

Ranné, Omar

Article — Digitized Version

More leeway for unilateral trade measures? The report of the appellate body in the shrimp-turtle case

Intereconomics

Suggested Citation: Ranné, Omar (1999) : More leeway for unilateral trade measures? The report of the appellate body in the shrimp-turtle case, Intereconomics, ISSN 0020-5346, Springer, Heidelberg, Vol. 34, Iss. 2, pp. 72-83

This Version is available at:

<https://hdl.handle.net/10419/40731>

Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

Terms of use:

Documents in EconStor may be saved and copied for your personal and scholarly purposes.

You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.

If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.

Omar Ranné*

More Leeway for Unilateral Trade Measures?

The Report of the Appellate Body in the Shrimp-Turtle Case

The report of the WTO Appellate Body in the shrimp-turtle case may prove to be of fundamental importance for the development of the GATT/WTO system. It asserts that a WTO member can unilaterally condition access to its market on compliance with environmental policies, as long as the regulations are administered in an even-handed manner and do not amount to disguised protectionism. Will the incidence of unilateral trade measures increase dramatically as a result of this decision?

In October 1998, the Appellate Body of the World Trade Organization (WTO) reaffirmed the panel decision in the shrimp-turtle case that Section 609 of US Public Law 101-162 does not satisfy the requirements of the General Agreement on Tariffs and Trade (GATT) Art. XX (General Exceptions) and is, therefore, GATT-illegal. While arguably confirming the law, the Appellate Body specifically faulted the United States on how it was implemented. The regulations in dispute are designed to protect endangered sea turtles and prohibit the importation of shrimp from countries which permit shrimp harvesting without a certain technology. Although it was criticized by environmentalists, some observers consider the ruling to be a landmark decision that opens up the door for unilateral approaches to the pursuit of international environmental goals. This article will discuss the findings of the Appellate Body in the shrimp-turtle case, which may prove to be of fundamental importance for the development of the GATT/WTO system. Above all, the Appellate Body removes some of the uncertainties previous panels had set up regarding the interpretation of Art. XX. The economic implications and possible aftermath of the ruling as well as some questions it seems to leave open will also be discussed.

The trade-and-environment debate that has captured the attention of trade specialists, environmentalists, politicians and the public involves several distinct categories.¹ One core policy question that has become increasingly relevant is whether unilateral trade restrictions should be allowed that are based not on the nature of a product, but on how it was

made, i.e. on differences in domestic production methods.² Demands that such restrictions be allowed have two different roots. On the one hand, they are driven by environmental concerns. Trade restrictions are considered necessary in order to protect international environmental resources. Particularly if global environmental commons are threatened by negative impacts of production activities of firms in different countries, measures taken by one single country tend to be inadequate. Imposing trade restrictions can be seen as a means to induce other – otherwise possibly free-riding – countries to take comparable measures or to negotiate a cooperative solution.³ On the other hand, even if the externalities are purely local, some

¹ See D. C. Esty: *Greening the GATT: Trade, Environment and the Future*, Washington 1994; C. Helm: *Sind Freihandel und Umweltschutz vereinbar?*, Berlin 1995; M. E. Kulessa: *Umweltpolitik in einer offenen Volkswirtschaft: Zum Spannungsverhältnis von Freihandel und Umweltschutz*, Baden-Baden 1995; P. Uimonen, J. Whalley: *Environmental Issues in the New World Trading System*, New York 1997. In this context, the term environment usually encompasses not only environmental resources but also concerns about human health and safety, consumer protection and the killing or mistreatment of animals. See R. E. Hudec: *GATT Legal Restraints on the Use of Trade Measures against Foreign Environmental Practices*, in: J. Bhagwati, R. E. Hudec (eds.): *Fair Trade and Harmonization: prerequisites for free trade*, Vol. 2, Cambridge, London 1996, pp. 95-174, here p. 95.

² See OECD: *Processes and Production Methods (PPMs): Conceptual Framework and Considerations on Use of PPM-Based Trade Measures*, Paris 1997.

³ A market-based alternative is the use of environmental labelling schemes that provide information to consumers on the environmental effects of products. While principally allowing consumers to make choices according to their environmental preferences, environmental labelling can nevertheless discriminate against foreign producers, in particular if the labelling criteria are tied to PPMs. See for a comprehensive analysis S. Zarrilli, V. Jha, R. Vossenaar (eds.): *Eco-Labeling and International Trade*, Houndmills, Basingstoke 1997; H. Karl, C. Orwat: *Economic Aspects of Environmental Labelling*, in: H. Folmer, T. Tietenberg (eds.): *The International Yearbook of Environmental and Resource Economics 1997/2000*, Aldershot, forthcoming.

* Friedrich-Schiller-University, Jena, Germany.

observers demand the right for national politicians to restrict imports on competitiveness grounds, or in popular rhetoric, to 'level the playing field' or to countervail 'eco-dumping'. Sometimes, advocates from this group also put forward an environmental motive, the so-called 'race to the bottom' argument: it asserts that countries with less stringent environmental standards have an unfair advantage and pull other countries down to undesirably low levels of environmental protection, because they have to compete for mobile investment capital by cutting their standards. While most economists will probably find some merit in environmentally motivated restrictions of trade if they are tied to transboundary or global externalities, the great weight of opinion considers competitiveness-based demands ill-founded and, moreover, does not subscribe to the 'race to the bottom' argument.

