

## **Caution on the Precautionary Principle: Red Coral Protection under the CITES\***

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### **I. INTRODUCTION**

Recent years witnessed an escalation of broad-based efforts in support of the United States initiative for listing red corals<sup>1</sup> on the CITES Appendix II. As the scientific grounds of the proposal raise concerns, correlation with certain economic interests requires cautiousness in respect of the thus understood precautionary approach.

The paper highlights key arguments in support of as well as against the initiative, presents the relevant provisions of the CITES legal framework and discusses alternative solutions for sustainable red coral trade.

### **II. TOO PRECIOUS TO WEAR**

In June 2007 United States proposed to the CITES Parties to subject trade in all species of the genus *Corallium* to licensing requirements under Appendix II to the

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<sup>1</sup> Despite their appearance, similar to plants or even rocks, corals are animals. Whereas “hard” corals resemble tree trunks, soft specimen can be compared to tree branches. Corals usually form colonies of many individual coral animals, called polyps. Each polyp covers a hard limestone skeleton, which support its living tissues. As individual coral colonies die, their hard skeletons accumulate on top of each other, forming permanent structures (reefs). A coral reef is a system of colonies, both living and dead. Some specimen, almost 3,000 years old, belong to the oldest living animals on earth. Further see: Too Precious to Wear, *Corals in the Red. The State of Corals and Recommendations for Recovery*, available at: [http://www.tooprecioustowear.org/resources/Coral\\_in\\_the\\_Red.pdf](http://www.tooprecioustowear.org/resources/Coral_in_the_Red.pdf) (last visited March 7, 2010).

Convention<sup>2</sup>. While the petition acknowledged that protection and harvesting problems as well as applicable body of law differs depending on species and region concerned, it concludes with a proposal of listing all species, due to enforcement problems<sup>3</sup>. The proposal was rejected for a variety of reasons, including taxonomic issues within the genus, non-conformity with the biological criteria of Resolution Conf.9.24 (Rev. CoP13), as well as difficulties relating to taxation, implementation and enforcement questions associated with the listing. Several States claimed that livelihoods and artisanal traditions would be jeopardized.

In 2008, SeaWeb, an ocean conservation nonprofit organization, launched a campaign “Too Precious to Wear” for coral conservation. The campaign “*aims to raise awareness of corals and the threats to their survival, and to show how the fashion and design industries, as well as consumers, can safeguard these imperiled marine species*”<sup>4</sup>. To achieve those ends, SeaWeb seeks to advance the adoption of an extensive Coral Reef Conservation Act in the United States<sup>5</sup> and to subject coral commerce to Appendix II to Convention on International Trade in Endangered Species of Wild Fauna and Flora regime. In September 2009, SeaWeb’s “Too Precious to Wear” campaign called on the European Union to support the United States’ initiative during the upcoming<sup>6</sup> Conference of Parties to the Convention on International Trade in Endangered Species of Wild Fauna and Flora, held in Doha (Qatar) in March 2010<sup>7</sup>. The increased United States commitment to the protection of corals is a positive development<sup>8</sup>. However, the initiative of subjecting red coral trade to licensing requirements caused a stir amongst European coral artisans.

According to documents present in support of the initiative, subsistence of corals is endangered due to excessive fishing methods, climate change, pollution and exploration of

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<sup>2</sup> The proposal was presented during the fourteenth meeting of the Conference of the CITES Parties (The Hague, Netherlands, 3-15 June 2007, CoP14 Prop.21).

<sup>3</sup>“Species of *Corallium* in trade resemble each other, and inclusion of some but not all species in the Appendices would create enforcement problems”, *ibidem*.

<sup>4</sup>Too Precious to Wear, *Scientific and Fashion Industry Join Forces for Coral Conservation Campaign*, available at: [http://www.tooprecioustowear.org/\\_storage/0\\_TPTWenviroPR2008\\_01\\_21FINAL.pdf](http://www.tooprecioustowear.org/_storage/0_TPTWenviroPR2008_01_21FINAL.pdf) (last visited March 7, 2010).

