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Integrating ecosystem services into coastal and marine governance

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Appendices

Appendix A: Overview of interviewees in the case study

In total, thirty-four respondents from relevant research institutes and different administrative entities participate in this research.

First interview round, 2014

A.1. List of interviewees and the sectors and organizations they represent

Sectors	Organizations	Interviewees	Positions
Economy and Social Development	Shandong Province Development & Reform Commission	1	Policy official
	Qingdao Development & Reform Commission	1	Policy official
Urban Planning	Shandong Housing and Urban-Rural Development Department	2	Policy official Planner
	Shandong Construction Engineering Administration	1	Policy official
	Qingdao Urban Planning Bureau	1	Policy official
	Qingdao Academy of Urban Planning and Design	1	Planner
	Qingdao Association of City Planning	1	Director general
Environment	Shandong Environmental Protection Department	1	Policy official
	Shandong Environmental Planning and Design Institute	2	Planning expert Policy advisor
	Shandong Environmental Approval of Construction Projects Reception Centre	1	Consultant
	Qingdao Environmental Protection Bureau	1	Policy official
Land Use	Shandong Province Land Survey and Planning Institute	2	Planning experts
Ocean and Fisheries	Shandong Oceanic and Fisheries Department	4	Policy officials
	Qingdao Ocean and Fisheries Bureau	2	Policy officials
	Qingdao Institute of Marine Geology	1	Planning expert
	The First Institute of Oceanography, State Oceanic Administration	1	Planning expert
	Ocean University of China	1	Policy advisor

Second interview round, 2015

A.2. List of interviewees and the sectors and organizations they represent

Sectors	Organizations	Interviewees	Positions
Economy and Social Development	National Development and Reform Commission		
	- Region and Economy Department	1	Policy official
Ocean and Fisheries	Oceanic Administration People's Republic of China		
	- Marine Integrated Management Department	1	Policy official
	- State Maritime Police Department	1	Policy official
	Fishery Bureau of the Ministry of Agriculture of the People's Republic of China		
	- Resources & Environmental Protection Department	1	Policy official
Research Institutes	National Oceanic Technology Center		
	- Sea Area and Island Technical Department	1	Planner
	Ocean University of China		
	- School of Law & Political Science	3	Legal experts
	- College of Fisheries	1	Coastal management expert
- College of Management	1	Marine zoning expert	

Appendix B: Interview guidelines

First interview round, 2014

B.1 Interview guideline with respect to rules-in-use

Interview guideline with respect to rules-in-use	
Open questions	<p>What is your working experience? 您主要的工作经历是什么?</p> <p>Which coastal and marine related plans are you familiar with? 您比较熟悉的涉及海岸带和海洋的规划有哪些?</p> <p>Has the terminology of ecosystem services been referred in the plans and policies that you are familiar with? 在您熟悉的相关规划和政策中提到生态系统的多吗?</p> <p>Do you have any idea of “ecosystem services”? 请问您听说过“生态系统服务”吗?</p> <p>If so, what is your own understanding? 如果是，您对它有什么认识?</p>
Detailed questions	
Position rules & Boundary rules	<p>Could you please describe the strategic planning process? 战略规划制订及实施的具体流程是什么?</p> <p>Who usually participate in the process (sectors, agencies, organizations, individuals) and when? 规划中具体参与者都涉及谁（部门、单位、组织、个人）并在何时参与?</p> <p>Which role do you/your organization play in this process? 您或您的部门在此过程中扮演什么角色?</p> <p>What positions are taken by the other organizations and what are their influence on the use and protection of the natural resources? 其他组织的角色和对自然资源使用及保护的影响是什么?</p> <p>What could be improved? 哪些方面需要改进?</p>
Choice rules	<p>What are the typical conflicts of coastal and marine uses in the strategic planning? 战略规划中典型的用海矛盾有哪些?</p> <p>Which policy instruments are usually adopted by coastal strategic planning to allow, oblige, or prohibit certain coastal and marine activities? 为了允许、限制或禁止某些海岸带和海洋行为，战略规划常使用的政策手段有哪些?</p> <p>What are the effects of those policy instruments on managing the conflicts of using coastal and marine resources? 这些政策手段对协调海岸带和海洋资源使用冲突的效果如何?</p>
Aggregation rules	<p>Who decide or permit actions in the coastal strategic planning? 海岸带战略规划中谁来制定决策或批准行动?</p> <p>In which way is this being decided? 如何决策的?</p> <p>How much room for local decision making in the planning? 规划中有多大的空间可以允许地方决策?</p>

(Appendix B.1 continued)

Interview guideline with respect to rules-in-use	
Detailed questions	
Information rules	<p>What is the information available and necessary for the coastal strategic planning? 海岸带战略规划中可获得哪些信息并需要哪些信息?</p> <p>What is the information on ecosystem conditions, social demands, environmental impacts, uses, and spatial allocations? 涉及生态系统状态、社会需求、环境影响、使用和空间分布的信息有哪些?</p> <p>How is the information acquired and used? 如何获取和使用这些信息?</p> <p>Why some ecological and environmental information is relatively insufficient? 为什么有些生态和环境信息相对不足?</p>
Payoff rules	<p>What are the rewards and sanctions related to the coastal and marine activities? 规划中与海岸带和海洋活动相关的奖励和制裁有哪些?</p> <p>Who can benefit from the coastal strategic planning? 谁将从海岸带战略规划中受益?</p> <p>Who loses? 谁将遭受损失?</p>
Closed questions	<p>Overall, could you please offer a general comment on the current management of the coastal and marine resources through the coastal strategic planning? 整体而言，您如何评价目前战略规划对海岸带和海洋资源的管理情况?</p> <p>What are your suggestions? 对此，您有什么建议?</p> <p>What is your view of the future development? 您认为未来的发展会如何?</p>