In contrast to the non-product-related processes and production methods (PPMs) considered here, some PPMs are directly related to important characteristics of the products concerned, i.e. they control negative consumption externalities, typically potential health impacts, e.g. of pesticides. If products are regulated on health grounds, some restrictions to trade are inevitable as probably even the most ardent free trader will admit.⁴

The US law in dispute in the shrimp-turtle case is a typical non-product-related production process regulation: Section 609 bans imports of shrimp from countries that have not adopted US regulations on the protection of sea turtles from incidental killing during shrimp harvesting. The ban is not imposed because of the characteristics of foreign shrimp itself, but

because of the way it is harvested, and it addresses, or at least seems to address, the protection of a global environmental resource rather than the competitiveness concerns of domestic industries. Therefore, the report of the Appellate Body represents the current 'state of the art' of WTO jurisprudence and dispute settlement practice relating to this important area of conflict.⁵

Background of the Shrimp-Turtle Dispute

Due to the destruction of their nesting habitats, harvesting and accidental mortality associated with fishing and most importantly with shrimp trawling operations, all but one species of sea turtles are considered to be threatened or endangered with extinction. Therefore, since 1987 the USA has required fishermen to employ a special equipment known as the Turtle Excluder Device (TED) that significantly reduces incidental killing of sea turtles.⁶ Two years later, the USA enacted Section 609 of Public Law 101-162.⁷ According to Section 609, the Secretary of State should initiate negotiations on bilateral or multilateral agreements for the protection of sea turtles with the governments of other shrimp harvesting countries. Furthermore, the law restricts imports of shrimp harvested with fishing equipment that may result in incidental sea turtle mortality, unless the President annually certifies to the Congress that the harvesting country has a regulatory programme comparable to that of the USA, that the average rate of incidental taking by the vessels of the country concerned is comparable to the average rate of incidental taking of sea turtles by US vessels, or that the fishing environment of the harvesting country rules out the endangerment of sea turtles.

However, pursuant to the guidelines issued in 1991 and 1993 for the implementation of Section 609, the law was applied only to countries of the Caribbean/Western Atlantic.⁸ The California-based environmental organization Earth Island Institute challenged the guidelines, and in December 1995 the US Court of International Trade (CIT) concluded that the geographical limitation was illegal. Therefore, the CIT

⁴ However, the hormone beef controversy between the European Union (EU) and the USA shows that sometimes it is difficult to decide whether a specific PPM is product-related or not. The relevant WTO rules are laid down in the Agreements on Sanitary and Phytosanitary Measures (SPS) and Technical Barriers to Trade (TBT).

⁵ A related but distinct question is the use of trade restrictions as an enforcement mechanism in multilateral environmental agreements (MEAs). Some environmentalists argue that the GATT/WTO reports in the tuna-dolphin and shrimp-turtle cases may jeopardize all MEAs which contain trade provisions. However, so far no MEA trade restriction has been challenged, a fact that arguably indicates a broad acceptance of this mechanism. Moreover, both the discussion in the WTO Committee on Trade and Environment (CTE) as well as several remarks in the panel reports seem to suggest that there is a broad scope for trade provisions within MEAs as long as they fulfil certain procedural requirements. Nevertheless, in order to provide predictability and security it might be useful to clarify the legal status of MEAs; the legal literature discusses several options for appropriate GATT amendments. See R. E. Hudec, *op.cit.*, here pp. 120-142 or T. J. Schoenbaum: *International Trade and Protection of the Environment: The Continuing Search for Reconciliation*, in: *American Journal of International Law*, Vol. 91, 1997, pp. 268-313, here pp. 281-284.

⁶ A TED is a trap-door that is inserted into a shrimp trawling net. A completely installed TED costs between 75 and 500 US-Dollars, and is estimated to reduce turtle mortality by up to 97%.

⁷ For a thorough account of the factual aspects of the controversy see WTO: *United States - Import Prohibition of Certain Shrimp and Shrimp Products*, Report of the Panel, WT/DS58/R, 1998, paragraphs 7.1-7.6.

⁸ In September 1996, the United States and a number of countries of that region concluded the Inter-American Convention for the Protection and Conservation of Sea Turtles.

directed the Department of State to prohibit, no later than May 1996, the importation of shrimp products wherever harvested without turtle-safe technologies. In April 1996, the Department of State published revised guidelines that extended the scope of Section 609 to shrimp harvested in all countries. Furthermore, all shrimp imports have to be accompanied by a declaration attesting that the shrimp have been harvested either under turtle-safe conditions or in territorial waters of a nation certified pursuant to Section 609. The guidelines define turtle-safe shrimp to include

- species of shrimp harvested in areas where no sea turtles occur,
- shrimp harvested in aquaculture facilities,
- shrimp harvested using TEDs comparable in effectiveness to US TEDs, or
- shrimp harvested using exclusively technologies known not to harm turtles, e.g. manual methods.

Additionally, the guidelines lay down the conditions for certification of harvesting countries: their governments must provide documentary evidence of the adoption of a regulatory programme that is comparable to that of the USA and that must include the requirement that all commercial shrimp trawl vessels operating in waters where sea turtles live always use TEDs comparable in effectiveness to US TEDs. In October 1996, the CIT found that the embargo enacted by Section 609 applies to all imports of shrimp from non-certified countries, i.e. it repealed the provision that permits shrimp shipments from non-certified countries if accompanied by a 'turtle-safe'-declaration.

Simultaneously, four Asian countries – India, Malaysia, Pakistan and Thailand – had requested consultations with the United States under the WTO dispute settlement procedures regarding the import restrictions, claiming that it was inappropriate for the United States to prescribe their national conservation policies. After the consultations had failed, the WTO

established a dispute settlement panel to consider the complaints. The panel issued its report in April 1998 and concluded that the US measure was neither consistent with GATT Art. XI (General Elimination of Quantitative Restrictions), nor could it be justified under Art. XX (General Exceptions). The United States disagreed with the panel's findings and filed a notice of appeal with the WTO Appellate Body.

GATT Dispute Settlement Practice

The issue of PPM-based environmentally motivated trade restrictions and, in particular, the question whether they might satisfy the Art. XX exceptions had been on the GATT agenda before. The now notorious tuna-dolphin dispute that had been subject of two GATT panels in the first half of the 1990s involved a virtually identical US restriction on tuna imports.⁹ Although neither of the two reports has been adopted, they are part of the evolving case law on Art. XX and form the background of the shrimp-turtle case.

In the eastern tropical Pacific Ocean yellowfin tuna are known to swim under schools of dolphins. In the 1950's, American fishermen developed a technique known as 'dolphin-fishing' that involves encircling dolphins with purse-seine nets in order to catch tuna. The US Marine Mammal Protection Act (MMPA) restricts the number of dolphins that may be incidentally killed by using this method. Following the 1988 amendments of the MMPA, in 1990 the USA banned tuna imports from countries whose average incidental taking rate exceeded 1.25 times the average taking rate of US vessels in the same period. In 1991, Mexico successfully challenged the trade restrictions before the GATT. However, under diplomatic pressure from the USA concerning the NAFTA negotiations, Mexico refrained from seeking adoption of the panel report by the GATT Council. Since the import ban was also applied to intermediary nations that import tuna products from an embargoed country, several member states of the European Community (EC) were affected, too. Therefore, the EC brought the dispute before the GATT and a second panel ruling was issued in 1994.

