Reasonable decisions within CITES: Which role for procedures?

Paper prepared for the Berlin Conference on Human Dimensions of Global Environmental Change 'International Organizations and Global Environmental Governance'

2-3 December 2005

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1. Introduction

Current academic literature controversially discusses whether CITES¹ provides adequate wildlife protection.² But whereas that discussion concentrates mostly on compliance problems and the question, whether CITES holds appropriate means for protection this paper focuses on the decision-making procedure of CITES. It argues that the procedure ensures reasonable decision-making and therefore contributes to efficient wildlife protection.

The decision-making procedure of CITES is rather complex. CITES protects wildlife by regulating and constraining international trade in endangered species. To be proctected by the Convention species have to be listed in one of the three Appendices of CITES. Listingdecisions are prepared in a highly differentiated consultation-procedure and finally adopted by the Conference of the Parties. The decisions are to be in line with existing criteria. To achieve the goal of adequate wildlife protection the CITES member states must be able to list endangered species and to avoid the listing of species not threatened with extinction. Such decisions would be reasonable. But if states rely on power-based bargaining for the distribution of cooperation gains only it is rather unlikely that they will reach decisions, which serve the demands of wildlife protection. In this paper it is argued that the well-designed decision-making procedure ensures reasonable decision-making within CITES. For this, the influence of parochial interests is limited by the commitment of the different actors involved to sensible listingcriteria. As will be shown this commitment is enforced by three mechanisms: Firstly stakeholders are able to shift from bargaining to a reason-based search for best solutions at several stages of the decision-making system. Secondly they are engaged in a decision-chain and thirdly they act under a 'shadow of the future' (Axelrod 1984).

The paper is organised as follows: In section 2 the theoretical framework for the analysis is presented. In the third section the theoretical framework is applied to CITES and it is thrown light on its decision-making procedure. In section 4 the procedure is examined and its consequences are clarified using three case studies.

¹ Convention on International Trade in Endangered Species of Wild Fauna and Flora ² see for example Blundell/Rodan 2001; Hemmings 2002; Swanson 2000

2. Theoretical framework

2.1 How to come to reasonable decisions: Problems

In this paragraph the problems actors face when trying to come to reasonable decisions will be examined on an abstract level. Then it will be developed on what conditions states are able to cope with these problems.

States have to cooperate internationally to solve their more and more transboundary problems, especially in the environmental sector (Kütting 2000), and they must come to reasonable decisions if their solutions shall be effective (Young 1999). Thereby states are confronted with two kinds of problems: Firstly, it can be rather difficult to identify adequate solutions, because states are constrained by their bounded rationality (Simon 1981). They do not necessarily have all relevant information at their disposal to decide which solution is the best to overcome the problem. Secondly, because of the anarchic character of the international system, only such decisions have a chance to be implemented, which are agreed on by all states (Axelrod/Keohane 1985:226). But such an agreement will follow the bargaining power of states and will only by chance be a good solution for the conceived problem (Kratochwil 1993:457), although this would be in the enlightened interest of the actors.

Moreover, purchasing an agreement states are confronted with a cooperation problem. Thus negotiations can be, owing to circumstances, rather costly (Elster 1989:69). Transactions costs can be particularly high if many actors are involved in the cooperation project which cannot be grouped into few camps (Sebenius 1983: 308). Then negotiations can become unmanageable complex. In these cases actors have incentives to lower costs by establishing mechanisms that shorten the decision-making processes, for example majority decisions or commitment to decision-making criteria. If decisions are made by such mechanisms, states owing to circumstances have to accept losses they would not have to bear otherwise. This is because the decision-making process is cut off before Pareto-optimality is reached. For rational utility-maximizers this is possible for two reasons: Firstly, losses are countervailed by efficiency gains from lowering transaction costs. Secondly actors can use package-deals. If numerous cooperation projects are linked together, losses in one project may be compensated by gains in another one. As will be shown later on, within CITES mechanisms to shorten decision-making processes are used which systematically impact the content of decisions.

The actor's capability of reasonable decision-making can be improved if they are induced to abstain from power-based bargaining and negotiate by exchanging arguments. In the aca-

demic debate this concept was introduced as 'arguing' (Elster 1989, Gehring 1996, Risse 2000). This concept is derived from the Habermasian concept of communicative action (Müller 1994, Saretzki 1996). Thereby actors enter a discourse and raise validity claims about norms and facts (Habermas 1981). To convince each other that their claim is valid they have to rationally motivate them by bringing forward convincing arguments. However not all reasons are able to rationally motivate the addressees to accept the validity claim. To decide which claim will be accepted actors have to agree on criteria on a higher abstraction level against wich the claims were judegd (Habermas 1973). The criteria itself are created in a norm-moulding discourse. A norm-application discourse follows to decide whether the criteria are met. The concept of arguing explicitly holds that actors follow their strategic goals and act as utility-maximisers. But the means they use to do so shift from power to arguments. This concept is useful to answer the question how actors can identify reasonable problem solutions. Decisions which are examined in-depth and approved by all actors in a discourse will be more suitable for problem-solving than decisions reached by bargaining. But it is not obvious at the first glance how actors can be induced to change their mode of interaction from bargaining to arguing.

So arguing has different advantages: Firstly, actors can manage the information problem better and reach a common understanding of their situation than in the mode of bargaining, because they have incentives to share their information. Secondly, arguing has a systematic impact on the content of decisions. They have a higher tendency to be efficient problem solutions than decisions which follow only the distribution of power.

2.2 How to come to reasonable decisions: Solutions

2.2.1 The implications of functional differentiation

In this paragraph the question is examined how rational actors can be induced to resort to arguing instead of power-based bargaining so that the identification of reasonable problem solutions is eased. This can be achieved through well-designed functionally differentiated decision-making systems.

Rational actors have incentives to interact in the mode of arguing, if they are unsure about their preferences. This will be the case if they do not have enough information to assess the current situation or if their decisions have unknown consequences in the future. This is also true for the interpretation of norms (Risse 2000). If actors are unsure about norms and about

the fact whether a specific action is interpreted as cooperation or defection by other states, they cannot guess the costs and gains of this action. In this context it is clear that reasonable arguments, which are acceptable for others in the light of the agreed criteria, are an important resource. If other states become convinced that the action of one state is to be interpreted as cooperation this lowers the costs of the action seriously compared to a situation, in which it is interpreted as defection.

