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# *Conclusions*

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The challenge facing high seas fisheries management is a familiar one: governance without government. Despite the introduction of exclusive economic zones, fish stocks of considerable commercial value straddle beyond national waters and into the high seas. Because of rising overcapacity in the world's fisheries, such stocks are followed with great interest by operators of distant water fishing fleets. In many cases, however, the high seas harvesting of straddling stocks has been perceived by coastal states as illegitimate and also as undermining of conservation efforts in national zones. Distant water fishing nations counter that governance of high seas fisheries is not an exclusive coastal state concern. In the absence of clear rules about who should participate in straddling stocks management and how it should be conducted, accommodation of such opposing views has been attempted through a host of regional negotiation processes during the 1990s. The level of conflict has been very high in some of these processes, and there have been fears that the problems of straddling stocks would yield unilateral coastal state action of a nature that might even undermine the legitimacy of the Law of the Sea Convention.<sup>1</sup> A particularly interesting feature of those regional processes is the way they influenced, and were shaped by, the parallel negotiation of a UN Fish Stocks Agreement.<sup>2</sup>

This concluding chapter has two ambitions. First, framed by the changes in the global high seas fisheries regime recorded in Part I of this book, it comparatively reviews the six regional efforts to govern straddling stocks fisheries canvassed in Part II. Special attention is paid to identifying the conditions that have furthered effective management. Second, and based on this regional review, the concept of regime interplay is elaborated and used to explain whether and how such interplay effects the operation and effectiveness of resource management regimes.

## **1 Providing governance of high seas fisheries**

Throughout this book, the governance problem confronted in straddling stock issues is laid out as providing adequate means for handling

three major management problems: (1) the generation of adequate and reasonably consensual scientific knowledge that will provide the basis for informed judgements on whether the exploitation of resources shall be conducted, and if so, in what manner; (2) the need for managers to adopt legitimate and adequate regulatory measures for governing the economic activity in question while taking heed of such knowledge (in the case of living resources, this includes effort or capacity controls as well as operational restrictions such as catch quotas and closed areas); and (3) the maintenance of a system that can elicit compliance with existing conservation and management measures among users of the resource.

A prominent feature of the Fish Stocks Agreement is an emphasis on regional or subregional management regimes that involve both coastal and other user states as the preferred means for dealing with cases of straddling stocks.<sup>3</sup> The broad obligation to cooperate on management of straddling stocks laid down in the 1982 Convention is considerably strengthened by the provision that only states that are members of such a regime or agree to apply the conservation and management measures taken under the regime shall have access to the relevant fishery.<sup>4</sup> The Agreement does, however, allow substantial leeway regarding the exact form of cooperation—namely the requirement to cooperate ‘either directly or through appropriate subregional or regional fisheries management organizations or arrangements’.<sup>5</sup> The permissiveness of this formulation should come as no surprise, as the operational structure of fisheries management regimes is often hotly contested. Two broad approaches can be distinguished, based on whether decision-making is bilateral or multilateral.

In *bilateralist* regimes, overall conservation and management measures are taken by the coastal states; examples are the arrangements for cod in the Barents Sea Loophole and pollock in the Sea of Okhotsk Peanut Hole, the coastal states being Norway and Russia. Other user states, or some of them, are tied to these measures by means of bilateral agreements drawn up in annual negotiations. This implies a measure of influence on at least one aspect of management—the allocation of quotas. Thus, bilateralist regimes are not only dyadic in their mode of coordination but more importantly they differentiate participants on a case-by-case basis depending on their strategic position towards a dominant player.<sup>6</sup> The glue of this type of arrangements is typically the preparedness of the coastal state to grant non-littoral state access to its own exclusive economic zone as remuneration for keeping high seas activities within the agreed bounds.

Under *regionalist* regimes, broader decision-making fora are established that involve most or all user states.<sup>7</sup> It can be useful to distinguish between two versions: restricted fora where participation is deliberately limited to

a rather small number of states and fora that are conditionally open to any state prepared to accept certain prescribed commitments.<sup>8</sup> The Fish Stocks Agreement provides that the terms for participation in a regional management regime shall not exclude states that have a real interest in the fisheries concerned.<sup>9</sup> This corresponds to the strengthened duty of flag states to cooperate with the coastal state and other user states. The question remains, however, of what constitutes a 'real interest'. Some commentators have interpreted this restrictively as the conduct of actual and significant fishing operations in the region, whereas others see in this provision a clear instruction that coastal states cannot exclude interested newcomers from participation in regional management regimes.<sup>10</sup> It seems to support the former interpretation that the formulation was more restrictive in the Agreement than in the penultimate April 1995 draft; the latter provided that the management regime shall be open to all states 'having an interest' in the fisheries concerned.<sup>11</sup>

Among the multilateral regimes discussed in this book, three have restrictive terms for entry, but all involve the full range of present users. New accessions to the convention that established the 1980 North-East Atlantic Fisheries Commission (NEAFC), which is central to the management of oceanic redfish in the region, can only occur with the approval of three-quarters of the existing contracting parties, whereas unanimous approval is required by the 1994 Doughnut Hole Convention.<sup>12</sup> While not formalized, a similar barrier to entry exists in the 1996 North-East Atlantic herring arrangement in that access to annual multilateral negotiations on overall quota divisions is in practice limited to coastal states governing zones that are straddled by this stock. Note that the annual multilateral quota agreement, which is subsequently endorsed by NEAFC, is also accompanied by a cluster of bilateral accords that ensure reciprocal access to national waters.<sup>13</sup>

For its part, the Convention on the Conservation of Antarctic Marine Living Resources (CCAMLR), nested in the broader Antarctic cooperation, is open to any state prepared to accept requirements that are somewhat lenient. Membership in CCAMLR only requires that the party be interested in harvesting or scientific investigations in the region.<sup>14</sup> Also conditionally open is the regime centred on the Northwest Atlantic Fisheries Organization (NAFO), which allows accession to the decision-making body by any state interested in conducting fisheries in the region.<sup>15</sup>

The interplay of these regional management regimes and the global high seas regime is examined below by posing the question: do prominent substantive and operational provisions of the Fish Stocks Agreement enable more effective regional management of high seas fisheries?

## 2 Implementing the Fish Stocks Agreement

The three major tasks of fisheries management are closely interrelated. There is much to suggest, for instance, that agreed regulative measures well based in consensual scientific assessment stand a higher chance of being loyally enforced by the governments involved. For analytical purposes, however, it can be useful to deal with these tasks separately when discussing the extent to which the Fish Stocks Agreement and the operational structure of regional regimes serve to facilitate effective management of straddling stocks.

### 2.1 *The science problem*

There are two sides to the science aspect of management: the generation of high-quality, consensual assessment of stock dynamics and the translation of such knowledge to practical management advice that is incorporated into the decision-making process. The Law of the Sea Convention provides that high seas conservation measures shall be based 'on the best scientific evidence available to the States concerned' (Article 119). This provision is reiterated in the Fish Stocks Agreement, which adds more specific obligations regarding the collection and exchange of scientific data, including cooperative specification of format, compilation techniques, and assessment methodologies.<sup>16</sup>

Provisions to this effect are also found in most regional management regimes that address straddling stocks, whatever their differences in openness or mode of decision-making. Some regimes, like the one centred on NAFO in the Northwest Atlantic, have established separate scientific advisory bodies. Such bodies are generally meant to provide stable fora for scientific exchange and network building and to facilitate the credible imputation of advice into the decision-making process.<sup>17</sup> For instance, when intra-NAFO relations, especially between Canada and the European Community, soured in the mid-1980s, the parties looked to the NAFO Scientific Council to shed light on the parameters of disagreement; advice was in particular sought on the appropriateness of managing the various Northern cod components as a single unit and the proportion of the biomass found on average and seasonably within and beyond Canada's EEZ.<sup>18</sup>

While NAFO as well as the regional regimes that are based on the CCAMLR and the Doughnut Hole Convention are furnished with separate scientific advisory bodies, this is not the only effective way of meeting the scientific tasks of management. The NEAFC, for instance, relies on an external organization, the International Council for the Exploration of the Sea (ICES), to coordinate relevant scientific investigations and

provide management advice. ICES also provides scientific input to the Norwegian–Russian Fisheries Commission and the arrangements for management of herring, redfish, and mackerel in the North-East Atlantic.<sup>19</sup> In some cases, such reliance on external coordination can help guard scientific problem-solving against difficult political issues among regime members. For instance, because Russia does not acknowledge Norwegian management authority in the zone around Svalbard, Russian fishermen are instructed not to report their catches in that zone to the Norwegian Coast Guard.<sup>20</sup> This is not an obstacle to scientific cooperation, however, as data on Russian catches in the Svalbard zone are made readily available through the multilateral ICES framework. Similarly, data on Icelandic Loophole harvests were available for scientific purposes through ICES even before this state became part of the Loophole arrangement.

