

Introduction

This paper broadly covers what I learned about Germany's interests in coastal and marine conservation domestically, within Europe, and internationally during my year as a Bosch Fellow. Upon accepting the Bosch Fellowship in spring 2014, many of my colleagues in coastal and marine policy in California questioned my decision to spend a year in Germany, a country not known for its relationship with the marine environment. I was frequently asked if Germany has a coastline, and what could Germany possibly have to do with ocean conservation. Coming from Californians engaged in coastal and marine issues, these questions were not entirely surprising given America's historical and cultural relationship with its coasts. They provided inspiration and a broad framework to guide my transatlantic topic, perhaps better phrased as "Germany – What's the ocean go to do with it?"

As I came to learn through work placements at Ecologic Institute in Berlin and Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) in Eschborn, Germany has significant interests in the coastal and marine environment, both in its own waters and in global marine conservation issues. Germany's status as a leader in addressing global environmental challenges, such as climate change, have contributed to its emerging leadership in global marine conservation efforts, while domestic conservation interests are not always afforded the highest priority.

In this paper, I will explore this thesis and present what I learned about Germany's interests in coastal and marine issues during my Bosch Fellowship, with a few caveats. First, this is a broad subject, thus I acknowledge that there are subjects and issues that I address on a superficial basis or do not cover. Second, my professional and academic background in spatial management strategies for resource conservation influences my presentation, which is more focused on conservation aspects rather than economic issues. Finally, my knowledge of North Sea issues is greater than other geographic areas because I worked on a project specific to Germany's interests in the North Sea during my first work placement with Ecologic.

Background: Global Marine Challenges and Governance

"How inappropriate to call this planet Earth, when clearly it is Ocean."

- Arthur C. Clarke

The above quote captures how vast the global oceans are, covering 71% of the Earth's surface. Yet as terrestrial beings, humans are rather disconnected from oceans, and our collective knowledge of them remains rather limited. However, humans have a significant impact on the health of marine ecosystems globally, and are very dependent upon the services they provide, including food sources and regulating the earth's climate. Half of the world's population lives within 100 kilometers of the coast, and the market value of marine and coastal resources and industries is estimated at about 5 per cent of global GDP.¹

Decline in the integrity of the world's oceans has been observed over the past several decades, indicating that humans are not sustainably using marine ecosystem services and resources in a

¹ United Nations Rio+20. The Future We Want: Oceans. Accessed 26.05.15 at <http://www.un.org/en/sustainablefuture/oceans.asp>

manner that ensures they will be available for future generations.² Major sources of marine environmental degradation globally include:

- overfishing, with 76% of the world's fisheries fully exploited or overfished;³
- pollution in various forms including plastic debris, runoff from fertilizers, sewage disposal, 80% of which is estimated to come from land-based sources;⁴
- and climate change, which is putting increasing stress on ocean ecosystems through changes in physical and chemical properties (i.e. warmer surface waters, increased acidity, lower dissolved oxygen levels) leading to phenomenon such as sea-level rise and ocean acidification.⁵

Additionally, a very small area of the ocean is protected. In 2014, 3.4% of the global ocean area had protected status⁶, significantly short of the goal set by the Convention on Biological Diversity's (CBD) Aichi Biodiversity Target 11 to protect 10 percent of coastal and marine areas by 2020.⁷ Achieving this goal requires diverse commitments from different levels of governments through a variety of agreements. The UN Convention on the Law of the Sea (UNCLOS) provides the basic framework for governing the ocean as a global resource, as illustrated in this diagram:

² German Advisory Council on Global Change (WBGU). 2013. World in transition: Governing the marine heritage: Summary.

³ UN Food and Agriculture Organization (UNFAO). 2010. [State of World Fisheries and Aquaculture \(SOFIA\) - SOFIA 2010](#). UNFAO Fisheries Department.

⁴ UN Environmental Programme (UNEP) Regional Seas Programme. Land-based sources of pollution. Accessed 26.05.2015. <http://www.unep.org/regionalseas/issues/landactivities/default.asp>

⁵ Plymouth Marine Laboratory, Scripps Institutions of Oceanography at UC San Diego, Oceana, UK Ocean Acidification Research Programme, European Project on Ocean Acidification, and Mediterranean Sea Acidification in a Changing Climate. 2011. Hot, Sour and Breathless – Ocean under stress: How is the biggest ecosystem on Earth fairing in the lead up to Rio+20.

⁶ Juffe-Bignoli, D., Burgess, N.D., Bingham, H., Belle, E.M.S., de Lima, M.G., Deguignet, M., Bertzky, B., Milam, A.N., Martinez-Lopez, J., Lewis, E., Eassom, A., Wicander, S., Geldmann, J., van Soesbergen, A., Arnell, A.P., O'Connor, B., Park, S., Shi, Y.N., Danks, F.S., MacSharry, B., Kingston, N. (2014). Protected Planet Report 2014. UNEP-WCMC: Cambridge, UK.

⁷ Full text of Target 11: *By 2020, at least 17 per cent of terrestrial and inland water areas and 10 per cent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved through effectively and equitably managed, ecologically representative and well-connected systems of protected areas and other effective area-based conservation measures, and integrated into the wider landscape and seascape.*