Each of the tuna-dolphin panels first examined whether the import restrictions could be justified under Art. III, which requires equal treatment between imported and domestic products. The crucial question to answer was, if tuna caught with purse-seine nets and dolphin-safe tuna should be considered 'like products' or not. The panel argued that the manner in which the tuna was produced did

⁹ See GATT: Dispute Settlement Panel Report on United States Restrictions on Imports of Tuna, in: *International Legal Materials*, Vol. 30, 1991, pp. 1598-1623 (hereafter Tuna I); and GATT: Dispute Settlement Panel Report on United States Restrictions on Imports of Tuna, in: *International Legal Materials*, Vol. 33, 1994, pp. 839-903 (hereafter Tuna II). Both reports are discussed at great length in the economic and legal 'trade and environment'-literature. By the way, the case was also set in motion by a court challenge by the Earth Island Institute, a fact that hints at the important role national courts might play in international trade relationships. For a detailed discussion of the tuna-dolphin case see O. Ranné: *Zur Vereinbarkeit von Nachhaltigkeit und Freihandel: Signalisiert der Thunfisch-Delphin-Fall einen Reformbedarf der Welthandelsordnung?*, Discussion Paper, Friedrich-Schiller-University, Jena 1999.

not affect the product itself, because it did not affect objective product characteristics. Therefore, the regulation discriminated between like products. In other words, an embargo based on non-product-related PPMs violates Art. III.

Having concluded that Art. III was not applicable and, therefore, the US embargo was inconsistent with GATT Art. XI,¹⁰ both panels considered the US claims that the trade restrictions were justified as exceptions under Art. XX(b) (measures necessary for the protection of animal life or health) and Art. XX(g) (measures relating to the conservation of an exhaustible natural resource).¹¹ According to long-standing dispute settlement practice confirmed by the Appellate Body, Art. XX is a limited and conditional exception from GATT obligations and, as opposed to positive provisions of the Agreement, does not establish obligations in itself. Therefore, panels have traditionally argued that it is up to the party invoking Art. XX to demonstrate that the measure at issue falls under one of the exceptions (a) to (j) and, moreover, satisfies the requirements of the introductory paragraph (often referred to as 'the chapeau'). The relevant passage reads as follows:

Article XX:
General Exceptions

Subject to the requirement that such measures are not applied in a manner which would constitute a means of arbitrary or unjustifiable discrimination between countries where the same conditions prevail, or a disguised restriction on international trade, nothing in this Agreement shall be construed to prevent the adoption or enforcement by any Member of measures:

...

(b) necessary to protect human, animal or plant life or health;

...

(g) relating to the conservation of exhaustible natural resources if such measures are made effective in conjunction with restrictions on domestic production or consumption;

...

In Tuna I, two important issues were raised concerning the interpretation of Art. XX, namely the concept of 'necessity' in paragraph (b) as well as the meaning of 'relating to' and 'in conjunction with' in paragraph (g) and the question of the jurisdictional application. Borrowing from the Thailand cigarettes case, the Tuna I panel held that an import restriction could be considered to be 'necessary' only if there were no GATT-consistent or less GATT-inconsistent

alternatives by which the objective could be achieved.¹² The US import ban did not pass muster under this test, firstly, because the USA missed the opportunity to initiate international negotiations, and secondly, because Mexican fishermen had to meet an unpredictable criterion.¹³ When examining paragraph (g), the panel applied the so-called 'primarily aimed at' test, which states that a measure must be primarily aimed at the conservation of the resource concerned and at rendering effective the domestic restrictions. Again, it dismissed the US ban for the unpredictability of the intervention. Arguably, even more important was the panel's rejection of extra-territorial enforcement of regulations. Referring to the drafting history of Art. XX, the Tuna I panel argued that the provision only included measures to protect human, animal or plant life or health within the jurisdiction of the importing country.

The Tuna II panel first examined the jurisdictional application of Art. XX and came to a different conclusion. It held that the provisions of Art. XX also cover policies related to human, animal or plant life or health, or the conservation of exhaustible natural resources located outside the territory of the importing state. However, the panelists observed that the US embargo could only succeed in protecting dolphins if other countries were forced to change their environmental policies within their jurisdiction. Such an attempt on behalf of one country to impose its standards on other GATT members could not be considered to be 'primarily aimed at' or 'necessary' for the protection of dolphins. In Tuna II, the panel introduced a distinction between extra-territorial and extra-jurisdictional application:¹⁴ the law was not GATT-illegal because dolphins did not live in US territory, but because it was applied beyond US jurisdiction, i.e. attempted to change the behaviour of citizens of other countries.

¹⁰ See T. J. Schoenbaum, *op.cit.*, pp. 271-273.

¹¹ Sometimes it is criticized that environmental protection is not mentioned explicitly among the exceptions and therefore may not fall under Art. XX. However, the previous experience with environmental disputes suggest that this is not really a problem. In the Tuna cases the parties agreed that dolphin protection is a policy covered by paragraph (b), while in Tuna II and in the shrimp-turtle case the panels endorsed the American opinion by deciding that dolphins and turtles are 'exhaustible resources' within the meaning of paragraph (g).

¹² This requirement is also known as the 'least trade restrictive' test.

¹³ Their maximum dolphin taking rate during a period was linked to the taking rate actually recorded for American fishermen during the same period.

¹⁴ See T. J. Schoenbaum, *op.cit.*, p. 280. By the way, some aspects of the Tuna II report are difficult to interpret even by experts, see R. E. Hudec, *op.cit.*, p. 151.