Consider in contrast the way the scientific challenge has been dealt with in the Sea of Okhotsk, where harvesting is governed by Russian regulations, in tandem with bilateral accords between the coastal state and the various distant water fishing nations, including Japan, Poland, China, and the Republic of Korea. No institutionalized multilateral scientific cooperation similar to the arrangements found in NAFO or CCAMLR is built into this arrangement. Nor are there firm linkages to regional bodies for scientific cooperation that are comparable to ICES. The North Pacific Marine Science Organization (PICES), established in 1992, has so far not been assigned advisory tasks by any of the fisheries management bodies in the region.<sup>21</sup> From an effectiveness point of view, a non-inclusive scientific process makes recommendations vulnerable to criticism by states not taking part in their provision. In 1993, Poland, the Republic of Korea, and China rejected proposals for a three-year moratorium in the Peanut Hole; they argued that such a measure would be insufficiently grounded in scientific evidence.<sup>22</sup>

To summarize, the Fish Stocks Agreement confirms the duty to base regulation on scientific advice—and this requirement can be met effectively in several ways. There is scanty support for concluding that it is better to approach the scientific problem by organizing it within the regional regime than by relying on external or wider frameworks, as has been done in the North-East Atlantic region. Indeed, as shown in the Barents Sea Loophole, such linkages to broader institutions can even serve to insulate scientific cooperation from conflicts among regime members or ensure scientific inputs from newcomers that are not integrated in a regional regime. Of the management regimes discussed here, only the Sea of Okhotsk case lacks multilateral cooperation in the science area, and it was noted that for a period this impeded regional management efforts.

## 2.2 *Compatible conservation measures*

A major requirement for obtaining compatibility between conservation measures that regulate harvesting inside national waters and those that address adjacent high seas areas is that all significant user states acknowledge the high seas measures that are agreed to. One might expect that the operational structure of management regimes is relevant to the regime's ability to attract broad membership. The argument would be that multilateral regimes provide greater incentives for participation than bilateralist regimes and thus make it more difficult to justify unregulated harvesting; this is specifically the case when multilateral regimes invite a broader set of users to participate in the rule-making.<sup>23</sup>

It is certainly true that the bilateralist regimes' achievement of adequate user coverage has proved both cumbersome and time-consuming. In the case of the Sea of Okhotsk, it required four years from the commencement of international negotiations until all bilateral agreements were in place, and Iceland's entry to the Barents Sea Loophole arrangement in 1999 followed six years of unsuccessful negotiations. In both instances, the factor that ensured non-coastal state acceptance of bilateralism was greater attractiveness of quotas inside national waters. Yet reaching high user coverage for conservation measures has proven just as difficult in regionalist regimes. In the Southern Ocean, harvesting by vessels that fail to acknowledge the conservation measures that have been agreed to under the multilateral regional regime makes compatibility unreachable. During the 1996–7 season, more than a hundred vessels were reportedly engaged in unregulated fishing for toothfish inside the CCAMLR area with an estimated catch of some ten times the harvest reported by CCAMLR members.<sup>24</sup> In addition, significant harvesting occurs beyond the CCAMLR area. The same situation has pertained in the Northwest Atlantic. In 1985, the European Community made use of NAFO's objection procedure regarding a moratorium on high seas harvesting of cod and set its own unilateral quota—a practice reiterated in subsequent years and extended to other stocks as well. Such unilateral quotas form part of the explanation for the sweeping resource crisis that struck the region by the turn of the decade.<sup>25</sup>

It would be a mistake, moreover, to focus only on distant water fishing nations when addressing barriers to compatible conservation measures. Whereas national regulations can be undermined by inadequate high seas rules, the opposite is also true. The coastal state's preparedness to accept stricter commitments regarding their management of the same stock inside the EEZ is often a political requirement for reaching agreement on high seas measures. Such acceptance of international premisses in the management of national waters can be difficult to

obtain because coastal states tend to perceive extensive foreign participation as encroaching upon their sovereign rights in the EEZ. Fortunately, there are ways to overcome this sovereignty barrier to compatible measures. Whereas the convention regulating pollock fisheries in the Doughnut Hole applies only to international waters, a legally non-binding but politically compelling Record of Discussions ensures an acceptable level of compatibility with measures taken inside the EEZs of the coastal states.<sup>26</sup> In response to requests by the distant water fishing nations, the United States and Russia recognized the need for compatible measures inside their zones, including a prohibition on harvesting on the Aleutian Basin stock as long as the Doughnut Hole moratorium is in place. Should the agreed moratorium be lifted, the coastal states have agreed to limit harvesting within their zones on the Aleutian Basin stock 'to an appropriate level'.<sup>27</sup>

The sovereignty challenge to compatibility is even more complex in the management of Southern Ocean toothfish; the CCAMLR area includes not only high seas areas and undisputed national waters but also areas where national claims are either disputed or non-recognized beyond the small group of Antarctic claimants, or both. This delicate legal situation has made regime members particularly concerned about ensuring that the procedure of reaching agreement on conservation measures, and the applicability of these rules in the various jurisdictional zones in the Southern Ocean, do not affect the balance between claimants and non-claimants in Antarctic politics.<sup>28</sup> As in the case of the Doughnut Hole, a solution had to be sought outside of the legal instrument that underpins the regime. The so-called 'Chairman's Statement' to the Conference that adopted the Convention stipulates that as long as states with non-disputed possessions, such as Kerguelen, Crozet, and other sub-Antarctic islands, do not object to the applicability of CCAMLR measures in their national waters adjacent to those possessions, they are bound by these measures but also free to adopt and enforce stricter measures.<sup>29</sup>

In summary, the regional cases reviewed in this book do not confirm the expectation that open regimes are better placed than restricted regimes with respect to ensuring adequate user coverage of high seas conservation measures, which is a first requirement for compatibility. Instead, as evidenced in both of the bilateralist cases and also regarding the North-East Atlantic herring arrangement, the decisive factor for realizing compatibility appears to be preparedness on the part of the coastal states to grant quotas in national waters in return for user state concessions regarding high seas measures. The only regime discussed here where compatibility has been realized without quotas being granted in national waters is the Doughnut Hole case, and this occurred only after the complete collapse of the pollock stock. A further impediment to compatibility is the

coastal states' insistence on complete management authority inside national waters, which can sometimes be circumvented by informal and diversionary exercises that aim to establish politically credible commitments relating to the management of national waters without affecting legal positions on sovereignty.

### 2.3 *The precautionary approach*

The precautionary approach to fisheries management calls for particular care when information about the stock in question is uncertain, unreliable, or inadequate;<sup>30</sup> the risk of fishing mortality exceeding the level that can produce maximum sustainable yield must be very low.<sup>31</sup> The restraint required here is highly demanding in terms of decision-making strength—and presumably particularly difficult to achieve at the international level. It would not be surprising, therefore, if the bilateralist regimes with their strong coastal state influence proved to be more effective than multilateral regimes in implementing this principle at the regional level.<sup>32</sup>

Differentiating levels of precaution is difficult because we lack a standard tenable across cases for judging the extent to which conservation and management measures are conservative in circumstances of uncertainty. Nevertheless, an examination of regional conservation measures through the prism of scientific recommendations can throw light on this situation. While the state of the Sea of Okhotsk pollock stock has evidenced a downward slope for several years, Russian scientists have recommended total allowable harvests based on a 30 per cent exploitation rate of survey estimates of spawning stock abundance.<sup>33</sup> This is regarded as the general maximum for pollock, and a number of uncertainties regarding the underlying estimate lead one observer to conclude that this decision rule cannot be deemed precautionary.<sup>34</sup> The most drastic Russian measure taken so far is the 1993 moratorium on harvesting of pollock in the region. The measure applied only to the high seas area and not to the adjacent Russian zone in which the same stock was being exploited by domestic vessels.

