

CONVENTION ON INTERNATIONAL TRADE IN ENDANGERED SPECIES
OF WILD FAUNA AND FLORA



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Interpretation and implementation of the Convention

Species trade and conservation issues

CONSERVATION MANAGEMENT OF AND TRADE IN SEAHORSES

This document has been submitted by Monaco and the United States of America.

Seahorses (*Hippocampus* spp.) on CITES – a road map to success

1. Overview

Seahorses (*Hippocampus* spp.) were the first marine fishes brought onto CITES Appendix II at CoP12 (Santiago, Chile, November 2002 along with whale sharks and basking sharks. In contrast to those sharks, though, seahorses are traded in large numbers, with millions of individuals of tens of species moving in international trade each year. They were the first “fully marine” fish species (i.e., one that lives in a marine environment throughout its entire life cycle) to be taken through the Review of Significant Trade (in three rounds), the first for which Recommendations were generated, and the first for which a trade suspension was imposed (for *Hippocampus kuda* from Viet Nam). They are also the first for which a Non-Detriment Finding (NDF) framework was developed. Much good work has been done to implement the inclusion of seahorses in Appendix II of CITES, but the large volumes of illegal trade remain of great concern, as is a lack of monitoring of wild populations by Parties to allow robust science-based NDFs.

This document summarizes the history of the inclusion of seahorses in Appendix II of CITES, explores progress in implementation, discusses capacity building, notes the trends in trade since the inclusion of these species in CITES, and raises issues that need attention. It also proposes Decisions for CITES to address current concerns.

2. Inclusion of seahorses in Appendix II of CITES

All species of seahorse (*Hippocampus* spp., 44 species at the time of writing¹) are included in Appendix II of CITES. At the time the genus was proposed for listing at CoP12, six species (*H. barbouri*, *H. comes*, *H. erectus*, *H. ingens*, *H. reidi* and *H. spinosissimus*) were recognized as

¹ As of November 2018 there are [44 seahorse species](https://iucn-seahorse.org/our-species/complete-scientific/291-2/) recognized by the IUCN Seahorse, Pipefish and Stickleback Specialist Group (SPS SG) (<https://iucn-seahorse.org/our-species/complete-scientific/291-2/>).

threatened by international trade and were proposed for inclusion in Appendix II in accordance with Article II, paragraph 2(a) of the Convention². The remaining species in the genus (26 described species at the time of the proposal – all assessed as Data Deficient on the IUCN Red List at the time) were proposed for inclusion in CITES Appendix II in accordance with Article II, paragraph 2(b) of the Convention for similarity of appearances².

Information available at the time of the inclusion of all seahorses in Appendix II of CITES indicated that the international trade in seahorses was large, multi-species focused and global – involving 70 tonnes (~24 million animals) across 23 species and at least 75 countries². The trade in dried specimens dominated exports but capture of seahorses for the aquarium trade exerted considerable pressure on particular species in certain areas. Most dried seahorses were caught as bycatch in non-selective fishing gears such as bottom trawls and gillnets while live seahorses were generally targeted in small-scale fisheries. The majority of dried seahorses were exported from Thailand, India, Mexico, the Philippines and Viet Nam and sent to mainland China, Hong Kong SAR, Singapore, and Taiwan, Province of China for use as traditional medicines. The smaller but significant trade in live seahorses for private and public aquaria – estimated at about 854,000 animals per year – came primarily from the Philippines, Indonesia, and Brazil to North America, Europe, Japan, and Taiwan, Province of China.

The exploitation and trade in seahorses, coupled with damage and destruction of their vulnerable inshore habitats, was reportedly resulting in widespread population declines. Fishery-dependent data and interviews with fishers collected between 1990 and 1995 estimated populations to have declined by 15-75% over a period of 3-10 years in India, Indonesia, the Philippines and Thailand³. Seahorse numbers in the wild appear to have also declined in the Western Atlantic and Eastern Pacific (data from Mexico, Honduras, Brazil, Guatemala, Costa Rica, Panama and Ecuador)⁴.

