



# Abstract

Surf sites around the world are under ever-increasing pressures from tourism, coastal development, pollution and other anthropogenic factors, and this research introduces and illuminates surfing areas as integral natural resources. The dissertation develops a *Surf Resource Sustainability Index (SRSI)* and presents it through a series of three peer-reviewed journal papers. The SRSI is designed as a global model and framework of indicators and methods for the assessment of surf site conservation attributes. A systematic literature review of surf tourism research and previous experience and discussion with experienced surfers and scholars were used to develop twenty-seven sustainability indicators. Framing them in social, economic, environment and governance indices, the study defines the criteria, implications and applicability for each indicator in context. A progression of field studies were carried out in Phuket, Thailand, where an emerging surf tourism market segment are additive to the island's bustling tourism economy and escalating coastal resource management issues. The SRSI has proven effective in assessing sites and pinpointing key areas of concern. SRSI metrics are particularly applicable to the cross-sectional evaluation of surf sites and serve as a direct method in the prioritization of sites for surfing reserve development. The research contributes to the fields of surf resource conservation and tourism management through the innovation and application of a new and pragmatic methodology.

**Key words:** coastal management, conservation, sustainability indicators, surf resource sustainability index, surf tourism, Phuket, Thailand

# A Surf Resource Sustainability Index for Surf Site Conservation and Tourism Management

## Introduction

Surfing is the act of riding an ocean wave on a surfboard and generally includes other aspects of wave riding, such as riding prone on a 'bodyboard' or purely 'bodysurfing'. When compared with other types of sport tourism, surf tourism is a relatively new market segment and research in the field is limited. Surf tourism research reflects the interdisciplinary nature of tourism not only as a professional field, but within the fields of ecology and environmental and coastal management and engineering wherein the concern for the custodianship and protection of surfing areas is of key significance. To address the concerns over the sustainability, this study introduces a methodology designed and aimed at outlining and measuring the social, economic, and environmental and governance indicators intrinsic to surf resource conservation and management. This framework forms the *Surf Resource Sustainability Index (SRSI)*, a multidimensional approach which places sustainability indicators into qualitative and quantitative modules for analysis.