Actors can use the advantages of arguing and bargaining if they institutionalise a functional differentiated decision-making system (Gehring 1996). In such a system there have to be different committees for the work on informational problems, which are best solved by the mode of arguing, and for that on distributional problems, which are best solved in the mode of bargaining (Saretzki 1996:34). If states create a specialized subsystem for the solution of information problems, they have strong incentives to interact in the mode of arguing in *this* subsystem (Gehring 2002a: 167 pp). If not, the differentiation cannot enhance the efficiency of the whole system and the described problems persist. If some actors in this subsystem decide to interact in the mode of arguing, they have the chance to influence the collective perception of the situation, whereas actors using the mode of bargaining pass up this chance. Thus it is rational for a single actor to choose the mode of arguing, because through this, he gains influence (ibid).

2.2.2 The commitment of the actors to the decision-making criteria

Even if reasonable problem-solutions are identified, this will not ensure reasonable decisions, if the actors do not agree on these solutions. But actors can be committed to the criteria by staged decision-making within functional differentiated decision-making systems (see for example Gehring et al. 2005).

In international organizations states often not only differentiate the system but also delegate certain functions to new actors like secretariates or expert committees, as they did within CITES. This paper will not contribute to the debate why and with what problems states delegate fuctions to third actors, but instead focus on the consequences for reasonable decision-making in given systems.

The subsystems in a differentiated decision-making system are normally integrated in a process of staged decision-making. Each subsystem performs a specialised function and its outputs are the basis for the work of other subsystems. The system therefore can only realise its efficiency improving potential if the subsystems produce outputs which are usable for other subsystems and do not cause unsolvable problems in these systems (Schimank/Volkmann

1999:21). If the outputs of one subsystem cannot be processed in other systems the differentiation is not only inefficient but the subsystem looses its influence on the final decision and its function for the other systems and therefore jeopardises itself (Willke 2000:222). To make sure that the output of one system can be processed in another one it is useful for the systems to have common criteria which they can lean on. So if they have such criteria at their disposal they have strong incentives to work in line with these. If states want to influence the decision of the subsystem they have to argument with recourse to the criteria. If the subsystem would accept arguments, which are no good arguments in the light of the criteria, it would loose its function for the states. Therefore it has strong incentives not to take such arguments into account. In this situation a norm-application discourse can take place. Furthermore, if the decision-making system has one subsystem which sets norms and one which is responsible for the norm-application, it is part of the function of a subsystem to ensure that the norms are met. Then the subsystem would also jeopardise its existence if it not asserts the meeting of the decision-making criteria. So the internal logic of functional differentiated systems is able to commit actors to decision-making criteria. For this empirical evidence could be found for example in the cases of the European pharmaceutical regulation and the standardization of machinery (Gehring et al. 2005).

3. Decisions within CITES: Criteria and procedures

The decision whether a species is protected by CITES means the decision whether the species is listed. CITES regulates international trade in such species, which are listed in one of the three Appendices. Appendix I bans all trade in wildlife for primary commercial purposes, Appendix II allows trade only if it is ensured that this will not be detrimental to the survival of the species. For listings in Appendix I and II a complex listing-procedure exists and each Appendix has its own listing-criteria.

Within CITES the need for decisions is enormous: Trade in about 32 000 species is regulated by now and the member states meet every two years at the Conference of the Parties (CoP) to decide on new listing-proposals. In every case they have to decide whether a species meets the listing-criteria. Thereby they face a severe information problem: They must have sufficient data to assess the status of each species.

If the listing-decisions within CITES should be reasonable, two conditions have to be fulfilled: Firstly, the listing-criteria have to be sensible and secondly all actors involved in the listing-procedure must be committed to the listing-criteria. The following section examines whether criteria and decision-making procedure meet these requirements.

3.1 The CITES listing-criteria

The CITES listing-criteria focus on the biological status of a species (Goho 2001). They were developed in co-operation with the IUCN, several experts and members of the CITES Plants and Animals Committee and apply for all further listing-decisions. The listing-criteria are specifications of the provisions of the Convention and were adopted at the ninth Conference of the Parties (Res. 9.24, CoP 1994). According to Article II 1 of the Convention (CoP 1973) 'Appendix I shall include all species threatened with extinction which are or may be affected by trade'. So the central question is on what terms a species is 'threatened with extinction'. Annex 1 of Resolution 9.24 explains this in detail. The following chart summarises the provisions of Annex 1:

A species is considered to be threatened with extinction if it meets or is likely to meet **at least one** of the following criteria:

The wild population is **small** and characterised by at least one of the following:

- an observed, inferred or projected decline in the number of individuals or the area and quality of habitats; or
- each sub-population being very small; or
- a majority of individuals, during one or more life-history phases, being concentrated in one sub-population; or
- large short-term fluctuations in the number of individuals appropriate to measuring population-size for the species concerned; or
- a high vulnerability due to the species' biology or behavior (including migration).

The wild population has a restricted area of distribution and is characterised by at least one of the following:

- fragmentation or occurrence at very few locations; or
- large fluctuations in the area of distribution or the number of subpopulations; or
- a high vulnerability due to the species' biology or behavior (including migration); or
- an observed, inferred or projected decrease in any one of the following:
 - o the area of distribution; or
 - o the area of habitat; or
 - o the number of subpopulations; or
 - o the number of individuals; or
 - o the quality of habitat; or
 - o the recruitment.

A marked decline in the population size in the wild, which has been either:

- observed as ongoing or as having occurred in the past (but with a potential to resume); or
- inferred or projected on the basis of any one of the following:
 - o a decrease in area of habitat: or
 - o a decrease in quality of habitat; or
 - o levels or patterns of exploitation; or
 - o threats from extrinsic human-induced factors such as competition/predation by introduced species or the effects hybridization or the effects of toxins and pollutants; or
 - o a decreasing recruitment

The status of the species is such that if the species is not included in Appendix I, it is likely to satisfy one ore more of the above criteria within a period of five years.

If on of these conditions is fulfilled a species has to be listed in Appendix I. For the quantifiable terms of these definitions guidelines are laid down in Annex 5 of the Resolution to ensure that the criteria application is objective (Dansky 1999:966). The case of the term 'marked decline' gives a good idea of these guidelines. Annex 5 states: 'A general guideline for a marked historical extent of decline is a percentage decline to 5%-30% of the baseline, depending on the biology and productivity of the species.' In addition it is stated that '[A] general guideline for a marked recent rate of decline is a percentage decline of 50% or more in the last 10 years or three generations, whichever is the longer. If the population is small, a percentage decline of 20% or more in the last 5 years or 2 generations (whichever is the longer) may be more appropriate.' Because of the diversity of the species, the quantitative guidelines are not applicable to all species (Annex 5 points out that they only are presented as examples), but an actor has to substantiate his claim, if he denies that they are applicable to a particular species.

