



Apr 30th, 10:30 AM - 12:00 PM

Evaluating Puget Sound Marine Protected Areas to Improve MPA Policy and Implementation

Todd Stevenson

University of Washington, todd36@uw.edu

Patrick Christie

University of Washington

David Fluharty

University of Washington

Brad Warren

Global Ocean Health

Richard Pollnac

University of Rhode Island

Follow this and additional works at: <https://cedar.wvu.edu/ssec>



Part of the [Terrestrial and Aquatic Ecology Commons](#)

Stevenson, Todd; Christie, Patrick; Fluharty, David; Warren, Brad; and Pollnac, Richard, "Evaluating Puget Sound Marine Protected Areas to Improve MPA Policy and Implementation" (2014). *Salish Sea Ecosystem Conference*. 41.

<https://cedar.wvu.edu/ssec/2014ssec/Day1/41>

This Event is brought to you for free and open access by the Conferences and Events at Western CEDAR. It has been accepted for inclusion in Salish Sea Ecosystem Conference by an authorized administrator of Western CEDAR. For more information, please contact westerncedar@wwu.edu.

Evaluating Puget Sound Marine Protected Areas to Improve Policy and Implementation



Patrick Christie
Richard Pollnac
David Fluharty
Todd Stevenson
Brad Warren

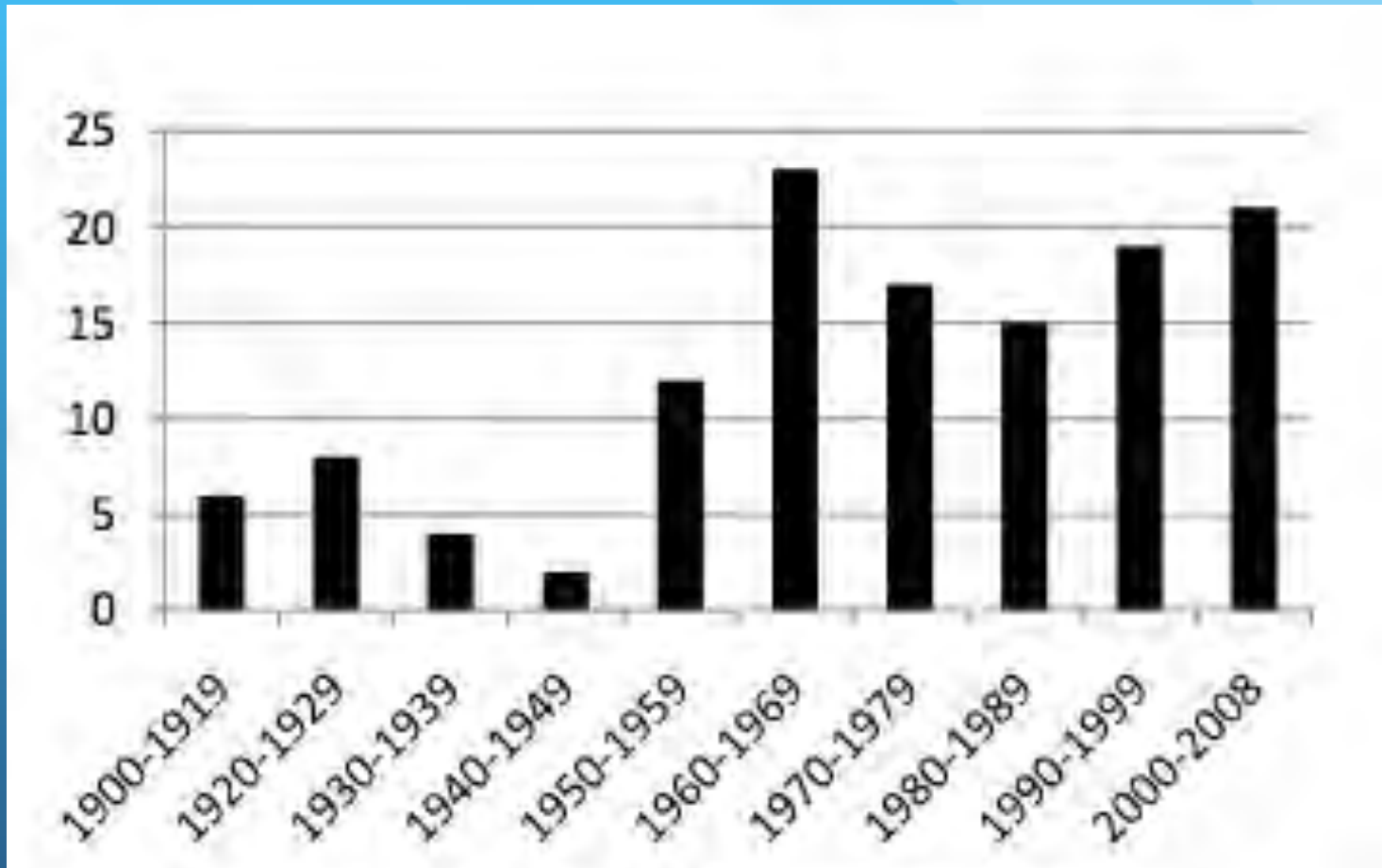
School of Marine and
Environmental Affairs
University of Washington