The Rulings of the Shrimp-Turtle Panel

In the shrimp-turtle case the USA more or less admitted the violation of Art. XI, so the panel focused on the applicability of Art. XX. However, in contrast to the aforementioned cases and well-established practice, it started the analysis by examining whether the US measures satisfied the conditions of the chapeau. In particular, the panelists dealt with the question of whether Art. XX encompasses measures conditioning access to the domestic market on the adoption of certain environmental policies by the exporting countries.¹⁵

Having stated that the meaning of the term 'unjustifiable discrimination' in the chapeau had never been defined precisely before, the panel decided to interpret the term in the light of the object and purpose of the WTO Agreement which are, first of all, the liberalization of market access and the promotion of the multilateral trading system. Therefore, the panel concluded that the introductory paragraph of Art. XX 'only allows members to derogate from GATT provisions as long as, in doing so, they do not undermine the WTO multilateral trading system, thus also abusing the exceptions contained in Art. XX'.¹⁶ The panel went on to argue that the security and predictability of the trading system could be seriously threatened even if the measure on its own has a minor impact, because other countries would be allowed to adopt measures of the same type. Therefore, the crucial question is whether such type of measure and not the measure on its own would jeopardize the WTO system. The panelists found that conditioning market access for a product upon the adoption of certain environmental policies in the exporting country is exactly such a type of measure: if a number of countries require different, perhaps even conflicting, PPMs for the same product, it is impossible for exporting countries to comply at the same time with the numerous requirements, and this would lead to the end of the multilateral trading system.¹⁷ On this basis, the panel found that the US measure amounted to an unjustifiable discrimination and, therefore, did not comply with the conditions in the introductory sentence of Art. XX.

The approach chosen by the shrimp-turtle panel arguably establishes the most rigorous test for the justification of environmental measures under Art. XX. It is no surprise that environmentalists considered this an outrageous decision, because the report seems to rule out PPM-based trade restrictions once and for all.

To sum up, while basically reaching the same conclusion the reasonings of the Tuna I, Tuna II and

shrimp-turtle panels differed markedly and they set up different tests for the admissibility of environmentally motivated trade restrictions (for an overview see Figure 1). This reveals a substantial confusion about the appropriate interpretation of Art. XX, so that the Appellate Body's clarification examined in the next section is an important contribution to WTO jurisprudence.¹⁸

The Report of the Appellate Body

The new WTO dispute settlement procedures require the panels to present their reports within six months. A report is considered as adopted if the Dispute Settlement Body (DSB) does not unanimously reject it within 60 days.¹⁹ However, any party to the dispute may appeal to the Appellate Body and in the shrimp-turtle case the USA made use of this opportunity. Any appeal must be limited to issues of law covered in the panel reports and legal interpretations developed by the panels and the Appellate Body can uphold, modify or reverse the legal findings and conclusions of the panel.²⁰

Having heard the arguments of the parties and third participants, the Appellate Body examined the panel's reasonings. Regarding Art. XX, the Appellate Body recalled its approach in the gasoline case in which it proposed a two-tiered analysis: first, provisional justification of the measure under one of the exceptions listed under Art. XX, and second, further appraisal of the same measure under the chapeau. In this context, the introductory paragraph addresses the application of the measure rather than the measure itself. The Appellate Body disapproved of the panel's reversing of the sequence as well as its interpretation of the term 'unjustifiable discrimination', because this pro-

¹⁵ See WTO, *op.cit.*, paragraph 7.26. For the findings regarding Art. XX see paragraphs 7.24-7.62.

¹⁶ *Ibid.*, paragraph 7.44.

¹⁷ *Ibid.*, paragraphs 7.44 and 7.45.

¹⁸ In several aspects, the Appellate Body borrows substantially from its report on the gasoline case, the first environmental dispute under the new WTO regime. See WTO: United States – Standards for Reformulated and Conventional Gasoline, Appellate Body Report, WT/DS2/9, 1996.

¹⁹ Thus the losing side is not able to prevent the adoption of a panel report as it was in the old GATT dispute settlement mechanism. See WTO: United States – Import Prohibition of Certain Shrimp and Shrimp Products, Report of the Appellate Body, WT/DS58/AB/R, 1998.

²⁰ Three of the seven members of the (standing) Appellate Body, who serve four-year terms, are selected to sit on a case. They are persons of recognized standing in the field of law and international trade, and should not be affiliated with any government. In contrast, panelists are drawn from a list of international trade specialists for each case; they usually do their work, which includes identifying the factual aspects of a case, in addition to their full-time job.

Figure 1
Admissibility of PPM-based Trade Measures: GATT/ WTO Dispute Settlement Practice Relating to Article XX, Paragraphs (b) and (g)

	Requirements of the Chapeau	Requirements of paragraph (b)	Requirements of paragraph (g)
Tuna-Dolphin I Report of the Panel	Not addressed, because the measure did not pass muster under the requirements of paragraphs (b) and (g)	Not met, because the measure is not necessary (= least-trade restrictive), and the resources to be protected are not located within the territory of the importing country	Not met, because the measure is neither relating to (= primarily aimed at conserving the resource) nor made effective in conjunction with domestic restrictions (= primarily aimed at rendering effective the domestic restrictions), and the resources to be protected are not located within the territory of the importing country
Tuna-Dolphin II Report of the Panel	Not addressed, because the measure did not pass muster under the requirements of paragraphs (b) and (g)	Not met, because the measure is only effective if applied extra-jurisdictionally (= other countries are forced to change their policies), and is therefore not necessary	Not met, because the measure is only effective if applied extra-jurisdictionally (= other countries are forced to change their policies), and is therefore neither relating to nor made effective in conjunction with domestic restrictions
Shrimp-Turtle Report of the Panel	Not met, because allowing this type of measure (conditioning market access upon the adoption of certain policies in the exporting country) might jeopardize the WTO system	Not addressed, because the measure did not pass muster under the requirements of the chapeau	Not addressed, because the measure did not pass muster under the requirements of the chapeau
Shrimp-Turtle Report of the Appellate Body	Not met, because the measure is applied in a manner that constitutes a means of arbitrary and unjustifiable discrimination between countries where the same conditions prevail	Not addressed, because the measure is provisionally justified under paragraph (g)	Met, because the measure is relating to (= a real relationship between the end and the means exists) and made effective in conjunction with domestic restrictions (= even-handed imposition of restrictions upon foreign and domestic products)

ceeding led the panel to create too rigorous a test.²¹ In particular, the Appellate Body noted that conditioning access to a market on whether the exporting country complies with policies unilaterally prescribed by the importing country may be a common aspect of measures covered by the Art. XX exceptions. However, that is exactly why these measures are exceptions, and they are allowed because they incorporate important and legitimate policies. Therefore, according to the Appellate Body it would be 'a result abhorrent to the principles of interpretation we are bound to apply' that the panel's interpretation, which rules out conditioning market access for a product upon the adoption of certain policies in the exporting country, would render most of the specific exceptions of Art. XX inutile.²²

Having reversed the panel's findings, the Appellate Body carried out its own legal analysis in order to settle the dispute. Within the first step of its examination on whether Section 609 falls under the Art. XX(g) exception, the Appellate Body dealt with three questions:

- do sea turtles constitute 'exhaustible natural resources' for purposes of Art. XX(g)?
- is the measure at issue 'relating to the conservation' of those resources?
- is the measure 'made effective in conjunction with restrictions on domestic production or consumption'?