The criteria for Appendix I listings are also relevant for Appendix II listings, because according to Article II 2 of the Convention (CoP 1973) '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.' Annex 2 of the Resolution 9.24 specifies that species shall be included in Appendix II when '[I]t is known, or can be inferred or projected, that the regulation of trade in the species is necessary to avoid it becoming eligible for inclusion in Appendix I in the near future'. Furthermore a species shall be included if '[I]t is known, or can be inferred or projected, that harvesting of specimens from the wild for international trade has, or may have, a detrimental impact on the species by either i) exceeding, over an extended period, the level that can be continued in perpetuity; or ii) reducing it to a population level at which its survival would be threatened by other influences.'

So all in all the criteria are reasonable. On the one hand, these criteria are to abstract to be influenced by parochial interest. For example, they do not allow treating different classes of species arbitrarily different or impose stricter regulations to animals than to plants. On the other hand the criteria are specific enough to diminish the scope of decisions. Thereby they

focus on the biological status of a species and not on the trade volume or the economic value of it. The criteria are aimed first of all at species 'threatened with extinction', using a wide definition of this term. They cover a comprehensive range of possible threats and can therefore serve as guidelines for reasonable wildlife protection.

3.2 The commitment to the criteria in the listing-procedure

The listing-procedure is highly differentiated: It consists of five stages each of which fulfils a different subfunction and each has to be committed to the criteria, either directly or indirectly. The five stages can be grouped into two phases: The consultation-procedure, which is under the rules of Article XV of the Convention, and the decision-phase, which mainly consists of the Conference of the Parties but also includes the possibility of the member states to enter a reservation after the CoP which releases them from their obligations concerning the species in question. Firstly the listing-procedure will be introduced in brief, secondly it will examined whether it ensures the commitment of the actors involved to the criteria.

3.2.1 The listing-procedure

The listing-procedure is under the provisions of Article XV of the Convention. It starts with a proposal of one or more member states. According to Resolution 9.24 the proposal has to be based on all available scientific data. This information should allow all participants of the procedure to judge the proposal against the listing-criteria (CoP 1994: 16). To make sure that all participants have the chance to review the proposal and collect their own information if they want to, the proposal has to be sent to the secretariat 150 days before the next Conference of the Parties. Before it is submitted to the Secretariat the proponents may consult range states of the species they want to be protected. The range state's comments have to be included in the proposal the Secretariat receives.

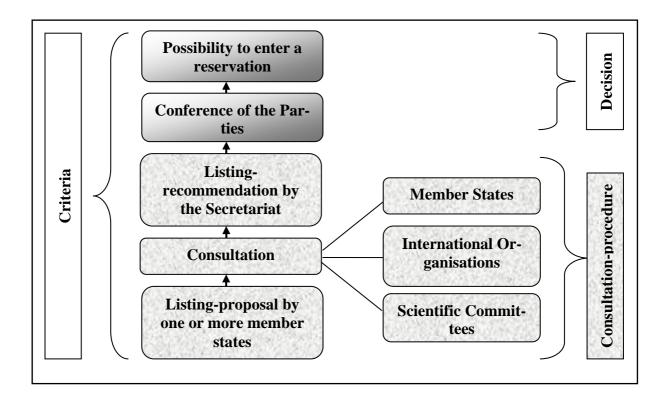
Then the consultation stage follows: Its main function is to clarify whether a species meets the criteria, i.e. to mitigate the information problem (CoP 1985). The Secretariat collects all information available. If the species was subject to the research of the Animals and the Plants Committee, the two most important scientific committees of CITES, the Secretariat takes up these results. The members of the committees are elected by the member states, but according to Resolution 11.1 they have to be experts and receive sufficient institutional support from the scientific authorities of their countries (CoP 2000a). The most important function of the Plants and the Animals Committee is, according to Res. 11.1 (ibid.) to 'provide advice and guidance to the Conference of the Parties, the other committees, working groups and the Secretariat, on

all matters relevant to international trade in animal and plant species included in the Appendices, which may include proposals to amend the Appendices'. Therefore the Animals and Plants Committee can contribute to the mitigation of the information problem. Furthermore the Secretariat can invite international organisations to comment the proposal. The Secretariat sends the proposal and all further information received to the member states. The states are invited to comment the proposal and to bring forward their arguments in favour or against a listing on CITES Appendices. Their comments are forwarded to the Secretariat.

Then the next stage is entered: The Secretariat assesses whether a species meets the listing-criteria and closes the consultation-procedure by its listing-recommendation. According to Resolution 5.2 (CoP 1985) this recommendation should be on the basis of all available scientific information and data. At this stage it has a relevant *decision-function*, although the listing-recommendation is not binding legally. But this recommendation is the starting point of the Conference of the Parties. In this phase it has to be ensured that the decision of the Secretariat is guided by arguments onlywhich are in line with the criteria.

The next step in the listing-procedure is the Conference of the Parties. The Conference meets in two committees and a plenary session. Delegates from all member states participate in both committees. Committee I makes recommendations to the Conference on all listing-proposals. Committee II deals with all residual matters. The plenary session finally decides with a two-thirds majority of the voting parties whether the species is listed. In most cases the discussion of the proposal is limited to the committee. Then the plenary session follows the committee's recommendations mostly without further discussion. 90 days after the adoption the listing comes into effect. In this period the member states have the possibility to enter a reservation which releases them from their obligations concerning this species.

The following chart shows the procedure at a glance:



3.2.2 The commitment of the actors in the consultation-procedure to the criteria

Even if the criteria are sensible the decision-making system can only foster rational decisions if all systems are committed to them. I argue that in the consultation-procedure there is little room for bargaining power and the actors can only influence the Secretariat's recommendation by arguments which are based on the listing criteria and therefore are committed effectively to them.

In section two it was argued that the functional differentiation of a procedure and staged decision-making can lock the different actors involved together and ensure that their work is guided by the same decision-making-criteria. Further they can abstain from power-based bargaining and interact in the mode of arguing. In this paragraph the question is whether the design of the consultation-procedure, which is functionally differentiated and staged, is able to committ the actors to the listing-criteria by the developed mechanisms.

