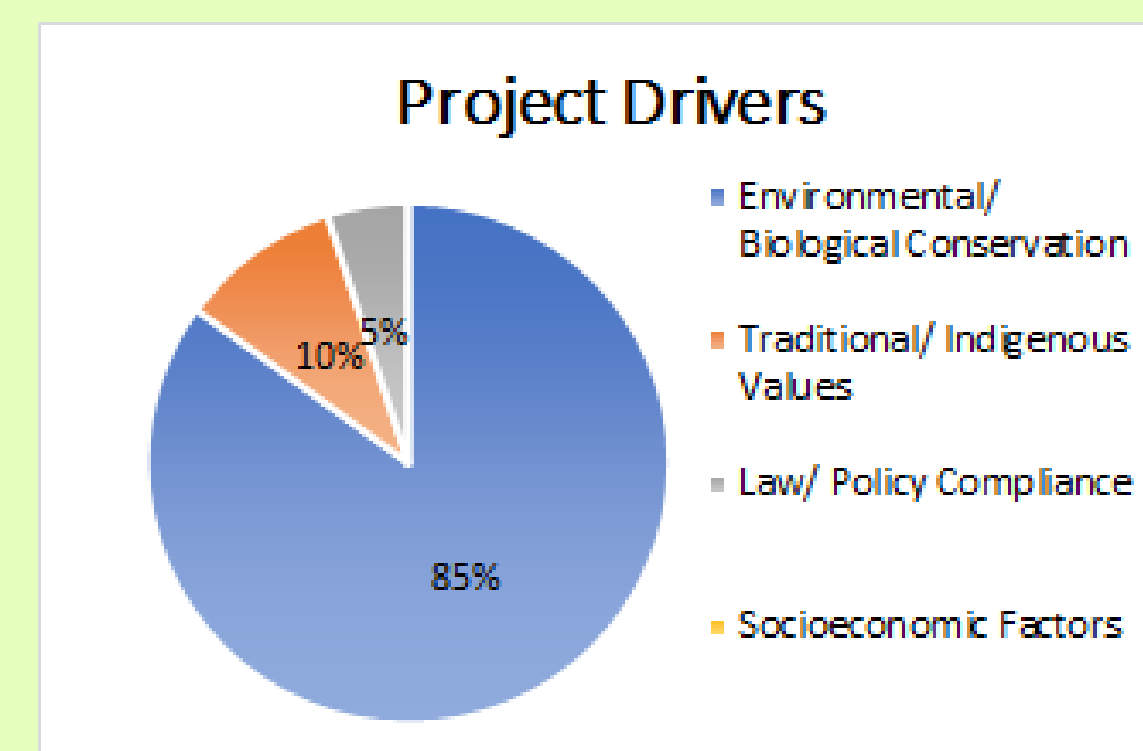
We identified four main driver categories of ecological restoration projects and asked restoration practitioners to identify the primary driver of their work.

- **Environmental/Biological Conservation:** driven by a motivation to conserve native ecosystems, flora, and fauna. Examples include restoration of native ecosystems, conservation for species at risk, invasive species management, conservation research, and protected areas management.
- **Traditional/Indigenous Values:** driven by a motivation to restore or maintain traditional uses and/or activities. Examples include traditional or country food harvest, Treaty Rights, improving water for human consumption, and promotion of mental health and human-nature connections.
- **Law/ Policy Compliance:** driven by a motivation to comply with legislation, permit conditions, or adhere to policies. Examples include required reclamation activities following human-induced disturbance, activities related to carbon sequestration/carbon credits, and offsetting or compensation requirements.
- **Socioeconomic:** driven by a motivation to increase job availability or improve economic health of a business or community. Examples include timber harvest, flood or stormwater management, improving farming or livestock management, increasing aesthetic values, or encouraging tourism.

What types of groups undertake restoration in the study region?



What drives restoration in the study region?



Results - Knowledge of SER and Use of 8 Principles for Ecological Restoration

SER released their 1st edition of the International Principles and Standards for Ecological Restoration in 2016 and built upon it for the 2nd edition released in 2019. The latest edition contains the 8 principles and standards reviewed in this project.

'Successful' Restoration...