Barents Sea cod, like herring, redfish, and mackerel in the North-East Atlantic, is to a large extent managed on the basis of scientific advice by ICES. Since 1998, ICES advice has been based on the precautionary approach as laid out in the Fish Stocks Agreement; precautionary reference points are estimated for the shared stocks in the Barents Sea and reflected in the recommendations offered.<sup>35</sup> The cod stock has been healthy throughout much of the 1990s, and the Norwegian–Russian Fisheries Commission was largely loyal to the ICES quota advice in this period. Despite this, a sharp decline has set in during recent years and quotas for 2000 are less than half of those for 1997.<sup>36</sup>

The case of the straddling herring stock in the North-East Atlantic is diametrically opposite: the stock has recovered and remains fairly stable although quotas have been set consistently and substantially higher than recommended by ICES throughout most of the 1990s, even to an extent believed by ICES to imply spawning stock biomass falling below the recommended minimum.<sup>37</sup> Since 1998, quotas have been set more in line with scientific advice and the most recent ICES report holds the stock to be within safe biological limits and current management practices to comply with the precautionary approach.<sup>38</sup> Oceanic redfish, largely managed by NEAFC, is also believed to be within safe biological limits; however, after half a decade of notably bigger harvests than recommended, ICES warned in 1996 that knowledge about stock distribution and size is inadequate to provide advice on catch levels.<sup>39</sup> That was the first year that NEAFC managed to set quantitative restrictions, and considering that even then the total quota was set much higher than any previous annual harvesting, it would be difficult indeed to judge NEAFC management of this stock as precautionary.<sup>40</sup> As for mackerel, the stock is considered to be outside safe biological limits, but ICES noted in its report for 1998 that the total fishing mortality agreed between the major user states, Norway and the EC, is consistent with the precautionary approach.<sup>41</sup> On the other hand, Russia is the biggest harvester of mackerel on the high seas, and it is therefore problematic that Russia objected to the first attempt by NEAFC to set a quota for the high seas.<sup>42</sup>

As regards the Northwest Atlantic, the Scientific Council of NAFO responded to the Fish Stocks Agreement by establishing a working group on regional implementation of the precautionary approach; the principle itself was formally endorsed in 1997.<sup>43</sup> Traditionally, NAFO groundfish regulations have been relatively cautious. Indeed, among the complaints launched by the European Community beginning in the mid-1980s was the conservative management strategy applied by the Scientific Council. The EC demanded that the latter instead provide a range of options, including one corresponding to the stock's maximum sustainable yield.<sup>44</sup> Similarly, the introduction of management measures for the straddling Greenland halibut stock that reopened the EC-Canadian controversy in this region occurred in response to scientific concern that the growing pressure, especially by Spanish vessels, was in excess of what the stock would sustain.<sup>45</sup> According to the Scientific Council, the halibut stock is now recovering because of good recruitment and low fishing mortality.<sup>46</sup>

For its part, the Doughnut Hole Convention stabilized a moratorium on pollock fisheries in this region. The ability of this regime to withstand pressure for quota allocations is yet to be tested, as the stock remains depleted. As long as the moratorium is in place, however, it would be difficult to argue that management is not precautionary.<sup>47</sup>

Finally, the CCAMLR regime for management of Antarctic marine living resources is the one that has implemented the precautionary approach most loyally; this is also borne out in the management of Patagonian toothfish. Quantitative restrictions recommended by the Scientific Committee have been translated into binding conservation measures; a Special Area for Protection and Scientific Study around South Georgia is especially relevant to toothfish conservation, as is also the category of 'new fisheries' introduced in 1991, which commits harvesting nations to particularly strict notification, reporting, and assessment procedures.<sup>48</sup>

Hence, whereas the precautionary approach urged by the Fish Stocks Agreement has generated considerable activity at the regional level, actual performance is rather mixed. There does not seem to be any clear relationship between the level of precaution and operational structure—both bilateralist and regionalist regimes vary considerably in this regard. Nor is attendance to the precautionary approach related to successful implementation of another management principle that is vital to adequate conservation, namely compatibility. On the contrary, two regimes that are particularly advanced in implementing the precautionary approach, namely NAFO and CCAMLR, are also the regimes where the overall effectiveness of conservation measures has been jeopardized the most by non-party harvesting activities.

#### *2.4 Ecosystem management*

At the level of general principles, the Fish Stocks Agreement confirms a broad trend in global environmental accords by emphasizing the need for ecosystem management.<sup>49</sup> The spatial aspect of this is primarily addressed by the careful balance struck in the Agreement between the rights of coastal states and other user states when establishing compatible management measures for individual straddling stocks. In contrast to compatibility, however, which is underpinned by the operational guidelines for establishment of conservation and management measures, the multi-species side of the ecosystem approach is scarcely elaborated in the Fish Stocks Agreement.<sup>50</sup>

At the regional level, the situation is no better. Few of the regional regimes scrutinized in this book are well equipped to handle salient stock interactions in a systematic way; and there is little to suggest that the operational structure of these regimes is weighty here. One reason is simply that efforts to model species interaction have nowhere reached a stage where findings can be applied with any precision in detailed management strategies. Another factor is the limited target scope of many regional fisheries regimes. The regime based in CCAMLR is credited as the first

regional fisheries regime to have explicitly highlighted species interaction when defining its management objectives.<sup>51</sup> The permanent Environmental Monitoring and Management group under the Scientific Committee institutionalizes this concern. Regarding toothfish management, ecosystem considerations are borne out in a series of conservation measures that seek to reduce the by-catch of seabirds, for example by mandating rapid sinking of baits when longline equipment is applied, by resorting to reduced light during night operations, and by the deployment of streamers on the line to keep birds away.<sup>52</sup>

In contrast, due to strong resistance among distant water fishing nations to extending pollock restrictions to other potential fisheries in the Central Bering Sea, the Doughnut Hole regime is explicitly single-species in orientation. Somewhere in between those two extremes, NAFO is rather well placed to incorporate multispecies considerations, covering as it does 'all fishery resources of the Convention Area' with the exception of certain species subject to separate regimes under the Law of the Sea Convention.<sup>53</sup> While a corresponding formulation defines the target scope of NEAFC as well, it is much more difficult to apply an ecosystem approach to management within the herring, redfish, and mackerel regimes in the North-East Atlantic. First, especially for herring, NEAFC plays a very moderate role as it merely endorses solutions already reached in more narrowly staged coastal state bargaining. Second, even if NEAFC were to gain more of an independent role in herring management, the two stocks that interact the most strongly with herring, namely North-East Arctic cod and Barents Sea capelin, are clearly beyond NEAFC's ambit as both stocks are managed by the Norwegian–Russian Fisheries Commission. Conversely, the biological interactions between cod, capelin, and herring in the North-East Atlantic also pose severe limits on the potential of ecosystem management under the bilateralist Barents Sea regime. In addition, none of the straddling stocks regimes for the North-East Atlantic has any say on the management of whales, an important predator for cod, herring, and capelin, which are largely managed by the International Whaling Commission (IWC).<sup>54</sup>

The situation is different in the Sea of Okhotsk Peanut Hole; the privileged role of Russia in this arrangement and the fact that the area in question is completely surrounded by Russia's EEZ would seem to provide the jurisdictional means for multispecies management, should this be desired by the coastal state. Indeed, Russia complained during the Fish Stocks Agreement that unregulated harvesting in the Peanut Hole had detrimental effects on stocks of other commercial species such as herring, halibut, and salmon.<sup>55</sup>

To summarize, regardless of whether they are bilateralist or multi-lateral, regional fisheries regimes typically find it difficult to implement

seriously the inter-species side of ecosystem management. This is partly because the science of modelling stock interactions with respect to the generation of practical management advice is still in its infancy; but even if the scientific basis were to improve, the limited stock portfolio of regional regimes implies that serious attempts at multispecies management would require considerable coordination across regimes.

### 2.5 Allocation between various users

In an ideal world, conservation and allocation of fish resources would be addressed sequentially. On the basis of the best available knowledge, parties would decide on the appropriate level and mode of fisheries pressure before they addressed the question of how catches should be allocated among various users. The reality, however, is often that problems of allocation permeate the regulatory process and encourage states to compromise on conservation needs. Those who drew up the Fish Stocks Agreement were mindful of the allocative barriers to sustainable management; one of the operational tasks of regional management regimes is to enable states to 'agree, as appropriate, on participatory rights such as allocations of allowable catch' and also on 'decision-making procedures which facilitate the adoption of conservation and management measures in a timely and effective manner'.<sup>56</sup> Beyond this, the Agreement lays down relevant considerations for determining the level of participation by new entrants to a fishery.<sup>57</sup> The latter set of provisions is hardly designed to resolve the matter, however, as it is essentially a listing of criteria previously applied in regional accords, including historic catch and the distribution of the stock, plus some new criteria.

Most of the regional regimes reviewed here do indeed allocate national quotas, and many of them have developed substantive or procedural means to make annual negotiations over allocation more tractable. For instance, the bilateralist Loophole regime has extended to non-coastal states a *fixed division-key* approach that for more than two decades has formed the allocative backbone of the Norwegian–Russian Fisheries Commission;<sup>58</sup> the 1999 agreement between Norway, Russia, and Iceland states that future Icelandic cod quotas are to be calculated on the basis of a fixed share of the TAC.<sup>59</sup> Similarly, the allocative dispute over Greenland halibut that triggered Canada's high seas arrest of the Spanish trawler *Estai* was addressed by provisions in the bilateral 1995 Agreed Minute that created a fixed division key between Canada and the European Community regarding halibut taken on the Grand Banks; such keys had been in use for other species managed by NAFO.<sup>60</sup>

In general, however, the rigidity introduced by fixed allocative keys makes the keys vulnerable to substantial variation in, *inter alia*, the zonal

attachment of a stock—another criterion often invoked when decisions are made on the allocation of stocks. Such variation is not uncommon for pelagic species such as herring and capelin because their migratory patterns often fluctuate considerably with stock size. Hence, the respective European Community and Norwegian shares of the North Sea herring stock have been adjustable on the basis of scientific models of zonal attachment; and the same is true for a North-East Atlantic capelin agreement involving Iceland, Norway, and Greenland/Denmark.<sup>61</sup> This allocative mechanism is also applied to the North-East Atlantic herring arrangement in the provision that future allocative adjustments shall be linked primarily to findings by a Scientific Working Group concerning changes in the distribution of the stock.<sup>62</sup>

In some cases, the allocative challenge is complicated by regional particularities. For instance, the CCAMLR Commission has abstained from national allocations, primarily because the issue is seen to interfere potentially with the disputed and carefully avoided sovereignty concerns in Antarctic politics. Similarly, efforts to include in the Doughnut Hole Convention specific provisions on future quotas allocation failed due to disagreement on which criteria to apply. Historic catches were rejected by the coastal states as a basis for allocation on grounds that the largely non-coastal state dominance of this fishery throughout the 1980s had been utterly non-sustainable.<sup>63</sup> Instead, the Convention leaves the task of setting national quotas to the Annual Conference of the parties should the fishery be reopened. Absent of consensus here, an olympic fishery would ensue where vessels from all parties would compete for the catches within an overall ceiling.