<sup>5</sup> In the United States coral protection measures were adopted under of Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act), passed by Congress on 9 December 2006, and signed into law on 12 January 2007 by President Bush (PL 109-479, 16 U.S.C. §§ 1801-1884). On the basis of sections 105 and 211 of the Act, the Regional Fishery Management Councils are authorized to restrict the use of destructive types of fishing gear within areas of known deep sea coral habitat; determination of deep sea corals as essential fish habitat for individual or complex fisheries is not necessary to those ends. The Coral Reef Conservation Act (CRCA) has been awaiting congressional reauthorization since 2005. The 2009 version of the CRCA, the Coral Reef Conservation Act Reauthorization and Enhancement Amendments of 2009 (H.R.860; as for March 2010 the bill was passed by the House and referred to Senate, where after two readings it is to be further considered by the Committee on Commerce, Science, and Transportation). The 2009 version provides funding for conservation and scientific research; it also introduces minor changes in governance to improve cooperation between agencies.

<sup>6</sup> This paper has been completed on 11 March 2010, prior to the start of the Doha conference.

<sup>7</sup> Too Precious to Wear, WWF and SeaWeb, *Too Precious to Wear and WWF Urge EU Member States to Take Action on Red and Pink Coral Protection*, available at: [http://www.tooprecioustowear.org/resources/EU\\_Urged\\_to\\_Act.pdf](http://www.tooprecioustowear.org/resources/EU_Urged_to_Act.pdf) (last visited March 7, 2010).

<sup>8</sup> P. Sand, *Diego Garcia: British American Legal Black Hole in the Indian Ocean?*, *Journal of Environmental Law* 21:1 (2009), pp. 113 – 137.

corals for jewelry and decorative purposes, up to the point where “*Entire coral populations have been wiped out by destructive fishing gear such as trawls*”<sup>9</sup>. Furthermore, corals, found in shallow tropical waters and in deep ocean, are endangered as a result of extortionate carbon dioxide emission, pollution, direct removal, overfishing and destructive fishing techniques – in particular blast and cyanide fishing<sup>10</sup>, and putatively due to global warming<sup>11</sup>. It is also claimed that as a result of extensive exploration of red corals they cannot be found at lesser than 100 meters under water, while harvested pieces for jewelry purposes are merely few centimeters large<sup>12</sup>. What raises concerns, however, is that the statements of scientific authorities quoted in support of the initiative refer to coral in general and not to *Corallium rubrum*<sup>13</sup>, while most of the perils listed concern other coral species<sup>14</sup>.

### III. DANGERS TO RED CORAL

Passing of Coral Reef Conservation Act constitutes an important achievement of over forty American environmental NGOs. No one questions that the world coral reef is endangered<sup>15</sup>. Yet, in 2008 public support for the world reef protection was used to restrain red coral trade, even though Mediterranean corals are not affected by the same problems<sup>16</sup>.

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<sup>9</sup>*Op. cit.*, *Scientific and Fashion Industry Join Forces...*, p. 2.

<sup>10</sup> SeaWeb, *Corals. Their Importance and Treat to Their Survival*, available at: [http://www.tooprecioustowear.org/resources/Coral\\_Threats\\_Importance\\_000.pdf](http://www.tooprecioustowear.org/resources/Coral_Threats_Importance_000.pdf) (last visited March 7, 2010).

<sup>11</sup> L. Bramantia, M. Iannellib, G. Santangelo, *Population dynamics and conservation biology of the over-exploited Mediterranean red coral*, *Journal of Theoretical Biology*, Volume 244, Issue 3, 7 February 2007, pp. 416 – 423.