Second interview round, 2015

B.2 Interview guideline with regard to the governance of market-based instruments (MBIs)

Interview guideline about the governance of MBIs	
Open questions	<p>Could you please describe the function of your organization? 请描述下您所在部门的工作职能。</p> <p>Could you please introduce your job? 可以介绍下您的工作内容吗？</p> <p>This research focuses on the Bidding and Auction for Sea-use Rights (BASUR), the Charges for Marine Ecological Damage Compensation (CMEDC), and the Subsidies for Fishing Transfer (SFT) as the representatives of Chinese MBIs for the coastal and marine governance. What is your opinion of their representativeness? 本研究关注海洋使用权招拍挂、海洋生态损失赔偿和损害补偿费、渔业转产转业补贴作为中国海洋和海岸带管理中代表性的基于市场的经济手段。您认为其代表性如何？</p> <p>What is your suggestion for other typical MBIs? 您建议还可以选择哪些典型的基于市场的手段？</p> <p>Which MBIs are you familiar with? 您熟悉哪些基于市场的手段？</p> <p>What have the Chinese MBIs been developed in the field of coastal and marine governance? 在海洋和海岸带管理中，中国基于市场的经济手段是如何发展的？</p>
Detailed questions	See B.2.1, B.2.2, B.2.3
Closed questions	<p>What is your view of the future of the MBIs in the governance of coastal and marine natural resources? 请您展望下基于市场的手段在海洋和海岸带自然资源管理方面的前景如何？</p> <p>What are the main concerns for the development of the MBIs? 发展基于市场的手段亟需解决什么问题？</p> <p>What are your suggestions for further development? 您对未来发展有什么建议？</p>

B.2.1 Detailed questions on the BASUR

Detailed questions on the BASUR	
Price	<p>So far, which marine resources or related properties have been open to the market transactions in China? 全国当前开放的通过市场交易的海洋资源或其相关产权有哪些?</p> <p>What have been actually quantified in terms of price for the market exchanges in the BASUR? 海洋资源产权招拍挂中是对什么以价格进行了量化?</p> <p>To what extent do you think that these considerations are comprehensive and rational? 您认为这种考虑是否合理、全面?</p> <p>In your opinion, what should gain attention? 您认为需要注意什么问题?</p> <p>What factors affect the price attached to the sea use rights? 什么因素影响海域使用权的价格?</p>
Regulatory support	
Assessment rules	<p>What have been done about the assessment of the sea use rights (e.g., setting evaluative methods, assessment agencies, and process) at the national level? 国家在海域使用权价值评估方面已开展了哪些工作（如设置评估方法、评估机构和过程）?</p> <p>What difficulties need to overcome for the assessment? 评估工作中需要克服哪些困难?</p> <p>What is the meaning of sea use fee for the BASUR development? 海域使用金制度对发展海洋资源产权招拍挂的意义是什么?</p>
Rights and duties	<p>What are the rights and liabilities of related stakeholders involved in the BASUR? 当前海洋资源产权招拍挂中涉及的利益相关者的权利和义务是如何规定的?</p> <p>What do you expect should be clarified further? 您认为哪些权利和义务需要进一步明确?</p>
Transaction rules	<p>What are normalized in terms of rules for the transaction (e.g., bidding and auction process, plan, preconditions of tradable sea areas, and tenures of sea use rights)? 交易中对什么进行了规范（如招牌挂的过程、方案内容、可交易的海域条件、使用年限）?</p> <p>Why do you expect this? 为什么?</p> <p>What are the effects of the BASUR? 招拍挂的效果如何?</p> <p>In your opinion, what should be improved? 您认为哪些方面需要完善?</p>

Coordination		Detailed questions on the BASUR
Include related actors for voluntary participation		Which sector, agency, organization, and individual are usually involved in the process of the bidding and auction? 招拍挂过程中通常涉及哪些部门、机构、组织、个人?
		Which role does each of them play in this process? 他们各自的角色是什么?
		To what extent do you think the influence of governments on transactions? 您认为政府在多大程度上影响着交易?
Coordinative methods for making free choices		Is there any third party of organizing the transactions? 海洋资源产权交易市场是否存在第三方负责组织交易?
		If so, what are their functions? 若有, 具体的职能是什么?
		Which relationship needs to be coordinated in the BASUR process? 海洋资源产权招拍挂中需要协调哪些方面的关系?
Information sharing and communication		In what ways to coordinate? 通过什么方式进行协调?
		Are there any problems for the coordination? 协调中有什么困难?
		Which information is available or transparent to support the coordination? 为了支持协调工作哪些信息可得或透明?
	Do you think which information is still needed for that? 您认为还需要什么信息?	
Spatial consideration		
Implement at the scale at which causality occurs		Are there any considerations of cross-border issues for BASUR? 海洋资源产权招拍挂中有没有涉及跨界问题的考虑?
		What arrangements exist for dealing with the issues? 存在哪些制度安排用于解决这些问题?
		What other spatial matters does the BASUR have to consider? 在海洋资源产权招拍挂中还需要考虑什么空间问题?
Address site differences and specification		In what ways do the arrangements of BASUR take the situ differences and specification into account? 海洋资源使用权招拍挂中如何考虑不同区域特点问题?
		For example: <ul style="list-style-type: none"> •the basic price of sea area ranges according to different sea-use forms, and sea area grades •the tradable sea areas should fit with the marine functional zoning