Hence, the allocative capacity of straddling stock management regimes, whether bilateralist or multilateral, appears to turn primarily on whether they have established default rules that facilitate annual negotiations. Such default rules may be fixed, as in the case of the division keys in the Barents Sea and the North-West Atlantic; but they can also be dynamic and procedural, as are the model-based zonal attachment rules agreed to in the North-East Atlantic arrangements. The Doughnut Hole regime and the regime based in CCAMLR illustrate that provisions for an olympic fishery may serve to de-link the conservation problem from the allocative problem whenever the latter proves impossible to solve.

## *2.6 The compliance problem*

The issue of encouraging adherence to regulatory measures agreed to within fisheries management regimes can be approached from two angles—one discursive and one coercive.<sup>64</sup> A high degree of involvement of target groups in decision-making, with a view to strengthening their

responsibility for regulative outcomes, is among the more common discursive compliance mechanisms in fisheries management.<sup>65</sup> Another mechanism is to assign a rather prominent role to scientific advice in the regulatory process.<sup>66</sup> Such investigations often involve, or at least are open to, scientists from all member states.

For their part, coercive compliance activities comprise surveillance, detention, and legal prosecution. An important contribution of the Fish Stocks Agreement, in conjunction with some other global and regional agreements, is to broaden the jurisdictional basis for some of these activities and thus reduce the traditional primacy in international law of the flag state in high seas control and enforcement.<sup>67</sup>

One element is strengthened *flag state* responsibilities. Here the negotiators of the Fish Stocks Agreement were able to incorporate the substantive solutions codified globally in the 1993 FAO Compliance Agreement.<sup>68</sup> This agreement specifies the duty of parties to exercise effective jurisdiction over high seas fishing operations by vessels flying their flags. Accordingly, the Fish Stocks Conference could focus on the second and more controversial element of establishing a framework procedure that permits *non-flag states* to inspect and detain fishing vessels on the high seas in a way acceptable to both coastal and distant water fishing nations.<sup>69</sup> Parties to the Fish Stocks Agreement have given advance consent to their vessels being boarded and inspected on the high seas by personnel authorized under a regional management regime, even if these states are not parties to the regional regime.<sup>70</sup> If the inspection reveals evidence that implies that the vessel has violated regional conservation measures, the flag state must either begin its own investigation and prosecution or authorize the inspecting state to proceed with its investigation and, in case of serious violation, even detain the vessel and bring it to the nearest appropriate port.<sup>71</sup> Yet another compliance control element highlighted by the Fish Stocks Agreement is *port state* measures.<sup>72</sup> It is debated whether the rights to inspect vessels voluntarily in port and, if violations are revealed, to prohibit landing and trans-shipments are new rights in the fisheries context or simply emanations from sovereignty over the port.<sup>73</sup>

However, few of the regional straddling stock regimes discussed in this book have been significantly affected by this global-level circumscription of the traditional flag state prominence in the compliance area. As almost all the harvesting activities undertaken under the bilateralist regimes in the Barents and Okhotsk Seas occur in national waters, those regimes rely primarily on coastal state jurisdiction that permits the full range of compliance measures, including inspection, detention, and legal prosecution. To a somewhat lesser extent, coastal state enforcement also predominates in the North-East Atlantic herring arrangement as some 90 per cent of the

harvest occurs inside the EEZs of regime members. In the period when these restricted regimes were still challenged by outsiders, port state jurisdiction provided complementary means. Even before the adoption of the Fish Stocks Agreement, Russia and Norway had introduced legislation prohibiting landings of catches taken on the high seas in defiance of international fisheries regulations, and the coastal states persuaded states that received quotas in their EEZs to do the same.<sup>74</sup> A more indirect way of using economic sanctions to induce compliance with high seas management measures, one that does not depend upon voluntary port calls, is expressed in the Norwegian practice of blacklisting vessels engaged in unregulated high seas harvesting from subsequent access to the Norwegian EEZ—even if the vessel has changed ownership in the meantime. Similarly, from 1993 until agreements had been reached with all user states two years later, Russia prohibited the allotment of catch quotas in the Russian zone to foreign vessels that had been engaged in harvesting in the Peanut Hole.<sup>75</sup>

In the Northwest Atlantic, rules for non-flag state inspection and detention preceded their global emergence in the Fish Stocks Agreement; also in place were several provisions designed to facilitate control activities, such as an observer system and gradual phasing in of compulsory satellite tracking devices. Similarly, one year before the adoption of the Fish Stocks Agreement, the Doughnut Hole Convention provided for both non-flag state inspection and detention of vessels in cases where the flag state fails to act on serious violations. Indeed, there is much to suggest that the detention provisions of the Fish Stocks Agreement were substantially inspired by those of NAFO and the Doughnut Hole regime.<sup>76</sup>

Among the compliance mechanisms globalized by the Fish Stocks Agreement, the provisions for port state measures have had the most visible impact on the regional regimes discussed in this book. A 'Scheme to Promote Compliance by Non-contracting Party Vessels with the Conservation and Enforcement Measures Established by NAFO' was adopted in 1997. This was rapidly copied by CCAMLR and NEAFC. The scheme provides that non-member vessels that have been sighted engaging in harvesting in the NAFO Regulatory Area are presumed to be undermining this regime and shall not be permitted to land or trans-ship any fish in a NAFO member port until they have been inspected. In cases where such inspection exposes species regulated by NAFO, landings and trans-shipment will be prohibited unless the vessel can prove that the taking of this fish has not contravened NAFO rules.

In short, the Fish Stocks Agreement provides a comprehensive package of fairly advanced provisions relevant to compliance control. The regional regimes reviewed in this book have either been front-runners in the

compliance area, such as the Doughnut Hole Convention and NAFO with regard to non-flag state detention, or they have been able to rely on the more extensive coastal state jurisdiction. Therefore, except for the elaboration of port state measures, these global developments have had limited effect on the range of compliance instruments available to them.

### 2.7 Summary: conditions for effective high seas management

One conclusion that can be drawn from the above is that the *operational profile* of regional straddling stocks management regimes fails to explain much of the variance among them in terms of effectiveness. No clear pattern appears which identifies either bilateralist or regionalist approaches as generally superior in meeting the three tasks of management. For instance, any expectations that bilateralist regimes, where decision-making is heavily influenced by coastal states, would be more effective in producing precautionary management measures are not confirmed in the analysis. An obvious reason is that decision-making capacity is only one of several conditions for regulatory caution in the face of uncertainty. Equally non-supported is the hypothesis that compatibility, in terms of the spatial scope of regulations and their user coverage, would be easier to realize in regionalist regimes because of broader participation and greater equality in decision-making. On the contrary, the two management regimes that are the most inclusive, CCAMLR and NAFO, are also the regimes most marred by non-party harvesting activities.

Moreover, in the few cases where systematic differences do appear between bilateralist and regionalist regimes, they tend to be based on circumstances other than operational structure. The bilateralist regimes reviewed here are particularly well equipped to ensure adequate compliance control, but this is largely because non-coastal state harvesting activities are successfully directed inside national waters. However, this option is available not because of the operational structure, but rather because of the migratory pattern of the stocks in question, which renders quotas in national waters highly attractive to non-coastal user states.

Whereas operational structure seems scarcely related to regime effectiveness, the analysis above has exposed a set of other factors that seem highly supportive of high seas management. (1) The quality and legitimacy of scientific advice appear to be closely connected with the level of *inclusiveness* of interested parties in the generation of the advice and with the ability to insulate scientific cooperation from inter-state rivalries. (2) Adequate user coverage for high seas conservation measures is very difficult to achieve unless the coastal states in question are prepared to

*remunerate* acknowledgement of such measures, often by giving concessions regarding their management of the EEZ. The most powerful instrument in this regard is to grant quotas in national waters to user states that agree to comply with the rules established for the adjacent high seas area. Another coastal state concession that appears to promote compliance with high seas measures is to introduce equally strict regulations on its domestic vessels that harvest the same stock in national waters. (3) Efforts to establish adequate conservation measures are more likely to be successful if regime members are able to agree on *criteria* for allocation of the catches, either by fixed division keys or by more flexible means such as scientific models of zonal attachment. Finally, (4) *compliance control* can be strengthened either by provisions that harvesting be limited to national waters, by intrusive port state controls, or by reaching agreement on regional procedures for high seas inspection and detention.