<sup>12</sup>A. Cianciullo, *Corallo Doc così salveremo l' oro rosso*, *La Repubblica*, 25 September 2009, p. 35, available at: <http://ricerca.repubblica.it/repubblica/archivio/repubblica/2009/09/25/corallo-doc-cosi-salveremo-oro-rosso.html> (last visited March 7, 2010).

<sup>13</sup> For instance, in the mentioned above 2 pages long paper entitled *Scientific and Fashion Industry Join Forces*, first one and a half page generally discuss status of corals and reefs worldwide, including the following passage: ‘...Dr. Andrew Baker, scientist and professor at the University of Miami said, “Corals around the world are in jeopardy, and urgent action is needed to stem their decline”’. In concluding paragraphs, however, SeaWeb calls for red (and pink) corals protective measures, *op. cit.*, *Scientific and Fashion Industry Join Forces...*, p. 2. In yet another document Patty Debenham, Ph.D. in chapter “Corals Are in Trouble” names various perils to world coral population (including climate change, ocean acidification or pollution), whereas the concluding paragraph reads “Red coral (*Corallium*) used for jewelry provides a striking example of the fact that coral extraction for consumer use is not sustainable”; eventually he calls for listing red coral under CITES Appendix II, *op. cit.*, *Corals in the Red. The State of...*, pp. 5-7, 10-11.

<sup>14</sup> For instance document *Corals. Their Importance and Treat to Their Survival* names numerous perils to corals, including blast fishing and bottom trawling, or climate change, which either do not refer to red coral or cannot be addressed through CITES measures, yet again those red corals that are indicated in the concluding paragraph.

<sup>15</sup> United Nations System-Wide Earthwatch, *Oceans and Coastal Areas*, available at <http://www.un.org/earthwatch/oceans/coralreefs.html> (last visited March 7, 2010). Also: Hong Kong University of Science and Technology, *Unprecedented Bleaching and Destruction of Coral Reefs Reported*, available at [http://www.ust.hk/~webopa/news/1998\\_News/news1112.htm](http://www.ust.hk/~webopa/news/1998_News/news1112.htm) (last visited March 7, 2010). World Resources Institute, available at *Coral Reefs*, <http://www.wri.org/project/coral-reefs> (last visited March 7, 2010).

<sup>16</sup> See for instance: P. Minieri, A. Scarani, *Corallo sotto inchiesta*, available at <http://www.preziosamagazine.com/articolo.aspx?Id=799&lan=it> (last visited March 7, 2010). In a public letter Italian scientists questioned, whether CITES provides appropriate measures for red coral protection *Il Corallo*

While it is true that subsistence of world coral reef is in peril, the genus *Corallium* encompasses 27 species in tropical and subtropical waters; now *Corallium rubrum* – red coral can be found in the Mediterranean sea<sup>17</sup> and some smaller populations in Eastern Atlantic by the Portuguese coast, Morocco, Canary and Cape Verde Islands. Other *Corallium* from Atlantic differ of *Corallium rubrum* by their color, shape of sclerites and morphologies. Since red corals have different ecological requirements and conservation problems, they consider the application of arguments for protection of coral reef in the Mediterranean to red coral as inaccurate. For instance, the problem of global warming relates to genus *Madrepora* – often forming reefs or islands in tropical locations– and not to the red coral. Other problems, like carbon dioxide emission and pollution, cannot be addressed through CITES trade licensing requirements.

Also arguments directly addressing *Corallium rubrum* issues contain inaccuracies. For instance, the reference to the abusive fishing of the tiniest coral pieces seems unfortunate, as deep water exploration is very costly and small corals are unworkable for the jewelry industry<sup>18</sup>. Furthermore, the argument as to the use of abusive fishing methods, including the use of certain mapping tools (“*sed ingegn*”)<sup>19</sup>, is misleading as they have been banned in the European Union since 1994<sup>20</sup>.