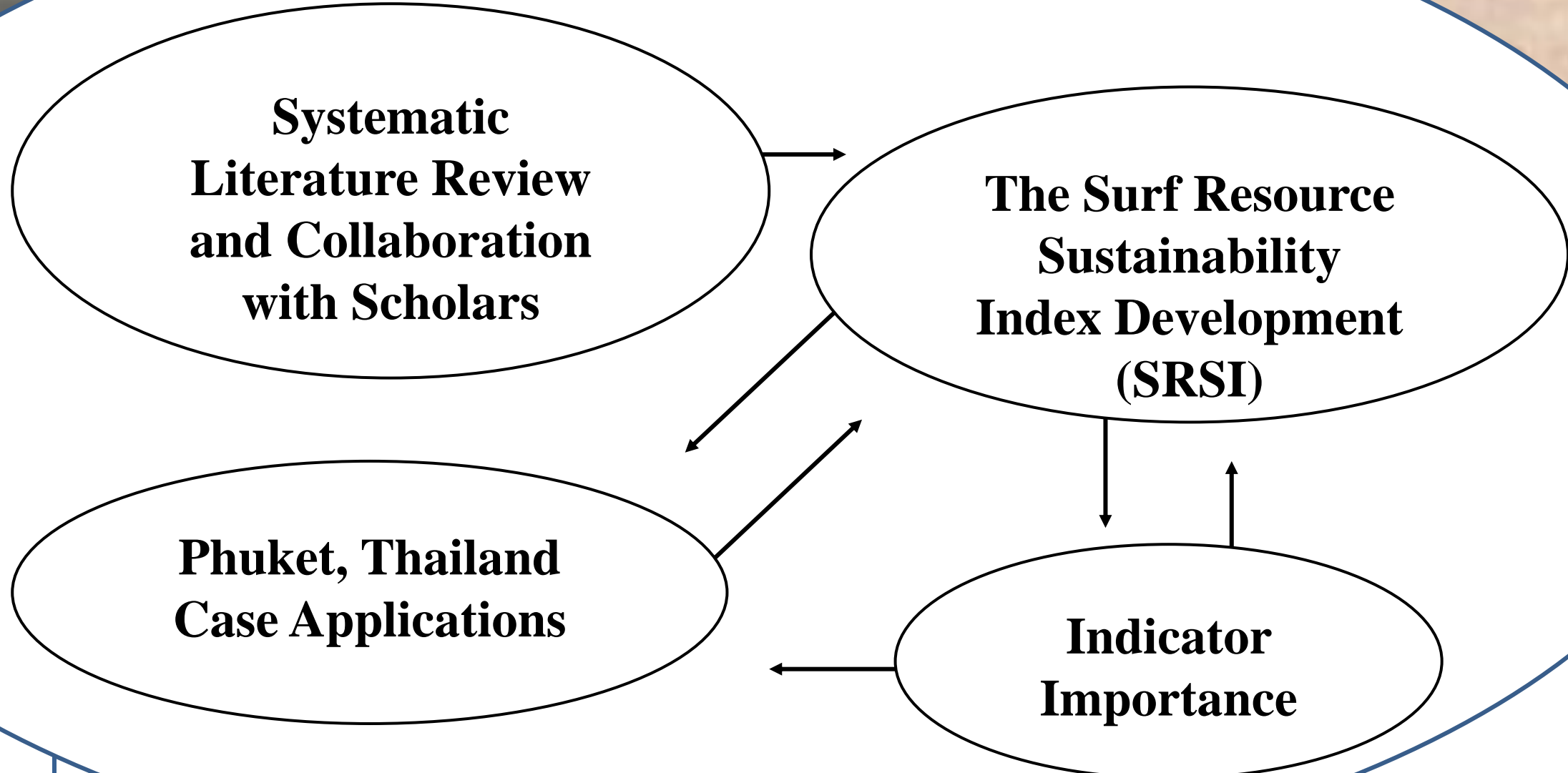
## Objectives of the Study

1. To establish a corpus of surf tourism research literature for systematic review and to determine emergent topics, themes and theories, particularly in the area of surf resource sustainability.
2. To develop and frame surf resource sustainability indicators and indices aimed at measuring the conservation attributes of surf sites.
3. To determine surf resource sustainability indicator importance, particularly in terms of measurability and conservation aptitude.
4. To apply the surf resource sustainability index on surf sites in Phuket, Thailand and to identify and prioritize their conservation attributes.

## Results

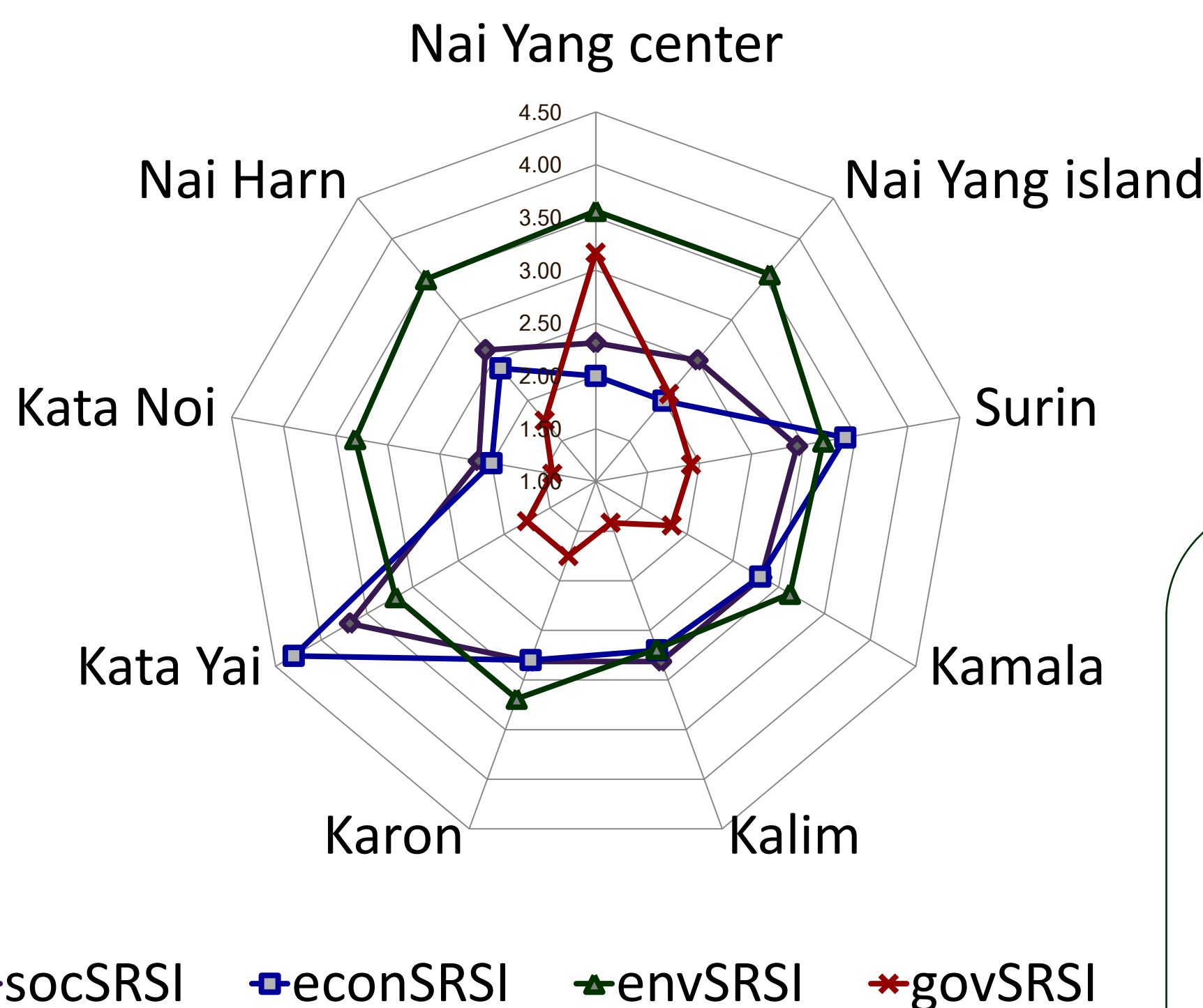
- Fundamentally complex to project quantitative values onto qualitative attributes.
- Record and measure sustainability factors through a two-layered approach (i.e. qualitative and quantitative).
- Qualitative means provided descriptive component of each indicator and offered legitimacy to the assessment process.

