



Species Survival Network

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Spiny Dogfish *Squalus acanthias*

CoP15 Prop. 18 (Palau and Sweden on behalf of the European Community's Member States acting in the interest of the European Community) Inclusion in Appendix II in accordance with Article II paragraphs 2(a) and (b) of the Convention and satisfying Criteria A and B in Annex 2a and Criterion A in Annex 2b of Resolution Conf. 9.24 (Rev. CoP14). Inclusion in Appendix II, with the following annotation: "The entry into effect of the inclusion of *Squalus acanthias* in Appendix II of CITES will be delayed by 18 months to enable Parties to resolve related technical and administrative issues, such as the development of stock assessments and collaborative management agreements for shared stocks and the possible designation of an additional Scientific or Management Authority."

SSN VIEW: SUPPORT Adoption of Proposal

SPINY DOGFISH POPULATIONS ARE IN DECLINE WORLDWIDE, DUE PRIMARILY TO OVER-EXPLOITATION BY TARGETED FISHERIES AND BYCATCH.

The spiny dogfish (*Squalus acanthias*) is a small, highly migratory shark found in temperate and boreal waters in the northern and southern hemispheres, including the Northwest and Northeast Atlantic, Northwest and Northeast Pacific, South Atlantic and Southeast Pacific. *S. acanthias* occurs on the continental shelf from the inter-tidal to the shelf slope. Spiny dogfish are usually found in large aggregations just above the seafloor.

S. acanthias is among the most vulnerable of all shark species to overexploitation, owing to its aggregating habit, late maturation, low reproductive capacity, longevity, long generation time and extremely low intrinsic rate of population increase. It falls into FAO's lowest productivity category for commercially exploited aquatic species.

Information from stock assessments, analyses of catch and landings data, and trawl and longline surveys show that spiny dogfish populations are in decline. Trend data for the northern populations of *S. acanthias* show declines ranging from 40% to 99% over a variety of periods. In the southern hemisphere the few data that exist show declines from 20% to 50%.

Summary of population trends for *S. acanthias**

Northeast Atlantic subpopulation: Critically Endangered (IUCN 2009); 2006 landings only 7% of 1972 peak; 2003 and 2005 assessments determined that stock had declined to 2-11% of initial biomass. Current depletion levels 5.2-6.6% relative to 1905 and 5.2-7.1% relative to 1955; stock in danger of collapse (ICES WGEF 2006). Landings from Portuguese waters declined 51% between 1987 and 2000; EU target fisheries closed in December 2006.

<p>Northwest Atlantic subpopulation: Endangered (IUCN 2009); US landings rose to ~4500 metric tons (t) 1979–1989, then to 27,200t in 1996; quota management since 2001 reduced US landings to 1,000–3,000t; Canadian landings have risen to ~ 2,500t since 2000. Biomass declined after 1993 with target fishing for mature females. Female spawning stock biomass (SSB) declined 1990-1999 by >80% to less than 100,000t; increasing to 194,600t in 2008. Average mature (>80cm) female length, litter sizes and average pup length have declined, reducing survival rates. Mature male/female sex ratio has increased from 2:1 to 4:1; spawning stock projected to decline sharply around 2017 due to persistent trend of low recruitment (Atlantic States Marine Fisheries Commission 2008). Canadian stocks show similar trends to those in the US; shared stock on Georges Bank declined steeply after 1992; southern Gulf of St Lawrence stock declining and may disappear owing to lack of recruitment.</p>
<p>Northwest Pacific subpopulation: Endangered (IUCN 2009); catches decreased from >50,000t to 10,000t 1952-1965. Offshore trawl catches fell from 700t to 100–200t 1974-2001; trend in landings is ~99% decline since 1950s; CPUE (Catch-per-unit effort) fell 80–90%, from 1970s to 2001; current stock level is extremely low (Fisheries Agency of Japan 2003); bycatch increasing in Russia.</p>
<p>Northeast Pacific subpopulation: Vulnerable (IUCN 2009); intensive fishery in 1940s caused 60% decline in three years; fishery recommenced in 1975; last stock assessment (1987) based on incorrect life history data; level of recovery is uncertain; substantial population decline in Southern Strait of Georgia since 1987; mean fish size and fecundity in Strait of Georgia has fallen; 80% of commercial fishery landings are juveniles in Strait of Georgia; only 40% of the quota being landed; Hecate Strait stock considered stable; Canadian Pacific catches 30–50% of quota.</p>
<p>Mediterranean Sea subpopulation: Endangered (IUCN 2009); considerable under-reporting; fishery declined steeply in 1990s; species now very rare in western Mediterranean.</p>
<p>Black Sea subpopulation: Vulnerable (IUCN 2009); data incomplete; primary productivity increased to 1981 then decreased 40–60% to 60,000–90,000t in 1992; Turkey reportedly now lands ~85% of the Black Sea catch of 2000t; Turkish statistics record decline of over 95% from peak landings of >11,000t in 1980-84.</p>
<p>South American subpopulation: Vulnerable (IUCN 2009); commonly discarded bycatch; apparent significant drop in abundance in Argentinean waters 1982-2004; research in 2007 identified localized declines of up to 80% in some coastal areas; no clear trend on southern Patagonian shelf where biomass is highest.</p>
<p>Australasia subpopulation: Least concern (IUCN 2009); reported New Zealand landings increased from 1980s to mid-2000s, probably owing to better reporting; catch rates and biomass indices largely stable or increasing; total allowable commercial catch 12,660t, but annual catches 2004–2007 only 7,180–8,311t.</p>
<p>South Africa subpopulation: Least concern (IUCN 2009).</p>