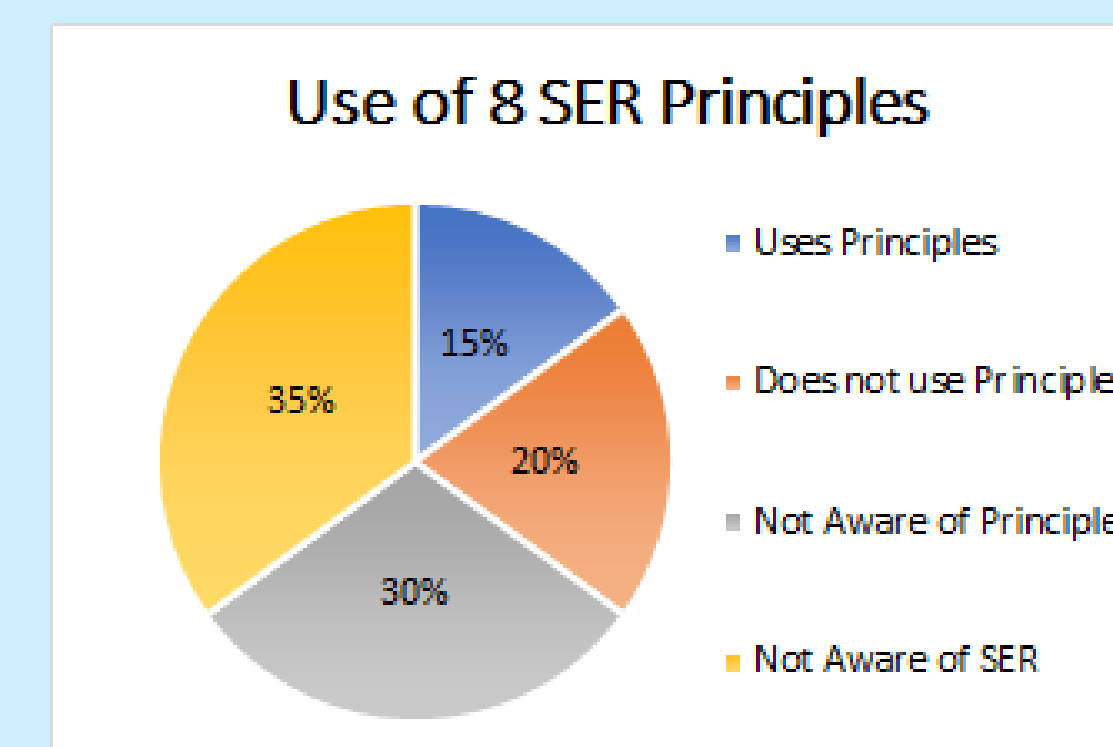
1. Engages stakeholders
2. Draws on many types of knowledge
3. Is informed by native reference ecosystems while considering environmental change
4. Supports ecosystem recovery processes
5. Has clear goals and objectives using measurable indicators
6. Seeks the highest level of recovery possible
7. Gains cumulative value when applied to large scales
8. Is part of a continuum of restorative activities

What proportion of respondents had heard of SER and the Principles before our survey?

65% (13 out of 20) had heard of SER before the survey

Of the 13 respondents that had heard of SER before, only 8 had heard of the International Principles and Standards

How representative are the International Standards and Principles with current practices of our respondents?



Despite only 3/20 respondents saying they consider SER's 8 principles, results from the remainder of the survey suggests that most consider the 8 SER Principles at least indirectly.

The principles appear to represent the general philosophies of restoration practitioners.

Key Findings

1. Survey respondents were mostly non-profits driven by conservation.
2. ~75% of respondents directly or indirectly used all of SER's 8 Principles for Successful Restoration. The principles are thus representative of many project considerations in the region.
3. An identified issue was the lack of distinction of Indigenous Peoples as "Rights Holders" in Canada instead of "stakeholders", and the colonial connotations of the term "stakeholders" in general.

Next Steps

Expanding the study region of this project to more restoration practitioners in Western Canada and beyond may help to:

1. Clarify connections between project drivers, organization types, and restoration principles used.
2. Identify regionally specific priorities not captured by SER's 8 Principles for Successful Restoration