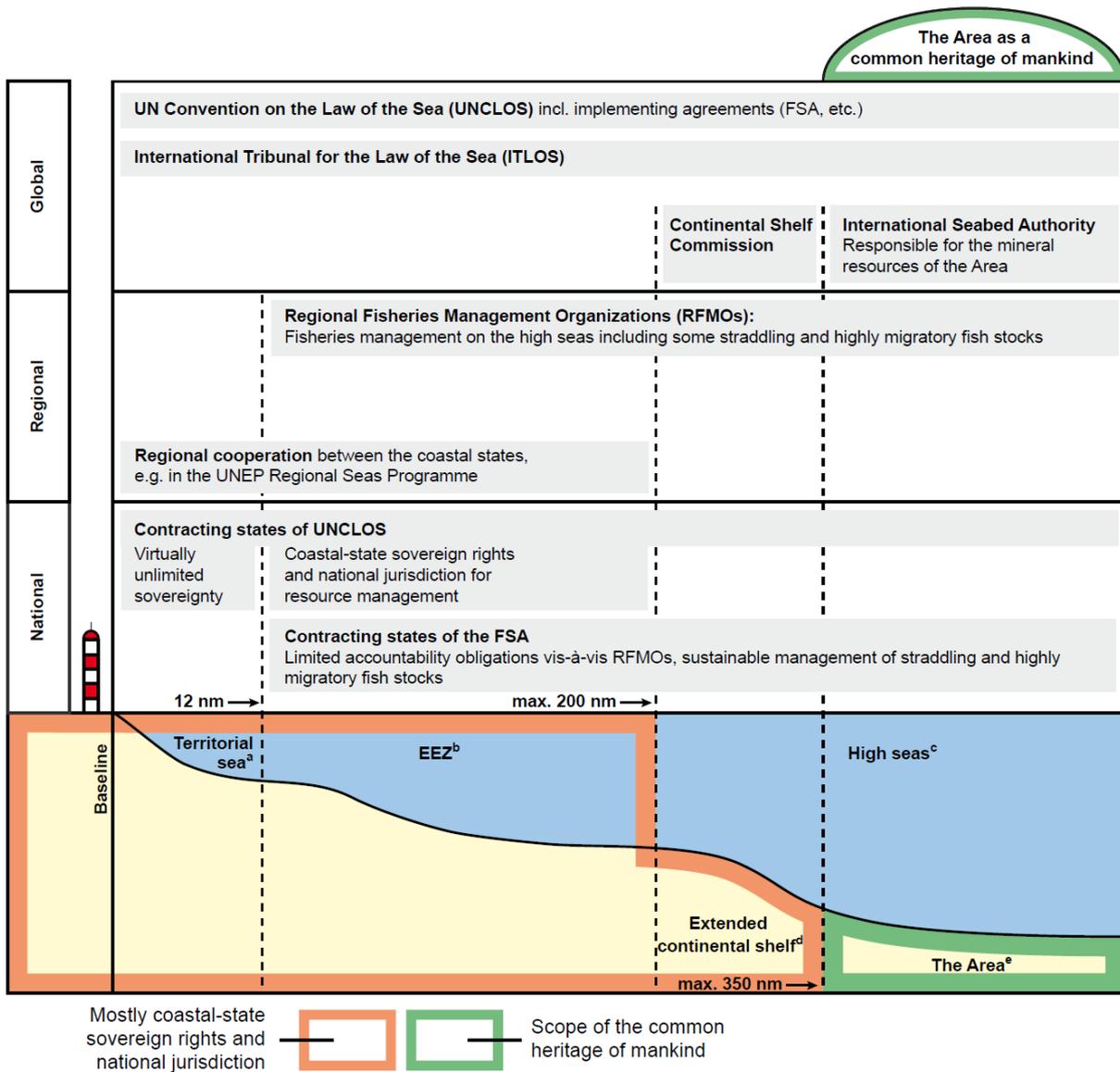


Figure 1: Global Ocean Governance Framework. Adapted from German Advisory Council on Global Change (WBGU). 2013. *World in transition: Governing the marine heritage: Summary.*

According to UNCLOS, coastal states have full sovereign authority over waters out to 12 nm, referred to as the territorial sea, and waters from 12 - 200 nm for their exclusive economic zones (EEZ). Surface waters in EEZs are considered international waters, and coastal states have sovereign rights to waters below the surface. As a signatory to UNCLOS and a federated republic, the coastal *Länder* in Germany have jurisdiction over the territorial sea out to 12nm, and the *Bundesrepublik* has jurisdiction over the EEZs in the North Sea and Baltic Sea (*Ostsee*).⁸ Globally, the area beyond 200 nm is referred to as the high seas, or areas beyond national jurisdiction (ABNJ). Regional cooperation across national jurisdiction boundaries is sought through the UNEP Regional Seas Programme and Regional Fisheries Management Organizations.

The framework provided by UNCLOS is supplemented by several additional implementing agreements addressing different types of use (i.e. fishing, mineral extraction, maritime transport).

⁸ It is worth noting that the United States has not ratified UNCLOS, and thus employs a different framework for marine jurisdiction, where US states hold jurisdiction out to 3 nm.

This sector-based governance approach is criticized for not managing the ocean as a system and lacks consideration of the cumulative impacts of various uses on the marine environment. Developing new approaches to ocean governance is a current subject of research and debate among the global marine community, with several German institutions playing an active role in leading and guiding these discussions (i.e. German Advisory Council on Global Change (WBGU), Institute for Advance Sustainability Studies (IASS)).

Germany's Domestic Interests

While Germany is not typically thought of as a nation with a strong connection to the marine environment, the country has significant nature conservation and economic interests in its domestic waters. Germany's coastline extends over 3,500 km, roughly the same as the US state of Georgia, with about 1,500 km along the North Sea and 2,000 km along the Baltic Sea. Germany's marine waters cover approximately 56,509 km², about the size of Michigan, with 41,034 km² in the North Sea and 15,427 km² in the Baltic Sea.⁹ The coastal *Länder* along the Baltic Sea hold most of the jurisdiction in this area, given the small size of the Baltic EEZ.