The next section will examine the significance of interplay with other institutions for the ability of regional regimes to meet these conditions for effective management of high seas fisheries.

### 3 Regime interplay and effective governance

Up to now, the focus has been on regional implications of changes under way in the global regime for high seas fisheries. One purpose has been to move beyond the tendency in much of the regime literature to analyse a particular regime without sustained attention to its relationships to broader or functionally adjacent regimes.<sup>77</sup> In this section, the enquiry into regime interplay is developed further by elaborating four ways in which an international regime may modify the effectiveness of another regime. These four types of regime interaction are termed diffusive, political, normative, and operational interplay.<sup>78</sup>

#### 3.1 Diffusive interplay

Diffusive interplay refers to situations when the substantive or operational rules of one regime serve as models for those negotiating another regime. A striking instance of diffusion in the straddling stock context is the rapid spread of general normative principles such as precaution, ecosystem management, and compatibility. The precautionary principle, which received global recognition in the 1985 Ozone Convention, was subsequently endorsed in the 1992 Rio Declaration and elaborated in the fisheries context by the Fish Stocks Agreement as part of the UNCED legacy. For its part, the principle of ecosystem management was increasingly included in regional environmental agreements after its formal

introduction in the 1980 CCAMLR agreement.<sup>79</sup> In the Fish Stocks Agreement the ecosystem approach appears both among the general principles upheld by the agreement and as part of the precautionary approach to management.<sup>80</sup> Similarly, a 'consistency' requirement was elaborated already in the 1978 NAFO Convention and emulated in the NEAFC treaty; since then, the phrase has been upheld in a range of other regional and global high seas fisheries instruments before its elaboration as 'compatibility' in the Fish Stocks Agreement.

As to diffusion of operational regime components, the system for dispute settlement set forth in the Fish Stocks Agreement is a complete incorporation of the apparatus provided in part XV of the 1982 Law of the Sea Convention and thus extends this structure to non-parties to the Convention.<sup>81</sup> The potential impact of this for regional management is enhanced further by the fact that this system can be invoked not only in disputes over provisions in the Fish Stocks Agreement but in 'any dispute between States Parties to this Agreement concerning interpretation or application of a subregional, regional or global fisheries agreement relating to straddling stocks or highly migratory fish stocks'. A plausible implication of this is that the Fish Stocks Agreement amends existing fishery treaties by adding the UNCLOS dispute settlement apparatus, including the conditions of the latter for binding compulsory settlement.<sup>82</sup> The operational structure for enhancing compliance with regional conservation and management measures is another area where emulation has influenced the basis for effective management. The provisions in two regional treaties that address tuna fisheries in the South Pacific and introduce and strengthen the notion of 'flag state responsibilities' over vessels engaged in high seas fisheries provided essential material for the 1993 FAO Compliance Agreement.<sup>83</sup> In turn, the latter shaped the contents of several regional regimes as well as provisions on flag state duties in the Fish Stocks Agreement. Similarly, the port state measures envisaged in the Fish Stocks Agreement that rapidly shaped the compliance control agenda of several regional regimes, including NAFO, CCAMLR, and NEAFC, had a precedent in the vessel-source pollution area already in the 1982 Law of the Sea Convention.<sup>84</sup>

Diffusive interplay promotes the effectiveness of high seas fisheries management when solutions that have been reached in one regime are perceived as applicable to problems that have frustrated cooperation under another regime. An interesting type of leadership in international negotiations is to draw attention exactly to such 'salient solutions' that become prominent because they have been tried in other contexts.<sup>85</sup> But diffusion is not always a straightforward process. The precautionary principle was strongly resisted during the early stages of the Fish Stocks Conference, until agreement was reached that application would not create a

moratorium on fishing in cases of scientific uncertainty.<sup>86</sup> Distant water fishing nations that were eager to minimize the scope of the constraints imposed by the Doughnut Hole Convention remained unimpressed by the merits of ecosystem management; they thus insisted that the latter be largely confined to pollock. Opposition to diffusive interplay has been even stronger regarding the compatibility principle—relating as it does to allocative matters and thus inherently much more controversial. In the Northwest Atlantic, the European Community has complained that NAFO's consistency phrase has been used by Canada as an instrument for achieving 'creeping jurisdiction' over high seas areas adjacent to its coasts.<sup>87</sup> It is not surprising that distant water fishing states, while subscribing to the notion of compatible measures, were eager to avoid a similarly clear coastal state bias in the definition of compatibility worked out in the Fish Stocks Agreement. The issue of whether and under what conditions compatibility was to imply the projection of high seas rules into national waters and vice versa was among the most difficult matters for the Conference to resolve.<sup>88</sup>

Accordingly, diffusibility is likely to be lower if the regime feature in question, such as compatibility, lends itself to allocative usage or touches on contested matters such as disputed sovereignty. There is much to suggest that proximity between the regime processes in time, space, and membership is another factor that affects diffusibility. Consider for instance the relationship between the management bodies for the North-West and the North-East Atlantic fisheries. There is considerable overlap in the membership of NAFO and NEAFC, and two decades ago the consistency principle and several other regime features spread from the former to the latter. Moreover, the enhanced role of non-flag states regarding high seas detention of vessels that have seriously violated agreed conservation measures was established within a compressed period of time, centred on the parallel negotiation of three legal instruments—the Doughnut Hole Convention, the Agreed Minute, and the Fish Stocks Agreement. An additional feature of the diffusive path regarding non-flag state enforcement measures was the representative manner in which the two regional front-runners involved the most salient players in the political battle over straddling stocks management. The Doughnut Hole Convention pitted the largest Asian distant water fishing nations against a coastal state hard-liner, Russia, and the United States with its more balanced interests. The Agreed Minute involved, on the one hand, another coastal state front-runner, Canada, and on the other hand the biggest European distant water fishing actor. Regime features that had proved their feasibility in these rather representative contexts stand a good chance of also being accepted in other straddling stock situations; this is evidenced by their subsequent endorsement in the Fish Stocks Agreement.

Consider in contrast the 1995 Canadian–Norwegian agreement pertaining to the NAFO area, the Barents Sea Loophole, and the North-East Atlantic Banana Hole.<sup>89</sup> Under this agreement, each party is authorized not only to inspect each other's vessels on the high seas and bring a violator to port, but also to institute proceedings seeking penalties against the vessel. The significance of this particular agreement in diffusive terms was reduced by the fact that the agreement is not representative in membership of most high seas fisheries regimes, involving as it does two members of the coastal state core group during the Fish Stocks Conference.

In *summary*, the emulation of substantive or operational solutions that have been tried out successfully in other contexts is a pervasive practice among negotiators of international regimes. Vague, general principles tend to flow easily, but from an effectiveness point of view, diffusive interplay is particularly interesting if it can facilitate agreement on specific matters that have impeded problem-solving under an international regime. Whenever the substantive or operational regime feature in question has considerable distributive impacts, as do the compatibility principle and the intrusive compliance mechanisms that were developed in the Doughnut Hole Convention, diffusive interplay requires greater efforts on the part of those who favour emulation and usually also that the set of interests represented in the regimes involved are comparable.

### 3.2 *Political interplay*

Whereas diffusion is a process by which features of a given regime affect the contents of another, political interplay occurs when actor interests or capabilities associated with one regime significantly shape the operation or impacts of another. It will come as no surprise, for instance, that the bargaining roles assumed by the most active states during the Fish Stocks Conference tended to reflect the particular circumstances of the regional management regimes that were closest to their interests. Had NAFO been an effective and successful organization, Canada would hardly have assumed a leadership role in the coastal state core group before and during the UN negotiations. Russia, with its special concerns in the Sea of Okhotsk situation, took a leadership role at the Conference with respect to the parts of the prospective treaty that are particularly relevant for high seas enclaves.<sup>90</sup> In both of these cases, political interplay with other regime processes provided incentives for states to come up with proposals for new management instruments and try to rally sufficiently broad support for them. But political interplay could also constrain international negotiations. For instance, there is much to suggest that multilateral talks on the Peanut Hole were impeded by the fact that success here would have

undercut the Russian argument, which was pressed during the Fish Stocks Conference, that high seas enclaves require a special global regime.<sup>91</sup>

Issue linkage, which implies that states mobilize resources from one set of regime negotiations to another, is another type of political interplay. It has been argued, for instance, that during the Doughnut Hole negotiations the United States credibly indicated to its non-coastal state opponents that failure to reach a regional accord could elicit a shift on the part of that country from an intermediate position during the Fish Stocks Conference to a position more favourable to the coastal state bloc.<sup>92</sup> Another instance is the playing of the quota card by coastal states that are seeking to reach and enforce international agreements on high seas management. Here, the privileged position within the 200-mile limit accorded to coastal states by the 1982 Law of the Sea Convention is deliberately drawn upon to shape measures pertaining to the adjacent ocean space. Similarly, we have seen earlier that several coastal states have banned vessels that have a history of unregulated high seas harvesting from trans-shipments, landings, and other port services.