Member states, scientific committees and interested international organisations are consulted, but the secretariat decides what result will be submitted to the Conference of the Parties. Resolution 5.2 (CoP 1985) states that the Secretariat, according to the member state's will, should make listing-recommendations in the light of the criteria. The Secretariat therefore would lose its function for the member states and jeopardises its existence if it did not assess the species in the light of the criteria. So it has a strong incentive to oblige itself to the criteria to take only such arguments into account which are based on the the listing-criteria. Because

no mighty actor alone can abandon the Secretariat it secures its existence and influence by this behavior. Member states, scientific committees and consulted organisations must be successful in influencing the Secretariat if they wish to influence the result of the consultation-procedure. The structure of the situation is triadic. So a stake-holder who tries to bargain in the consultation-procedure will in all probability not be able to influence the listing-recommendation of the Secretariat. Therefore stake-holders have strong incentives to interact in the mode of arguing and to bring forward only such arguments, which can be justified against the criteria. In this way actors involved can be committed to the listing-criteria in the consultation-procedure and that the structure of the decision-making system offers strong incentives for them to interact in the mode of arguing.

3.2.3 The commitment of the parties to the criteria

The crucial question after the consultation-procedure is whether the states can be committed to the criteria in the decision-phase to. Here the states decide whether the species is listed finally. Thereby they cannot be committed by staged decision-making anymore because the states are the last link in the decision chain and there decisions have to be processed only ba their own implementation authorites. But it is argued that the member states are committed to the listing-recommendation and therefore indirectly to the criteria, because they act under a 'shadow of the future' (Axelrod 1984). Furthermore they profit from high efficiency gains if they act in line with the criteria and the Secretariat's listing-recommendation.

The interests of the CITES member states are rather heterogenous and they cannot be grouped easily in a few camps. For each species different communities of interests exist: On the one hand the range states of a particular species, on the other hand the importing states of this species. Therefore the structure of the negotiations is rather complex and states face high transactions costs. There cannot be a balancing of interests regarding a single species: A species is either listed or not and no side-payments exist within CITES. In these circumstances actors can link cooperation-projects together and make package deals (Axelrod/Keohane 1985: 239). But because of the heterogenous interest communities at the CoP their chances to reach an agreement that is acceptable to all states are small (see in general to negotiations with complex actors's constellations Scharpf 1992:75). So they face high transaction costs and will in circumstances not be able to reach an agreement at all. But the states were able in 1994 to agree on criteria for decision-making, the listing-criteria. If they commit their decisions to these criteria, they lower transaction costs and profit from high efficiency gains, which proba-

bly outweight the costs the listing of the species imposes to them. Furthermore the member states delegated the function of assessing whether a species meets the criteria to a third actor, the Secretariat. It assesses the species much more efficient than any member state could by itself. So they profit also from efficiency gains if they accept this assessment. This contributes to the commitment of the states, but according to this argumentation states will only act in line with the criteria if the efficiency gains at least outweight the costs in a single case.

The much more coercive argument comes from another side: Within CITES states act under a 'shadow of the future'. Every member state has a strong incentive to cooperate to ensure cooperation by other states later on. Furthermore states usually only bow themselves to provisions like the listing-criteria if their cooperation partners do so to, i.e. if the principle of reciprocity is assured (Keohane 1986). Otherwise they can sanction each other by non-cooperation. Thereby two crucial preconditions have to be fulfiled: Firstly states have to know which behavior will be interpreted as cooperation and as defection. Secondly it is difficult to focus retaliation to defectors in multilateral situations (Axelrod/Keohane 1985: 234).

The first question, which behavior will be interpreted as defection, is far from trivial within CITES. In most cases the states face a severe information problem concerning the status of a species and therefore the question, whether the criteria demand their listing or not. Furthermore there can be application problems of the criteria because the quantitative guidelines of Resolution 9.24 do not fit all species. But Article XV of the Convention and Resolution 5.2 (CoP 1985) instruct the Secretariat to assess the species and make listing-recommendations wich shall be based on all available scientific data. In the consultation-procedure member states and experts can influence the assessment, but, as was argued in paragraph 3.2.2 only by arguments which can be justified against the criteria. Therefore the listing-recommendation as result of the consultation procedure provides a definition of what behavior will be interpreted as defection and as cooperation in the light of the criteria. Because of this states not only have incentives to vote according to the listing-recommendation (at least if the ballot is held openly), but also to abstain from entering a reservation when an endangered species is listed. Furthermore the CITES-Convention gives member states the means to sanction entering a reservation. This eases the problem of retaliation to defectors in multilateral situations According to Article XIV of the Convention the parties have the right to adopt 'stricter domestic measures regarding the conditions of trade'3. CITES executes its protection of endangered

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³ CITES Convention CoP 1973

species by trade regulation. Articles XIV allows member states to boycott trade in the species in question with states that entered a reservation. This means has been used for several times (Hepworth 1998:420; Favre 1993:909). Because CITES comprises 166 states such a boycott can actually cut off states from trade in this species.

But this is an oversimplified picture of the situation. As mentioned above the information problem within CITES is severe. So the Secretariat is not in all cases able to decide definitely if a species meets the listing-criteria, because it has not enough information at his disposal. But if the Secretariat cannot make sure that a species meets the criteria, this lowers the costs of defection for a state, because it is not *sure* that this behaviour means defection. According to this it is hypothesised that the 'shadow of the future' ensures cooperation only in such cases, in which the informational basis for the secretariat's recommendation is good.

All things considered two hypotheses arise from the considerations above: Firstly, the design of the listing-procedure fosters arguing. Secondly, it is able to bind all actors involved to the listing-criteria if the informational basis is sufficient to make sure whether a species meets the criteria or not.

4. Case Studies

The purpose of the following case studies is to exemplify and clarify how the listing-procedure works and what mechanisms come into force thereby. The cases will be examined in the light of three questions derived from the considerations in section 2 and 3: Firstly, does arguing prevail in the consultation procedure? For this it is asked whether there are hints on persuasion by arguments. Secondly, do the states achieve more reasonable decisions if the informational basis of a case is good? Thirdly, were the listings in line with the listing-criteria?

Three cases were chosen from the last two Conferences of the Parties: One in which the listing was rather succesfull and consensual in the end and two which were more problematic.