CITES first became involved with the management and conservation of seahorses at CoP11 when a Working Group was formed to consider document Doc. 11.36, submitted by the United States of America and Australia. As a result, the Parties adopted two decisions, one directed to the Animals Committee (Decision 11.97) and another to the Secretariat (Decision 11.153). In fulfillment of Decision 11.153, the CITES Secretariat convened a technical workshop on seahorses and other members of the family Syngnathidae in 2002. Based on the information presented and outcomes of the workshop, the Animals Committee recommended that all species of seahorses, genus *Hippocampus*, should be included in Appendix II of CITES⁵. The Parties adopted a proposal to list seahorses in Appendix II at CoP12 with an 18-month delay in implementation to allow Parties time to develop means to make NDFs, and was accompanied by four Decisions: 12.53–12.56, none of which are currently in force.

Decision 12.53 requested that CITES Management Authorities strengthen their collaboration and cooperation regarding management of *Hippocampus* species with appropriate fisheries agencies. Decision 12.56 invited the World Customs Organization to develop harmonized codes for live seahorses, dried seahorses, live pipefishes (and pipehorses), and dried pipefishes (and pipehorses). Decisions 12.54 and 12.55 are addressed in appropriate sections below.

² [Prop. 12.37](https://cites.org/sites/default/files/eng/cop/12/prop/E12-P37.pdf) (https://cites.org/sites/default/files/eng/cop/12/prop/E12-P37.pdf).

³ Vincent, A.C.J. 1996. [The international trade in seahorses](https://project-seahorse.squarespace.com/s/Vincent-1996_Traffic_TradeReport.pdf). TRAFFIC International. ISBN 1858500982 (https://project-seahorse.squarespace.com/s/Vincent-1996_Traffic_TradeReport.pdf)

⁴ Vincent, A.C.J., Giles, B.G., Czembor, C.A., Foster, S.J. (eds). 2011. [Trade in seahorses and other syngnathids in countries outside Asia \(1998-2001\)](https://www.fishbase.org/2011/Trade_in_seahorses_and_other_syngnathids_in_countries_outside_Asia_(1998-2001).pdf). Fisheries Centre Research Reports 19(1).

⁵ [CoP12 Doc. 43](https://www.cites.org/sites/default/files/eng/cop/12/doc/E12-43.pdf) (https://www.cites.org/sites/default/files/eng/cop/12/doc/E12-43.pdf)

3. Implementation of the inclusion of seahorses in Appendix II of CITES

3.1. Implementation challenges

The inclusion of seahorses in Appendix II of CITES posed implementation challenges. Trade in seahorses regularly occurred in large volumes and included shipments containing a large number of individual specimens that could also include a mix of multiple species that look quite similar to border officials. The trade also involved small animals that can be easily traded illicitly. Additionally, the trade involved countries from all continents except Antarctica^{3,4}. There was a need to build the capacity of Parties to meet their obligations, and then, provide effective resources for them to do so.

3.2. Early advice on implementation

In anticipation of implementation challenges, a significant amount of groundwork had been laid by the time the inclusion of seahorses in Appendix II of CITES came into effect in 2004. In support of Decision 12.55⁶, a new guide on seahorse taxonomy had been created⁷, and in support of Decision 12.54⁸ the CITES Animals Committee had recommended a standard minimum size limit (MSL = 10 cm height⁹) for all seahorses in trade, regardless of species¹⁰. This would allow Parties to make initial NDFs as they strived to develop more precise decision tools¹¹.

In May 2004, a workshop was held in Mazatlan, Mexico¹², that focused on implementing the inclusion of seahorses in Appendix II of CITES. This workshop, organized by the United States, brought together 43 participants from nine countries, with representatives from CITES Parties, the CITES Secretariat, fisheries agencies, non-governmental organizations, industry, academia and public aquariums. Recommendations from the workshop included initial guidance on making NDFs by setting the minimum size limit, protecting seahorse habitats from damage and destruction (including by fishing gear) and making legal acquisition findings and enforcing existing national laws (including bans on fishing/trawling in closed areas). In addition, the Mazatlan workshop participants noted the need for the certification or registration of captive breeding facilities, along with new methods to mark captive bred seahorses. General criteria for acceptable and “non-detrimental” aquaculture operations could emphasize assessment of rearing capacity, preventing release of cultured animals into the wild (see also Section 3.4) and limited reliance on wild broodstock.

3.3. Review of Significant Trade

⁶ Decision 12.55: The Nomenclature Committee shall propose a standard taxonomy for species in the genus *Hippocampus*.

