1. Record Nr. UNINA9910484425603321 Ecosystem services in Patagonia: a multi-criteria approach for an Titolo integrated assessment / / Pablo L. Peri, Guillermo Martinez Pastur and Laura Nahuelhual (editors) Cham, Switzerland: ,: Springer, , [2021] Pubbl/distr/stampa ©2021 **ISBN** 3-030-69166-7 Descrizione fisica 1 online resource (499 pages) Collana Natural and Social Sciences of Patagonia Disciplina 577 Soggetti Applied ecology Conservation biology Biotic communities **Ecologia Ecosistemes** Biologia de la conservació Llibres electrònics Patagònia (Argentina i Xile) Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Nota di bibliografia Includes bibliographical references and index. Nota di contenuto Intro -- Contents -- Chapter 1: Ecosystem Services as a Tool for Decision-Making in Patagonia -- 1 The Patagonia Region -- 2 An Ecosystem Service-Based Framework for the Sustainable Management of the Natural Ecosystems of Patagonia -- 3 Importance of Ecosystem Service Assessments for Better Natural Resources and Environmental Decision-Making -- References -- Chapter 2: Assessment of Provisioning Ecosystem Services in Terrestrial Ecosystems of Santa Cruz Province, Argentina -- 1 Introduction -- 2 Study Case in Santa Cruz Province -- 2.1 Study Area -- 2.2 Materials and Methods -- 2.2.1 Provisioning Ecosystem Services Map -- 2.2.2 Potential Biodiversity Map -- 2.2.3 Landscape Analyses -- 2.3 Results and Discussion --

2.3.1 Provisioning Ecosystem Services Map -- 2.3.2 Provisioning Ecosystem Services and Potential Biodiversity Map: Identification of Conservation Areas of Interest -- 3 Challenges in the Land-Use

Management for Provisioning Ecosystem Services -- References -- Chapter 3: Grazing Management and Provision of Ecosystem Services in Patagonian Arid Rangelands -- 1 Introduction -- 2 Domestic Grazing-Induced Degradation: A Rule? -- 3 Grazing Management in Patagonian Rangelands and Ecosystem Services Supply -- 3.1 Stocking Rate Management in Grass-Shrub Steppes -- 3.1.1 Plant Aboveground Net Primary Productivity (ANPP, Supporting Service) -- 3.1.2 Forage Supply (Provisioning Service) -- 3.1.3 C and N Storage (Regulating Service) -- 3.1.4 Plant Diversity (Biodiversity) -- 3.1.5 Ecological Mechanisms: Trade-Offs and Synergies -- 3.1.6 Stocking Rate Adjustment (Grazing Pressure Management) -- 3.2 Grazing Pressure Management in Grass Steppes and Semi-deserts (Aridity Influence) -- 3.3 Grazing-Rest Management -- 3.4 Management of the Spatial Distribution of Herbivores and the Heterogeneous Grazing Impacts.

4 Public Policies to Improve the Provision of Ecosystem Services from Patagonian Arid Rangelands -- 5 Concluding Remarks --References -- Chapter 4: Synergies and Trade-Offs Among Ecosystem Services and Biodiversity in Different Forest Types Inside and Off-Reserve in Tierra del Fuego, Argentina -- 1 Introduction -- 2 Study Area -- 3 Provision of Different Ecosystem Services at Landscape Level -- 4 Potential Biodiversity for Nothofagus Forested Landscapes -- 5 Provision of Ecosystem Services in Nothofagus Forested Landscapes and Protected Natural Areas -- 6 Synergies and Potential Trade-Offs Among the Ecosystem Services and Biodiversity in Nothofagus Forested Landscapes -- 7 Recommendations for Management and Conservation Planning: The Potential Use of Ecosystem Services and Biodiversity Concepts in Nothofagus Forested Landscapes -- References -- Chapter 5: Shrubland Management in Northwestern Patagonia: An Evaluation of Its Short-Term Effects on Multiple Ecosystem Services -- 1 Shrublands as Bioenergy and Ecosystem Services Suppliers -- 2 Origin, Composition, and Dynamics of Shrublands of Northwestern Patagonia -- 3 Current Shrubland Land Use -- 4 Experimental Setup for Firewood Production in Shrublands Without Livestock -- 5 Provisioning ES and Economic Valuation -- 6 Potential Trade-Offs Between Firewood Production, Biodiversity, and Other ES -- 6.1 Biodiversity -- 6.2 Fire Protection ES -- 6.3 Soil Formation ES -- 7 Integrating Multiple Dimensions -- 8 Guidelines and Recommendations -- References --Chapter 6: Silvopastoral Systems in Northern Argentine-Chilean Andean Patagonia: Ecosystem Services Provision in a Complex Territory -- 1 Introduction -- 2 Silvopastoral Systems in Andean North Patagonia of Argentina and Chile -- 3 Conceptual Framework of the Socioecosystem -- 4 External Drivers of Change.