4.1 The Humphead Wrasse

The Humphead Wrasse is a species which is in increasing demand as luxury food, primarily in China and Southeast Asia (CoP 2004a). As in all luxury export markets rarity tends to be inversial to value. The listing of the species is therefore linked with remarkable economic interests. Nevertheless the member states could be induced to argue and the listing-decision

was made consensual and in line with the criteria. It is argued that the good informational basis for this listing-decision contributed to its reasonableness. In this paragraph firstly the arguments of the actors involved in the listing-procedure were examined. Then the listing will be assessed in the light of the criteria.

Fidchi, Ireland, the EU and the USA submitted a listing proposal for the Humphead Wrasse, a reef fish, in the run-up to CoP 13 in 2004⁴. They argued that Humphead Wrasse satisfies the listing criteria of Resolution 9.24, Annex 2a, Paragraph b, so 'it is known, or can be inferred or projected, that regulation of trade in the species is required to ensure that the harvest of specimens from the wild is not reducing the wild population to a level at which its survival might be threatened by continued harvesting or other influences.' The proponents provided detailed information about the status of Humphead Wrasse in seven range states. The parties had two available sources of information: On the one hand the decreases in fishing quotas were interpreted as indicator for a drop in the Humphead Wrasse populations. On the other hand visual underwater censuses in 24 independent studies showed a rapid decline in Humphead Wrasse populations in the West-Pacific. Even more data were available for the Indo-Pacific, which also indicated serious threats to the fish. The knowlegde about the status of Humphead Wrasse was therefore extraordinary good. The proponents consulted, according to Res. 9.24 Annex 6, all other range states before submitting the proposal to the secretariat. Six states sent statements to the proponents, which are contained in the final version of the proposal. These statements are the base-line for the following analysis of the procedure's influence. The following table summarises the statements⁵:

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⁴ CoP 2004a Prop. 33

⁵ ibid., p.17

	Support	Opposition	Other Comments
Fidchi	X		
Guam	X		
Hong Kong		X	"range countries are in the best position to co- operatively manage their natural resources, including the establishment of catch and export quota systems for each exporting country."
Indonesia		X	Species is not endangered in Indonesia
Japan		X	Species is not endangered in Japan. Proposed a FAO*-expert meeting to develop sustainable management measures.
Singapore		X	FAO and regional fishery management authorities are the competent authorities to manage fish stocks, not CITES.

^{*} Food and Agricultural Organization

In the consultation-procedure a further argument was brought forward by the FAO ad hoc Expert Advisory Panel: It concluded 'that the available evidence supports the inclusion of humphead wrasse on CITES Appendix II based on the criterion 2a B and possibly on 2a A. This conclusion is based on its high vulnerability, low productivity and *evidence of wide-spread and serious impacts of exploitation throughout most of the range of the species*.' This assessment is extraordinary clear for a CITES listing-procedure what is owed to the good available data about the reef fish. The FAO statement was backed up by the IUCN⁶ which listed the humphead wrasse 2004 under the categorie 'endangered' what confirms that the species is seriously threatened with extinction (IUCN 2004).

The consultation-procedure was closed by the listing-recommendation of the Secretariat. It recommended the listing of Humphead Wrasse on CITES Appendix II because from its point of view the current levels of harvest for international trade have a detrimental impact on the species and cannot be continued in perpetuity.

On the CoP there was some further discussion about the listing proposal⁷. The delegations of Palau, Iceland, Kenya, Norway and Indonesia supported the proposal explicitly. Before the consultation-procedure started Indonesia has been opposed to a listing bringing forward the argument, that the species would be not endangered in Indonesia. But after beeing confronted

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⁶ International Union for the Conservation of Nature and Natural Resources

⁷ Documented in CoP 2004c.

with new information in the consultation-procedure it changed its position. This is regarded as a strong hint on arguing. The delegation of the Seychelles opposed the proposal at the CoP and argued that no data have been provided for their region. Furthermore they saw the competence for the management of reef fish with the FAO not with CITES and were concerned that the listing of humbead wrasse could lead to the listing of other reef fish species. The representative of FAO pointed out that the FAO Expert Advisory Committee had recommended the listing in Appendix II of CITES. So at least the second argument of the Seychelles was rejected and the delegation dropped it.

Although remarkable ecocnomic interests were linked with this case no argument was based on this. Instead most arguments refered to the question whether the listing-criteria were met by Humphead Wrasse. So the listing-criteria seem to be a standard for good arguments, i.e. arguments that are accepted by the member states, as hypothesised in section 2.

The listing-proposal for Humphead Wrasse was adopted by consensus. So no party saw it legitimate or useful to maintain its opposition. As a logical consequence no party entered a reservation (CoP 2005). It can be stated that the listing was clearly in line with the criteria. The informational basis was good and so the Secretariat could ensure that the species meets the criteria. So the costs for voting against the listing or entering a reservation would have been high and were avoided by the member states.

Looking at it from the aspect of reasonable decision-making this case was clearly a success for CITES: The informational problem was overcome so that it could be ensured that the species met the criteria and the parties' decision followed this insight.

4.2 The Great White Shark

The case of the Great White Shark was much more problematic. In this case some parties held strong economic interests to: primarily in Asia shark fins are eaten as delicacies, sets of shark teeth are sold for up to \$50 000⁸. But in addition to that the informational basis in this case was rather meagre. The assessment of the status of a species like the Great White Shark, which is highly migratory and lives in deep waters, is exorbitantly costly can be hardly managed. As a result parochial interests dominated this case and although the species was listed in the end a small group of states entered a reservation and therefore can continue to trade this species among themselves. In this case the arguments of the actors involved will be examined

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⁸ CoP 2004d

first to. But a further focus has to be on the question why this case was problematic in contrast to the case of Humphead Wrasse.

The conservation of sharks is a topic of CITES conferences since 1994. Sharks were subject to animals committee's research and a shark working group was established to reconsider which shark species are especially endangered. In January 2004 the Animals Committee organised a workshop on Great White Shark conservation research with twenty international shark experts. But this workshop did not result in a clear assessment of the shark populations. In the final document the workshop members stated that '[T]he natural rarity of White Sharks means that catch records are scarce. This makes it more difficult to identify statistically significant trends from most data sets than is the case for other more commonly recorded large shark species, which are certainly declining in some regions.'9 No agreement was reached on this basis between the members of the Animals Committee. Most, but not all members of the Animals Committee Working Group, were satisfied that the species meets the criteria for an Appendix II listing¹⁰. So no listing-recommendation was made by the Animals Committee. The informational basis for the listing-procedure in this case was therefore meagre, although the Great White Shark was already subject to CITES research for six years.