As stated in the United States’ motion, the main reported threat to *Corallium* is excessive harvesting, while secondary human impacts include pollution, sedimentation in the Mediterranean and in the Pacific, as well as problems related to fishing methods<sup>21</sup>. However, due to various uncertainties—including those concerning the growth rates of specimens that are inaccessible to harvest and those of specimens that are accessible but are not harvested for economic reasons, the rates of recovery, and the impact of factors other than harvesting—the United States admits that “it is not possible to say with certainty whether or not any *Corallium* species meets the criteria of inclusion in Appendix II set out in Resolution Conf. 9.24 (Rev.

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*Rosso Non E' In Via di Estinzione , Una Lettera Inviata dai Biologi Marini al Quotidiano "La Repubblica"*, (letter unpublished, referred to in the NY Times December 8, 2009, V. Gomelsky, *Jewelers Divided Over Use of Coral*). Accordingly the Italian Ministry of Environment issued a statement, calling to abstain from block-voting on red coral protection together with other environmental issues, each constituting a unique problem, Italian Press Agency ANSA, *Ambiente: Prestigiocomo a UE, Rispetti Made in Italy Corallo*, available at <http://www.ansa.it/ambiente/notizie/notiziari/natura/20100304202935039363.html> (last visited March 8, 2010).

<sup>17</sup>M. Abbiati, G. Santangelo, *Red coral: conservation and management of an over-exploited Mediterranean species*, Aquatic Conservation: Marine and Freshwater Ecosystems Volume 11 Issue 4 (2011), pp. 253 – 259. FAO, Fisheries and Aquaculture Department, *Species Fact Sheets. Corallium rubrum*, available at, <http://www.fao.org/fishery/species/3611/en> (last visited March 7, 2010).

<sup>18</sup> Data provided in the open letter of Italian scientists, *op. cit.*, *Il Corallo Rosso*, though according to the US motion for the Inclusion of the Red and pink corals in App. II corals with a basal diameter as small as 7mm (these include up to 11 years old colonies before they reach the maximal reproductive output) are said to be harvested, CoP 14 Prop. 21, p. 7. See also: Aires Marines protégées Françaises, *Pêche du corail rouge*, available at <http://www.airesmarines.org/accueil/> (last visited March 7, 2010).

<sup>19</sup> O. Gabriel and A. von Brandt, *Fish Catching Methods in the World*, Blackwell Publishing, Oxford 2005, pp. 292 – 293.

<sup>20</sup> Council Regulation (EC) No 1626/94 of 27 June 1994 laying down certain technical measures for the conservation of fishery resources in the Mediterranean, OJ L 171, 6.7.1994, p. 1–6.

<sup>21</sup> CoP 14 Prop. 21, p. 1.

CoP 13)". Furthermore, the United States also observed that recent studies show "high stability of the population dynamics and strong resilience capability"<sup>22</sup>.

#### IV. CITES APPENDIX II LEGAL FRAMEWORK

The above-mentioned Appendix II is annexed to the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)<sup>23</sup> was signed in Washington on 3 March 1973 and amended in 1979. The Convention is widely ratified, there are currently 175 parties to the Convention. The Convention enumerates species threatened with extinction which are or may be affected by trade. Trade in those species is subject to "particularly strict regulation" in order not to further endanger their survival and may only be authorized in exceptional circumstances<sup>24</sup>. In addition, the CITES lists species which, although not necessarily threatened with extinction, may become endangered, unless utilization of specimens of such species incompatible with their survival is avoided (Appendix II) and species exploitation of which is prevented or restricted under domestic law of any Party, where a co-operation of other Parties for control of trade thereof is necessary (Appendix III).

Export of any specimen of a species included in Appendix II requires an export-permission<sup>25</sup>. Such a permission may only be granted by the exporting State, if an appropriate Scientific Authority has advised that such export will not be detrimental to the survival of that species and the Management Authority of this State is convinced that the specimen was not obtained in contravention of the national legislation on protection of fauna and flora. In addition, the Management Authority must be convinced that any living specimen will be so prepared and shipped as to minimize the risk of injury, damage to health or cruel treatment.

