

Appendix 1. Construction of social-ecological networks.

The social-ecological networks were constructed using interview data, and ecological networks were triangulated using key references on tropical coastal ecology (e.g., Nagelkerken 2009). The following sections provide additional information on how each type of network tie was determined from the interview data.

Governance ties

Governance ties were elicited using a name-generator approach with free-recall (Marsden 2011), which means respondents were asked to identify the names of organizations with whom they collaborate or coordinate. We asked separately about collaboration and coordination using the questions below. However, these two sets of network ties were later combined and used as a single set of ties in the analysis, since it was clear that the sets were very similar.

1) Does your organization collaborate on project implementation with other organizations? If so, please list these other organizations.

a. Please describe the nature of collaboration with each organization.

b. Were these endeavours successful? Why/not?

2) Does your organization coordinate its actions with other organizations? If so, please list these other organizations.

a. Please describe the nature coordination with each organization.

b. Were these endeavours successful? Why/not?

Ecological ties/interactions

Ecological ties/interactions were identified from the interviews and triangulated with secondary sources. The sample of respondents included resource managers from government organizations, NGO staff with expertise in conservation, ecology or social-ecological sustainability, and resource users with intimate knowledge of the environments they depend on for their livelihoods. Respondents were asked a series of questions that walked them through (1) relevant challenges in the coastal-marine space, (2) relevant challenges in watersheds and terrestrial areas, (3) their conception of land-sea interactions or challenges, and (4) the interactions between these challenges. Each set of challenges represents key interactions within and between land- and seascape components, and the respondents were asked follow up questions to clarify these interactions. Additionally, we led with open-ended questions about each type of challenge, which was followed up with probing questions regarding specific challenges of interest.

Our approach allowed for relevant challenges/interactions to emerge based on the respondents' experience and knowledge, but we were also able to gather information on challenges of interest for the research. We stepped through these questions about the different system components (e.g., coastal-marine, watershed/terrestrial) separately to better capture the breadth of relevant

challenges and interactions. Land-sea interactions is somewhat abstract, so our intent was to ask about them in a more easily and communicable way by first understanding challenges in the land- and seascapes separately. However, we also asked directly about land-sea interactions to get a better sense of how these are framed and/or understood by experts in each context. Maps containing land cover information and the locations of known seascape features (e.g., coral reefs, seagrass beds) were used as boundary objects during the interviews, and they provided respondents the opportunity to clarify the spatial nature/extent of their responses. Respondents could point to or draw on, etc. the maps, which provided additional information that was documented and used to aid in interview interpretation. The main land- and seascape features included in the maps and, subsequently, the networks are found in Table A1.

1) What are the main issues or challenges facing coastal-marine areas?

Probe: sedimentation, agrochemicals, sewage, litter, sea-level rise, coastal erosion

a. What is the most important challenge?

b. Where are these challenges most prevalent? Why? Prop: map

2) What are the main issues or challenges facing watersheds/ terrestrial areas?

Probe: salinization of water supplies, storm surge, soil salinization, landslides/erosion

a. What is the most important challenge?

b. Where are these challenges most prevalent? Why? Prop: map

3) What are the main issues or challenges in relation to land-sea interactions?

a. What is the most important challenge?

b. Where are these challenges most prevalent? Why? Prop: map

4) Are these issues and challenges interrelated? If so, why and how?

Social-ecological ties

Social-ecological ties were elicited by asking respondents about their formal mandates or roles in relation to land- and seascape governance and management, and the main features on which their livelihoods depend (if relevant). The questions below were used to systematically uncover the different types of authorities, activities and interests in different land-sea system components. As above, this information was first elicited with open-ended questions, which were followed by probing questions on ties of interest to capture both pre-determined and emergent ties of relevance. Once again, maps were used (the same maps as above) to gather spatially-relevant information when it helped clarify or added pertinent information. This information was also documented and used to assist in interview interpretation.

- 1) What is the mandate of your organization? Probe: main thematic work areas
- 2) How does your organization address land-ocean interactions?
- 3) What types of projects or activities does your organization typically undertake to address land-ocean interactions? Probe: stream enhancement, riparian area management, agricultural extension, public awareness, planning, monitoring, scientific assessment, sedimentation control, regulation, evaluation.
 - a. Where have these projects taken place? Prop: map
- 4) [If resource users association or informal group] Where do the majority of your members derive their livelihoods? Which areas are you most concerned about? Prop: map

Table A1.1. Key landscape and seascape features in the ecological networks.

Ecological node	Abbreviation	Saint Lucia	Dominica
Inland Tropical Forest	ITF	X	X
Scrub Forest	SF	X	X
Mangrove	MAN	X	
Nearshore	NS	X	X
Coral Reef	CR	X	X
Beach	B	X	X
Small Offshore Islands	SOI	X	
Seagrass	SG	X	X
Riparian Areas	RA	X	X
Surface Water	R	X	X
Offshore	OS	X	X
Grassland	GL	X	
Agricultural Lands	AL	X	X
Urban/Town	UT	X	X
Quarries	QL		X