⁷ Lourie, S.A. et al. 2004. A Guide to the Identification of Seahorses. Project Seahorse and TRAFFIC North America. Washington D.C.: University of British Columbia and World Wildlife Fund. This guide is still relevant for many species though Parties should refer to the most recent taxonomic revision in Lourie, S.A., Pollom, R.A., Foster, S.J. 2017. [A Global Revision of the Seahorses *Hippocampus Rafinesque* 1810 \(Actinopterygii: Syngnathiformes\): Taxonomy and Biogeography with Recommendations for Further Research](#). *Zootaxa* 4146(1):1.

⁸ Decision 12.54: The Animals Committee shall identify a minimum size limit for specimens of all *Hippocampus* species in trade as one component of an adaptive management plan, and as a simple precautionary means of making initial non-detriment findings in accordance with Article IV of the Convention

⁹ Seahorse height is measured from top of coronet to tip of outstretched tail.

¹⁰ Supporting analysis in Foster, S.J., Vincent, A.C.J. 2005. [Enhancing Sustainability of the International Trade in Seahorses with a Single Minimum Size Limit](#). *Conservation Biology* 19(4): 1044-1050.

¹¹ This recommendation was shared with Parties in notification [No. 2004/033](#) (<https://www.cites.org/sites/default/files/eng/notif/2004/033.pdf>)

¹² Bruckner, A.W., Field, J.D., Daves, N. 2005. [Proceedings of the International Workshop on CITES Implementation for Seahorse Conservation and Trade, Mazatlan, Sinaloa, Mexico](#). NOAA Technical Memorandum NMFS-OPR-35.

The Review of Significant Trade (RST) process has now encompassed eight seahorse species – the first fully marine fishes to go through the process since the Convention came into force more than 40 years ago¹³.

The process revealed that although seahorses were traded in large volumes (see Section 5, below), most major exporting Parties were struggling with implementation. The first round of RST involving seahorses began at AC23 (April 2008) for *H. kelloggi*, *H. kuda* and *H. spinosissimus* – Asian species that together comprised 54% of the total reported wild export volumes in the CITES database from 2004-2011¹⁴. The second round involving seahorses began at AC25 (July 2011) for *H. algericus* (West African), *H. barbouri*, *H. histrix* and *H. trimaculatus* (all Asian species) – which together comprised 42% of reported wild export volumes in the CITES database from 2004-2011^{Error! Bookmark not defined.}. The third round, launched at AC27 (April 2014) covered *H. erectus*, a Western Atlantic species for which trade data indicated a sudden increase in exports in 2009¹³.

When queried during the three rounds of RST, only one Party included NDF documentation for its wild seahorse exports – the USA for its small exports of *H. erectus*¹³. Most range States justified not making NDFs for their wild exports of focal species because they either (i) did not trade wild specimens or (ii) would no longer allow exports of wild specimens. Indeed, the RST may have triggered suspension of exports from five Parties¹³.

From the 78 range States selected for preliminary review across the eight species¹³, the AC decided that four should be given Recommendations for action, across five species: Thailand for *H. kelloggi*, *H. kuda*, *H. spinosissimus* and *H. trimaculatus*; Viet Nam for *H. kuda*; and Guinea and Senegal for *H. algericus*. Cumulatively these range States accounted for 98% of reported wild exports of these five species in the CITES trade database from 2004-2011^{Error! Bookmark not defined.}. The recommended suspension of imports from Viet Nam at SC63 (March 2013)¹⁵ was the first ever decided for a fully marine fish listed on Appendix II.

As of November 2018, the RST has prompted the end of permitted exports from Party/species combinations that together comprised 98% of reported wild seahorse exports across all species in the CITES database from 2004-2011^{Error! Bookmark not defined.}. In some cases, historically major exporting Parties responded to the RST process by choosing to suspend exports (including China, Indonesia, Malaysia, Thailand, Viet Nam)¹³ and in others CITES recommended trade suspensions after Parties failed to meet their obligations under the RST (including Guinea, Senegal¹⁶ and Viet Nam¹⁵, though Viet Nam's suspension was lifted at SC70 after Viet Nam indicated that exports of wild-sourced specimens will no longer be permitted¹⁷).

