

Supplementary material

Evaluating Sustainability in Social-ecological Systems: 50 Years of Conservation in Florianópolis, Brazil

APPENDIX A

Summary of key SES Framework second-tier variables influencing positive conservation outcomes

First-tier variables	Second-tier variables	Case-study example
Focal Action Situations		
• Interactions (I)	(I2) Information sharing	Global learning tours for the planning department, active engagement by the university, community meetings
	(I3) Deliberation processes	Participatory budgeting, inclusive Master Plan revision process
	(I4) Conflicts	Public protests over environmental degradation, public pushback on the Master Plan, corruption
	(I5, I6) Investment and lobbying activities	Business investment in local tourism industry
	(I6, I7) Lobbying and self-organizing activities	Self-organizing, community-based environmental organizations
	(I8) Networking activities	Linkages to international and national organizations, local networks of environmental and cultural heritage organizations
• Outcomes (O)	(O1, O2) Social and ecological performance measures	Restoration of mangrove systems, creation and continued protection of conservation areas
Governance Systems (GS)	(GS2) Geographic scale	City-level conservation areas
	(GS4, GS5) Regime type, rule-making organizations	Multi-level governance of conservation, The City Statute legislation, city and state departments
	(GS6) Rules-in-use	Local government, joint management structures with local organizations
	(G8, G9, G10) Repertoire of norms and strategies, network structure, historical continuity	Partnership networks, joint committees
Actors (A)	(A1) Number of relevant actors	Local organizations, government staff, elected officials, business elite
	(A2, A4) Socioeconomic attributes, location	Coastal mid-sized city, amenity-led growth model
	(A3) History or past experiences	Long history of environmental planning practices and environmental activism
	(A5) Leadership/ entrepreneurship	Strong environmental leadership for a key period within the planning department, history of progressive planning models
	(A6) Norms/social capital	Significant social capital for environmental activism
	(A8) Importance of resources	Continually active community-based environmental organizations
Resource Systems (RS)	(RS1, RS3) Sector and size of resource systems	Conservation areas
Resource Units (RU)	(RU5, RU7) Number of unites, spatial and temporal distribution	Permanent Preservation Areas (APP), Preservation Areas with Limited Use (APL), and Conservation Units
Social, Economic, and Political Settings (S)	(S1, S2, S3, S5) Economic development, demographic trends, political stability, markets	Long-term commitment to the amenity and technology-led growth model despite political instability and changes in mayoral administrations
Related Ecosystems (ECO)	(ECO2) Pollutions patterns	Environmental degradation

APPENDIX B

Year	Key Municipal Offices and Federal Laws	Plans and Conservation Units	Mayor
1965			Osvaldo Machado
1966	Municipal Secretariat of the Continent; Council of Engineering, Architecture and Urbanism		Acácio Garibaldi Santiago
1969		Integrated Development Plan of Greater Florianópolis was developed by the Santa Catarina Planning Office (ESPLAN)	Acácio Garibaldi
1971	Capital Improvements Company (Comcap)		Ari Oliveira
1972	Municipal Development Council Law No. 1110/72		Ari Oliveira
1973	Civil Defense		Ari Oliveira
1974	Secretariat of Education, Health and Social Assistance, the Service of Historic, Artistic and Natural Heritage of the Municipality (SPHAM)	Florianópolis is the first Brazilian municipality to establish municipal legislation to protect its historical, artistic and natural heritage Law No. 1202/74	Nilton Severo da Costa
1976		Florianópolis Master Plan (Law 1440)	Esperidião Amin
1977	Urban Planning Institute of Florianópolis		Esperidião Amin
		Park of Tabuleirinho State Law No. 2335/77	Nagib Jabor
1979	Municipal Secretariat of Administration Executive Secretary of Public Services Secretariat of Education, Health and Social Development Municipal Development Council to include a member of FATMA Law No. 1674/79		Francisco de Assis Cordeiro
1981	National Environmental Policy (NEP) Law No. 6938 Plan for Tourist Development (AUF)	Municipal Park Lagoa do Peri Law No. 1828/81	Francisco de Assis Cordeiro
1982		Slopes Law No. 1851/82	Francisco de Assis Cordeiro
1985	Municipal Secretariat of Education	Declaration of the coastal villages of the Island of Santa Catarina as areas of special interest for tourism: Establishment of Regulations for Zoning, Use and Occupation of Soil Law. No. 2193/85	Aloísio Piazza
		Restinga of Ponta das Canas, Restinga of Ponta do Sambaqui Dec. 216/85, Dec. 112/85	Aloísio Piazza
		Dunes of Ingleses, Santinho, Campeche, Armação, and Pântano do Sul Dec. 112/85	Aloísio Piazza
		Mangroves of Tapera Lei 2193/85	Aloísio Piazza