Hence, political interplay occurs when the political logic of one regime spills over into another. Such interplay can be supportive of regime effectiveness when it provides incentives to assume leadership roles during international negotiations or when it implies that capabilities under one regime are used to induce compliance under another. Linkage of issues across functional areas, for instance between resource management and matters related to trade in goods and services, can be difficult to achieve because it tends to require considerable inter-agency coordination on the part of the state making the linkage, and this is unlikely unless the matter is highly politicized.

### *3.3 Normative interplay*

Normative interplay refers to situations when the substantive or operational norms of one regime either contradict or validate those of another regime. Such interplay can be relevant to regime effectiveness because the legitimacy, or compelling force, of a rule or an institution depends on its level of coherence with other rules that are relevant to the subject matter—or its adherence to broader normative principles and rules of right process.<sup>93</sup>

During the 1990s, there has been growing attention to possible conflict between certain trade-related measures authorized by international environmental regimes and global or regional rules of free trade.<sup>94</sup> Some multilateral environmental agreements require that parties impose trade restrictions on certain products, either generally as in the case of the

Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) or directed at non-members of environmental regimes or non-compliers as in the 1987 Montreal Protocol to the Ozone Convention.<sup>95</sup> Other instances are the landing and trans-shipment bans agreed upon under NAFO, CCAMLR, and NEAFC regarding fish taken in violation of high seas conservation measures. In addition, some states have passed domestic legislation that authorizes trade sanctions on states that contravene international conservation rules even in the absence of explicit regime provisions to this effect. A well-known instance is the United States' threat to impose import restrictions on seafood products from states contravening the moratorium on whaling that was established by the IWC.<sup>96</sup>

Whereas those concerned with the effectiveness of international environmental regimes tend to look favourably at economic sanctions that seek to enhance compliance with conservation rules, at least two competing concerns are of issue:<sup>97</sup> the free trade communities worry that trade measures for environmental purposes may slide into protectionism; and states relying on certain major markets, such as the United States, perceive threats of trade sanctions as illegitimate intrusions into their sovereignty that commit them in practice to standards established by others.

Normative interplay arising from commitments that the sanctioning state has assumed in the trade area may provide a counter-strategy for states that are subject to conservation-related trade measures. Mexico brought the US embargo on tuna that had not been harvested in conformity with US by-catch rules for the protection of dolphin before a dispute settlement panel under the General Agreement on Tariffs and Trade (GATT).<sup>98</sup> Similarly, in 1995 Iceland filed complaints to the relevant surveillance body that Norway's refusal of port services to Icelandic vessels that had conducted unregulated Loophole harvesting was illegal under the Agreement on the European Economic Area.<sup>99</sup>

Such apparently conflictual normative interplay between different regimes can be addressed in several ways. Sometimes, the legal instruments themselves provide rules of pre-eminence. This is illustrated by Article 4 of the Fish Stocks Agreement which states that 'This Agreement shall be interpreted and applied in the context of and in a manner consistent with the Convention.' In other cases, customary rules of pre-eminence may be relevant: unless otherwise stated, more recent rules generally take precedence over older rules that address the same subject matter and the same is true for specialized rules over more general ones.<sup>100</sup> Those customary rules could be relevant to the discussion of whether prohibitions on landings and trans-shipments of fish taken in violation of high seas conservation rules contravene GATT rules, because parties to

the more recent and arguably more specialized Fish Stocks Agreement have explicitly agreed to accept such prohibitions whenever port state inspections have 'established that the catch has been taken in a manner which undermines the effectiveness of . . . conservation and management measures on the high seas'.<sup>101</sup> In the most conflictual cases, as noted, the dispute settlement apparatus that is found in some international regimes can be resorted to. Under WTO/GATT, the legality of conservation-related trade measures has been addressed on the basis of several exemptions in GATT from the general ban on quotas and embargoes. Requiring first that 'arbitrary or unjustifiable discrimination between countries' shall not occur, these exemptions permit trade measures that are '*necessary to protect human, animal or plant life or health*' or '*relating to the conservation of exhaustible natural resource if such measures are made effective in conjunction with restrictions on domestic production or consumption*'.<sup>102</sup> The questions of whether specific trade measures, including those related to US imports of tuna, can be said to be '*necessary to*' or primarily '*relating to*' conservation goals have been subject to controversy within the scholarly community and different interpretation by dispute settlement panels under WTO/GATT.<sup>103</sup> Such exemptions to the general free trade rule also came into focus when the EFTA Surveillance Authority stated that although in its opinion Norway's refusal of port services to an Icelandic vessel constituted a violation of the regional trade regime, no further action would be taken because 'the underlying conflict concerned a dispute between Norway and Iceland over Icelandic fishing rights in the Barents Sea'.<sup>104</sup> Such abstention under one regime (on trade) on grounds that the issue sorts primarily under another regime (on regional fisheries management) highlights the significance of operational components of regimes as a means for coping with inter-regime tension.

*In summary*, normative interplay with other regimes, including international trade commitments, may constrain the use of economic compliance mechanisms that are authorized by international fisheries regimes. The priority of such potentially competing measures is sometimes set explicitly in the instruments themselves or by customary rules of pre-eminence; in other cases it can be settled by decisions under one regime to abstain from pursuing a violation. To be successful, therefore, economic measures aimed at promoting compliance with international conservation measures must either be carefully tailored to comply with the substantive exemptions that are provided in global and regional liberal trade agreements, including even-handed treatment of domestic and foreign entities, or be supported by a strong position in the operational apparatus that decides whether or not an alleged contravention shall be pursued.

### 3.4 Operational interplay

Operational interplay refers to the coordination of activities, whether regulative or programmatic, undertaken within separate regime processes. Such coordination is sometimes envisaged by those who create an international regime, but this type of interplay may also emerge over time as ruling bodies discover that their regulatory work or programmes interact. One purpose of operational interplay is to avoid duplication by pooling available resources for problem-solving activities such as scientific research. The convention that established the fisheries regime for the Southern Ocean, for instance, names the FAO among the external organizations that would be natural cooperation partners.<sup>105</sup> This has been followed up in practice by the regime members, first by granting FAO observer status to Commission meetings and inviting this organization to take part in the work of the Scientific Committee. Another important example is the role of ICES in laying a scientific basis for management decisions not only in NEAFC but also the Norwegian–Russian Fisheries Commission, the North Atlantic Salmon Conservation Organization, and the International Baltic Sea Fishery Commission. The inclusiveness of such broader-based scientific organizations also enhances the legitimacy of scientific advice. The Antarctic experience provides also an instance of obstructive programmatic interplay. An ambitious plan by the FAO to launch a ten-year Southern Ocean research programme was dropped in 1979, most likely because of pressure from Antarctic Treaty parties towards the end of the negotiations that created CCAMLR.<sup>106</sup>

Another purpose of such coordination can be to maximize coherence between norms promulgated in different regime processes that address the same or similar issues. Consider the coordination conducted between the FAO and the UNCED Secretariat in the preparation of chapter 17 of Agenda 21, which led to the subsequent negotiation of the Fish Stocks Agreement. Prior to this, the FAO had already been vital in several other major concerted norm-building efforts in this area, including the Cancun Declaration, a series of technical consultations on high seas fishing, and the 1993 Compliance Agreement.<sup>107</sup> We noted earlier that the predator–prey interactions of many straddling stocks with species that are managed under other regimes imply that ecosystem management will require considerable operational interplay.

In *summary*, operational interplay can promote the effectiveness of adjacent regimes by enhancing the cost-efficiency of programme activities, by enhancing the inclusiveness of scientific assessments and advice, and by ensuring a higher level of coherence among principles or conservation measures. Although such coordination is costly and usually time-consuming, the growing number of international agreements and regime

processes in the environmental management area and the rising awareness of interdependencies between the issues they address suggest that operational interplay is likely to become increasingly significant in international management of natural resources.

#### 4 Concluding remarks

The past decade has been highly dynamic with respect to the politics and law of high seas fisheries. A number of regional straddling stock rivalries escalated to bitter disputes among some of the world's foremost fishing nations. Partly in consequence, fisheries management increasingly became part of the broader discourse of environmental affairs. The 1992 Rio Conference triggered a United Nations Fish Stocks Conference that addressed these concerns, and the Agreement that was negotiated strengthened and specified the duty under international law to cooperate on all aspects of high seas fisheries management. The overall effect of the Agreement is typically to globalize features that have hitherto been confined to the most advanced regional management regimes. In the science area, this concerns in particular the detailed procedures established for the cooperative collection and exchange of data. In the regulatory domain, the provision that only states that are members of, or adhere to, regional regimes shall have access to the fishery is important. The elaboration of basic conservation principles, such as precaution, compatibility, and ecosystem management, has also generated considerable activity at the regional level. Yet it is especially in the compliance control area that the Fish Stocks Agreement breaks new ground by creating global minimum standards that mobilize a broader range of compliance mechanisms than has usually been the case in regional high seas management regimes. This includes strengthened flag state responsibilities, procedures for non-flag state inspection and detention on the high seas, and elaboration of certain port state measures to enhance adherence to regional conservation and management measures.