The Management Authorities have the same responsibilities in relation to the re-export of any specimen of a species included in Appendix II. Scientific Authorities in each State Party to the Convention monitor the export permissions and the actual export of the specimens concerned. Import of any specimen of a species included in Appendix II requires a prior export permission or a re-export certificate. Transportation into a State of any specimen that is taken in the marine environment outside of jurisdiction of any State requires a certificate from the Management Authority of the State concerned<sup>26</sup>. Certificates may only be granted if the Scientific Authority of the State concerned advises that such transportation will not be detrimental to the survival of the species involved and the Management Authority is satisfied that any living specimen will be so handled as to minimize the risk of injury, damage to health, or cruel treatment. Certificates for the number of specimens to be introduced within established periods not exceeding one year may be granted on the advice of the competent Scientific Authority, in consultation with other national scientific authorities or, when appropriate, international scientific authorities. A separate permission or certificate shall be

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<sup>22</sup> CoP 14 Prop. 21, p. 7.

<sup>23</sup> CITES, available at: <http://www.cites.org/eng/disc/text.shtml> (last visited March 7, 2010).

<sup>24</sup> CITES, art. II in relation to Appendix I.

<sup>25</sup> CITES, art. IV (2 – 5).

<sup>26</sup> CITES, art. I (e) in relation to art. IV (6, 7).

required for each consignment of specimens<sup>27</sup>. After the certificates have expired, the Management Authority of the State of import of the specimens cancels and retains the export permission or re-export certificate and any corresponding import permission presented in respect of the import of that specimen.

Above restrictions do not apply to specimens that are personal or household effects<sup>28</sup>. This exemption does not apply, however, to imports by the specimens' owner from a State where removal from the wild occurred in the State of the owner's usual residence if the laws of that State require a prior export permission to be granted before any export of such specimens.

The parties are obliged to undertake necessary implementation measures to prohibit trade in specimens in violation of the requirements under the CITES. In particular, they shall penalize trade in, or possession of, such specimens and confiscate or return to the State of export of such specimens<sup>29</sup>. Under the CITES, formalities leading to unnecessary delays shall as far as possible be avoided. However licensing requirements, and possibly quantitative restrictions, shall greatly influence trade in red coral, volume of which was estimated in 1999 by "Too Precious to Wear" in relation to American imports from Torre del Greco to account for USD174 millions<sup>30</sup>.

States Parties must maintain records of trade in such specimens and present periodic reports on the implementation of the Convention<sup>31</sup>. Where export or re-export is to, or import is from, a State that is not Party to the Convention, comparable documents issued by the competent authorities of that State and which substantially conform with the CITES requirements may be accepted by any Party<sup>32</sup>.

Although the CITES sets minimal protection standards, Parties may adopt broader measures or even prohibit trade, taking, possession or transport of such specimens<sup>33</sup>. States may also adopt measures not foreseen in the Convention. Provisions of the Convention do not affect national legislation of States parties deriving from any treaty, convention, or international agreement<sup>34</sup> relating to other aspects of trade, taking, possession or transport of

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<sup>27</sup> CITES, art. VI (5, 6).

<sup>28</sup> CITES, art. VII (3)(b).

<sup>29</sup> CITES, art. VIII (1, 3).

<sup>30</sup> Op. cit. *Too Precious to Wear and WWF Urge....* The economic analysis of possible consequences of licensing requirements to local handcraft shall be presented in a forthcoming longer version of the present article. For the basic concepts, consult for instance: R. Pomfret, *Quantitative Restrictions on Trade*, Revised version of paper presented at the Seventh Trade Policy Coordinating Committee Meeting of the Central Asian Regional Economic Cooperation Program 6 September 2007 Manila, Philippines, available at <http://www.adb.org/Documents/Carec/QRStudy.pdf> (last visited March 7, 2010).