3.4 Common issues in making NDFs revealed during RST process

¹³ A detailed account of RST is available in Foster, S. J. 2016. [Seahorses \(*Hippocampus* spp.\) and the CITES Review of Significant Trade](#). Fisheries Centre Research Reports 24: 48 pp.

¹⁴ Calculated from trade data collated for Foster, S. J., Wiswedel, S., and Vincent, A.C.J. 2016. [Opportunities and challenges for analysis of wildlife trade using CITES data - seahorses as a case study](#). Aquatic Conservation: Marine and Freshwater Ecosystems 26:154–172.

¹⁵ [SC63 summary record](#) (<https://cites.org/sites/default/files/eng/com/sc/63/E-SC63-SumRec.pdf>)

¹⁶ [SC66 Doc. 31.1](#) (<https://cites.org/sites/default/files/eng/com/sc/66/E-SC66-31-01.pdf>) and [SC66 SR](#) (<https://cites.org/sites/default/files/eng/com/sc/66/ExSum/E-SC66-SR.pdf>)

¹⁷ [SC70 Doc 29.2](#) (<https://cites.org/sites/default/files/eng/com/sc/70/E-SC70-29-02.pdf>) and [SC70 Doc 29.2 A2](#) (<https://cites.org/sites/default/files/eng/com/sc/70/E-SC70-29-02-A2.pdf>)

The RST process brought to light two common issues that Parties encountered when making NDFs. Below are the two issues identified from the RST process:

i) Protected areas were often assumed to provide automatic conservation benefits to seahorses. The most commonly reported mitigation measures during RST were the existence of spatial restrictions, temporal restrictions, or both on fishing effort¹³ although the presence of seahorses in these protected areas were not confirmed prior to establishment and the benefits to seahorses were not analyzed or presented.

ii) RST only applies to wild-caught specimens. Nonetheless, Party documentation in support of the RST revealed that sale of captive bred F1 generation animals was often erroneously implied to be exempt from the NDF processes. Yet export of seahorses determined to be source code F (i.e., specimens bred in a captive environment, yet not captive-bred in accordance with Res. Conf. 10.16) requires an NDF to be made prior to issuance of the export permit .

ii) Releases of captive bred seahorses were mistakenly cited as a tool for the conservation or management of wild populations. Yet supplementation poses risks to wild populations (disease and genetic issues) with few likely benefits. The IUCN *Guidelines for Reintroductions and Other Conservation Translocations*¹⁸ recommend against the releases of captive animals except under specified conditions, including the careful monitoring of released animals. All releases need to be carried out with caution and follow best practices, if they are not to threaten the existing wild populations.

4. Capacity building

The RST process for seahorses revealed an urgent need to build the capacity of Parties to implement CITES measures for seahorses. To achieve this end, Project Seahorse, acting as IUCN SSC Seahorse, Pipefish and Stickleback Specialist Group, has led creation of a series of products that fill information gaps and help build capacity. All outputs are available for Parties on the IUCN Seahorse, Pipefish and Stickleback Specialist Group (SPS SG) [website](#)¹⁹.

4.1 NDF guidance and training workshops

A step-by-step framework¹⁸ for the development of adaptive management programs and making sound NDFs for seahorses was developed by Project Seahorse in consultation with CITES Authorities, government agencies and national experts in Indonesia, Thailand and Viet Nam and the Philippines through in-country workshops for CITES Authorities and national experts¹⁹.

4.2. Fisheries and trade monitoring guidelines

Protocols have been developed that allow Parties to deduce seahorse population trends (as required by the Convention)²⁰. The most effective approach is to survey seahorse landings at a sample of fishing

¹⁸ IUCN '[Guidelines for Reintroductions and Other Conservation Translocations](http://ow.ly/mRgRG)' (<http://ow.ly/mRgRG>)

¹⁹ <https://iucn-seahorse.org/cites-toolkit/>

¹⁸ Foster, S.J., Vincent, A.C.J. 2016. [Making Non-Detriment Findings for seahorses – a framework](#). Version 4.0/Project Seahorse, Fisheries Centre, The University of British Columbia, Vancouver, Canada. Available at <http://www.projectseahorse.org/ndf>.

¹⁹ Workshop summaries and outputs available at <https://iucn-seahorse.org/cites-toolkit/>.

²⁰ Monitoring guidelines available at <https://iucn-seahorse.org/cites-toolkit/>.

ports on a frequent basis. Such sentinel programs can be integrated into existing fishery monitoring programs.