This concluding chapter has examined the interplay of global and regional high seas management regimes. There is considerable variance in the operational structure of the regional regimes that are reviewed in this book. In regionalist regimes, decision-making is multilateral and usually inclusive, whereas bilateralist regimes are based on a set of bilateral agreements that accord the coastal states a prominent position in high seas management in return for granting other user states quotas in national waters. Both types comply with the obligation under the Fish Stocks Agreement to cooperate 'either directly or through appropriate subregional or regional fisheries management organizations or

arrangements', and there is little to suggest that one of these structures is generally superior in the management of high seas fisheries. Instead, other factors seem decisive for effective management: (1) scientific inclusiveness, (2) ability to induce non-coastal state acceptance of high seas rules, (3) practical criteria for allocation, and (4) agreed provisions for sufficiently intrusive compliance control. In these Conclusions, particular attention has been paid to how these factors are affected by various pathways of regime interplay.

Regarding the scientific aspect of management, we have shown how inclusiveness in stock assessments and recommendations has been enhanced by operational interplay between North-East Atlantic management regimes and the International Council for the Exploration of the Sea. Operational interplay, or the coordination of regulatory and programmatic activities, can also be a way of avoiding wasteful duplication or of maximizing normative coherence between regimes that impinge upon similar or connected activities. Such gains must always be balanced against the costs of cross-regime coordination.

Attaining sufficiently broad user coverage of high seas conservation measures usually requires that non-coastal states are induced, either by reward or by threats of sanction, to acknowledge such measures. Political interplay, which implies that interests or capabilities defined under one regime context spill over into another, is relevant here: the most effective way for coastal states to obtain acceptance from non-user states of rules that restrict high seas operations is to establish a linkage between such acceptance and access to quotas in national waters. A more demanding type of conservation-oriented issue linkage is to impose trade sanctions on states or individual vessels that engage in unregulated harvesting on the high seas. Such linkage across issue-areas typically requires a high degree of politicization and conflict, and those conditions have marked many of the straddling stock disputes discussed in this book. However, the effectiveness of trade-related compliance measures may be reduced if they can be challenged as violating rules upheld by other regimes that address the free flow of goods and services, including GATT. The extent and significance of such normative interplay is typically conditioned on the design of the economic measures taken or the ability to influence the operation of decision-making bodies under the regimes involved. For example, GATT has specific exemptions to the general ban on embargoes; and measures that are applied equally to domestic and foreign entities generally stand a better chance of avoiding being judged as disguised protectionism.

Allocative capacity is another important requirement for effective management: in the absence of agreed criteria on how to divide harvests among the user states, annual negotiations are complicated. The similar-

ity between regional management regimes in how they have approached this matter suggests that a level of emulation across regimes, or diffusive interplay, has occurred. Where the migratory patterns of the fish stocks in question imply a rather stable zonal attachment, management regimes tend to have fixed division keys; pelagic species, whose migratory pattern depends on the size of the stock, often require more flexible keys which correspond to variations in zonal attachment. The existence of regime features that have worked in other regime contexts can facilitate international resource management by offering models for emulation. Factors that appear to promote diffusion of regime features are proximity between the regime processes in time and space and the extent to which such regimes are similar in terms of interest structure. Those factors were present when, in the first half of the 1990s, innovative provisions for compliance control such as port state measures and procedures for high seas inspection and control emerged first in the most conflict-laden regional contexts and then spread by way of the Fish Stocks Agreement to other regional management regimes.

The four pathways of interplay discussed in this book have been relevant to the effectiveness of regional management regimes, and we have identified certain conditions that seem to initiate or constrain such interplay. The practical challenge for fisheries managers is to reinforce regime interplay that is conducive and impede interplay that is obstructive to governance of high seas fisheries.

## Notes

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1. See the discussion in E. L. Miles and W. T. Burke, 'Pressures on the United Nations Convention on the Law of the Sea of 1982 Arising from New Fisheries Conflicts: The Problem of Straddling Stocks', *Ocean Development and International Law*, 20 (1989), 343.
2. Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 Dec. 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks (1995); 34 *ILM* 1547.
3. Fish Stocks Agreement, Arts. 8–13. On the notion of international regimes, see the Introduction.
4. *Ibid.*, Art. 8 (4). The duty to cooperate on straddling stocks is laid out in the Law of the Sea Convention, Arts. 63 and 116–20.
5. Fish Stocks Agreement, Art. 8 (1).
6. On this notion of bilateralism, see J. G. Ruggie, 'Multilateralism: The Anatomy of an Institution', *International Organization*, 46 (1992), 561.
7. The term 'regionalist', rather than 'regional', is used to highlight the multi-lateral decision-making mode of such regimes; as seen above, bilateralist regimes are also regional but the interactive mode is different.
8. On the distinction between restricted and conditionally open regimes, see R. O. Keohane, 'Multilateralism: An Agenda for Research', *International Journal*, 45 (1990), 731, at 750.
9. Fish Stocks Agreement, Art. 8 (3).
10. See, on the one hand, the discussion by Orrego, Ch. 1 above, and on the other, A. Tahindro, 'Conservation and Management of Transboundary Fish Stocks: Comments in Light of the Adoption of the 1995 Agreement for the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks', *Ocean Development and International Law*, 28 (1997), 1, at 20.
11. UN Doc. A/CONF.164/22/Rev. 1, Art. 8. The term 'real interest' is undefined by the Agreement and likely to be interpreted differently in various regional settings.
12. Convention on Future Multilateral Cooperation in North-East Atlantic Fisheries (1980); *OJ* L227 (1981), Art. 20, paras. (1), (3), and (4); Convention on the Conservation and Management of Pollock Resources in the Bering Sea (1994), Art. XVI, paras. (1) and (4); 34 *ILM* 67.
13. Churchill, Ch. 8 above.
14. Convention on the Conservation of Antarctic Marine Living Resources (1980), Art. XXIX (1) (accession) and Art. VII (2) (membership in the Commission); 19 *ILM* 837.

15. Convention on Future Multilateral Cooperation in the Northwest Atlantic Fisheries (1978), Art. XXII (4) (accession) and Art. XIII (1) (membership in the Commission); *OJ L378* (1978).
16. Fish Stocks Agreement, Arts. 5 and 14 respectively; also annex I.
17. S. Andresen and W. Østreg (eds.), *International Resource Management: The Role of Science and Politics* (London: Belhaven, 1989); cf. NAFO Convention, Art. 6.
18. K. M. Sullivan, 'Conflict in the Management of a Northwest Atlantic Trans-boundary Cod Stock', *Marine Policy*, 13 (1989), 118, at 129–30.
19. See, respectively, O. S. Stokke, L. G. Anderson, and N. Mirovitskaya, 'The Barents Sea Fisheries', in O. R. Young (ed.), *The Effectiveness of International Regimes: Causal Connections and Behavioral Mechanisms* (Cambridge, Mass.: MIT Press), 181, and Churchill, Ch. 8 above.
20. Stokke, Ch. 9 above.
21. S. H. Marashi, 'Summary Information on the Role of International Fishery and Other Bodies with Regard to the Conservation and Management of Living Resources of the High Seas', *FAO Fisheries Circular*, 908 (1996), 60.
22. E. Meltzer, 'Global Overview of Straddling and Highly Migratory Fish Stocks: The Nonsuitable Nature of High Seas Fisheries', *Ocean Development and International Law*, 25 (1994), 255, at 293.
23. For a general argument to this effect, see Ruggie, 'Multilateralism'.
24. Vukas and Vidas, Ch. 2 above; also Herr, Ch. 10 above.
25. Joyner, Ch. 7 above. Other reasons for the collapse are that the agreed NAFO quotas were set too high and that considerable harvesting occurred by vessels flying flags of convenience.
26. Balton, Ch. 5 above.
27. *Ibid.*
28. O. S. Stokke and D. Vidas, 'Conclusions', in O. S. Stokke and D. Vidas (eds.), *Governing the Antarctic: The Effectiveness and Legitimacy of the Antarctic Treaty System* (Cambridge University Press, 1996), 432.
29. Herr, Ch. 10 above.
30. Fish Stocks Agreement, Art. 6 and annex II. On the emergence of the precautionary principle in international fisheries law and policy, see G. J. Hewison, 'The Precautionary Approach to Fisheries Management: An Environmental Perspective', *International Journal of Marine and Coastal Law*, 11 (1996), 301.
31. On the challenges for fisheries science implied by this approach, see L. J. Richards and J.-J. Maguire, 'Recent International Agreements and the Precautionary Approach: New Directions for Fisheries Management Science', *Canadian Journal of Fisheries and Aquatic Sciences*, 55 (1998), 1545.
32. L. L. Martin, 'Interests, Power, and Multilateralism', *International Organization*, 46 (1992), 765. On regional implementation of the precautionary approach, see G. L. Lugten, 'A Review of Measures Taken by Regional Marine Fishery Bodies to Address Contemporary Fishery Issues', *FAO Fisheries Circular*, 940 (1998), 85.
33. Oude Elferink, Ch. 6 above.
34. *Ibid.*