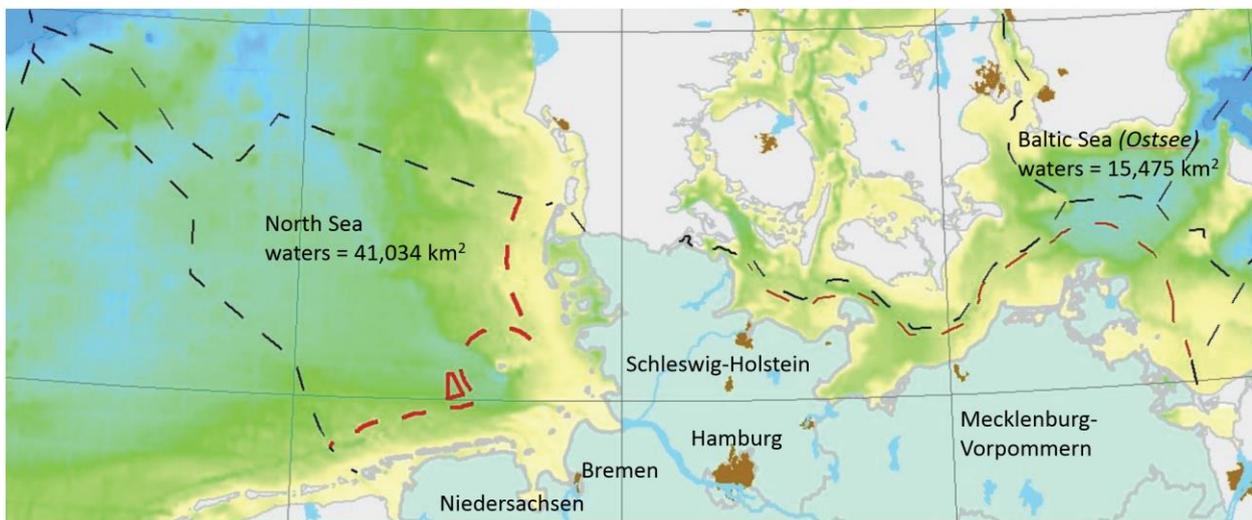


Figure 2: Germany's marine waters. Adapted from German Federal Agency for Nature Conservation and the Federal Environment Agency. 2011. *The preparation of Germany's marine strategies: Guide to implementing the Marine Strategy Framework Directive (MSFD – 2008/56/EC) for the initial assessment, determination of good environmental status and establishment of environmental targets in the German North and Baltic Seas.*

Historical and Cultural Values

Historical and cultural values shape Germany's relationship with its marine environment and provide important context for understanding nature protection decisions. The concept of *Heimat*, which lacks a direct English translation, can be thought of as "home," a place that provides a sense of comfort, familiarity, and connection. This contributes to a desire to maintain the natural environment as it is, or as communities remember it. In a 2012 survey, residents of Schleswig-Holstein were asked what the North Sea region should be like in 20 years, and the most common answer was "as it is now."

⁹ Bundesamt für Naturschutz (BfN). Protected Areas: Overview and key facts. Accessed 12.12.14 at http://www.bfn.de/0314_daten-meeresflaeche+M52087573ab0.html

This finding suggests a tendency to want the local coastal and marine environment, or home, to remain in its current state.¹⁰

Another relevant value is intergenerational equity, or not wanting to leave debt for future generations. This can be seen in the German language in the noun *Schuld*, meaning guilt, and the verb *schulden*, or to be in debt. The inclusion of *Schuld* in the verb form reflects the guilt associated with having debts, financial or otherwise. German society, in contrast with the US, tends to be debt averse, with limited access to credit and other means to acquire debt. Debt-aversion also translates to using natural resources, and not wanting to leave debt for future generations by unsustainably exploiting the natural environment. In the survey referenced above, residents were asked what they wish to preserve for future generations, with "nature" as the most commonly reported answer.¹¹ This finding reflects the importance of intergenerational equity, or not leaving debt, as a motivation for nature conservation.

These values contribute to Germany's longstanding nature protection movement, with origins in Romanticism and Germany's reliance upon natural resources for economic activity.¹² The importance of nature conservation is also reflected in the political system, where unlike in the US, the environment and climate change are not partisan issues. Rather, they are significant platform issues for all political parties, although they are more important for some than others (i.e. the Green Party).

The German population tends to place a high level of trust in the state to do what is best, especially when it comes to community and nature protection measures. This has been observed in adaptation planning for climate change impacts, including storm surges and sea level rise, where coastal populations are aware of the increasing risks associated with living along the coast, yet trust public institutions to implement protection measures.¹³

Germany has a strong reputation as an industrial leader that is also conscious of environmental impacts. For example, the ongoing *Energiewende* is designed to achieve certain environmental goals (i.e. decrease in carbon emissions from electricity production, elimination of nuclear power sources) and foster economic growth through renewable energy generation. The introduction of offshore wind turbines as part of the *Energiewende* has the potential to significantly change Germany's marine environment, as discussed below.

Domestic Marine and Coastal Conservation Measures

Germany has implemented several measures to protect and conserve its coastal marine environment. Two particular areas of interest are the Wadden Sea (*Wattenmeer*) in the nearshore environment and nature conservation zones in the offshore environment.

¹⁰ Ratter, B.M.W & Gee, K. 2012. Heimat – A German concept of regional perception and identity as a basis for coastal management in the Wadden Sea. *Ocean and Coastal Management* 68 (2012) 127-137

¹¹ Ibid.

¹² Uekötter, Frank. *The Greenest Nation?: A New History of German Environmentalism*. MIT Press, 2014.

¹³ Martinez, Grit, et al. "The cultural context of climate change adaptation Cases from the US East Coast and the German Baltic Sea coast." (2014). In Grit Martinez, Peter Fröhle, Hans-Joachim Meier (Eds.). *Social Dimensions of Climate Change Adaptation in Coastal Regions: Findings from Transdisciplinary Research*. oekom verlag, München, 2014.

Der Wattenmeer (Wadden Sea)

The *Wattenmeer* is a large tidal flat that extends along the Danish, German and Dutch North Sea coasts, known internationally as a highly biologically productive area due to the twice-daily tidal exchange of salt and fresh water which exposes the muddy seafloor up to 20km from the shoreline. It is an important habitat for migratory birds, as well as fish, seals and whales. The *Wattenmeer* is recognized as a UNESCO World Heritage Site, and is ecologically managed through a cooperation between Denmark, Germany and the Netherlands known as the Trilateral Cooperation of the Protection of the Wadden Sea, implemented by the Common Wadden Sea Secretariat.¹⁴

Within Germany, the *Wattenmeer* is managed as a National Park by Schleswig-Holstein, Hamburg, and Niedersachsen. These three *Länder* have designated, within their respective territorial seas across the *Wattenmeer*, approximately 77% of North Sea coastal waters as protected areas in a network of 28 different Natura 2000 sites.¹⁵

The *Wattenmeer* is a highly dynamic landscape that has been controlled by humans for the past 1,000 years through interventions such as dykes to reclaim land for agricultural purposes. For example, humans first inhabited the island of *Neuwerk* in the *Hamburgisches Wattenmeer* around 1300, when *Neuwerk* was an important defense site for Hamburg during the Hanseatic League.¹⁶ The *Wattenmeer* is experiencing changes due to climate change, notably sea-level rise. Other climate impacts include marsh retreat related to shifting salinity regimes, increased algae blooms, flooding, and a decrease in available bird habitat.