In the run-up to CoP 13 in 2004 Madagascar and Australia submitted a proposal which intended a listing on Appendix II.¹¹ The proponents had only poor population trend data at their disposal. In the proposal they argued that it is hardly possible to get data about a species that is nearly extinct. So they relied on indicators such as declining catch rates, less bycatch and fewer sharks in bather protection nets. The few data available showed, according to the proponents, a decline of 60% in great white shark populations. The consultation of the range states did little to improve the knowledge about the shark. Algeria, Brazil and Mexico supported a listing, but also had little information about population trends. Japan opposed the listing, because in its view the available information was insufficient and the species seemed not to be endangered. Some other countries were indifferent. So the informational basis for the listing-procedure was still poor.

During the consultation¹² most important were the statements of Japan and the FAO. Japan was the only strong opposer of the listing. Their delegation repeated that the information was

Animals Committee 2004a: Dokument AC 20 Inf.1, p. 3
 Animals Committee 2004b: p.1
 CoP 2004d, Prop. 32

¹²The whole consultation-procedure is documented in CoP 2004b, Doc. 60, pages 53 to 60.

not sufficient to show that the species is endangered and that trade is a serious threat to it. Furthermore they argued that although the data of some countries show a decline, an assessment of the global status of the species is impossible. So they thought that an Appendix II listing would be inadequate. In addition to this they argued that the shark should be protected in the framework of the FAO, which launched an International Plan of Action for the Conservation and Management of Sharks in 1999. The FAO ad hoc Expert Advisory Panel assessed the situation as follows:

The available evidence could support a range of hypotheses, and it was not possible to confirm or exclude the possibility that the species as a whole meets the criteria for listing in Appendix II. (cited to CoP 2004b, Doc. 60, p. 57).

So even the Expert Advisory Panel was not able to decide whether the Great White Shark met the listing-criteria.

The listing-recommendation of the secretariat was therefore extraordinary cautious. They stated that according to the available information and the analysis of IUCN, TRAFFIC¹³ and the FAO the Great White Shark may overall meet the listing-criteria for an inclusion in Appendix II (CoP 2004b Doc. 60, p. 57). The consultation-procedure can help states to overcome their information problem, but although additional information was provided during the consultation, the informational problem could not be mitigated.

The listing of the Great White Shark was discussed controversially at the Conference of the Parties. 14 According to the reports of the sessions of Committee I the subject of this discussion was not distributional problems but the question whether the species meets the criteria. Thitherto no consent could be reached about this. A couple of states held the view that the species meets the criteria, i.e. the Netherlands on behalf of the Member states of the European Community, Brazil, Ecuador, Kenya, Uruguay and Thailand. Japan, Santa Lucia, Guinea and Qatar opposed the proposal, reviving the arguments they made already in the consultation procedure: The shark-management should be conducted within the framework of the FAO and the information available is not sufficient to assess whether the species meets the criteria. The FAO-representative repeated that the data not allows to oppose or to support the proposal whereas the IUCN-representative stated that the data indicate a decline of shark populations which can be attributed to fisheries and trade. From this it is obvious that no progress in the

¹³ Specialist Group for Trade Records Analysis of Flora and Fauna in Commerce
¹⁴ The discussion is documented in CoP 2004e.

assessment of the species could be made from the consultation procedure until the final decision.

Because not consent about the shark could be reached a vote about the proposal was necessary. At the request of Japan a secret ballot was held. The proposal was accepted with 87 votes in favour, 34 against and 9 abstentions. Japan, Island, Norway and Palau entered a reservation (CoP 2005).

This case is unsatisfactory concerning three aspects: Firstly, in this case it was impossible to ensure whether the species met the listing-criteria. The recommendation of the Secretariat was cautious. In addition to that the assessment FAO backed up those states who denied that the shark meets the criteria. Secondly, the two-thirds majority was only narrowly reached. This may be connected to the first point. This strenghtens the assumption that states face lower costs voting against a listing proposal if the ballot is held secretly. Thirdly, four states did not bow themselves to the decision of the Conference of the Parties and entered reservations. They obviously could afford to deviate in this case. As shown in the case of the Humphead Wrasse economic interests do not necessarily prevent states from reasonable decision-making. The main difference between these two cases is the informational basis, which was sound in the case of Humphead Wrasse and meagre in the case of the Great White Shark. So this case confirms the assumption that parochial interests dominate in cases with a meagre informational basis.

4.3 Big-leaf Mahogany

In the case of the Big-leaf Mahogany economic interests were possibly the strongest among the three cases examined. Mahogany is seen as the most valuable timber species at all (Blundell 2004). Before the species was listed prices were about \$1.700 per m³ (ITTO 2003). The informational basis in the case of Big-leaf Mahogany was rather sound. Nevertheless this case was much more controversial than that of Humphead Wrasse. It can be supposed that this was because of the stake-holders strong interest in trade in Mahogany. But nevertheless the species was finally listed according to the listing-criteria and no partie entered a reservation. So looking at it from the aspect of reasonable decision-making this case was a success for CITES to. It is argued that the design of the decision-making procedure contributed to this success.

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¹⁵ See for an overview of Big-leaf Mahogany studies Blundell/Raymond 2003.

Guatemala und Nicaragua submitted the proposal to list Bigleaf Mahogany in Appendix II in the run-up to CoP 12 in 2002. Whereas Guatemala is only a minor Mahogany producer Nicaragua at this time was the fourth biggest exporter of this timber (Blundell 2004). With reference to a FAO-study they stated that the average rate of deforestation in Big-leaf Mahogany population is more than one per cent per year since the 1980s. Furthermore within the total area of distribution of the species 28 per cent of the forest cover has been lost. Thus it can be inferred that the species will in the near future be threatened with extinction and therefore meets the criterion for an inclusion in Appendix II. The proponents provided good data for most of the range states but the proposal did not contain consultation statements of these.

In the consultation-procedure no state brought forward arguments in favour or against the listing or presented new information. This is not rather surprising considering the fact that nearly all range states and the major importer states discussed these questions in the Mahogany Working Group, which was established at CoP 11 and had met in the period of the consultation procedure. Because there exist only a final report and no minutes of the Working Group Meeting, one cannot reconstruct whether the states interacted by arguing or not.

In its assessment the Secretariat recommended the inclusion of Big-leaf Mahogany without further comments.