<sup>31</sup> CITES, art. VIII (6, 7).

<sup>32</sup> CITES, art. X.

<sup>33</sup> CITES, art. XIV (1, 2).

<sup>34</sup> The following agreements and partnerships were adopted to stop coral mining and unsustainable trade: International Coral Reef Initiative, The Convention on Biological Diversity, International Queen Conch

specimens which is in force or subsequently may enter into force for any Party, including any measure relating to customs, public health, veterinary or plant quarantine fields. The CITES does not affect the provisions of, or the obligations deriving from, any treaty, convention or international agreement concluded, or which may be concluded, between States creating a union or regional trade agreement establishing or maintaining a common external customs control and removing customs control between the parties thereto insofar as they relate to trade among the States members of that union or agreement.

Initiatives for the amendment of the Appendix II relating to marine species must be immediately communicated to other Parties<sup>35</sup>. Also, inter-governmental bodies are consulted to obtain scientific data and to ensure co-ordination with conservation measures enforced by such bodies. The Secretariat communicates to the Parties the views expressed and data provided by those bodies and its own findings and recommendations as soon as possible.

Since 2008, within the family of *Corallidae*, genus *Corallium* (red coral genus)<sup>36</sup> – four taxons have been subjected to the CITES Appendix III at the request of China: *Corallium elatius*, *Corallium japonicum*, *Corallium konjoi* and *Corallium secundum*. Within the *C. rubrum* class of *Anthozoa*<sup>37</sup> four orders are subject to the Appendix I to the Convention: *Antipatharia* (Black corals), *Helioporacea* (Blue corals), *Scleractinia* (Stony corals), *Stolonifera* (Organ-pipe corals) and within the class of *Hydrozoa* two more orders: *Milleporina* (Fire corals) and *Stylasterina* (Lace corals).

Several hundreds of commonly named corals are listed under the Appendix II, for instance: African Pillow Coral (*Siderastrea savignyana*), Agassiz's Star Coral (*Deltocyathus agassizii*), American Black Coral (*Stylopathes americana*), Baroque Cave Coral (*Caryophyllia berteriana*), Beautiful Horn Coral (*Favia grandidieri*), Black Wire Coral (*Favites chinensis*), Larger Star Coral (*Halomitra pileus*), Mushroom Coral (*Heliofungia actiniformis*), Neptune's Cap Coral (*Pachyseris speciosa*), Pornograph Coral (*Stichopathes lutkeni*) and

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Initiative, North American Wildlife Enforcement Group, World Customs Organization, ICPO-Interpol, Asia-Pacific Economic Cooperation, South Pacific Regional Environment Program, The Coral Reef Alliance, *Mining and Harvesting*, available at: <http://www.coral.org/node/127> (last visited March 7, 2010). *Corallium rubrum* is subject to the so-called EU Habitats Directive Annex V (Council Directive 92/43/EEC of 21 May 1992, OJ L 206, 22.7.1992, p. 7–50, Council Directive 97/62/EC of 27 October 1997 adapting to technical and scientific progress Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora, OJ L 305, 8.11.1997, p. 42–65 and Council Directive 2006/105/EC of 20 November 2006 adapting Directives 73/239/EEC, 74/557/EEC and 2002/83/EC in the field of environment, by reason of the accession of Bulgaria and Romania, OJ L 363, 20.12.2006, p. 368–408). Since 1 March 2002 it was also listed in Annex III to the Bern Convention on the Conservation of European Wildlife and Natural Habitats 1979 and Annex III of the Protocol concerning Special Protection Areas and Biological Diversity in the Mediterranean (Barcelona Convention). For more see: UNEP-WCMC Species Database, available at: <http://sea.unep-wcmc.org> (last visited March 7, 2010). These corals are also fully protected in Gibraltar under Nature Protection Ordinance, 1991 and Malta (Flora, Fauna and Natural Habitats Protection Regulations, 2003). Coral harvesting is regulated in Algeria, Croatia, Italy Morocco, Spain and Tunisia. A number of States, including Spain and France, have established reserves for protection of *Corallium*, see CoP 14 Prop. 21, p. 7.