B.2.2 Detailed questions on the CMEDC

Detailed questions on the CMEDC	
Supplemental open questions	<p>What have been done generally for the establishment of ecological compensation in the marine field? 涉海领域中生态补偿机制的建立开展了哪些工作?</p> <p>What is your own understanding of the ecological compensation? 您对生态补偿机制如何理解?</p>
Price	
	<p>What have been taken into consideration for the ecological compensation? 补偿主要考虑对哪些方面的补偿?</p> <p>To what extent do you think that the current compensation content/scope is comprehensive and rational? 您认为当前补偿的内容 / 范畴设置是否合理和全面? 需要注意什么问题?</p> <p>In your opinion, what should gain attention? 您认为需要注意什么问题?</p> <p>How are coastal and marine natural resources quantified in terms of price? 其中如何对海洋资源和环境进行价格量化的?</p> <p>What externalities could be addressed? 可以解决什么外部性问题?</p>
Regulatory support	
Assessment rules	<p>What are the technical support for the assessment of ecological loss and damage at the national level? 国家对生态损害评价相关的技术支撑有哪些?</p> <p>How about the evaluation of coastal and marine ecosystem services? 其中对海岸带和海洋生态服务价值评估方面的情况如何?</p> <p>In which ways to agree a fee of ecological compensation (flat-rate price or voluntarily negotiated price)? 如何确定补偿费用(统一价格或自愿协商价格)?</p> <p>In your opinion, which aspects of the assessment need further improvement? 您认为在价值量评价中哪些方面有待进一步完善?</p> <p>Why do you think so? 原因是什么?</p> <p>What is your suggestion? 您有何建议?</p>
Rights and duties	<p>What are the rights and liabilities of the related stakeholders involved in the CMEDC? 有关海洋生态损失补偿和损害赔偿中涉及的利益相关者的权利和义务有哪些?</p> <p>•To what extent do you think the property rights about coastal and sea areas are clear? 您认为多大程度上海岸带土地和海域产权方面的规定是明晰的?</p> <p>• What is the influence on the CMEDC? 其对海洋生态损失补偿和损害赔偿实施中的影响?</p> <p>•What are the sanction rules for the CMEDC? 海洋生态损失补偿中对惩罚规定有什么?</p> <p>What do you expect should be clarified further? 您认为哪些权利和义务需要进一步明确?</p>

Detailed questions on the CMEDC	
Transaction rules	<p>What are normalized in terms of rules for the ecological compensation (e.g., compensation methods and period)? 生态补偿的哪些内容通过规定条例进行规范（如补偿方式和期限）？</p> <p>Could you please describe the governments' financial payments for ecological compensation?请介绍下生态补偿财政转移支付机制？</p> <p>Are there any financial resources for the CMEDC? 有其它的资金来源用于海洋生态损失补偿和损害赔偿吗？</p> <p>What are the effects by setting these rules? 设置这些规则的效果如何？</p> <p>What else do you think should be normalized in terms of regulation? 您认为还有哪些方面需要通过管理手段进行规范？</p>
Coordination	
Include related actors for voluntary participation	<p>Which sector, agency, organization, and individual are usually involved in the process of the compensation? 生态补偿中通常涉及哪些部门、机构、组织、个人？</p> <p>Who are usually the payers of the compensation? 通常谁是补偿的支付者？</p> <p>Who are usually the receivers of the compensation? 通常谁是补偿的接受者？</p>
Coordinative methods for making free choices	<p>How the process of the CMEDC is specifically organized (coordinative forms, fee collection, and compensation distribution)? 海洋生态损失补偿实施过程如何（具体协调方式、如何收取、如何分配）？</p> <p>Which relationship needs to be coordinated in the process? 需要协调哪些方面的关系？</p> <p>In what ways to coordinate? 具体协调方式有什么？</p> <p>What are the difficulties need to overcome? 需进一步解决克服的困难？</p> <p>What are the actual effects of the implementation of this instrument? 实施这项手段的实际效果如何？</p>
Information sharing and communication	<p>Which information is needed to support the coordination in the CMEDC? 海洋生态损失补偿和损害赔偿手段中需要哪些信息支持协调管理工作？</p> <p>What information is necessary to be supplemented? 还有哪些信息有必要进行补充？</p>
Spatial consideration	
Implementation at the scale at which causality occurs	<p>Are there any considerations of cross-border issues for the CMEDC? 海洋生态损失补偿和损害赔偿手段是否涉及跨边界补偿问题的考虑？</p> <p>Could you please describe some examples of coastal and marine compensation issues that occurred cross border? 您能讲述几个关于跨边界的海岸带和海洋生态补偿的例子吗？</p> <p>For example: •watershed-based compensation •upstream-downstream compensation</p> <p>What arrangements exist for dealing with the issues?</p>