Although vehemently disputed between the parties, the first question was easy to answer.²³ Following previous dispute settlement practice, the report outlined a broad interpretation of exhaustible natural resources, thus confirming that Art. XX contains scope to accommodate a broad range of environ-

²¹ The Appellate Body's criticism is perhaps too harsh. One should bear in mind that the panelists had to digest a huge amount of sometimes contradictory evidence within a very short period of time.

²² See WTO: Report of the Appellate Body, op. cit., paragraphs 115-122 and especially paragraph 121.

²³ The complainants argued that Art. XX(g) was limited to the conservation of non-renewable mineral or non-living natural resources rather than renewable living species. From the economic point of view this argument is not persuasive, because renewable resources are often exhaustible, too.

mental issues. Then the Appellate Body addressed the 'relating to' and the 'in conjunction with' requirements, again recalling its findings in the gasoline case where it had substantially modified the old GATT dispute settlement practice and, in principle, abandoned the 'primarily aimed at' test. First, observing a real and close relationship between the means (Section 609 with implementing guidelines) and the end (the legitimate policy of conserving turtles), the Appellate Body found the measure to be 'relating to'. Second, the 'in conjunction with' requirement is seen to demand an even-handedness in the imposition of restrictions upon foreign and domestic products. Since in the shrimp-turtle case, Section 609 imposed essentially identical restrictions both on imported shrimp and shrimp caught by US vessels, the report considered it an even-handed measure. Having answered in the affirmative the three questions, the Appellate Body came to the conclusion that the measure was provisionally justified under Art. XX(g).²⁴

The Appellate Body then turned to the second part of the two-tier analysis of Art. XX, and examined whether the measure satisfies the requirements of the chapeau, i.e. is not applied in a manner which constitutes 'a means of arbitrary or unjustifiable discrimination between countries where the same conditions prevail', and is not 'a disguised restriction on international trade'. However, before scrutinizing the concrete application of Section 609, the Appellate Body gave some important general considerations to the appropriate interpretation of the chapeau. First, the Appellate Body noted that it is reasonable to take into account the language of the preamble to the WTO Agreement, which endorses sustainable development and environmental protection, as well as recent institutional developments, such as the establishment of the CTE or the results of the Rio Conference. Second, the Appellate Body underscores that the purpose of the chapeau is to grant a member the right to invoke an exception without violating the rights of the other members and eroding the rule-based trade order. Therefore, the exceptions listed under Art. XX are limited and conditional and their ultimate availability is subject to the compliance with the requirements of the chapeau. In the words of the Appellate Body, '[t]he task of interpreting and applying the chapeau is, hence, essentially the delicate one of locating and marking out a line of equilibrium between the right of a Member to invoke an exception under Article XX and the rights of the other Members under varying substantive provisions (e.g. Article XI) of the GATT 1994, so that neither of the competing rights will

cancel out the other and thereby distort and nullify or impair the balance of rights and obligations constructed by the Members themselves in that Agreement. The location of the line of equilibrium, as expressed in the chapeau, is not fixed and unchanging; the line moves as the kind and the shape of the measures at stake vary and as the facts making up specific cases differ'.²⁵

Against this background, the Appellate Body went on to examine the specific application of Section 609. In order to prevent an abusive application of measures that are justified under Art. XX the chapeau lays down three standards: a measure should not be applied in a manner that would 'arbitrarily discriminate' between countries where the same conditions prevail, 'unjustifiably discriminate' between countries where the same conditions prevail, or constitute a 'disguised restriction' on international trade. The report found that various characteristics of the manner in which the measure was implemented amounted to a violation of the first two standards:²⁶

- The embargo intends to force other WTO Members to adopt essentially the same specific policies as the USA without taking into account the different conditions in the exporting countries.
- If shrimp is caught in the waters of countries not certified under Section 609, the US authorities would prohibit imports of that shrimp, even if it were harvested by vessels using TEDs identical to those employed in the USA. In the view of the Appellate Body, this suggests that the measure mainly attempts to force exporting countries to adopt the same regulatory regime as the USA.
- Even though the need for multilateral solutions based on international cooperation for transboundary or global environmental problems is widely recognized, and even though Section 609 itself directs the Secretary of State to initiate negotiations for the development of such agreements for the protection and conservation of sea turtles, the USA made inadequate efforts to engage in negotiations with the complaining countries.
- The USA unjustifiably discriminated against the complaining countries by granting them a phase-in

²⁴ Therefore it was not necessary to address Art. XX(b), which is probably more difficult to fulfil.

²⁵ WTO: Report of the Appellate Body, op. cit., paragraph 159.

²⁶ After reaching this conclusion, there was no need for the Appellate Body to examine whether Section 609 was applied in a manner that was tantamount to a 'disguised restriction on international trade'.

period, i.e. time to adjust to the new requirements, of only four months while fourteen countries in the wider Caribbean/western Atlantic region had a phase-in period of three years (1991-1994).²⁷

□ In addition, the manner in which US authorities administered the law resulted in arbitrary discrimination. Some aspects of the certification process, such as its informal and casual character, lack of formal opportunities for applying countries to be heard, lack of review or appeal procedures, etc. violate minimum standards for transparency and procedural fairness in the administration of trade regulations.

Consequently, the Appellate Body found that while qualifying for provisional justification under Art. XX(g), the measure failed to meet the requirements of the chapeau and, therefore, was not justified under Art. XX. The report recommends that the DSB requests the USA to bring the implementation of Section 609 into conformity with its WTO obligations.

The Appellate Body also overturned the first-level panel's findings on the second issue that had been raised in the appeal, the admissibility of *amicus curiae* ('friends of the court') briefs, i.e. non-requested information from non-governmental organizations (NGOs). While the panel had held that it was not allowed under the provisions of the Dispute Settlement Understanding to accept *amicus curiae* briefs, the Appellate Body affirmed that WTO rules permit panels to consider such information from NGOs and other interested parties.