<sup>35</sup> CITES, art. XV (2)(b,c).

<sup>36</sup> Red coral belongs to the Kingdom *Animalia*, Phylum *Cnidaria*, Class *Anthozoa*, Order *Gorgonacea*, Family *Coralliidae*, Genus *Corallium*, Taxon *Corallium rubrum* (Linnaeus, 1758).

<sup>37</sup> *Anthozoans* are exclusively marine, polypoid cnidarians. They include scleractinian corals (referred to as stony coral – world's primary reef-builders), blue coral and black coral, Tree of Life Web Project, *Anthozoa*. *Sea Anemones, Corals, Sea Pens*, available at: <http://tolweb.org/Anthozoa> (last visited March 7, 2010).

Pregnant Coral (*Thalamophyllia riisei*). The corals listed under Appendix II are subject to numerous trade restrictions. For instance, since 1999 the export of Mushroom Coral from Indonesia is limited by quota, which in 2009 amounted to 44650 of wild-taken specimens, while export quota for Neptune's Cap Coral from Fiji for 2009 was 259 live or dead pieces.

## V. CORALLIUM RUBRUM PROTECTION MEASURES

In the light of the foregoing distinctions, it now becomes necessary to consider whether red coral indeed requires protection under Appendix II. If this is the case, the questions then arise as to which measures are to be adopted and whether the CITES framework is the appropriate context for such measures.

As to the first issue, the starting point is that since there is no unambiguous data concerning the character or the sources of danger to the red coral population, only precautionary protective measures may be adopted. The precautionary principle – a fundamental component of the concept of ecologically sustainable development (ESD)<sup>38</sup> defined under the Rio Declaration<sup>39</sup> – does not, however, directly stem from the Convention, although article II(2) leaves considerable interpretative freedom to those ends<sup>40</sup>.

In the preamble of Resolution Conf. 9.24, the States Parties to the CITES recognized importance of the Precautionary Approach. On the basis of Paragraph A of Annex 4 to Resolution Conf. 9.24, when considering proposals to amend the Appendix II States “shall, in the case of uncertainty, either as regards the status of a *species* or as regards the impact of trade on the conservation of a *species*, act in the best interest of the conservation of the species”<sup>41</sup>. Appendix II relates to precautionary measures, even though it does not contain any direct reference to the precautionary principle. As it stems from the discussion document on precautionary measures in CITES Resolution Conf. 9.24: ‘In terms of decisions “in the best interest of the conservation of the species”, the important factor is not the amount of uncertainty over any given factor, but the risk associated with that uncertainty. “Risk” in this context essentially means the possibility that a given set of circumstances or actions might generate an outcome that is not in the best interest of the conservation of the species’<sup>42</sup>. Implementation of this principle, however, raises problems, including as to the scope of its application and measures to be applied.

Given scarce information on the biological status of the *Corallium rubrum* population, in particular relating to commercially harvested deep water populations, profound research

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<sup>38</sup> P. Sands, *Principles of international environmental law*, Cambridge University Press, 2003, pp. 266 – 278.

<sup>39</sup> Rio Declaration (United Nations Conference on Environment and Development, Rio, 1992), Principle 15: “Where there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation”.

<sup>40</sup> CITES Article II (2) provides: ‘Appendix II shall include: (a) all species which although not necessarily now threatened with extinction may become so unless trade in specimens of such species is subject to strict regulation in order to avoid utilization incompatible with their survival; and (b) other species which must be subject to regulation in order that trade in specimens of certain species referred to in sub-paragraph (a) of this paragraph may be brought under effective control’.

<sup>41</sup> Emphasis added by author.