Detailed questions on the CMEDC	
Spatial consideration	
Implementation at the scale at which causality occurs (to continue)	<p>存在哪些制度安排用于解决这些问题？</p> <p>For example:</p> <ul style="list-style-type: none"> •eco-compensation organization •integrated monitoring <p>What difficulties exist?</p> <p>存在什么困难？</p>
Address site differences and specification	<p>In what ways do the arrangements of CMEDC take the situ differences and specification into account?</p> <p>海洋生态损失补偿和损害赔偿中如何考虑不同区域特点问题？</p> <p>For example:</p> <ul style="list-style-type: none"> •identify damaged scope, areas and extents in terms of environmental properties? •depend on local fishing intensity and market prices to calculate biomass loss costs? •set compensation level based on marine functional zones and land primary functional zones? <p>What other spatial matters does the CMEDC have to consider?</p> <p>在海洋生态损失补偿和损害赔偿中还需要考虑什么空间问题？</p>

B.2.3 Detailed questions on the SFR

Price		Detailed questions on the SFR
		<p>What have been quantified in terms of price for subsidy? 补贴中主要对什么进行了价格量化?</p> <p>To what extent do you think that the current subsidy content is comprehensive and rational? 您认为当前补贴的内容设置是否合理和全面?</p> <p>In your opinion, what should gain attention? 您认为需要注意什么问题?</p> <p>What externalities could be addressed through this instrument? 通过这一手段可以解决什么外部性问题?</p>
Regulatory support		
Assessment rules		<p>What are the rules of assessment related to the subsidy? 关于补贴的评定规则有哪些?</p> <p>Were there any considerations of coastal and marine ecosystem services in the assessment of the subsidy? 补贴的评价中是否考虑了海岸带和海洋生态系统服务?</p> <p>In your opinion, which aspects of the assessment need further improvement? 您认为评价中哪些方面有待进一步完善?</p> <p>Why do you think so? 原因是什么?</p>
Rights and duties		<p>What are the rights and liabilities of the related stakeholders involved in the SFR? 有关海洋渔业资源恢复补贴中涉及的利益相关者的权利和义务有哪些?</p> <p>What do you expect should be further clarified? 您认为哪些权利和义务需要进一步明确?</p>
Transaction rules		<p>What are normalized in terms of rules for the subsidy? 补贴的哪些内容通过规定条例进行规范?</p> <p>For example: •Subsidy form •Subsidy period •Subsidy scope •Eligibility •Distribution process</p> <p>What are the effects by setting these rules? 设置这些规则的效果如何?</p> <p>What else do you think should be normalized in terms of regulation? 您认为还有哪些方面需要通过管理手段进行规范的?</p>
Coordination		
Include related actors for voluntary participation		<p>Which sector, agency, organization, and individual are usually involved in the process of the SFR? 海洋渔业资源恢复补贴中通常涉及哪些部门、机构、组织、个人?</p> <p>Which role does each of them play in this process? 他们各自的角色是什么?</p> <p>What is the extent of voluntariness in the SFR? 海洋渔业资源恢复补贴中的自愿程度如何?</p>

Coordination		Detailed questions on the SFR
Coordinative methods for making free choices		<p>How the process of the SFR is specifically organized? 海洋渔业资源恢复补贴实施过程如何?</p> <p>Which relationship needs to be coordinated in the SFR? 需要协调哪些方面的关系?</p> <p>In what ways to coordinate? 具体协调方式有什么?</p> <p>How is the amount of the subsidy agreed? 补贴的额度是如何达成协议的?</p> <p>What are the difficulties need to overcome? 需进一步解决克服的困难?</p> <p>What are the actual effects of the implementation of this instrument? 实施这项手段的实际效果如何?</p>
Information sharing and communication		<p>Which information is needed to support the coordination in the SFR? 海洋渔业资源恢复补贴手段中需要哪些信息支持协调管理工作?</p> <p>What information is necessary to be supplemented? 还有哪些信息有必要进行补充?</p> <p>To which extent do fishermen understand the policies about the SFR? 渔民对海洋渔业资源恢复补贴相关政策的了解程度如何?</p> <p>Were there any communications among fishermen related to the SFR? 渔民之间是否相互交流了解海洋渔业资源恢复补贴手段?</p> <p>What is the effect of the communication on fishermen's participation? 渔民之间的交流对其参与的影响是什么?</p>
Spatial consideration		
Implement at the scale at which causality occurs		<p>Are there any considerations of cross-border issues for the SFR? 海洋渔业资源恢复补贴手段是否涉及跨边界补偿问题的考虑?</p> <p>Could you please describe some examples? 您能讲述几个例子吗?</p> <p>What arrangements exist for dealing with the issues? 存在哪些制度安排用于解决这些问题?</p> <p>What difficulties exist? 存在什么困难?</p>
Address site differences and specification		<p>In what ways do the arrangements of the SFR take the situ differences and specification into account? 海洋渔业资源恢复补贴手段中如何考虑不同区域特点问题?</p> <p>What other spatial matters does the SFR have to consider? 海洋渔业资源恢复补贴手段中还需要考虑什么空间问题?</p>

Appendix C: Overview of analyzed policies and related documents

National Policy Documents

CCICED, China Council for International Cooperation on Environment and Development (2008) Study on Ecological Compensation Mechanism and Policy.