Nicaragua and Guatemala introduced the proposal at the CoP on the grounds that the current Appendix III listing was inadequate to address many of the concerns raised by trade in the species. ¹⁶ This is true in particular because not all range states listed the species in Appendix III. Costa Rica, Ecuador and Mexico favoured a listing in Appendix II in order to ensure sustainable exploitation of the species, which is still declining. Bolivia opposed a listing because according to their delegation the species is not threatened in Bolivia, although they had stated at the Mahogany Working Group meeting one month before that 'Mahogany populations underwent a rapid and drastic decrease as a consequence of illicit logging' (Bolivia 2001, cited in CITES 2002, Prop. 12.50). Peru and Ghana also opposed the listing in Appendix II. After this discussion at the request of Brazil a secret ballot was held. 68 delegations voted in favour, 30 opposed the proposal and 14 abstained from voting. So the proposal was accepted. No-one entered a reservation (CoP 2005). The United States, one the two major importers, stated after the ballot that they had voted in favour of the listing .

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¹⁶ The whole discussion of the species at the Conference of the Parties is documented in CoP 2004f, p. 1-2.

With Brazil, Peru and Bolivia the three major producing countries opposed the listing and as much as 30 parties voted against the listing, although the species clearly met the criteria. In this light the case seems to be a rather problematic one. But this fails to notice that the species was listed in the end according to the critera and no state entered a reservation. So although some states held strong parochial interests the listing was in line with the criteria and reasonable in the end. It is assumed that the costs of defection were extraordinarily high in this case because the species clearly met the criteria. In such cases the design of the decision-making procedure, above all the consultation-procedure and the listing-recommendation of the Secretariat, raises the costs for defection and therefore contributes to reasonable decision-making.

5. Conclusion

What conclusions can be drawn from the case studies? First, in all three cases strong parochial interests were held by at least some member states. Nevertheless at least in the case of the Humphead Wrasse it could be showed that stakeholders were convinced by arguments. Indonesia changed its point of view, after it had received new information in the consultationprocedure. Other states, like the Seychelles, could not be convinced indeed, but were not able to maintain their argument when being confronted with contradictory facts. Furthermore, they did not enter a reservation but accepted the listing-decision. So in this case parochial interests were limited successful. In contrast in the case of the great white shark no persuasion processes could be observed. Japan opposed the listing from the beginning and no compelling arguments could be found. Instead the FAO Expert Advisory Panel backed up the position of Japan. So it was impossible to clarify in the listing-procedure whether the great white shark meets the criteria or not. Japan and three other states entered a reservation after the species was listed. This confirms the hypothesis that states can afford entering a reservation if the informational basis is meagre and therefore it cannot be ensured whether a species meets the criteria. In the third case, the bigleaf mahagony, no hints on arguing could be found. But in this case it was much clearer that the criteria were met in fact. So although some states like Bolivia denied that the species is endangered in their country until the final listing-decision, they abstained from entering a reservation. This also confirms the hypothesis that the design of the decision-making procedure raises the costs for entering a reservation if it can be ensured that a species meets the criteria.

So what can be concluded from these case studies for the effects of the listing-procedure in general? Firstly, it could be demonstrated that arguing is possible in the differentiated decision-making system of CITES. Secondly, the procedure creates in fact incentives for the ac-

tor's dilemma. So the informational basis of the decisions is improved. But this touches its limits in cases like the Great White Shark, in which the costs for building a sound informational basis are unbearable. Thirdly, and most importantly, the procedure is able to limit the influence of parochial interests and therefore facilitates reasonable decisions at least in cases with a sound informational basis.

6. Bibliography

Axelrod, Robert 1984: The Evolution of Cooperation. New York.

Axelrod, Robert / Keohane, Robert 1985: Achieving Cooperation under Anarchy. Strategies and Institutions, in: *World Politics* 38, 226-254.

Blundell, Arthur 2004: A review of the CITES listing of big-leaf mahogany, in: *Oryx* 38, 84-90.

Blundell, Arthur / Gullison, Raymond 2003: Poor regulatory capacity limits the ability of science to influence the management of mahogany, in: *Forest Policy and Economics* 5, 395-405.

Blundell, Arthur / Rodan, Bruce 2001: Confusing Controversy with Failure: The Ft. Lauder-dale Listing Criteria and CITES Appendix I and II Species, in: *Journal of International Wild-life Law and Policy* 4, 35-45.

Dansky, Shawn 1999: The CITES "Objective" Listing Criteria: Are They Objective Enough to Protect the African Elephant?, in: *Tulane Law Review* 73, 961-980.

Elster, Jon 1989: The Cement of Society. A Study of Social Order. Cambridge.

Favre, David 1993: Debate within the CITES community: What direction for the future?, in: *Natural Ressources Journal* 33, 875-918.

Gehring, Thomas / Krapohl, Sebastian / Kerler, Michael / Stefanova, Sachka 2005: *Rationalität durch Verfahren in der Europäischen Union. Europäische Arzneimittelzulassung und Normung technischer Güter.* Regieren in Europa, Band 9 (ed. Kohler-Koch, Beate). Baden-Baden.

Gehring, Thomas 2002a: Die Europäische Union als komplexe internationale Organisation. Wie durch Kommunikation und Entscheidung soziale Ordnung entsteht. Baden-Baden.

Gehring, Thomas 2002b: How to Circumvent Parochial Interests without Excluding Stake-holders: The Rationalizing Power of Functionally Differentiated Decision-making. Paper prepared for the First Pan-European Conference on European Union Politics "The Politics of European Integration: Academic Acquis and Future Challenges", Bordeaux, 26-28 September 2002. http://web.uni-bamberg.de/~ba6ip99/ doku/downloads/GehringBordeaux.doc.

Gehring, Thomas 1996: Arguing und Bargaining in internationalen Verhandlungen. Überlegungen am Beispiel der Ozonschutzregimes, in: Prittwitz, Volker von: *Verhandeln und Argumentieren*. Opladen.

Goho, Shaun A. 2001: The CITES Fort Lauderdale Criteria: The Uses and Limits of Science in International Conservation Decisionmaking, in: *Harvard Law Review 114*, 1769-92.

Habermas, Jürgen 1981: Die Theorie des kommunikativen Handelns. Band 1, Handlungsrationalität und gesellschaftliche Rationalisierung. Frankfurt am Main.

Habermas, Jürgen1973: Wahrheitstheorien, in: Fahrenbach, H. (ed.): Wirklichkeit und Reflexion. Festschrift für Walter Schulz. Pfullingen.

Hemmings, Jess 2002: Does CITES Conserve Biodiversity?, in: *Asia Pacific Journal of Environmental Law* 7, 95-124.