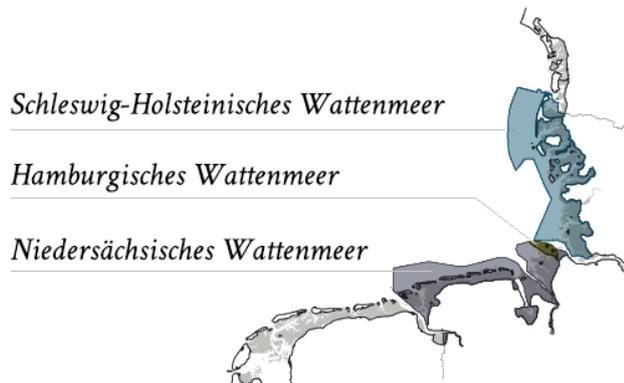


Figure 3. Länder management areas of the Wattenmeer.
Adapted from Nationalpark Wattenmeer,
<http://www.nationalpark-wattenmeer.de/>

Coastal climate change adaptation is a significant issue for communities along Germany's coastline, both on land and on the islands in the North and Baltic Seas. Discussions about coastal adaptation measures in Germany tend to be dominated by proposals for hard coastal defense structures, whereas discussions in the US include different types of measures, such as coastal retreat, soft structures to allow for natural shoreline development, or individual constructions of hard defense structures.¹⁷ These differences reflect German cultural perspectives, in particular the expectation that the state will take care of coastal communities, and that existing defense structures provide sufficient protection to allow them to remain in place. Natural infrastructure, such as salt marshes, are also recognized for their abilities to protect against sea-level rise, and adaptive conservation measures are being explored to foster these nature-based solutions.¹⁸

¹⁴ Common Wadden Sea Secretariat. Accessed 26.05.15. <http://www.waddensea-secretariat.org/>

¹⁵ Sachverständigenrat für Umweltfragen (SRU), June 2012. „Chapter 8: Cross-sectoral marine protection“ Environmental Report 2012.

¹⁶ Freie und Hansestadt Hamburg, Behörde für Stadtentwicklung und Umwelt. 2012. Brochure: Welcome to Our National Park.

¹⁷ Martinez, Grit, et al. "The cultural context of climate change adaptation Cases from the US East Coast and the German Baltic Sea coast." (2014). In Grit Martinez, Peter Fröhle, Hans-Joachim Meier (Eds.). Social Dimensions of Climate Change Adaptation in Coastal Regions: Findings from Transdisciplinary Research. oekom verlag, München, 2014.

¹⁸ BfN. 2014. Nature-based Approaches for Climate Change Mitigation and Adaptation.

Offshore Protected Areas

In addition to the *Wattenmeer*, Germany has protected a substantial portion of its offshore waters. In total, 45.4% of German waters have protected status, with 51% protected in the North Sea and 43% in the Baltic Sea, as illustrated in the map below:¹⁹

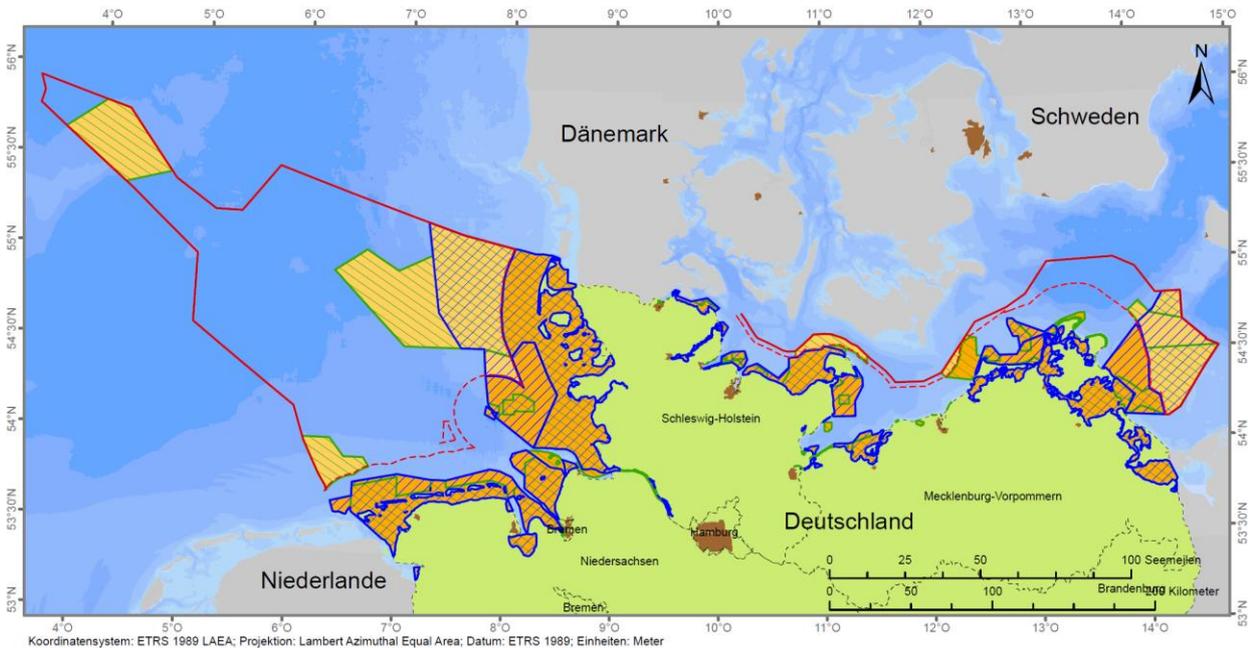


Figure 4. German Natura 2000 sites. Source: BfN. Protected Areas: Overview and key facts. Accessed 12.12.14 at http://www.bfn.de/0314_daten-meeresflaeche+M52087573ab0.html

Protected areas are included in the Natura 2000 network established by the EU's Habitats and Birds Directives. These sites are designated by the Federal Agency for Nature Protection (*Bundesamt für Naturschutz*, BfN) in the German EEZs and submitted for approval by the Federal Ministry for Environment, Nature Conservation, Building and Nuclear Safety (*Bundesministerium für Umwelt, Naturschutz, Bau und Reaktorsicherheit*, BMUB), as well as by the coastal *Länder* within territorial waters. Areas as designated as recognized sites of conservation importance to protect unique habitats such as sandbanks, reefs or harbor porpoise breeding grounds, and for bird habitat protection. Under German and EU regulations, a protected area does not necessarily exclude economic activities, including fishing and resource extraction. Activities are evaluated according to their impacts, and are only discontinued if they are found to have a significant impact upon the natural resource or habitat in question. This sometimes leads to criticism that sites are only protected on paper, and not in reality.