4.3. Taxonomic clarity and identification guides in key languages

A revised taxonomy of seahorses was published in 2017 based on the best available genetic, morphological and geographic information at that time²¹. This set of 41 species, along with two species identified since its publication²², is being proposed to CoP18 as the Nomenclatural Standard Reference for this genus²³.

Regional identification guides – bifurcating keys – have been produced and translated into national languages²⁴:

- *ID Guide for Large Seahorses in Southeast Asia*, available in English, Khmer/Cambodian, Malay and Thai.
- *Simplified ID guide for Southeast Asian Seahorses*, available in Bahasa Indonesian, English, Thai and Vietnamese.
- *ID Guide for Eastern Atlantic Seahorses*, available in English.
- *ID Guide for Seahorses of the Americas*, available in English and Spanish.

4.4. Filling critical gaps in information – fisheries and trade surveys

Trade survey data have been published for both pre- and post-CITES periods for a number of countries²⁵. Such surveys of seahorse biology, fisheries and trades, have long served as the backbone of global seahorse conservation work, providing reliable estimates of trade.

4.5. Filling critical gaps in information – citizen science

A citizen science website, iSeahorse²⁶, and its associated smartphone app²⁷ have been created to allow anyone, anywhere in the world to contribute to seahorse science and conservation by sharing their wild seahorse sightings. The site has generated over 3600 observations across 33 species in greater than 50 countries; 15% of the verified sightings have been outside the previous inferred range of the species. iSeahorse also includes a recently developed network of 18 National Seahorse Experts and 19 Ambassadors for iSeahorse in over 18 different countries.

5. Changes in seahorse trade since seahorses were included in Appendix II of CITES

²¹ Lourie, S.A., Pollom, R.A., Foster, S.J. 2017. [A Global Revision of the Seahorses Hippocampus Rafinesque 1810 \(Actinopterygii: Syngnathiformes\): Taxonomy and Biogeography with Recommendations for Further Research](#). Zootaxa 4146(1):1.

²² Han, S.Y., Kim, J.K., Kai, Y. and Senou, H. 2017. [Seahorses of the Hippocampus coronatus complex: Taxonomic revision, and description of Hippocampus haema, a new species from Korea and Japan \(Teleostei, Syngnathidae\)](#). ZooKeys, 712: 113–139; Zhang, Y.-H., Qin, G. Wang, X. and Lin, Q. 2016. [A new species of seahorse \(Teleostei: Syngnathidae\) from the South China Sea](#). Zootaxa 4170 (2): 384-392.

²³ [AC29 Doc.35](#) (<https://cites.org/sites/default/files/eng/com/ac/29/E-AC29-35.pdf>); [AC30 Doc.32](#) (<https://cites.org/sites/default/files/eng/com/ac/30/E-AC30-32.pdf>) and [AC30 Doc.32 Annex 2](#) (<https://cites.org/sites/default/files/eng/com/ac/30/E-AC30-32-A2.pdf>).

²⁴ ID guides available at <https://iucn-seahorse.org/cites-toolkit/>.

²⁵ Country specific reports available at <https://iucn-seahorse.org/cites-toolkit/>.

²⁶ <http://www.iseahorse.org>

²⁷ <http://iseahorse.org/apps>

5.1. Changes in international trade of seahorses

Until the RST process, international seahorse trade appears not to have changed after the inclusion of seahorses in Appendix II of CITES. Annual seahorse exports – as reported to CITES^{Error! Bookmark not defined.} – comprised many millions of animals of a reported 31 species traded among at least 87 countries. The vast majority of reported dried exports was from Southeast Asia and West Africa to China (including Hong Kong SAR and Taiwan, Province of China) and was sourced from non-selective fishing practices. A smaller live trade was reported from Southeast Asia to Europe and North America. Reports of population declines also continued after the inclusion of seahorses in Appendix II of CITES²⁸.

The RST process led to notable changes in **reported** seahorse exports. A re-analysis of CITES data for this document²⁹ reveals a massive drop in trade volumes **reported** to CITES after 2011 (Figure 1). This is true for both the dried and live trade, though more pronounced for the former. The average annual reported trade volume from 2012 to 2016 was just 11% of the annual average reported from 2004 to 2011 for dried trade and 26% for live trade. Such declines in **reported** trade are associated with bans on exports from most historically important source countries, whether imposed by Parties or through a CITES trade suspension from the RST process (see Section 3.3, above).