Definition of a Marine Protected Area

The Washington State Legislature defined an MPA as “a geographic marine or estuarine area designated by a state, federal, tribal, or local government in order to provide long term protection for part or all of the resources within that area.” (Substitute Senate Bill 6231 (2008))

History of Puget Sound MPA Establishment

Number of MPAs Established



Year
(Van Cleve, 2009)

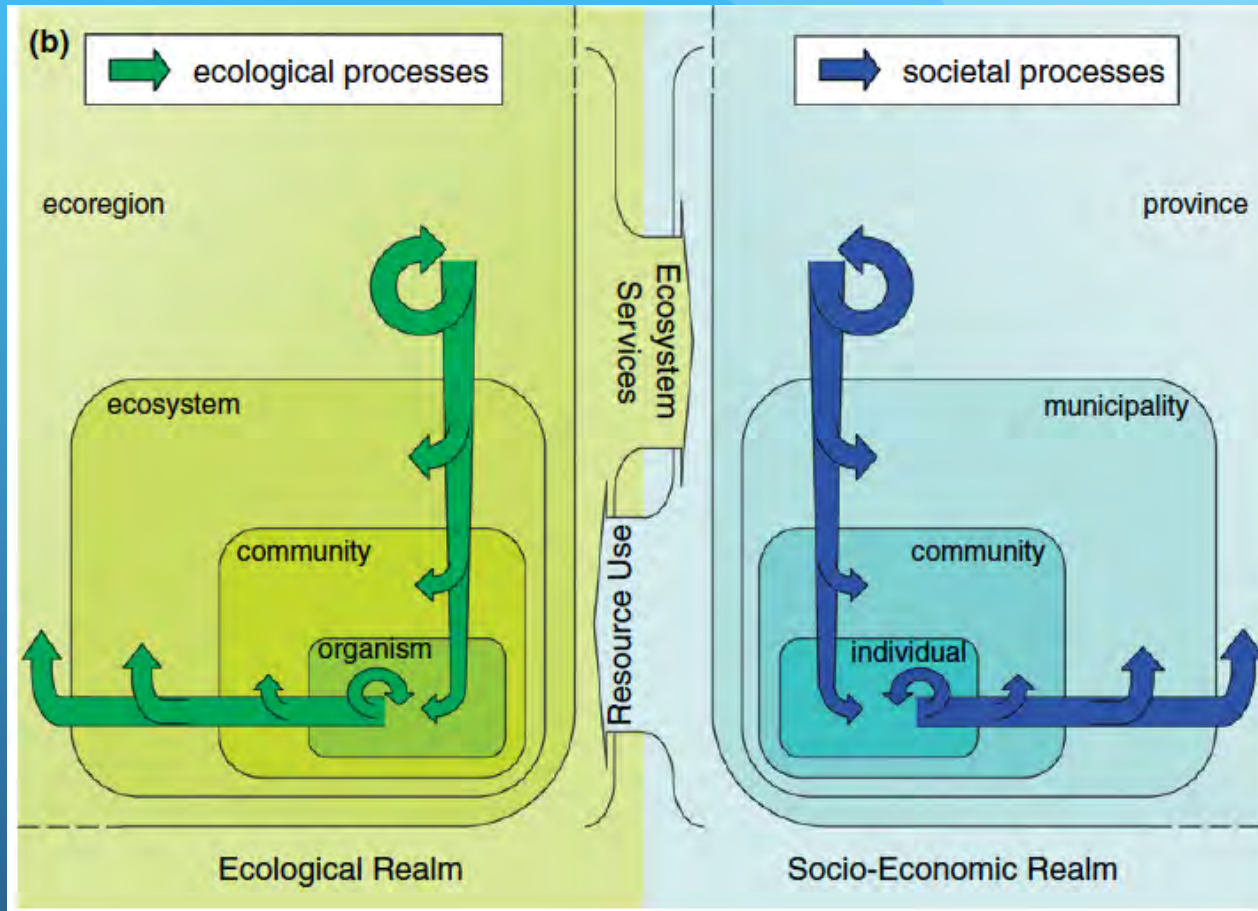
Project Goals

- Assess efficacy of existing MPAs
- Evaluate social capacity to develop and adaptively manage MPAs
- Foster sustainable livelihoods and encourage recreational diving and rockfish restoration
- Inform climate change and ocean acidification mitigation strategies