Domestic Marine Economic Interests

While Germany does not have the world's largest coastal- or marine-dependent economy, it does have several relevant economic interests. Balancing these interests with conservation priorities has been the subject of planning exercises in recent years, especially with intended growth of the offshore wind sector, discussed further below.

¹⁹ BfN. Protected Areas: Overview and key facts. Accessed 12.12.14 at http://www.bfn.de/0314_daten-meeresflaeche+M52087573ab0.html

The majority of maritime economic activity is in the shipping sector, with 28% of Germany's foreign trade shipped through German seaports.²⁰ Germany is also the top importer and exporter of containerized cargo in the EU (and in the top 10 globally).²¹ Shipping is an economic priority for Germany, and the Federal Ministry for Transport and Infrastructure (*Bunderministerium für Verkehr und digitale Infrastruktur*, BMVI), the Federal Ministry for Economy and Energy (*Bundesministerium für Wirtschaft und Energie*, BMWi), Federal Maritime and Hydrographic Agency (*Bundesamt für Seeschifffahrt und Hydrographie*, BSH) work to ensure that shipping remains competitive and shipping jobs are protected, in light of increasing competitiveness from outside of Europe, namely Asia.²²

Fisheries are a smaller economic interest, contributing less than 1% of the country's total GDP and employing more than 40,000 people, although this figure is thought to be overestimated given the relatively low number of full time employees in the fishing fleet (1,142).²³ German fisheries' catch represents approximately 5% of total EU catch, and it remains a traditional industry.²⁴ The North Sea brown shrimp fishery accounts for 20% of total revenues and employment in German fisheries, contributing to the economies of Niedersachsen and Schleswig-Holstein.²⁵ Fisheries regulatory competence is concentrated at the EU level; therefore, German Federal and *Länder* fishing laws reflect EU Common Fisheries Policy and subsequently there are no fishing zone designations in Germany's EEZ.²⁶

Other economic interests include resource extraction and tourism. Unlike other countries in the North Sea, Germany has very little oil and gas extraction, with only two active oil and gas platforms.²⁷ Tourism is important for coastal economies, especially on offshore islands, which draw tourists because of their natural beauty; thus, integral ecosystems provide an important service to local economies. WWF is working with the Wadden Sea Secretariat to develop sustainable financing mechanisms through well managed tourism, and promote visits to the North Sea as a "climate friendly" vacation.²⁸

²⁰ FARNET Axis 4 Factsheet: Germany, Accessed 14.12.2014. Available at:
https://webgate.ec.europa.eu/fpfis/cms/farnet/files/documents/Axis_4_Germany.pdf

²¹ World Shipping Council. 2015. 'Trade statistics'. Accessed 18.01.2015. Available at:
<http://www.worldshipping.org/about-the-industry/global-trade/trade-statistics#1>

²² BMVI. Entwicklungsplan Meer. Accessed 17.12.14 at <http://www.bmvi.de/SharedDocs/DE/Artikel/WS/meerespolitik-entwicklungsplan-meer.html>

²³ European Parliament Directorate-General for Internal Policies, Policy Dept B. Structural and Cohesion Policies. 2014. "Fisheries in Germany: In-depth Analysis"

²⁴ Ibid.

²⁵ Ibid.

²⁶ Nolte, N. 2010. Nutzungsansprüche und Raumordnung auf dem Meer. HANSA International Maritime Journal – 147 (9) 79-83

²⁷ OSPAR Commission. 2013. 2013 Update of the inventory of Oil and Gas Offshore Installations in the OSPAR Maritime Area.

²⁸ WWF. 2013. Klimafreundlicher Urlaub am Wattenmeer. Accessed 23.06.15 at <http://www.wwf.de/themen-projekte/projektregionen/wattenmeer/watt-erleben/klimafreundlicher-urlaub-am-wattenmeer/>



Figure 5. Operational, authorized and planned wind farms in Germany's North Sea EEZ. Adapted from: IWR - Institute for Renewable Energy. 2014. 'Operating offshore wind farms'. Accessed 14.12.2014. Available at: <http://www.offshore-windenergie.net/en/wind-farms/o>

To meet the renewable energy generation goals called for by the *Energiewende*, offshore wind is significantly expanding in German waters, with political support from the Federal Government. The overwhelming majority of Germany's offshore wind farms (both planned and operational) are located in the North Sea, with a few authorized or soon to be authorized in the Baltic Sea. As of October 2014, there were 6 operational wind farms in the North Sea, consisting of 204 individual turbines providing 865.5 MW of capacity (<1% of total electricity production).²⁹ Recent revisions in 2012 to the Offshore Installations Ordinance, which determines the prerequisites for authorization, have streamlined the process and added to the number of planned wind

farms. Currently, there are 26 additional wind farms that have been authorized and planned for installation, totaling 1,476 individual turbines with a combined capacity of 7,850 MW.³⁰ Ultimately, the goal is to have 15,000 MW of electricity generated by offshore wind by 2030.³¹ A further factor in the growth of the offshore wind energy sector will be the development and implementation of grid connections between the offshore farms and the mainland grid. Germany is playing an active role in this regard, through the North Seas Countries Offshore Grid Initiative (NSCOGI) to facilitate coordinated development of grid connections.³²

Balancing Interests: Marine Spatial Planning

In general, Germany takes a sectorial approach to managing its marine interests, with distinct agencies and ministries having authority over individual sectors. Germany does not have an overarching maritime agency, such as NOAA, nor a national framework for marine policy coordination, such as the US National Ocean Policy, issued as Executive Order 13547 by President Obama in 2010. Germany has instead tried to address its diverse interests through marine spatial planning (MSP), a process used to spatially designate uses in the marine environment to minimize conflicts, similar to land use planning in terrestrial environments. In the US, MSP is generally promoted as a conservation tool, whereas in Germany and Europe it is viewed as a way to plan for and promote additional economic uses of the marine environment.

Spatial plans were developed for the German EEZs by BSH, the agency responsible for navigation, under the 2009 Federal Spatial Planning Law.³³ Germany was the first EU Member State to draw up marine spatial plans for its EEZs, stimulated by visual representations of numerous proposals for

²⁹ IWR - Institute for Renewable Energy. 2014. 'Operating offshore wind farms'. Accessed 14.12.2014. Available at: <http://www.offshore-windenergie.net/en/wind-farms/operating-wind-farms>

³⁰ Ibid.