²⁸ For examples, see Vincent, A.C.J., Foster S.J. and Koldewey, H.J. 2011. [Conservation and management of seahorses and other Syngnathidae](#). *Journal of Fish Biology*. 78(6): 1681-1724; Lawson, J.M., Foster, S.J., Lim, A.C.O., Chong, V.C., Vincent, A.C.J. 2014. [Novel life history for threatened seahorses provides insights into fishing impacts](#). *Journal of Fish Biology*. 86(1): 1-15; Stocks, A.P., Foster, S.J. Bat, N.K. and Vincent, A.C.J. (2017). [Catch as catch can: Targeted and indiscriminate small-scale fishing of seahorses in Vietnam](#). *Fisheries Research*. 196: 27-33; Kuo, T.C., Laksanawimol, P., Aylesworth, L., Foster, S.J. and Vincent, A.C.J. (2018). [Changes in the trade of bycatch species corresponding to CITES regulations: the case of dried seahorse trade in Thailand](#). *Biodiversity and Conservation*. 27(13): 3447–3468.

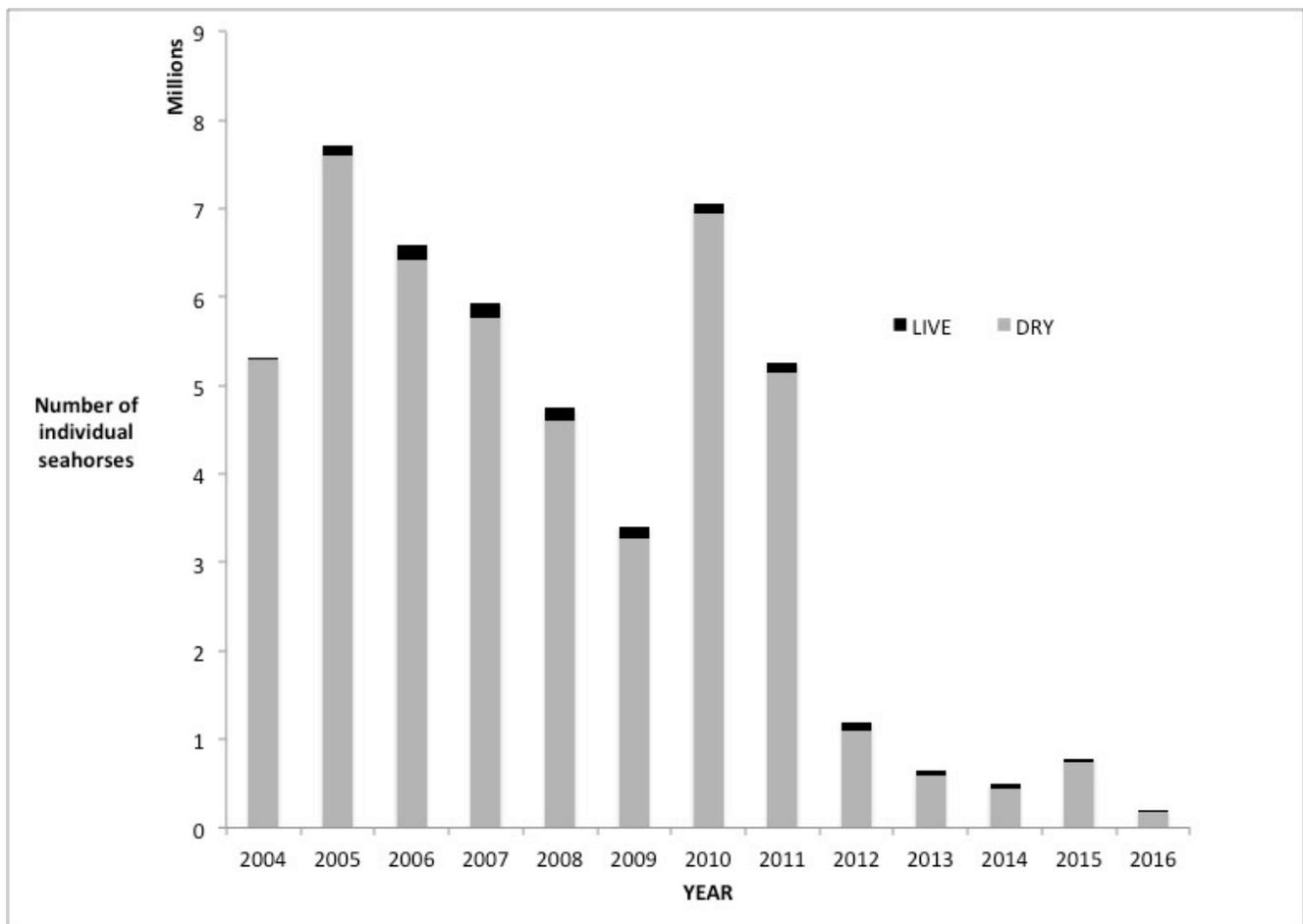


Figure 1. Volume of seahorses (in number of individuals) reported in the CITES database from 2004 to 2016.

5.2. Ongoing illegal, unregulated and unreported trade in dried seahorses

Despite the decline in reported exports of seahorses, there is evidence of illegal exports from at least some countries that have banned such exports. Fisheries surveys, trade surveys, or both in source countries with trade bans have revealed persistent illegal, unregulated and unreported (IUU) exports of dried seahorses, particularly from India³⁰, Malaysia³¹, the Philippines³² and Viet Nam³³. Media reports of seahorse seizures³⁴ provide further evidence of illegal international trade.

The most recent evidence for ongoing trade comes from 220 interviews conducted with traders in Hong Kong SAR, the largest entrepôt for dried seahorses, in 2016-17³⁵. In this study, traders reported obtaining dried seahorses from many countries with bans on seahorse exports, most notably Thailand

³⁰ T. Vaidyanathan, Project Seahorse, pers. comm.

³¹ Lawson, J. 2014. [Rare seahorses have big implications for small fishes in bycatch](#). The University of British Columbia. doi:10.14288/1.0166949.

³² O'Donnell, K. P., Molloy, P.P., and Vincent, A.C.J. 2012. [Comparing fisher interviews, logbooks, and catch landings estimates of extraction rates in a small-scale fishery](#). *Coastal Management* 40:594–611.