A Tentative Interpretation of the Report

As mentioned above, the shrimp-turtle case sets an important precedent for the handling of PPM-based trade restrictions. Since the analysis of the Appellate Body differs substantially from the reasonings of the previous panels one might see a fundamental change in the WTO's attitude that makes it easier for a member state to justify derogations from GATT principles in order to advance international environmental goals. The report asserts that a WTO member can unilaterally condition access to its market on compliance with environmental policies, as long as the regulations are administered in an even-handed manner and do not amount to disguised protectionism. Obviously, the requirements set out by the Appellate Body for a measure to qualify under Art. XX(g) – a close relationship between means and ends and even-handedness – are easier to meet than the 'primarily aimed at' test of the old GATT dispute settlement practice, not to speak of the 'least-trade restrictive'

test of paragraph (b). Then the chapeau is used to prevent protectionist abuse of the provisionally justified measure. In the opinion of the Appellate Body the chapeau prescribes certain standards of flexibility and procedural fairness in the implementation of a law, including genuine efforts to reach multilateral agreements and the recognition of the interregional diversity of environmental conditions.²⁸ In this context, it should be noted that the once hotly debated topic of jurisdictional application did not feature prominently in the shrimp-turtle case.

However, important as they may seem from the legal point of view the modifications should not be overestimated, for in practice their consequences may prove to be rather small. On the one hand, the previous panels also did not completely rule out the possibility that the US measures would have been allowed after more serious attempts to reach a cooperative solution. This was emphasized even by the first level panel in the shrimp-turtle case that allegedly developed the most stringent test.²⁹ On the other hand, it remains open to doubt whether any actual implementation can ever come up to the standards required in the report of the Appellate Body:

□ The Appellate Body calls upon the USA to take into account the different conditions in the exporting countries. However, it is hard to see how the US authorities can differentiate the regulation of market access on the grounds of different conditions in the countries of origin without violating Art. III.

□ While the report makes it clear that no WTO member should attempt to force other members to use the same specific instruments, it does not consider the important question whether it is possible to compel other countries to observe certain targets such as, e.g., mortality rates.

²⁷ Of course, this was a result of the CIT decisions, but this does not relieve the USA of the legal consequences.

²⁸ The rationale thus satisfies the demands of the many scholars who have proposed similar approaches. See, among others, T. J. Schoenbaum, op. cit. or I. Cheyne: Environmental Unilateralism and the WTO/ GATT System, in: Georgia Journal of International and Comparative Law, Vol. 24, 1995, pp. 433-466.

²⁹ I am not sure that the panel really attempted to invent a more stringent new test, because it frequently referred to past settlement practice and, particularly, to the Appellate Body report in the gasoline case that had developed a less rigid approach. One might as well argue that the panelists intended to emphasize the increasing relevance of the chapeau and started with its examination not least in order to keep the process manageable. Nevertheless, by ruling out all measures which may threaten the multilateral trade order if applied regularly, the panel overshot its mark. The approach is neither consistent with the WTO's legal system nor convincing from the economic point of view, e.g., because it would also cover product-related PPMs where certain restrictions are reasonable.

□ Discriminating rules may be inevitable to render restrictions effective. For example, the Appellate Body suggests that the USA must allow imports of shrimp caught in waters of non-certified countries by vessels using TEDs. However, in this case it is difficult to prevent 'shrimp-laundering', i.e. the practice of importing shrimp harvested by boats without TEDs on boats with TEDs.

□ After what efforts will the Appellate Body accept that all the possibilities of engaging in negotiations have been exhausted? And how will it consider, e.g., varying levels of income in the countries involved or the historical responsibility for the scarcity of a resource?

Thus, if the requirements suggested by the Appellate Body are vigorously enforced trade restrictions will presumably continue to qualify only under exceptional circumstances.

The Appellate Body's reference to the WTO preamble, the CTE and the Rio Conference, all of them emphasizing sustainable development as the guiding principle, may indicate that environmental concerns will be considered more favourably in coming WTO trade disputes or, as environmentalists might say, less hostilely. Furthermore, the Appellate Body seems to suggest that it would welcome recommendations by the CTE regarding trade and environment issues for future cases. However, this development also does not necessarily mean that there will be more scope for unilateral trade measures:

□ It is important to recognize that when the Rio Declaration on Environment and Development and Agenda 21 address this topic, in almost identical language both documents reject unilateral trade measures that target environmental resources outside the jurisdiction of the importing country and clearly favour cooperative solutions to transboundary or global environmental problems.

□ Up to now, all statements by third members submitted to the reports officially supported the case against the US tuna and shrimp embargoes. In the appeal some members argued against the legal reasonings of the first-level panel and, in particular,

against what they see as a new test, but they nevertheless dismissed the US course of action.

□ The somewhat fruitless discussion in the CTE concerning PPM based trade measures mirrors the difficulties that must be overcome. It is unlikely that the developing countries will give in and accept the appropriateness of unilateral approaches, unless they are subject to very strict disciplines that make them a merely theoretical option.

Finally, the Appellate Body's clarification concerning the provision of non-requested information is reasonable and was welcomed by US Trade Representative Barshefsky as an important confirmation of the openness of the WTO's dispute settlement mechanism to input from the public. Some observers expect environmental NGOs to avail themselves of this opportunity more frequently in future disputes, thus exercising an influence on the panel proceedings. However, again some caveats apply. On the one hand, the Appellate Body decided that panels have the right, not the obligation, to accept and consider non-requested material. In other words, the panel has the discretion to reject information. Obviously, otherwise the strict timetable of the dispute settlement process could not be followed and the tasks of the perhaps already overburdened panels would become unsolvable.³⁰ On the other hand, the shrimp-turtle panel did not completely ignore the *amicus curiae* briefs, but allowed the USA to put forward the briefs as part of its own submissions. In that way, the panel took the material into consideration and its legal error had no bearing on the result.

To sum up, despite some important modifications regarding the findings of previous panels, the Appellate Body's decision probably still leaves little leeway for unilateral trade restrictions. However, does this really reveal a systematic bias in the WTO regime that unjustifiably subordinates environmental concerns to trade interests and that is cause for demanding a 'green' reform? Or is the WTO right in strongly resisting unilateralism?