³¹ Ibid.

³² European Network of Transmission System Operators for Electricity. The North Seas Countries Offshore Grid Initiative. Accessed 23.06.15 at <https://www.entsoe.eu/about-entso-e/system-development/the-north-seas-countries-offshore-grid-initiative-nscoqi/Pages/default.aspx>

³³ Coastal *Länder* are responsible for designating marine spatial plans for their territorial seas.

large-scale offshore wind energy farms, particularly in the North Sea. Applications for offshore wind farms were triggered by a guaranteed subsidy for electricity generated by wind power. Many project proposals overlapped in space and caused concerns regarding impacts on the marine environment and other sectors (e.g., shipping).³⁴

MSP in Germany was based on the following set of guidelines:

1. Securing and strengthening marine traffic;
2. Strengthening economic capacity by orderly spatial development and optimization of the use of space;
3. Promoting offshore wind energy use in accordance with the Federal Government's sustainability strategy;
4. Long-term safeguarding and use of special characteristics and potential in the EEZ through reversibility of uses, economic use of space, and priority for marine-specific uses; and
5. Securing natural resources by avoiding disruptions to and pollution of the marine environment.³⁵

In the German MSP process, shipping interests were given first priority to maintain the competitiveness of the shipping industry, and the main navigation routes formed the basic framework for the overall plans. The objective was to minimize barriers to shipping, contributing to increased safety and efficiency of navigation.³⁶ After shipping, priority areas for offshore wind operations were designated, signaling strong support for further development of this emerging industry. Designation of nature protection areas took place through a separate process led by BfN, and Germany's MSP process is criticized for not giving higher priority to conservation interests. Ultimately, Germany's marine spatial plans describe the existing sectorial interests, but are of limited value in reducing the impacts of human activities on the ecosystem and reconciling conservation priorities with various economic interests.³⁷

The prominence of offshore wind in Germany's marine spatial plans and planned expansion tests several of the cultural values described earlier, as the marine environment begins to dramatically change with the presence of new, large infrastructure. It illustrates how the *Energiewende* puts Germany in the position of reconciling its nature protection values while mitigating climate change through a massive renewable energy transition. As more offshore wind farms are built in the North Sea, the altered landscape will impact cultural conceptions of *Heimat* in northern Germany, with some effects already experienced in small island communities such as Heligoland, a base for offshore wind farm construction operations.³⁸ Offshore wind farm expansion is also being tested legally through a lawsuit from the German nature protection organization NABU, which claims that the construction of a wind park in the Sylt Outer Reef protected area is in violation of the Federal Act on the Assessment of Environmental Impacts, based upon evidence that harbor porpoises are

³⁴ UNESCO Intergovernmental Oceanographic Commission Marine Spatial Planning Initiative. 2014. Germany (North/Baltic Seas). Accessed 23.06.15 at http://www.unesco-ioc-marinesp.be/msp_practice/germany_north_baltic_seas

³⁵ Sachverständigenrat für Umweltfragen (SRU), June 2012. „Chapter 8: Cross-sectoral marine protection“ Environmental Report 2012

³⁶ UNESCO Intergovernmental Oceanographic Commission Marine Spatial Planning Initiative. 2014. Germany (North/Baltic Seas). Accessed 23.06.15 at http://www.unesco-ioc-marinesp.be/msp_practice/germany_north_baltic_seas

³⁷ Sachverständigenrat für Umweltfragen (SRU), June 2012. „Chapter 8: Cross-sectoral marine protection“ Environmental Report 2012

³⁸ Olsen, Erik. 14.9.2014. Video: Germany's Offshore Energy Push. The New York Times. Accessed 26.05.15 at <http://www.nytimes.com/video/science/earth/100000003106897/germanys-offshore-wind-push.html>

driven away by the noise from construction activities.³⁹ The case is undergoing ruling whether it is a case against BfN, the nature protection authority, or BSH, the permitting authority for offshore wind construction. The ongoing expansion of offshore wind farms will significantly influence Germany's relationship with its marine waters, both by changing the physical marine environment and reshaping long-held cultural values.

Relevant European Marine Policies to Germany's Interests

As an EU Member State, Germany's coastal and marine management strategies are informed by several EU recommendations and directives, which attempt to cut across sectors to achieve sustainable management of coastal and marine resources. Germany is also party to Regional Seas Conventions for the North Sea and Baltic Sea, where it appears to exert more influence on decision making than at the European level.

EU Policies

Over the past decade, the EU has issued several recommendations and directives which are intended to direct Germany's and other Members States domestic coastal and marine policies towards a more holistic approach. For example, the EU recommendation on Integrated Coastal Zone Management (ICZM, 2002/413/EC) identifies ICZM as both a process and an instrument to balance the various economic and social claims to the use of coastal areas (e.g. fishing, shipping, port operation, tourism, etc.) with the objectives of coastal zone protection (e.g. avoiding pollution, efficient use of the resource land, nature conservation, flood protection). In Germany, relevant Federal and *Länder* entities cooperate on implementing an ICZM strategy in consultation with stakeholders, and provide financial support for several ICZM initiatives, such as *KüstenKlima*, which investigated how climate change considerations should be incorporated into ICZM strategies.⁴⁰

Moving offshore, the Integrated Maritime Policy (IMP, or "Blue Book") seeks to provide a more coherent approach to maritime issues, with increased coordination between different policy areas. It focuses on cross-cutting issues which do not fall under an individual sector-based policy, and issues which require coordination across sectors (e.g. marine knowledge).⁴¹ Two directives fall under the IMP umbrella:

1. The Marine Strategy Framework Directive (MSFD, 2008/56/EC) is referred to as environmental pillar of European maritime policy, and is overseen by DG Environment. It is intended to protect marine biodiversity through a cross-sectorial policy under which EU Members States with jurisdiction over marine waters will achieve "good environmental status" for their waters by 2020 through programmes of measures.⁴² Implementation of MSFD is led by BMUB in Germany, in cooperation with BfN, BSH and UBA and the relevant *Länder*, such as in meeting the monitoring requirements called for in the MSFD through the *Bund – Länder Messprogramm Meeresumwelt*.⁴³