Research Questions

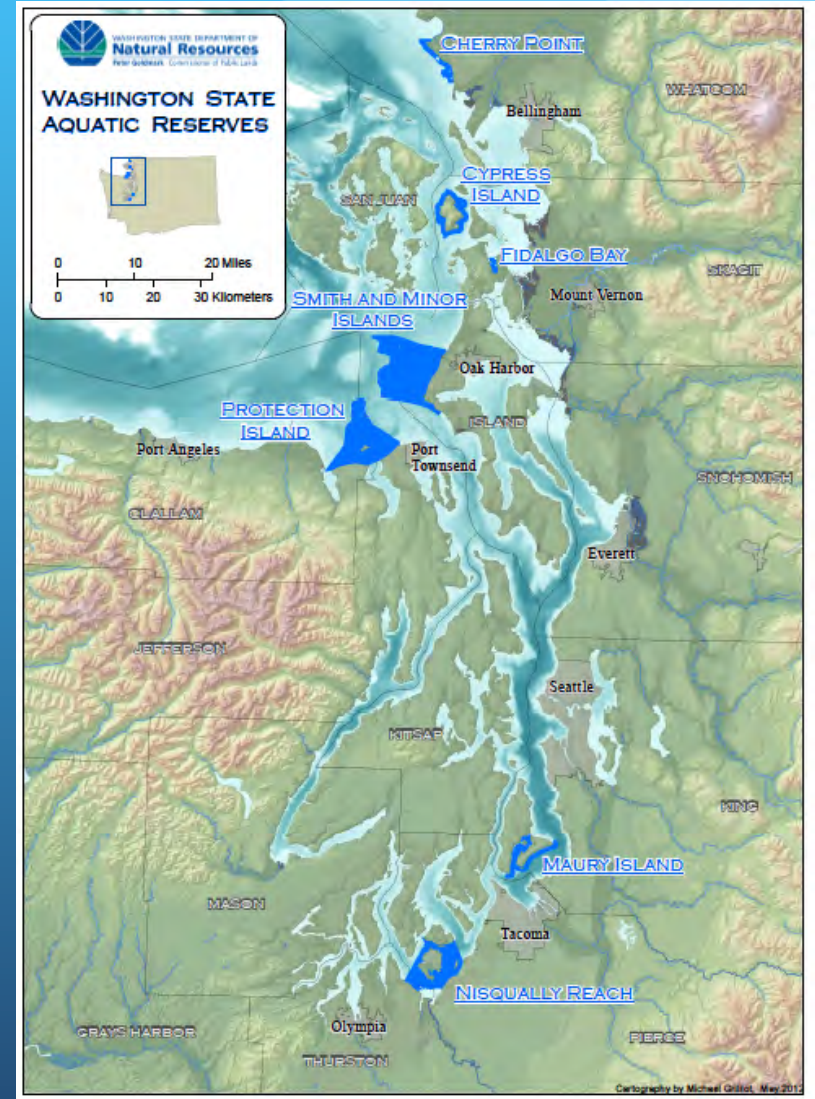
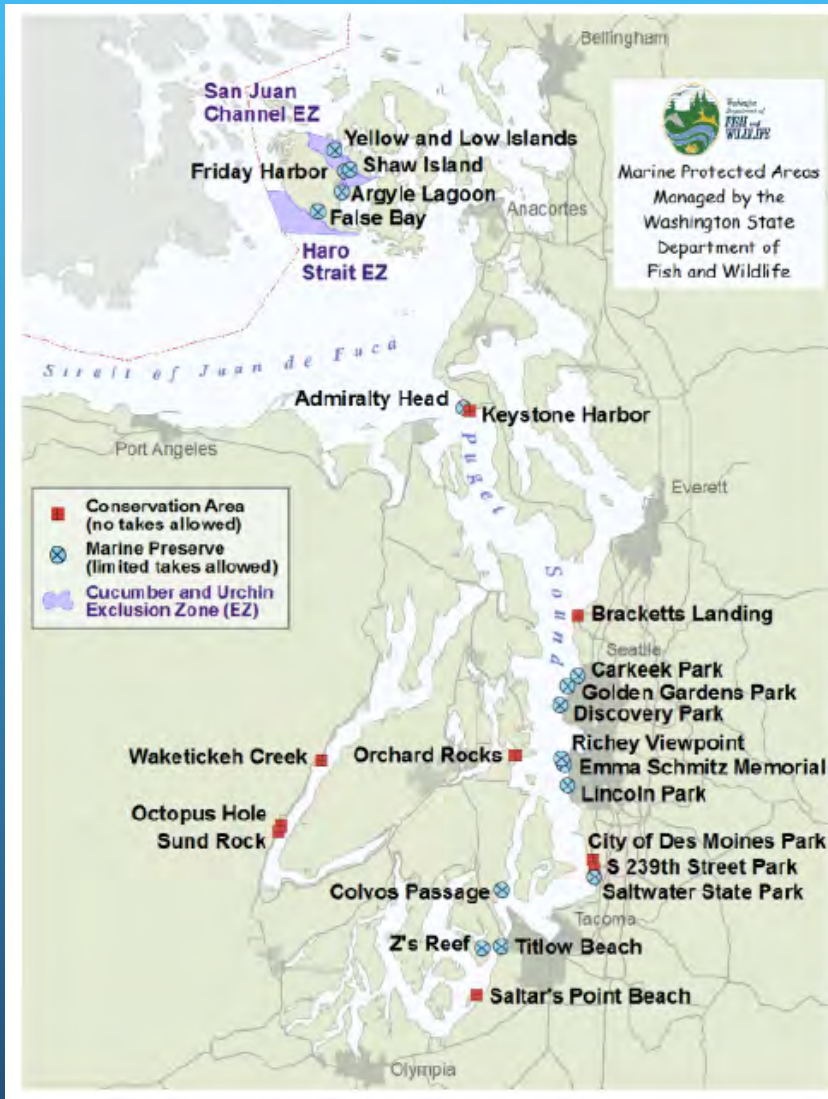
1. What conditions and processes lead to successful MPA implementation in diverse contexts?
2. What are the opportunities for MPA planning processes to improve management effectiveness and declare new, successful MPAs?
3. Should and can MPAs be used to increase social-ecological resilience in response to changing use patterns and environmental conditions?