<sup>42</sup> CITES, Discussion document on precautionary measures in CITES Resolution Conf. 9.24, available at: [http://www.cites.org/eng/prog/criteria/1st\\_meeting/precautionary.shtml](http://www.cites.org/eng/prog/criteria/1st_meeting/precautionary.shtml) (last visited March 7, 2010).

concerning recruitment, growth and mortality, and stock assessments is necessary. Also, appropriate fishery management is needed, including in relation to minimum size and quantity standard requirements and the coordination of national measures on international plane<sup>43</sup>. In particular, cooperation with FAO and Regional Fisheries Management Organizations must be undertaken.

Italian red coral artisans also called for the adoption of capacity building measures and sustainable management, including through the rotation of harvesting areas, restocking programs or phasing out of non-selective gears. However, none of those measures is available under CITES<sup>44</sup>.

Enlisting red coral also raises technical difficulties. The *Corallidae* family is difficult to identify to the species level<sup>45</sup>. Their classification varies from 26 to 31 taxons, and new taxa are likely to exist. It is telling of the difficulties in this respect, for instance, that the taxonomic status of Midway deep coral (*Corallium sp. nov.*) and *Corallium secundum*, both in trade, was never decided. While identification of raw material taxon is already problematic, it poses even greater problems in relation to processed products. Accordingly, not only would the enlisting of red coral in Appendix II ignore that the CITES provides for protection of species rather than higher-taxon conservation, but enlisting red coral would also encounter implementation difficulties. Red coral shipments involve the mixing of materials of different origin that is impossible to ascertain afterwards. Furthermore, it is equally difficult to ascertain whether the material was harvested in international waters. Finally, States possess abundant coral stockpiles, trade of which would not be subject to the CITES regime.

## VI. CONCLUDING REMARKS

The presentations of scientific justifications for listing *Corallium rubrum* under CITES Appendix II raises concerns. While a precautionary approach justifies undertaking measures for the sustainable harvest of red coral, the CITES does contain appropriate instruments to those ends that are more appropriate than the listing of red coral under Appendix II. First, the Convention does not provide basis for higher than species (taxon-level) protection. Secondly, the licensing requirements arguably will not contribute towards sustainable harvest, whereas most certainly they shall lead to formalities that will result in unnecessary delays, contrary to the CITES principles. Accordingly, given these considerations it is of interest to note that the FAO Fisheries advisory panel assessed that the coral family *Corallidae* “did not meet the criteria required by CITES for listing on Appendix II”, while calling upon States and regional organisations concerned to adopt appropriate protective measures<sup>46</sup>.

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<sup>43</sup> While those two postulates were adopted unanimously during the conference on the red coral in the Mediterranean held in Naples, 23–26 September 2009, there was no agreement on subjecting red coral commerce to CITES regime. Interestingly, the *Too precious to wear* website contains a conference report that seems to give a contrary impression.

<sup>44</sup> Broader on the inadequacy of international environmental law treaties to current ecological problems see: A. Trouwborst, *International Nature Conservation Law and the Adaptation of Biodiversity to Climate Change: a Mismatch?*, *Journal of Environmental Law* 21:3 (2009), pp. 419 – 442.

<sup>45</sup> Monaka and Muzik, 2008 Deepsea Coral Symposium 2008 4<sup>th</sup> ISDC, Wellington, New Zealand, 1-5 December 2008.

<sup>46</sup> FAO, *Fisheries advisory panel offers recommendations on CITES proposals. Atlantic Bluefin tuna, several shark species, corals reviewed*, available at: <http://www.fao.org/news/story/en/item/38195/icode/> (last visited March 8, 2010).

The CITES constitutes a valuable framework for wild species protection and initiatives to protect red coral are to be commended. Still, States Parties to the Convention acknowledge that it is not an all-fit solution for all environmental challenges. Paradoxically, in certain cases higher protection standards may be detrimental to species protection. Even the application of precautionary principle, therefore, merits a cautious approach.