中国环境与发展国际合作委员会（2008）生态补偿机制与政策研究。

http://www.cciced.net/zcyj/zfbg/subjectpolicy06/201210/t20121019_239861.html

MA, Ministry of Agriculture (1996) Calculation of the Provisions of Fishery Losses from Water Pollution Accidents.

农业部（1996）水域污染事故渔业损失计算方法规定（农渔发〔1996〕14号）。

MA & MF, Ministry of Agriculture and Ministry of Finance (2003) Regulations on the Special Funds for Marine Fishermen Converting Jobs.

农业部办公厅、财政部办公厅（2003）关于印发《海洋捕捞渔民转产转业专项资金使用管理规定》的通知（财办农〔2003〕116号）。

MA & MF, Ministry of Agriculture and Ministry of Finance (2013) Notice on the Implementation Guidance on the Protection of Fishery Resources and Job Transfer Projects in 2013.

农业部办公厅、财政部办公厅（2013）关于印发《2013年渔业资源保护和转产转业项目实施指导意见》的通知（农办财〔2013〕35号）。

MA & MF, Ministry of Agriculture and Ministry of Finance (2015) Notice on the Implementation Guidance of the Subsidy Adjustment for Fishing and Oil Price in Aquaculture to Improve the Sustainability and Health of Fishery Development in 2013.

农业部办公厅、财政部办公厅（2015）财政部农业部关于调整国内渔业捕捞和养殖业油价补贴政策促进渔业持续健康发展的通知（财建〔2015〕499）。

MA, MF, and SAC, Ministry of Agriculture, Ministry of Finance, and State Administration for Commodity Prices (2011 revision) Measures on Collection and Use of Fishery Resources Proliferation and Protection Fee.

农业部、财政部、国家物价局（2011 修订）渔业资源增殖保护费征收使用办法（农业部、财政部、国家物价局令第1号）。

ME, Ministry of Environmental Protection (2014) Technical Guidelines for Plan Environmental Impact Assessment General principles.

环境保护部（2014）规划环境影响评价技术导则总纲（HJ 130-2014）。

http://www.zhb.gov.cn/gkml/hbb/bgg/201406/t20140606_276597.htm

MF & SOA, Ministry of Finance and State Oceanic Administration (2007) Notice on Enforcing the Sea-Use Fee Collection.

财政部、国家海洋局（2007）关于加强海域使用金征收管理的通知（财综〔2007〕10号）。

NDRC & SOA, National Development and Reform Commission and State Oceanic Administration (2011) Notice on the Measures for the Administration of Reclamation.

国家发展改革委、国家海洋局（2011）关于印发《围填海计划管理办法》的通知（发改地区〔2011〕2929号）。

NDRC, National Development and Reform Commission (2014) Notice on the General Plan of Qingdao West Coast New Area.

国家发展改革委（2014）关于印发青岛西海岸新区总体方案的通知（发改地区〔2014〕1318号）。

SC, State Council (2011) The Development Plan of Shandong Peninsula Blue Economic Zone.

国务院（2011）山东半岛蓝色经济区发展规划（国函〔2011〕1号）。

SC, State Council (2013) State Council Report on the Work of Ecological Compensation Mechanism Construction.

国务院（2013）关于生态补偿机制建设工作情况的报告。

http://www.npc.gov.cn/npc/xinwen/2013-04/26/content_1793568.htm

SC, State Council (2014) The Official Reply of the State Council on the Establishment of Qingdao West Coast New District.

国务院（2014）关于同意设立青岛西海岸新区的批复（国函〔2014〕71号）。

SC, State Council (2015) Notice on National Marine Principle Function Zoning.

国务院（2015）关于印发全国海洋主体功能区规划的通知（国发〔2015〕42号）。

SCNPC, Standing Committee of the National People's Congress (2001) Law on the Administration of the Use of Sea Areas.

全国人民代表大会常务委员会（2001）中华人民共和国海域使用管理法（中华人民共和国主席令第六十一号）。

SCNPC, Standing Committee of the National People's Congress (2013) Law on Maritime Environmental Protection (2013 revision).

全国人民代表大会常务委员会（2013）中华人民共和国海洋环境保护法（2013修正）（中华人民共和国主席令第八号）。

SEPA, State Environmental Protection Administration (2007) Guidance on the Implementation of Ecological Compensation Pilot Work.

国家环境保护总局（2007）关于开展生态补偿试点工作的指导意见（环发〔2007〕130号）。

SOA, State Oceanic Administration (2006a) Provisions on Administration of Right to Sea Use Areas.

国家海洋局（2006a）关于印发《海域使用权管理规定》的通知（国海发〔2006〕27号）。

SOA, State Oceanic Administration (2006b) Technical Directives for the Division of Marine Functional Zonation.

国家海洋局（2006b）海洋功能区划技术导则（GB/T 17108-2006）。

SOA, State Oceanic Administration (2008) Reflections on the Establishment of Evaluation System of the Sea.

国家海洋局（2008）关于建立海域评估制度的几点思考。

http://www.soa.gov.cn/bmzz/jgbmzz2/hyzhgl/201211/t20121107_13990.html

SOA, State Oceanic Administration (2009) Opinions on Further Strengthening Marine Ecological Protection and Developing Work.

国家海洋局（2009）关于进一步加强海洋生态保护与建设工作的若干意见（国海发〔2009〕14号）。

SOA, State Oceanic Administration (2010) Notice on the Technical Guidelines for Sea Area Utilization Demonstration.