Analytical Framework



Glaser, M., Christie, P., et al. 2012. Measuring and understanding sustainability-enhancing processes in tropical coastal and marine social-ecological systems. *Current Opinion in Environmental Sustainability* 4:300-308.

Marine Protected Area Sites



Site Selection

Literature Review

- Review grey literature, such as planning documents, technical reports, white papers, etc.

Informational Interviews

- Interview key personnel involved in MPA management in the Puget Sound

GIS analysis of human uses and MPAs

Available biophysical data in relation to MPAs

Surveys

Conduct structured surveys at ~25 MPA sites within the Puget Sound

- Survey ~10 actively engaged people in 25 distinct MPA sites (n=250)
- Survey ~30 citizens-at-large in each site (n=750)



Variables of Interest

Independent

- Status of the environment in and around the MPAs
- Economic benefits from the MPA
- Compliance with MPA rules
- Rule enforcement effectiveness
- Overall MPA effectiveness

Dependent

- Informant variables: age, education, occupation, perceptions of marine resources, etc.
- Community variables: population density and homogeneity, number of civic organizations, etc.
- Process variables: communication mediums; conflict resolution, compliance, and enforcement mechanisms; etc.

Semi-Structured Interviews

Interviews focused on:

- MPA management
- Conflicts and collaborations
- Policy decision-making

Transcribe and analyze using Atlas.ti software

Identify key themes and relations between them



Target Participants

MPA managers

NGO personnel

Local MPA leaders

Resource users (e.g.,
fishers, divers, kayakers)



www.salmonuniversity.com



Photo by J. Nichols

Biophysical Assessment

- Secondary biophysical data if available
- Biophysical variables may include data on fish abundance and water quality



Photo by J. Nichols



Photo by C. Krembs at Dept of Ecology

Participatory Scenario Planning

Two-day scenario workshop in Hood Canal during winter or spring 2015

Present and discuss research findings

Discuss key topics such as hypoxia, declining fish stocks, ocean acidification impacts, climate change, and other stressors

Evaluate social capacity to plan, manage, and adapt to existing and future management needs

Anticipated Results

Understand social-ecological dimensions to improve the likelihood of MPA success

Offer guidance to resource managers and policy makers about MPA design and siting options

Develop policy recommendations to improve current and future adaptive potential of MPAs in the Puget Sound

Collaborating Institutions



SCHOOL OF

Marine & Environmental Affairs

College of the Environment • University of Washington



PugetSoundPartnership

LEADING PUGET SOUND RECOVERY

Contact Information

Patrick Christie

Email: patrickc@uw.edu

Todd Stevenson

Email: todd36@uw.edu