## Methods



SRSI

### Conservation Aptitude of 9 Phuket Surf Beaches



## The Surf Resource Sustainability Index

Social Indicators (SocSRSI)		Environmental Indicators (EnvSRSI)	
(1)	Clubs – Boardriders	(14)	Biodiversity
(2)	Clubs – Lifesaving	(15)	Coastal engineering
(3)	History	(16)	Eco-physical carrying cap.
(4)	Public safety	(17)	Hazards – Marine life
(5)	Social experience	(18)	Hazards – Physical
(6)	Socio-psychological carrying capacity	(19)	Quality – Beach
(7)	Surf community	(20)	Quality – Water
(8)	Surf events	(21)	Surf type & quality
Economic Indicators (EconSRSI)		Governance Indicators (GovSRSI)	
(9)	Surf amenity & infrastructure	(22)	Beach & water safety
(10)	Surf events	(23)	Education & interpretation
(11)	Surf industry & commercial activity	(24)	Legislative status
(12)	Surf-related nonmarket values	(25)	Management
(13)	Surf tourism	(26)	Not-for-profit organizations
		(27)	Public access

## Discussion

The application of SRSI for the conservation of coastal surfing resources and tourism management is placed in four contexts:

- Comparing the quality of different surf beaches in the same area or region (through cross-sectional analysis)
- Identifying changes over time at a given surf beach (trend analysis)
- Providing the framework for a consultative process whereby different stakeholder groups can offer their own weights to the clusters of factors
- The prioritization of surf sites in the legislative aspect, particularly as regional or national surfing reserves

## THESIS BY PUBLICATION

- *JOURNAL OF SPORT AND TOURISM*, 17(4), 257-287  
Martin and Assenov, 2012  
The Genesis of a New Body of Sport Tourism Literature: A Systematic Review of Surf Tourism Research (1997-2011)  
doi:10.1080/14775085.2013.766528
- *THE ASIA PACIFIC JOURNAL OF TOURISM RESEARCH*  
Martin and Assenov, 2013  
Developing a Surf Resource Sustainability Index as a Global Model for Surf Beach Conservation and Tourism Research  
doi: 10.1080/10941665.2013.806942
- *INTERNATIONAL JOURNAL OF TOURISM RESEARCH*  
Martin and Assenov, 2013  
Measuring the Conservation Aptitude of Surf Beaches in Phuket, Thailand: An Application of the Surf Resource Sustainability Index  
Accepted in press



## References

### Conferences

- Martin, S. A. (2013). *Surf Tourism and Resource Sustainability in Phuket, Thailand*. Scholarly presentation [PowerPoint]. Global Surf Cities Conference: Destination Innovation Collaboration, Kirra Hill Community and Cultural Centre, Gold Coast, QLD, February 28 – March 1. Gold Coast: Gold Coast Surf City, Inc.
- Martin, S. A. (2013). *The Surf Resource Sustainability Index and Thailand Case Trial*. Scholarly presentation [PowerPoint]. Global Surf Cities Conference: Destination Innovation Collaboration, Kirra Hill Community and Cultural Centre, Gold Coast, QLD, February 28 – March 1. Gold Coast: Gold Coast Surf City, Inc.
- Martin, S. A., & Assenov, I. (2011). A statistical analysis of surf tourism research literature. *Proceedings of the 4th Annual PSU Research Conference: Multidisciplinary Studies on Sustainable Development* (p.57), Prince of Songkla University, Phuket, November 16–18.
- Martin, S. A., & Assenov, I. (2012). Towards a surf resource sustainability index: A global model for surf site conservation and Thailand case study. *Proceedings of the 18th Asia Pacific Tourism Association Annual Conference (APTA) Hospitality & Tourism Education: New Tourism & New Waves* (pp. 745–760), Taipei, ROC, June 26–29. Busan, Korea: School of International Tourism, Dong-A University.
- Martin, S. A., & Assenov, I. (2012). Measuring the importance of social, economic, environmental and governance indicators for the surf resource sustainability index. *Proceedings of the 1st Annual PSU Phuket International Conference: Multidisciplinary Studies on Sustainable Development* (p.51), Prince of Songkla University, Phuket, January 10–12, 2013.

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