国家海洋局（2010）关于印发海域使用论证技术导则的通知（国海发〔2010〕22号）。

SOA, State Oceanic Administration (2012a) Notice on the Full Implementation of Market-oriented Approach to Sell the Use Right of Marine Sand Mining.

国家海洋局（2012a）关于全面实施以市场化方式出让海砂开采海域使用权的通知。

http://www.soa.gov.cn/zwgk/zcgh/hygl/201212/t20121228_23431.html

SOA, State Oceanic Administration (2012b) Sea Area Assessment Training Course: Theory and Method of Sea Area Assessment. (Internal training materials).

国家海洋局（2012b）海域评估培训教程：海域评估理论与方法。（内部培训教材）。

SOA, State Oceanic Administration (2013a) Technical Guidelines for Assessment of Sea.

国家海洋局（2013a）关于印发《海域评估技术指引》的通知（国海管字〔2013〕708号）。

SOA, State Oceanic Administration (2013b) Notice on the Technical Guidelines for Assessment of Marine Ecological Damage (Trial).

国家海洋局（2013b）关于印发《海洋生态损害评估技术指南（试行）》的通知（国海环字〔2013〕583号）。

SOA, State Oceanic Administration (2014) Notice on Measures for the State's Loss of Marine Ecological Damage.

国家海洋局（2014）关于印发《海洋生态损害国家损失索赔办法》的通知。

http://www.soa.gov.cn/zwgk/hygb/gjhyjgb/2015_1/201510/t20151013_48569.html

SOA, State Oceanic Administration (2015) Bulletin on Sea Uses 2014.

国家海洋局（2015）2014年海域使用管理公报。

http://www.coi.gov.cn/gongbao/haiyu/201504/t20150429_32476.html

Provincial Policy Documents

SCPCSD, Standing Committee of the People's Congress of Shandong Province (2004a) Shandong Province Regulations on the Protection of Marine Environment.

山东省人民代表大会常务委员会（2004a）山东省海洋环境保护条例。

SCPCSD, Standing Committee of the People's Congress of Shandong Province (2004b), Shandong Province Regulations on the Use of Sea Areas.

山东省人民代表大会常务委员会（2004b）山东省海域使用管理条例。

http://www.hssd.gov.cn/zwxx/fgwj/201506/t20150624_166035.html

SDEPD, Shandong Environmental Protection Department (2013) Suggestions on resolutely prevent the contamination of Qingdao Dongjiakou port's expansion on Rizhao City.

山东省环境保护厅（2013）关于坚决阻止青岛董家口港扩建污染美丽日照的建议。

http://www.sdein.gov.cn/hdyy/result_detail.jsp?type=hot&onlineid=642

SDFD & SDOFD, Shandong Finance Department and Shandong Oceanic and Fisheries Department (2016) Measures on Administration of Marine Eco-compensation in Shandong Province.

山东省财政厅、山东省海洋与渔业厅（2016）关于印发《山东省海洋生态补偿管理办法》的通知（鲁财综〔2016〕7号）。

SDPG, Shandong Provincial Government (2011) Working Plan on the Reform and Development Pilot Program of the Shandong Peninsula Blue Economic Zone.

山东省人民政府（2011）山东半岛蓝色经济区改革发展试点工作方案（鲁政发〔2011〕5号）。

ZJOFD, Zhejiang Oceanic and Fisheries Department (2013) Notice on Interim Measures for the Administration of Bidding and Auction for the Use Right of Sea Areas.

浙江省海洋与渔业厅（2013）关于印发《浙江省招标采购挂牌出让海域使用权管理暂行办法》的通知（浙海渔发〔2013〕6号）。

Municipal and Local Policy Documents

QDDRC, QDOFB, and QDUPB, Qingdao Development and Reform Commission, Qingdao Ocean and Fisheries Bureau, and Qingdao Urban Planning Bureau (2015) Qingdao Sea Area and Coastal Area Protection and Utilization Plan.

青岛市发展和改革委员会、青岛市海洋与渔业局、青岛市规划局（2015）青岛市海域和海岸带保护利用规划。

<http://www.qingdao.gov.cn/n172/n24624151/n24625135/n24625149/n24625191/151119102922566053.html>

QDHDDG, Qingdao Huangdao District Government (2015) Notice on Qingdao Huangdao Interim Measures for the Administration of Bidding and Auction for the Use Right of Sea Areas.

青岛市黄岛区政府（2015）关于印发青岛市黄岛区招标采购挂牌出让海域使用权办法（试行）的通知（青黄政发〔2015〕9号）。

<http://www.huangdao.gov.cn/n44566445/n44566504/n164714736/n164714855/c177839663/content.html>

QDMCCPC & QDMG, Qingdao Municipal Committee of the Communist Party of China & Qingdao Municipal Government (2008) Several Opinions on Promoting the ‘Conservation and Development Around Jiaozhou Bay’ Strategy.

中共青岛市委、青岛市人民政府（2008）关于加快推进“环湾保护、拥湾发展”战略的若干意见（青发〔2008〕11号）。

http://gxq.qingdao.gov.cn/zwgk/zcjd/251cb6e2_f0bb_454e_83fa_617b6a0b739e.html

QDMG, Qingdao Municipal Government (2009) Opinions on establishing a sound ecological compensation mechanism in Qingdao City.