³⁹ NABU. 2014. Butendiek: Lärm vertreibt Schweinswale. Accessed 08.01.2015. Available at: <http://www.nabu.de/themen/meere/windparks/16939.html>

⁴⁰ *KüstenKlima*. 2014. Accessed 24.06.15 at <http://www.kuestenklima.de/>

⁴¹ EU Directorate General for Maritime Affairs (DG MARE). 2014. Integrated Maritime Policy. Accessed 26.05.15 at http://ec.europa.eu/maritimeaffairs/policy/index_en.htm

⁴² EU Directorate General Environment. 2014. Our Oceans, Seas, and Coasts. Accessed 24.05.15 at

http://ec.europa.eu/environment/marine/eu-coast-and-marine-policy/marine-strategy-framework-directive/index_en.htm

⁴³ *Bund – Länder Messprogramm Meeresumwelt*. Accessed 24.06.15 at <http://www.blmp-online.de/>

2. The Maritime Spatial Planning Directive (MSP Directive, 2014/89/EU) sets a common framework for EU MS to develop marine spatial plans that manage potential conflicts and create synergies between different marine sectors.⁴⁴ Passed last summer and overseen by DG Maritime Affairs (DG MARE), the first steps for implementation is transposition of the directive into national laws and reconciling how to proceed given existing marine spatial plans. The German government has proposed that North Sea Member States begin a pilot marine planning project to implement the MSP Directive and contribute to proactive planning of trans-boundary MSPs. Such a North Sea Maritime Forum would bring the full range of stakeholders together in an atmosphere of collaboration, but strong political leadership is still lacking.⁴⁵

With different oversight authorities and objectives, reconciling these two different yet complementary directives is the subject of current EU marine policy discussion. Until last year, DG MARE & DG Environment reported to separate EU Commissioners, but with restructuring of the EU Commission, both DGs now report to a single Commissioner, Karmenu Vella of Malta.

The MSP Directive in particular was written to support the “Blue Growth” agenda, the maritime contribution to the Europe 2020 strategy for smart and sustainable growth. Promoted by DG MARE, Blue Growth focuses on expanding aquaculture, coastal tourism, marine biotechnology, ocean energy and seabed mining activities to support Europe’s economy and create new jobs.⁴⁶ This strategy reflects the dependence of many Member States, especially around the Mediterranean, on the marine environment for economic security, in particular those with destabilized economies in the wake of the Euro crisis. Conservation interests question the emphasis on economic growth in EU marine policy, especially expanding activities with substantial environmental impact (e.g. seabed mining). Germany thus far does not appear to play a significant role in driving the Blue Growth agenda, given its limited economic dependence on marine sectors and traditional role promoting nature conservation.

Another EU policy important for economic interests is the Common Fisheries Policy (CFP), which sets regulations for managing European fishing fleets and conserving fish stocks. Designed to manage fisheries as a common resource, it gives all European fishing fleets equal access to EU waters and fishing grounds and ideally allows fair competition. Following significant reforms which went into effect this year, between 2015 and 2020 Member States should set catch limits for their fisheries that are sustainable and maintain fish stocks in the long term (e.g. maximum sustainable yield).⁴⁷

Additional relevant EU Directives are the Habitats (92/43/EC) and Birds (2009/147/EC) Directives which form the cornerstone of EU’s nature conservation policies and establish the Natura 2000 network of protected areas, such as Germany’s described earlier. The Water Framework Directive (WFD, 2000/60/EC) is also relevant to the protection of surface waters, including coastal and marine waters, requiring that waters achieve “good ecological status” by 2015, mainly through pollution

⁴⁴ DG MARE. 2014. Maritime Spatial Planning. Accessed 25.05.15 at http://ec.europa.eu/maritimeaffairs/policy/maritime_spatial_planning/index_en.htm

⁴⁵ House of Lords European Union Committee. 2015. The North Sea under Pressure: is regional marine cooperation the answer? 10th Report of Session 2014 – 2015. The Authority of the House of Lords, London.

⁴⁶ DG MARE. 2014. Blue Growth. Accessed 26.05.15 at http://ec.europa.eu/maritimeaffairs/policy/blue_growth/

⁴⁷ DG MARE. 2015. The Common Fisheries Policy. Accessed 25.05.15 at http://ec.europa.eu/fisheries/cfp/index_en.htm

control measures and integrated river basin management. About half of the EU Member States have achieved this goal.⁴⁸

Regional Seas Conventions

Germany is party to two of the 14 legally binding regional seas conventions, established globally to engage neighboring coastal countries in actions to protect shared marine environments, and implemented by Commissions comprised of representatives from signatory countries.

The Convention for the Protection of the Marine Environment of the North-East Atlantic (OSPAR Convention)

The OSPAR Convention covers a large geographic area, including the North Sea, and is intended to regulate pollution and dumping, as well as protect biodiversity and ecosystems through a network of marine protected areas. The German delegation to the OSPAR Commission has traditionally represented conservation interests, starting with organizing the first International North Sea Conference held in Bremen in 1984.⁴⁹ The German delegation was particularly influential in the development of guidelines for artificial reef construction, or the placement of artificial materials to encourage habitat formation. Following the Brent Spar incident, Germany's leadership on developing these guidelines led to the prohibition of re-using materials, meaning that existing artificial infrastructure (i.e, underwater portions of oil and gas platforms) must be fully removed.⁵⁰ BfN chairs for Germany the OSPAR MASH (Marine Areas, Species and Habitats) Working Group and the OSPAR Marine Protected Areas Project Group, and helped create the first international network of marine protected areas in 2010.⁵¹

The Convention on the Protection of the Marine Environment of the Baltic Sea Area (Helsinki Convention)

Similar in intent to the OSPAR Convention, this convention is implemented by the Baltic Marine Environment Protection Commission, known as HELCOM, to prevent pollution and promote ecological restoration through an Action Plan that covers not only the Baltic Sea, but also its drainage area. Germany participates in the Nature Conservation and ICZM working groups, including supporting the development of a protected area system and the first "red list" of endangered habitat types of the Baltic Sea.⁵²

Germany's Role in Global Marine Conservation

Emerging from Germany's long-standing involvement in conserving nature and combating global climate change, German institutions are starting to lead discussions on rethinking marine governance. This is tied to the value of intergenerational equity, ensuring that global common resources, such as oceans and a stable climate, are available for future generations. The world's oceans can be thought of as a global common heritage that should be protected and conserved so