The Case For Unilateral Trade Measures

An increasing number of scholars favour a more regular use of trade restrictions if they are tied to transboundary or global environmental problems.³¹ An efficient approach to such problems requires cooperation, which is difficult to achieve for several reasons. One important obstacle, particularly in the case of global commons, is that all the parties involved may be tempted to behave strategically, i.e.

³⁰ The first-level panel pointed out that 'parties had submitted a number of studies by experts and often quoted the same scientific documents to support opposite views'. (WTO, Panel report, paragraph 7.9). This indicates that the panelists already went to the limit of their capacity to deal with the complexities of the problem and probably could not consider additional contradictory expertise and evidence.

³¹ See among others H. F. Chang: Carrots, Sticks, and International Externalities, in: *International Review of Law and Economics*, Vol. 17, 1997, pp. 309-324.

to exaggerate the costs and to understate the utility of protection measures, thus forestalling an agreement.³² In this situation, trade restrictions imposed by the pioneers of environmental awareness may help to realize the 'polluter pays principle' by forcing the free-riding countries to enact similar measures. In the end, this may result in an efficient solution to international environmental problems. Against this background, a less restrictive interpretation of Art. XX or a reform of the GATT/WTO-system is considered to be necessary: trade restrictions are only effective if they are credible and they are only credible if they are GATT-conform, because otherwise any embargoed country could successfully challenge them.³³

The Case Against Unilateral Trade Measures

Although the option of employing trade restrictions for environmental purposes looks promising at first sight, it may not seem so after close scrutiny. There are convincing arguments why unilateral trade measures should only be accommodated as a last resort even if they target the protection of global environmental commons. Compared to multilateral agreements they are clearly inferior and may even backfire, a fact that also shows in the tuna and shrimp cases:³⁴

□ Cooperative agreements are likely to include comprehensive environmental strategies that involve technological, financial or other transfers, utilize the knowledge of experts from different countries and pay attention to the specific circumstances in different geographical areas. In contrast, it is difficult to craft trade restrictions in a manner that takes due account of other competing environmental goals and the broader ecological implications. Both the tuna and shrimp disputes demonstrate that environmentally motivated trade restrictions do not necessarily lead to tangible environmental benefits. Increasingly, wild shrimp is being substituted for by shrimp grown in aquaculture, a tendency that is likely to be strengthened by the US policy. However, intensive aquacultural farming is also criticized for its negative repercussions on sea turtles, mainly caused by marine pollution (feed wastes, faeces, antibiotics) and degradation of their habitats (clearing of mangrove forests for ponds). Consequently, in the long run the overall impact of the US shrimp embargo for the protection of sea turtles might not even be positive. Similarly, the US dolphin protection policy was criticized for its negative ecological side-effects. It results in an overexploitation of other marine resources, because the alternative fishing methods target undersized, sexually

immature tuna and increase the bycatch of many other species.³⁵

□ A serious problem that primarily raises fears in the trade community but is also acknowledged by some proponents of environmentally motivated trade measures is their susceptibility to protectionist abuse.³⁶ Industries whose ulterior motive for demanding trade restrictions is not to protect the environment but rather to limit competition from foreign producers might be able to capture this new opportunity to achieve their own objectives. In the political process they may form coalitions with environmentalists in order to utilize the moral and emotional appeal to justify trade restrictions against eco-dumping. Once they are allowed, the anti-eco-dumping measures must be implemented. On this stage, vested business interests may be successful in influencing the competent authorities who have to establish the existence of eco-dumping by defining the appropriate environmental standards in other countries or even monetarizing environmental externalities. As a result, while import bans will be made in the name of environmental protection, their implementation will only serve business interests. One does not have to be very imaginative to predict the exploitation of 'green' trade measures by protectionist interests, because the development of antidumping laws provides telling evidence. There are theoretically valid arguments for antidumping policies, mainly based on

³² For a comprehensive game-theoretic analysis see G. Ködding: Lösungsansätze für grenzüberschreitende Umweltprobleme bei internationaler Handelsverflechtung, Frankfurt et al. 1997.

³³ If the threat is credible, it might not even be necessary to impose trade bans at all, because the targeted countries will obey in advance.

³⁴ Some environmentalists totally reject economic reasoning and, instead, rely heavily on moral judgements. However, they not only fail to take due account of the negative side-effects and unintentional consequences of import bans, but also seem to overlook that trade measures often contradict widely shared conceptions of justice. On the one hand, they attempt to pass the major part of the costs of conservation of global resources to the poorer countries. On the other hand, they completely ignore the historical responsibility of the industrialized countries for the scarcity of many environmental resources. For example, in the late 1960s US vessels incidentally killed around 500,000 dolphins annually, while in 1996 the estimated dolphin mortality rate of Latin American fishermen threatened by the Tuna embargo was less than 3,000. See O. Ranné, op.cit.

³⁵ See J. Joseph: The Tuna-Dolphin Controversy in the Eastern Pacific Ocean: Biological, Economic, and Political Impacts, in: Ocean Development and International Law, Vol. 25, 1994, pp. 1-30.

³⁶ See, e.g., R. Felke: European Environmental Regulations and International Competitiveness: The Political Economy of Environmental Barriers to Trade, Baden-Baden 1998. In the tuna and turtle disputes the commercial interests of the US fishing industry arguably did not play a major role in the political process as compared to the environmental objectives of NGOs. However, they had no reason to put up strong resistance either. See also A. Körber: Why Everybody Loves Flipper: the political-economy of the U.S. dolphin-safe laws, in: European Journal of Political Economy, Vol. 14, 1998, p. 475-509.

some forms of predatory pricing. However, in the real world neither the definition of the term nor the implementation of antidumping measures ever comes up to the required theoretical standards. All over the world antidumping laws are applied in a biased manner and the methods by which dumping prices are calculated are intentionally distorted to make it easier for domestic producers to gain protection against imports.³⁷

More generally, it is important to recognize the various ways in which trade may benefit environmental protection. Trade provides higher productivity and creates additional income, thus increasing both the demands for environmental quality and the means for financing protection measures. In addition, raising overall living standards is often considered a necessary precondition for decelerating the population growth in the developing countries that puts considerable pressure on environmental resources. The international exchange of goods and factors may also facilitate the transfer of environmentally superior technologies and give access to environment-related knowledge. Finally, it must be stressed that the case for free trade goes beyond economic superiority over self-sufficiency or selective protectionism, because trade across political borders also encourages peaceful cooperation and communication between different cultures.³⁸