青岛市政府（2009）关于建立健全青岛市生态补偿机制的意见（青政办字〔2009〕126号）。

<http://www.qingdao.gov.cn/n172/n68422/n68424/n7899612/100020090911433614.html>

QDMG, Qingdao Municipal Government (2010a) Notice on the Implementation Plan of the Key Protection Work around the Jiaozhou Bay in 2010.

青岛市政府（2010a）关于印发《2010年环湾保护重点工作实施方案》的通知（青政办字〔2010〕55号）。

QDMG, Qingdao Municipal Government (2010b) The Overall Urban Plan of Qingdao (2011–2020).

青岛市政府（2010b）青岛市城市总体规划（2011–2020年）。

QDMG, Qingdao Municipal Government (2011a) Notice on the Implementation Plan for the Reform and Development of the Blue Economic Zone in Qingdao (Trial).

青岛市政府（2011a）关于印发《青岛市蓝色经济区改革发展试点工作实施方案（试行）》的通知（青政办字〔2011〕54号）。

QDMG, Qingdao Municipal Government (2011b) The Twelfth Five-year National Economic and Social Development Plans of Qingdao.

青岛市政府（2011b）青岛市国民经济和社会发展第十二个五年规划纲要。

<http://www.qingdao.gov.cn/n172/n25685095/n25685320/n25685925/n25687747/110510154259742165.html>

QDMG, Qingdao Municipal Government (2013) The Three-year Action Plan of Jiaozhou Bay Coastal Line Management and Protection for 2013-2015.

青岛市政府 (2013) 胶州湾岸线整理保护三年行动计划 2013-2015 年实施方案 (青政办字 (2013) 54 号)。

QDUPB, Qingdao Urban Planning Bureau (2008) 'Conservation and Development Around Jiaozhou Bay' Plan of Qingdao Municipality.

青岛市规划局 (2008) 青岛市“环湾保护、拥湾发展”规划。

QDUPB, Qingdao Urban Planning Bureau (2015) The main planning content of Qingdao Jiaozhou Bay protection and control line.

青岛市规划局 (2015) 《青岛市胶州湾保护控制线》主要规划内容。

<http://upb.qingdao.gov.cn/qdupb/news/79174b72-e897-464e-a40f-96955e4f0a50.shtml>.

RZMG, Rizhao Municipal Government (2011) Report on the ecological and environmental impact of the planning and construction of a petrochemical processing industrial park in Qingdao Dongjiakou port.

日照市人民政府 (2011) 关于青岛市规划建设董家口石化深加工产业园区对我市生态环境影响的报告 (日政字 (2010) 60 号)。

SCPCQDM, Standing Committee of the People's Congress of Qingdao Municipality (1999a) Qingdao Municipal Regulation on Coastal Zone Planning and Management.

青岛市人民代表大会常务委员会 (1999a) 青岛市海岸带规划管理条例。

<http://www.qingdao.gov.cn/n172/n68422/n32934/n37782/100020040901326018.html>

SCPCQDM, Standing Committee of the People's Congress of Qingdao Municipality (1999b) Regulations of Qingdao Municipality on the Use of Sea Areas.

青岛市人民代表大会常务委员会 (1999b) 青岛市海域使用管理条例。

<http://ocean.qingdao.gov.cn/n12479801/n12480099/n12480192/151212112239131144.html>

SCPCQDM, Standing Committee of the People's Congress of Qingdao Municipality (2009) Qingdao Municipality Provisions on the Protection of Marine Environment.

青岛市人民代表大会常务委员会 (2009) 青岛市海洋环境保护规定。

<http://ocean.qingdao.gov.cn/n12479801/n12480099/n12480192/151212112813272447.html>

SCPCQDM, Standing Committee of the People's Congress of Qingdao Municipality (2014) Qingdao Municipal Regulation on the Protection of Jiaozhou Bay.

青岛市人民代表大会常务委员会 (2014) 青岛市胶州湾保护条例。

<http://www.qingdao.gov.cn/n172/n24624151/n24626675/n24626689/n24626703/141009181824638763.html>

Appendix D: Overview of coding systems for content analyses

The coding system of coastal and marine specific ESs (RQ 1 and RQ 2), the coding system of ES-specific rules (RQ 3), and the coding system of MBI-related arrangements (RQ 4).

D.1. The coding system of coastal and marine specific ecosystem services

Family codes	Codes	Examples of relevant services
Provisioning	Fish & seafood	Fishery, fishing, aquaculture, oceanic pasture, seafood production
	Energy production	Biomass fuel, offshore oil, offshore gas, tide and wave power, wind farm, wind energy
	Biochemical & pharmaceutical uses	Biochemical, pharmaceuticals, natural medicines, food additives, biotechnology, biological materials, bio-fuel supply
	Transport & navigation	Use of sea water body for transportation purposes, waterways, shipping
	Coastal space for industrial development and infrastructure	Development spatial resource (coastal land, sea area, coastal line), space storage, industrial allocation, infrastructure allocation
	Residential and industrial water supply	Access to water, drinking water, fresh water resources, industrial use of water
	Urban ecological space	Ecological intervals (water body and mountain), developing groups, function zones, spatial division
Regulating	Prevention of floods, storms, tsunamis and typhoons	Coastal biogenic structures, natural coastal line, flood plains, flood mitigation/control, storm surge mitigation/control, tsunamis and typhoons mitigation
	Seawater intrusion	Coastal aquifers, coastal hydrology, surface-underground water interaction, sea level fluctuation, shoreline geomorphology
	Algal blooms	Eutrophication mitigation, algal blooms prevention
	Erosion & siltation control	Coastal protection, soil erosion control, sea-level-rise effects mitigation, productive sediments maintenance
	Water purification & waste treatment	Water quality, water cleaning, sewage treatment, water pollution, water self-purification capacity, natural sewage plant
	Climate regulation	Carbon capture, marine/blue carbon sink, coastal green area, climate regulation, sea-level rise control, temperature regulation