35. ICES Cooperative Research Report, 229, part I (1999), 27–32.
36. Stokke, Ch. 9 above.
37. ICES Cooperative Research Report, 221, part I (1997), 30–1.
38. Churchill, Ch. 8 above.
39. ICES Cooperative Research Report, 221, part 1, 50–1.
40. Churchill, Ch. 8 above.
41. ICES Cooperative Research Report, 229, part II (1999), 160.
42. Churchill, Ch. 8 above.
43. Lugten, 'A Review of Measures Taken', 87–8.
44. Sullivan, 'Conflict in the Management'.
45. M. S. Sullivan, 'The Case in International Law for Canada's Extension of Fisheries Jurisdiction beyond 200 Miles', *Ocean Development and International Law*, 28 (1997), 203.
46. See the scientific advice for 2000 ([www.nafo.ca/science/advice/2000/ghl2+3.pdf](http://www.nafo.ca/science/advice/2000/ghl2+3.pdf)).
47. On the scientific basis for the agreed threshold for allowing resumption of high seas fishing, see Balton, Ch. 5 above.
48. Herr, Ch. 10 above.
49. Fish Stocks Agreement, Art. 5, paras. (e), (f), and (g).
50. *Ibid.*, Arts. 8–12; only Art. 10 (d) deals explicitly with multispecies management—and in a context limited to scientific assessment.
51. CCAMLR Convention, Art. II.
52. Herr, Ch. 10 above.
53. NAFO Convention, Art. I (4); the exceptions are salmon (anadromous), tunas and marlins (highly migratory), cetecian stocks managed by the International Whaling Commission, as well as sedentary species.
54. On the interrelations of various regimes addressing whales and whaling, see S. Andresen, 'The International Whaling Regime: Order at the Turn of the Century?', in D. Vidas and W. Østreng (eds.), *Order for the Oceans at the Turn of the Century* (The Hague: Kluwer Law International, 1999), 215.
55. Oude Elferink, Ch. 6 above.
56. Fish Stocks Agreement, Art. 10, paras. (b) and (j).
57. *Ibid.*, Art. 11.
58. Stokke *et al.*, 'The Barents Sea Fisheries'.
59. Stokke, Ch. 9 above.
60. Joyner, Ch. 7 above. Pre-agreed division keys between coastal and non-coastal states are also found in the Bering Sea Doughnut Hole Convention, referring, however, not directly to national allocation but to the share of the pollock stock to be taken in international waters as opposed to the Russian and United States EEZs; Balton, Ch. 5 above.
61. S. Engesæter, 'Scientific Input to International Fishery Agreements', *International Challenges*, 13 (1993), 85.
62. Protocol on the Conservation, Rational Utilization and Management of Norwegian Spring Spawning Herring (Atlanto-Scandian Herring) in the Northeast Atlantic (1996), Art. 6.2; on file with the author.
63. Balton, Ch. 5 above.
64. Hønneland, Ch. 4 above.

65. See, e.g., S. Jentoft, B. J. McCay, and D. C. Wilson, 'Social Theory and Fisheries Co-management', *Marine Policy*, 22 (1998), 423, who also evaluate counter-arguments such as the risks of regulative capture.
66. Fish Stocks Agreement, Art. 14.
67. Vukas and Vidas, Ch. 2 above.
68. Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas (1993); 33 *ILM* 368.
69. M. Hayashi, 'Enforcement by Non-flag States on the High Seas under the 1995 Agreement on Straddling and Highly Migratory Fish Stocks', *Georgetown International Environmental Law Review*, 9 (1996), 1.
70. Fish Stocks Agreement, Art. 21 (1).
71. *Ibid.*, Art. 21 (5)–(8).
72. *Ibid.*, Art. 23; see also FAO Compliance Agreement, Art. V (2).
73. Vukas and Vidas, Ch. 2 above.
74. Stokke, Ch. 9 above.
75. Oude Elferink, Ch. 6 above.
76. Balton, Ch. 5 above.
77. O. R. Young, 'Institutional Linkages in International Society: Polar Perspectives', *Global Governance*, 2 (1996), 1, at 2.
78. See also the Introduction.
79. P. Birnie and A. E. Boyle, *International Law and the Environment* (Oxford: Clarendon Press, 1992), 444.
80. Fish Stocks Agreement, Art. 5 (d), (e), and (f), and Art. 6 (3) (c) and (d) and 6 (5).
81. *Ibid.*, Art. 30.
82. Boyle, Ch. 3 above.
83. A detailed account of this diffusive interplay is given by Vukas and Vidas, Ch. 2 above.
84. Compare Fish Stocks Agreement, Art. 23, and the Convention of the Law of the Sea, Art. 218; the latter goes somewhat further in that the port state may also institute proceedings.
85. O. R. Young, 'Political Leadership and Regime Formation: On the Development of Institutions in International Society', *International Organization*, 45 (1991), 281; A. Underdal, 'Leadership Theory: Rediscovering the Art of Management', in I. W. Zartman (ed.), *International Multilateral Negotiation* (San Francisco: Jossey-Bass, 1994), 178.
86. D. H. Anderson, 'The Straddling Stocks Agreement of 1995: An Initial Assessment', *International and Comparative Law Quarterly*, 45 (1996), 463–75, at 469.
87. For an extensive discussion, and rejection, of this argument, see S. S. Gezelius, 'Limits to Externalization: The EU NAFO Policy 1979–97', *Marine Policy*, 23 (1999), 147.
88. R. Barston, 'United Nations Conference on Straddling and Highly Migratory Fish Stocks', *Marine Policy*, 19 (1995), 159, at 163–4.
89. Stokke, Ch. 9 above.
90. See, e.g. Anderson, 'The Straddling Stocks Agreement', 467.
91. Oude Elferink, Ch. 6 above.

92. Balton, Ch. 5 above.
93. T. M. Franck, *The Power of Legitimacy among Nations* (New York: Oxford University Press, 1990).
94. C. F. Runge, *Freer Trade, Protected Environment: Balancing Trade Liberalization and Environmental Interests* (New York: Council on Foreign Relations Press, 1994).
95. O. S. Stokke and O. B. Thommesen (eds.), *Yearbook of International Cooperation on Environment and Development 2001–2002* (London: Earthscan, 2001).
96. Andresen, 'The International Whaling Regime'.
97. Runge, *Freer Trade, Protected Environment*.
98. General Agreement on Tariffs and Trade (1947); 55 *UNTS* 194. After the Uruguay round of negotiations, this agreement was incorporated into the General Agreement on Tariffs and Trade (1994) and linked to the World Trade Organization; see Final Act Embodying the Results of the Uruguay Round of Multilateral Trade Negotiations; 33 *ILM* 1145. On the tuna–dolphin issue, see T. J. Schoenbaum, 'International Trade and Protection of the Environment: The Continuing Search for Reconciliation', *American Journal of International Law*, 91 (1997), 268.
99. Stokke, Ch. 9 above.
100. The *lex posterior* rule is codified in Art. 30 of the Vienna Convention on the Law of Treaties, Vienna (1969); 1155 *UNTS* 654; for a discussion of this rule as well as the *lex specialis*, see K. Wolfke, *Custom in Present International Law*, 2nd rev. edn. (The Hague: Martinus Nijhoff, 1993), 94–5.
101. Fish Stocks Agreement, Art. 23 (2).
102. General Agreement on Tariffs and Trade (1947), Art. XX (b) and (g); emphasis added.
103. See Panel Reports on US Restrictions on Imports of Tuna (1991), 30 *ILM* 1598 (USA–Mexico), and (1994), 33 *ILM* 839 (USA–EC and the Netherlands); Appellate Body Report on US Import Prohibition of Shrimp and Certain Shrimp Products (1998), 37 *ILM* 832; also the discussion in Schoenbaum, 'International Trade and Protection of the Environment'.
104. 'Freedom to Provide Services', *EFTA Surveillance Authority: Annual Report 1998* ([www.efta.int/structure/SURV/efta-srv.cfm](http://www.efta.int/structure/SURV/efta-srv.cfm)). Art. 5 of Protocol 9 to the European Economic Area Agreement provides for access to ports and associated facilities but exemption is made for landings of fish from stocks, the management of which is subject to severe disagreement among the parties.
105. CCAMLR; Art. XXIII (1)–(3).
106. P. J. Beck, *The International Politics of Antarctica* (London: Croom Helm, 1986), 276.
107. See the Introduction.