Hepworth, Robert 1998: The independent review of CITES, in: *Journal of International Wildlife Law & Policy 1*, 412-32.

Keohane, Robert O. 1986: Reciprocity in International Relations, in: *International Organization* 40, 1-27.

Kerler, Michael / Stefkanova, Sachka 2002: European Standardization in the Field of Machinery: Explaining a Success Mode of Single Market Regulation. Paper vorgestellt auf der "First Pan-European Conference on European Union Politics: The Politics of European Integration: Academic Acquis and Future Challenges", Bordeaux, 26. - 28. September 2002.

Krapohl, Sebastian 2002: New Mode of Single Market Regulation: The European Agency for the Regulation of Pharmaceuticals. Paper vorgestellt auf der First Pan-European Conference on European Union Politics: The Politics of European Integration: Academic Acquis and Future Challenges, Bordeaux, 26. - 28. September 2002.

Kratochwil, Friedrich 1993: Norms Versus Numbers: Multilateralism and the Rationalist and Reflexivist Approaches to Institutions - a Unilateral Plea for Communicative Rationality, in: Ruggie, John Gerard (ed.): *Multilateralism Matters. The Theory and Praxis of an Institutional Form.* New York.

Kütting, Gabriela 2000: Environment, Society and International Relation. Towards More Effective International Environmental Agreements. London.

Mayntz, Renate 1988: Funktionelle Teilsysteme in der Theorie sozialer Differenzierung, in: dieselbe 1997: Soziale Dynamik und politische Steuerung. Theoretische und methodologische Überlegungen. Frankfurt a.M. 38-69.

Müller, Harald 1994: Internationale Beziehungen als kommunikatives Handeln. Zur Kritik der utilitaristischen Handlungstheorien, in: *Zeitschrift für internationale Beziehungen* 1, 15-44.

Risse, Thomas 2000: "Let's Argue!": Communicative Action in World Politics, in: *International Organization* 54, 1-39.

Saretzki, Thomas 1996: Wie unterscheiden sich Argumentieren und Verhandeln? Definitionsprobleme, funktionale Bezüge und strukturelle Differenzen von zwei verschiedenen Kommunikationsmodi, in: Prittwitz, Volker von: *Verhandeln und Argumentieren. Dialog, Interessen und Macht un der Umweltpolitik.* Opladen.

Scharpf, Fritz 1992: Koordination durch Verhandlungssysteme: Analytische Konzepte und institutionelle Lösungen, in: Benz, Arthur / Scharpf, Fritz / Zintl, Reinhard: *Horizontale Politikverflechtung. Zur Theorie von Verhandlungssystemen.* Frankfurt a.M. 51-92.

Schimank, Uwe / Volkmann, Ute 1999: Gesellschaftliche Differenzierung. Bielefeld.

Sebenius, James K. 1983: Neogtiation arithmetic: adding and substracting issues and parties, in: *International Organization* 37, 281-316.

Simon, H. A. 1981: *Entscheidungsverhalten in Organisationen*. Eine Untersuchung von Entscheidungsprozessen in Management und Verwaltung. Übersetzung der dritten, stark erweiterten und mit einer Einführung versehenen, englischsprachigen Auflage. Landsberg am Lech.

Swanson, Timothy 2000: Developing CITES: Making the Convention work for all the Parties, Hutton, Jon und Barnabas Dickson (eds.): *Endangered Species, Threatened Convention. The Past, Present and Future of CITES.* London.

Willke, Helmut 2000: Systemtheorie I: Grundlagen. Eine Einführung in die Grundprobleme der Theorie sozialer Systeme. Stuttgart.

Young, Oran / Levy, Marc A.: The Effectiveness of Internationale Environmental Regimes, in: Young Oran (Hg.) 1999: The Effectiveness of International Environmental Regimes. Causal Connections and Behavioral Mechanisms. Cambridge. Massachusetts.

7. Quellen

Animals Committee 2004a: White Shark *Carcharodon carcharias*: status and management challenges. Conclusions of the Workshop on Great White Shark Conservation Research. Wildlife Conservation Society. Central Park Zoo, New York, NY, USA.20-22 January 2004. Document AC 20 Inf.1. http://www.cites.org/common/com/ac/20/E20-inf-01.pdf.

Animals Committee 2004b: Biological and trade status of sharks. Report of Working Group 8, Document 1. http://www.cites.org/eng/com/AC/20/E20-19.pdf.

CITES 2005: Specific reservations entered by Parties. Valid from 12 January 2005. http://www.cites.org/eng/app/reserve_latest.shtml

Conference of the Parties to the Convention 2004a: Proposal 33. http://www.cites.org/eng/cop/13/prop/E13-P33.pdf

Conference of the Parties to the Convention 2004b: Proposals to Amend the Appendices I and II. http://www.cites.org/eng/cop/13/doc/E13-60.pdf

Conference of the Parties to the Convention 2004c: Committee I Report 16. http://www.cites.org/eng/cop/13/rep/E13-ComIRep16.pdf

Conference of the Parties to the Convention 2004d: Proposal 32. http://www.cites.org/eng/cop/13/prop/E13-P32.pdf

Conference of the Parties to the Convention 2004e: Committee I Report 15. http://www.cites.org/eng/cop/13/rep/E13-ComIRep15.pdf

Conference of the Parties to the Convention 2004f: Committee I Report 13. http://www.cites.org/eng/cop/13/rep/E13-ComIRep13.pdf

Conference of the Parties to the Convention 2002: Proposal 47. http://www.cites.org/eng/cop/12/doc/E12-47.pdf

Conference of the Parties to the Convention 2000a: Resolution 11.1. http://www.cites.org/eng/res/11/11-01R13.shtml

Conference of the Parties to the Convention 2000b: Conservation of Swietena Macrophylla: Report of the Mahogany Working Group. http://www.cites.org/eng/cop/12/doc/E12-47.pdf

Conference of the Parties to the Convention 1994: Resolution 9.24. http://www.cites.org/eng/res/09/09-24R13.shtml

Conference of the Parties to the Convention 1985: Resolution 5.2. http://www.cites.org/eng/res/05/05-20.shtml

Convention on International Trade in Endangered Species of Wild Fauna and Flora 1987: http://www.cites.org/eng/disc/text.shtml

IUCN 2004a: Species information "cheilinus undulatus". http://www.iucnredlist.org/search/details.php?species=4592.

ITTO 2003: Tropical Timber Market Report. Unpublished Report. International Tropical Timber Organization: Yokohama. Cited in Blundell 2004.