Family codes	Codes	Examples of relevant services
Cultural	Tourism & recreation	Beach tourism, eco-tourism, wetland park, sunbathing, diving, windsurfing, kite-surfing, fishing, spas and wellness centers, bird-watching, cruise port recreation
	Cognitive values	Learning about nature, education and research arising from marine environment, experiencing nature, school excursions, monitoring environmental change and indicators of ecosystem health, long-term environmental records
	Esthetic beauty	Seascapes, coastal landscapes, coastal line, scenic views, beautiful nature
	Cultural heritage & identity	Cultural values, of cultural history interest, of cultural interest, heritage values, ancient remains
	Sea sports	Competitive sailing, yacht races and other seawater competitions
Supporting	Maintenance of biodiversity	Biodiversity, conservation of species, unique species
	Maintenance of habitats	Ecologically vulnerable area, typical marine ecosystem, nature care, key fish species' migration area, habitat connectivity, ecological corridors, wetlands network/linkage, coral reefs, valuable sea island habitats
	Resilience of ecosystems	Ecosystem perturbation, ecosystem reorganization, ecological ability to cope with disturbance, recovery
	Soil formation	Soil formation, soil quality, soil fertility, high quality agricultural land

D.2. The coding system of ES-specific rules-in-use for coastal and marine governance

Family codes	Codes	Examples of relevant descriptions
Position	Role of government agencies	Regulator, authoritative decision maker, development promoter, monitor, coordinator
	Role of experts and technical groups	Knowledge supporter, technique supporter, advisor, evaluator
	Role of non-governmental stakeholders	Evaluator, user, monitor, information provider
Boundary	Selection for participation	Sectoral responsibilities, jurisdiction, knowledge background, expertise, potentially affected area
	Participants	Relevant government agencies, experts, research institutes, coastal and marine enterprises, potentially affected users, surrounding citizens
	Involved stages	Preparation stage, development stage, consultation stage, approval stage, implementation stage, review and evaluation stage
Choice	Allowed/not allowed activities	Control the total amount of pollution, forbid sewage discharge, prohibit reclamation, limit sand exploration Encourage wetlands conservation, estuarial habitat conservation, aquaculture, tourism
	Zoning	Nature reserve area, the migration area of fishery species, landscape area
	Use right choice	Sea-use right, market trading
	Permit	Sea-use right permit, land-use right permit, discharge right permit
Aggregation	Central control	Command, control, administrative target
	Empower the local	Co-management, local demand, local governing capacity, local target, locally agreed method
	Decision making processes	Collective decision, negotiation, policy approval
	Authority allocation	Watershed-based management body, upstream-downstream authority

Family codes	Codes	Examples of relevant descriptions
Scope	Land-sea scales	Land-sea pollution control, spatial partitions for integrated development, land-sea function coordination
	Planning scope	Coastal area/coastal line clarification, upstream habitat, on-site affected area, off-site affected area
	ES interactions	Trade-off between port transportation and fishery provision, synergies among wetland maintenance, biodiversity, and water purification
Information	ES condition information	ES flow, function, baseline, threshold, benefit, connection
	Demand information	Local demand diversity, local ES priority
	Value information	Economic value, social value, cultural value
	Use information	Use pattern, use frequency, multiple use
	Impact information	Cumulative effect, direct effect, indirect effect
Payoff	Spatial information	Spatial locations of activity, impact, risk, and conflict
	Benefits and losses	Individual benefit and cost, collective benefit and cost, long term, short term
	Sanctions	Sea-use fee, ecological damage fee, pollution tax, administrative penalty on illegal sea uses
	Rewards	Blue debit and credit for environmental industries, financial support for coastal restoration

D.3. The coding system of the four distinctive governance aspects of market-based instruments for coastal and marine ecosystem services

Family codes	Codes	Examples of relevant descriptions
Price	Evaluate specific services	Prices of sea foods, and wetland forests
	Attach price to ES-related proxies	Prices of pollution, coastal reservation, sea-use right, developing rights, permits, and credits
Regulatory support	Assessment rules	Assessment standards of sea use, impact, ecological change
	Rights and duties	Property right, certificate, register system, maximum tenure of use, sanction
	Transaction rules	Transaction process, allowable transaction type, forms, scope and total amount, defined baseline, collective allocation
Coordination	Include related actors for voluntary participation	Services provider, user, intermediary agency
	Coordinative methods for making free choices	Platform, agreement, contract, negotiation, meeting, public notice
	Information sharing and communication	Information for trading, transaction cost, ES social meanings, agreed measurement and currencies, information sharing
Spatial consideration	Implementation at the scale at which causality occurs	Cross-border authority, offsite allocation, upstream-downstream authority, watershed-based authority
	Address site differences and specification	Set zone, set boundary, set spatial type and grade