		Slope Preservation Law No. 2193/85	Aloísio Piazza
1986		Region of Costa da Lagoa Dec. 247/86	Edison Andrino de Oliveira
1987	Municipal Secretariat of Tourism, Culture and Sports Franklin Cascaes Cultural Foundation of Florianópolis (FCFFC)	Ecological Station of Carijós Dec. Fed. 94656/87	Edison Andrino de Oliveira
1988		Lagoa da Chica, Lagoinha Pequena Dec. 135/88	Edison Andrino de Oliveira
		Municipal Park of Dunas da Lagoa da Conceição Mun. Law No. 231/88	Edison Andrino de Oliveira
1989	Municipal Secretariat of Health Municipal Fund for Cinema	Mayor Esperidião, in his second term, consolidates the 10 areas of the Central Urban Area and creates compensation mechanisms such as the transfer of construction indices (índices de construção)	Esperidiao Amin
1992	Municipal Secretariat of Tourism Creation of the Environmental Education Prize Law No. 3740/92	Dunes of Barra da Lagoa Law No. 3711/92	Antônio Henrique Bulcão Viana
		Mangroves of Rio Tavares (Reserva Extrativista Marinha do Pirajubaé) Dec. Fed. 533/92	Antônio Henrique Bulcão Viana
		Municipal Park of Lagoinha do Leste Mun. Law No. 4701/92	Antônio Henrique Bulcão Viana
	Created in response to the Free Ecological Movement (<i>Movimento Ecológico Livre – MEL</i>)	Municipal Park of Galheta Mun. Law No. 3455/92 and 698/94	Antônio Henrique Bulcão Viana
1993	Municipal Council for Environmental Protection Law No. 4117/93 Municipal Secretariat of Social Assistance		Sérgio Grando
1995	Municipal Secretariat of Environment and Urban Development Municipal Environment Foundation of Florianópolis	Municipal Park of Maciço da Costeira Mun. Law No. 4605/95 and 154/95	Sérgio Grando
1997	Municipal Secretariat of Housing and Environmental Sanitation	Distrito Sede Lei Complementar 001/97 APC -Áreas de Preservação Cultural	Ângela Amin
1999	Created in response to the Association of the Friends of Luz Park (<i>Associação Amigos do Parque da Luz - AAPLuz</i>)	Municipal Park - Luz (By the Hercílio Luz Bridge) Com. Law 051, 1999	Ângela Amin
2001	Federal Law No. 10.257 City Statute		Ângela Amin
2002		Mangroves of Itacorubi Dec. Mun. 1529/2002	Ângela Amin
2003	Institute of Florianópolis for the Generation of Opportunities; Municipal Secretariat of Urban Mobility; Municipal Secretariat of Safety and Traffic Management		Ângela Amin
2004	Municipal Guard		Ângela Amin

2005	Municipal Secretariat of Social Communication Municipal Directorate of Consumer Protection	Urban Park of Morro da Cruz Mun. Law No. 6893/2005	Dário Berger
2006	Health and Environmental Surveillance		Dário Berger
2007	Municipal Council for the Promotion of Equality and the Coordination of Public Policies for the Promotion of Racial Equality (COPPIR) Open University of Brazil in Florianopolis	State Park of Rio Vermelho Dec. 308/2007	Dário Berger
2008	Coordinator for Women		Dário Berger
2009	Municipal Secretariat of Science, Technology and Sustainable Economic Development Coordinator for Youth Board of Control, Evaluation and Auditing		Dário Berger
2012	Forest Code Law No. 12.651 Municipal Secretariat of Communication		Dário Berger
2013	Municipal Secretariat of Culture; Municipal Secretariate of Finance, Planning and Budget; Municipal Secretariat of Fishing, Mariculture and Agriculture; Board of Electronic Government; Free Music School; Florianopolis Welfare Institute		Cesar Souza Junior
2014	Municipal Secretariat for Transparency and Control		Cesar Souza Junior
2015	Municipal Secretariat of Consumer Protection		Cesar Souza Junior