□ A related item concerns the conflicting interests between industrialized and developing countries that often characterise the trade and environment debate. If trade measures are allowed, the priorities of developed countries will inevitably prevail and they will impose high standards on the developing countries for those environmental problems they consider important.³⁹ Not surprisingly, representatives from developing countries fear that this will come at the expense of their economic development and divert resources away from more immediate health or local environmental concerns such as urban air pollution or inadequate sanitation. The countries affected by the shrimp embargo, for example, point out that their fishermen have limited access to 'turtle-safe' techniques and gear and cannot afford the costs associated with training and the installation of TEDs. For example, India notes that at 75-500 US-Dollars TEDs might be cheap by US standards, but that the costs are prohibitive for Indian fishermen whose average annual income is roughly 300 US-Dollars.⁴⁰

Since their proponents argue that trade measures have a catalytic effect in bringing reluctant countries into negotiating MEAs or adopting appropriate

environmental regulations, the most important question is whether trade restrictions induce the desired changes in other countries. This question is difficult to answer and the empirical evidence is far from conclusive, but in my opinion there is a crucial counter-argument: even if they may occasionally succeed in forcing other countries to adopt certain environmental policies, unilateral trade restrictions foster a political climate hostile to cooperation. Embargoes arouse resentment in the targeted countries even if (officially) imposed for environmental purposes.⁴¹ In particular, small countries have nothing to gain from such a reform and, not surprisingly, developing countries fear what they regard as 'aggressive unilateralism' by the large trading entities. It is hard to believe that burdening the negotiations over environmental issues with such threats increases the likelihood of settling disputes amicably.

Conclusions

The report of the Appellate Body in the shrimp-turtle case is a significant contribution to WTO jurisprudence and removes some inconsistencies regarding the interpretation of Art. XX in previous panel reports. The report is a reasonable attempt to balance environmental and trade interests and its approach should guide the panels in future disputes. Even so, in my opinion it is unlikely that the Appellate Body opens the door wide for unilateral PPM-based trade restrictions. While relaxing the requirements of Art. XX(g), the Appellate Body simultaneously established rigorous disciplines for a measure to qualify under the chapeau. Since the disciplines are difficult to meet in practice, the actual consequences of the new approach may prove to be less impressive than they seem at first glance.

However, this article has argued that the WTO's scepticism regarding unilateral PPM-based trade measures is supported by persuasive arguments and

³⁷ By the way, in analogy to sports contests proponents of 'fair trade' frequently insist on the right to impose antidumping measures in order to 'level the playing field'. Notwithstanding a detailed analysis, it is interesting that they consider it to be fair, keeping to the analogy, to appoint a referee from the home town whose performance is then judged by the home team, because this is exactly what is done in antidumping procedures.

³⁸ See Rat von Sachverständigen für Umweltfragen: Umweltgutachten 1998. Umweltschutz: Erreichtes sichern - Neue Wege gehen, Stuttgart 1998, paragraph 943.

³⁹ This phenomenon is sometimes referred to as 'eco-imperialism'.

⁴⁰ See WTO, Panel report, paragraph 3.81.

⁴¹ It is important to realize that enforcement deficits are inevitable as long as the environmental standards are not accepted in the countries whose citizens incur the opportunity costs.

the dispute settlement mechanism is better than its reputation among environmentalists. Even when dealing with international environmental problems import restrictions should only be allowed after the failure of genuine efforts to reach cooperation, including offers of technical and financial assistance, and under tight disciplines. Admittedly, it is difficult to conclude and to enforce international environmental agreements, but loosening free trade rules is not a wise choice. In view of the numerous environmental concerns that may motivate claims for trade

measures and the difficulties of domestic politicians in resisting protectionist pressure, the alternative to the WTO's stern position may well be a proliferation of protectionism and a breakdown of the rule-based world trading system that has generated substantial benefits for its members and is still the superior alternative compared to other real world institutions. At least in the long run, such a process will neither remedy local and international environmental problems nor is it compatible with the concept of sustainable development.

Klaus Liebig*

The WTO and the Trade-Environment Conflict

The (New) Political Economy of the World Trading System

The shrimp-turtle case and the angry reactions it produced both inside and outside the WTO are only one striking example of the explosive force with which environmental policy disputes can shake the world trade system. Given a world whose economies are more closely linked and where environmental problems extend over national borders, it is to be expected that interest groups increasingly concentrate on influencing the institution which is dedicated to promoting international trade, the WTO.

Press statements from representatives of important industrial countries suggest that a new negotiating round to liberalize world trade will get under way at the end of 1999. Hopes as well as fears will accompany the 'Millennium Round' as it is auspiciously being called, and interest groups are already lining up to put their own particular demands on the negotiating agenda.

As the Uruguay Round was drawing to a close it was already clear that the environment would play a major part in a future trade liberalization round. This has changed little in the interim. It is therefore important, before the next round takes place, to consider the extent to which integrating the environment into the negotiations will influence the round's trade policy outcomes. To find an answer, the relevant interest groups' stances and actions must be predicted, as this will influence the political negotiating process. This article attempts to do so by discussing the interaction of trade policy and environmental policy from the viewpoint of economic theory. The main emphasis is put on the strategic interests of

environmental groups, business federations and trade politicians that are of special significance within the political competition that takes place in representative democracies. First of all, however, the relevance of the subject will be demonstrated by a topical environmental policy dispute in the WTO.

The Shrimp-Turtle Case

The 1998 shrimp-turtle case caused a considerable stir both within the WTO and among the environmentally aware public. It is seen as pointing the way for the future development of the GATT laws affecting environmental policy in situations in which they apply to cross-border externalities. The case arose out of an import ban by the USA on shrimps from countries whose fishing fleets do not use 'turtle-excluder devices' (TEDs). TEDs are designed to reduce the number of sea turtles killed in a shrimp catch. Sea turtles have been designated an endangered species in various multilateral agreements.¹ The use of TEDs was made compulsory in the USA in

* University of Göttingen, Germany.

¹ The sea turtles are mentioned in CITES, the Convention on Migratory Species, and the IUCN.