* References available on request

Spiny dogfish meat is widely consumed, particularly in Europe where it is popularly used in fish and chips (UK) and as “Schillerlocken” (Germany), as well as in other EU countries and in Japan. Oil, fins and hides are also widely traded in international markets. Demand for dogfish has driven **fisheries that preferentially target aggregations of mature, and usually pregnant, females because these are larger than mature males**. These targeted fisheries have led to drastic reductions in population size and changes in demographic structure. Over-exploitation by targeted fisheries and bycatch, unregulated trade and inadequate management of populations are recognised as the major threats to this species.

PATCHY MANAGEMENT AND LACK OF TRADE CONTROLS THREATEN THE VIABILITY OF THE SPECIES.

Despite drastic population declines across the globe, large quantities of *S. acanthias* products continue to be traded internationally. Some States have adopted catch quotas for this species, and some target fisheries have been closed. In December 2009, the Council of the European Union agreed to a 90% reduction in Total Allowable Catch for spiny dogfish for the year 2010, leaving a 10% allowance for by-catch. However, despite the listing of the NE Atlantic stock in Annex V of the OSPAR Convention for the Protection of the Marine Environment of the Northeast Atlantic, its proposed inclusion in Annex III of the Spa Protocol to the Barcelona Convention and the listing of the Northern hemisphere stock on Appendix II of the Bonn Convention (Convention on the Conservation of Migratory Species), there are no other regional or international management measures in place for this species. In addition, the U.S. Mid-Atlantic Council has proposed that the spiny dogfish commercial quota be more than doubled from the current 12 million pounds (5,443,108 kg) which, in itself, is significantly higher than in recent years, to 29 million pounds (13,154,178 kg). The final decision will be made in the first quarter of 2010.

IMPLEMENTATION AND ENFORCEMENT ARE WELL WITHIN THE CAPACITY OF EXPORTING AND IMPORTING COUNTRIES.

Though a number of Parties already identify their spiny dogfish imports and exports to the species level, others include all species of dogfish within the same commodity code. Parties trading in this species would need to ensure that *S. acanthias* is in a separate and distinct category. Parties would also need to develop identification guides for the species’ meat to distinguish it from that of other small sharks. DNA testing is available, and can be used to confirm identification and product origin for enforcement purposes. A global collection of *S. acanthias* samples for identification has been developed in the USA. The testing cost per sample ranges from USD20–60, and the results are available

within a week. The proposed 18 month grace period before the Appendix II listing of this species comes into effect should allow sufficient time for Parties to familiarize themselves with these tests and to develop identification guides.

SPINY DOGFISH MEETS THE CRITERIA FOR LISTING ON APPENDIX II.

The spiny dogfish satisfies the biological and trade criteria for inclusion in CITES Appendix II in accordance with Article II 2(a) and (b) of the Convention. Specifically, it meets Criterion A and B in Annex 2a and Criterion A in Annex 2b of Resolution Conf. 9.24 (Rev. CoP14). Its rapid recent rate of decline meets CITES guidelines for the application of “decline” to commercially exploited aquatic species. Listing of this species on Appendix II will ensure that international trade is regulated, accurately recorded, and not detrimental to the survival of wild populations.

The FAO Ad Hoc Expert Panel assessing the shark proposals concluded that the available evidence does not support the proposal to include *S. acanthias*, in CITES Appendix II.

The Panel appears to have relied in part on the relatively high numbers of spiny dogfish in some populations as evidence of species stability. However, spiny dogfish stocks have experienced rapid collapses in response to targeted fisheries, and they are also highly vulnerable to bycatch. This species falls into the FAO’s lowest productivity category, making it highly vulnerable to over-exploitation and very slow to recover.

Furthermore, the FAO bases its analysis of this proposal on an interpretation of Criterion B in Annex 2a of Resolution Conf. 9.24 that disagrees with that of the CITES Secretariat, in that it assumes that the word “reduction” in this criterion can be “assimilated” into the definition of decline in Annex 5 and its own footnote on aquatic species. Under the Secretariat’s interpretation as set out in CoP15 Doc 63, Criterion B was intended “to take pre-emptive action, such as inclusion in Appendix II, in order to avoid a species becoming threatened with extinction through international trade, i.e. before reduction engenders a decline”. Under this interpretation, which SSN believes to be correct, an aquatic species does not have to meet the definition of “decline” in order to qualify for listing on Appendix II, but may be listed in order to prevent a decline from occurring.

-Revised: 13 January 2010

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