5 Ecosystem Services in Silvopastoral Systems of Andean North Patagonia -- 6 Main Local Drivers and Knowledge Gaps -- 7 Recommendations for Decision-Making Based on the Sustainability of Silvopastoral Systems -- Bibliography -- Chapter 7: Ecosystem Services Values of the Northwestern Patagonian Natural Grasslands -- 1 The Ecological-Socioeconomic or the Food Value of the Natural Ecosystems -- 2 Ecosystem Services Categories (MA, TEEB, and CICES) for Natural Grasslands at Northern Patagonia -- 3 The Aesthetic Values of the Natural Grasslands -- 4 The Grasslands ES Associated to Soils, Drivers, and Processes -- 5 Proposals for Land Use Planning and Grasslands Management in Northwest Patagonia -- References -- Chapter 8: The Ecosystem Services Provided by Peatlands in Patagonia -- 1 Introduction -- 2 Peatlands Features and Distribution in Patagonia -- 3 Ecosystem Services of Peatlands in Patagonia -- 3.1 Provisioning Services -- 3.1.1 Peat and Fiber Provision -- 3.1.2 Livestock Support --

3.1.3 Water Supply -- Water Provision in Wintertime -- 3.2 Regulating and Maintaining Services -- 3.2.1 Flood Control -- 3.2.2 Erosion Control Rates and Sediment Transport -- 3.2.3 Regulation of Climate Change Through the Control of Carbon Cycle -- The Peatland Carbon Store. How Much Carbon is Stored in Patagonian Peatlands? --Peatlands as a Carbon Sink: The Current Carbon Balance -- Gas Fluxes Between Peatlands Surface and Atmosphere -- GHG Flux in Patagonia -- Dissolved and Particulate Organic Matter -- 3.2.4 Maintaining Habitats -- 3.3 Cultural Services -- 3.3.1 Physical and Experiential Interactions with Natural Environments -- 3.3.2 Intellectual and Representative Interactions: Peatland as Data Archive for Scientific Investigation -- 4 Conclusions -- References -- Chapter 9: Restoration for Provision of Ecosystem Services in Patagonia-Aysen, Chile. 1 Introduction -- 2 Restoring the Provision of ES: Where to Start? -- 2.1 Defining Target Restoration Areas and Criteria: A Case of Study in Southern Chile -- 2.2 Assessing the Ecological Suitability and the Social Feasibility of Restoration -- 2.3 Generating Suitability and Feasibility Maps -- 2.4 Identifying Priority Areas for Forest Restoration -- 3 How to Monitor Restoration Activities? Quantifying Ecosystem Services -- 3.1 Methodologies Available: How to Quantify? -- 3.1.1 Timber -- 3.1.2 Carbon Sequestration -- 3.1.3 Freshwater --3.1.4 Soils -- 3.1.5 Recreational and Tourism -- 3.2 Experiences of Provision Quantification on Ecosystem in Aysen Region -- 4 Conclusions -- References -- Chapter 10: The North American Beaver Invasion and the Impact Over the Ecosystem Services in the Tierra del Fuego Archipelago -- 1 The Beaver Issue in Tierra del Fuego Archipelago and the Associated Impacts -- 2 Beaver Habitat Suitability and the Ecosystem Services -- 3 Ecosystem Services Approach as a New Tool to Understand the Beaver Issue in Tierra del Fuego -- 4 Is it Possible to Decrease the Trade-Offs of the Beaver Impact? Recommendations for Policy Makers -- References -- Chapter 11: Social Links for a Nexus Approach from an Ecosystem Services Perspective in Central-East Patagonia -- 1 Systemic Approaches: Nexus and Ecosystem Services -- 2 Methods -- 2.1 The Methodological Approach: Social Network Analysis -- 2.2 The Social-Ecological System: Comarca VIRCH-Valdes -- 3 Results and Discussion -- 3.1 Natural Nexus -- 3.2 Social Links -- 3.3 Insights to Improve Partnership for Nexus Approach -- 4 Concluding Remarks -- References --Chapter 12: Salmon Farming: Is It Possible to Relate Its Impact to the Waste Remediation Ecosystem Service? -- 1 Introduction -- 2 Conceptual Approaches to Relate Salmon Farm Impact and the ES of Waste Remediation -- 3 Methodology. 4 Results -- 5 Discussion -- References -- Chapter 13: Using the Ecosystem Services Approach to Understand the Distributional Effects of Marine Protected Areas in the Chilean Patagonia -- 1 Introduction -- 2 The MPA-MU Seno Almirantazgo -- 3 Interview Design and Application to Assess Social Actors' Perceptions -- 4 Identification and Prioritization of Ecosystem Services and Benefits by Social Actors -- 5 Level of Dependence on Ecosystem Services and Benefits -- 6 Perceived Access Barriers Generated by the MPA-MU -- 7 Approaching Perceptions and Removing Barriers for a Just Governance -- References -- Chapter 14: Sociocultural Valuation of Ecosystem Services in Southern Patagonia, Argentina -- 1 Introduction -- 2 Study Area and Methodology -- 2.1 Survey Design --2.2 Identification and Valuation of Important and Vulnerable ES -- 2.3 Local Perceptions of Wellbeing -- 2.4 Connectedness to Nature -- 3 Results -- 3.1 Identification and Valuation of Important and Vulnerable ES -- 3.2 Local Perceptions of Wellbeing -- 3.3

Connectedness to Nature -- 4 Discussion -- 5 Recommendations for Policy Makers -- References -- Chapter 15: Looking Beyond Ecosystem Services Supply: Co-production and Access Barriers in Marine Ecosystems of the Chilean Patagonia -- 1 Introduction -- 2 Methods and Data -- 2.1 Study Area -- 2.2 Framework of Analysis to Explore Mechanisms of Appropriation, Co-production, and Access to Ecosystem Services Benefits -- 2.3 Assessment of Ecosystem Services Supply -- 2.4 Benefit Assessment -- 2.5 Co-production and Access to Ecosystem Services -- 3 Results -- 3.1 Ecosystem Service Supply Areas -- 3.2 Benefit Assessment -- 3.2.1 Beneficiaries in the Magallanes Region (Local Beneficiaries) -- 3.2.2 External Beneficiaries -- 3.3 Co-production Mechanisms -- 3.4 Access Mechanisms Acting as Barriers to Capture ES Benefits.