⁴⁸ DG Environment. 2015. The EU Water Framework Directive: Integrated River Basin Management for Europe. Accessed at http://ec.europa.eu/environment/water/water-framework/index_en.html

⁴⁹ OSPAR Commission. North Sea conferences. Accessed 24.06.15 at http://www.ospar.org/content/content.asp?menu=00590624000000_000000_000000

⁵⁰ Jørgensen D, OSPAR's exclusion of rigs-to-reefs in the North Sea, *Ocean and Coastal Management* (2011), doi: 10.1016/j.ocecoaman.2011.12.012

⁵¹ BfN. Protected Areas: Overview and key facts. Accessed 12.12.14 at http://www.bfn.de/0314_daten-meeresflaeche+M52087573ab0.html

⁵² HELCOM. 2015. About Us. Accessed 25.06.15 at <http://www.helcom.fi/about-us>

its resources and services are available in the longer term. The ongoing degradation of the oceans, despite the establishment of governance structures and agreements to prevent this damage, signals that adjustments or new mechanisms must be put in place to enhance protection, especially in light of growing global climate change threats. With this in mind, The German Advisory Council on Global Change (WBGU), a scientific advisory body to the German government, issued a flagship report in 2013 regarding the role of the seas in transitioning to a low-carbon, sustainable economy. The study made several recommendations for future ocean governance and serves as a foundation for Germany taking a more political role in international discussions on marine conservation.⁵³

One option for changing ocean governance currently under consideration is the development of a new agreement to protect marine biodiversity in areas beyond national jurisdiction (ABNJ). Referred to as BBNJ (biodiversity beyond national jurisdiction), this agreement would supplement UNCLOS and establish necessary rules for the conservation and sustainable use of marine biodiversity. After multi-year deliberation by an ad-hoc working group, the UN General Assembly is expected to discuss the committee's recommendation to establish a new agreement at its next session in September 2015.⁵⁴ Germany has supported and participated in the deliberation, in contrast to the US, who has expressed skepticism regarding the proposal.

Additionally, the UN is considering a new set of post-2015 development goals, known as the Sustainable Development Goals, which for the first time includes a specific goal for the oceans: “#14: conserve and sustainably use the oceans, seas, and marine resources for sustainable development.”⁵⁵ This goal was shaped partly by an effort led by German researchers, who remain involved in ongoing discussions about developing appropriate targets and indicators for the goal.⁵⁶

Marine environmental protection and governance were also featured on Germany's G7 Presidency Agenda, the first time that this issue has received this level of attention at a global leadership summit. In addition to commitments to climate change mitigation at the G7 Summit held in Elmau in June 2015, G7 leaders agreed to an action plan to reduce marine litter, developed with leadership from BMUB.⁵⁷ Growing interest in deep-sea mining was also discussed, including encouragement of a clear, transparent mining code under development by the International Seabed Mining Authority.⁵⁸

Germany is a signatory to other global agreements relevant to global marine conservation. These include the Convention on Biological Diversity, which Germany supports through a strong financial commitment of €500 million annually to achieve the Aichi Biodiversity Targets by 2020.⁵⁹ Germany also supports biodiversity conservation through the International Climate Initiative (IKI), administered through BMUB.

⁵³ German Advisory Council on Global Change (WBGU). 2013. World in transition: Governing the marine heritage. WBGU Secretariat, Berlin.

⁵⁴ International Institute for Sustainable Development (IISD). 23.01.15. BBNJ Working Group concludes mandate, Agrees on Nature of Future Instrument. Accessed 25.06.15 at <http://nr.iisd.org/news/bbnj-working-group-concludes-mandate-agrees-on-nature-of-future-instrument/>

⁵⁵ UN Sustainable Development Knowledge Platform. 2014. Open Working Group Proposal for Sustainable Development Goals. Accessed 25.06.15: <https://sustainabledevelopment.un.org/focussdgs.html>

⁵⁶ Visbeck, Martin and the Ocean Sustainability Group of Kiel University. 2014. A Sustainable Development Goal for the Ocean and Coasts. Position Paper for the International Council for Science.

⁵⁷ G7 German Presidency. 2015. Annex to the Leaders' Declaration, G7 Summit, 7 – 8 June 2015.

⁵⁸ G7 German Presidency. 2015. Leaders' Declaration, G7 Summit, 7 – 8 June 2015.

⁵⁹ Federal Ministry for Economic Cooperation and Development (BMZ) and BMUB. 2014. Committed to Biodiversity: Germany's International Cooperation in Support of the Convention on Biological Diversity for Sustainable Development.

The role of marine conservation in Germany's international development agenda is also increasing – as Federal Minister of Economic Cooperation and Development Gerd Müller stated in a speech last year, “Der Ozean ist unsere Schatzkammer,” highlighting the importance of the oceans in development cooperation. GIZ is involved in a variety of projects to support sustainable ocean and coastal uses in developing countries, including leading the Blue Solutions Initiative. This IKI-funded global project promotes innovative concepts and approaches to coastal and marine management through various knowledge-exchange activities, including regional forums and an online platform to share experiences with conservation tools and strategies.⁶⁰

Looking Forward

As this paper presents, Germany's interests in the marine environment are more substantial than first thought. Germany's long-held environmental values, especially intergenerational equity, influence its role in international processes as an advocate for nature conservation and protection. In the past several years, Germany has begun to emerge as a more prominent leader and supporter of global marine conservation interests in multiple arenas, through research, advocacy and political processes. With the G7 Summit just passed, it will be interesting to see how Germany and its partners maintain the commitment to marine environmental protection, especially during discussions on BBNJ and Sustainable Development Goals at the upcoming UN General Assembly meeting.

At the same time, the values which inspire support for international conservation efforts are being tested by global climate change, both as a result of shifting natural processes and decisions for mitigation and adaptation strategies. Along Germany's coasts, the ability to maintain *Heimat*, or character of the environment and communities, is uncertain due to climate-related ecosystem changes as well as introduction of offshore wind farms. The question remains if *Heimat* will still be an important concept and inspiration for conservation and protection in Germany in the future, given the consequences of climate change.

As an environmental leader, Germany will continue to be looked to for strategy development and support for marine conservation in light of climate change impacts. The values that have shaped this role will remain important, yet their durability is likely to be tested with global changes.

⁶⁰ More about the Blue Solutions Initiative can be found at <http://bluesolutions.info/>