³³ Foster, S.J., Aylesworth, L., Do, H.H., Bat, N.K., and Vincent, A.C.J. 2017. [Seahorse exploitation and trade in Viet Nam](#). *Fisheries Centre Research Reports* 25(2): 50 pp.

³⁴ <https://iucn-seahorse.org/cites-toolkit/>

³⁵ Foster, S.J., Kuo, T.C., Wan, A.K.Y., and Vincent, A.C.J. [Global seahorse trade defies export bans under CITES action and national legislation](#). Institute for the Oceans and Fisheries Working Paper #2018-01.

and the Philippines – but also Indonesia, India, Malaysia and Viet Nam. Indeed, it was estimated that almost all dried seahorses in Hong Kong SAR (95%) had been imported from source countries despite export bans being in place, indicating a widespread lack of enforcement.

Importing and exporting Parties and national CITES Authorities clearly must take action to implement the Convention for seahorses. The Hong Kong SAR study’s findings identify failures in export and import control as well as a need to involve TCM and dried seafood traders as agents in generating compliance with trade bans. Given that export bans were implemented in response to concerns about the state of seahorse populations, ongoing illegal trade poses threats to the long-term future of the species.

5.3. Changes in sources of live seahorses

Changes in reported international trade in live seahorse exports are primarily explained by a decline in reported wild exports from Indonesia and Viet Nam after 2009, when the RST process first involved these countries. These Parties together accounted for 88% of reported live wild exports from 2004-2009 but only 19% from 2010-2016³¹. It is possible these declines are real (*cf* dried trade), as live specimens are more challenging to move through borders undetected. That said, it would be of value to carry out a market survey in live seahorse consumer countries – similar to that carried out in Hong Kong SAR for the dried trade³⁷.

CITES trade data suggest also that the trade in live seahorses may be moving toward a greater reliance on captive-bred seahorses. Most seahorses traded live were wild-caught before the inclusion of seahorses in Appendix II of CITES³, but CITES data indicated a considerable increase in captive-bred seahorses to supply the live trade (Figure 2).

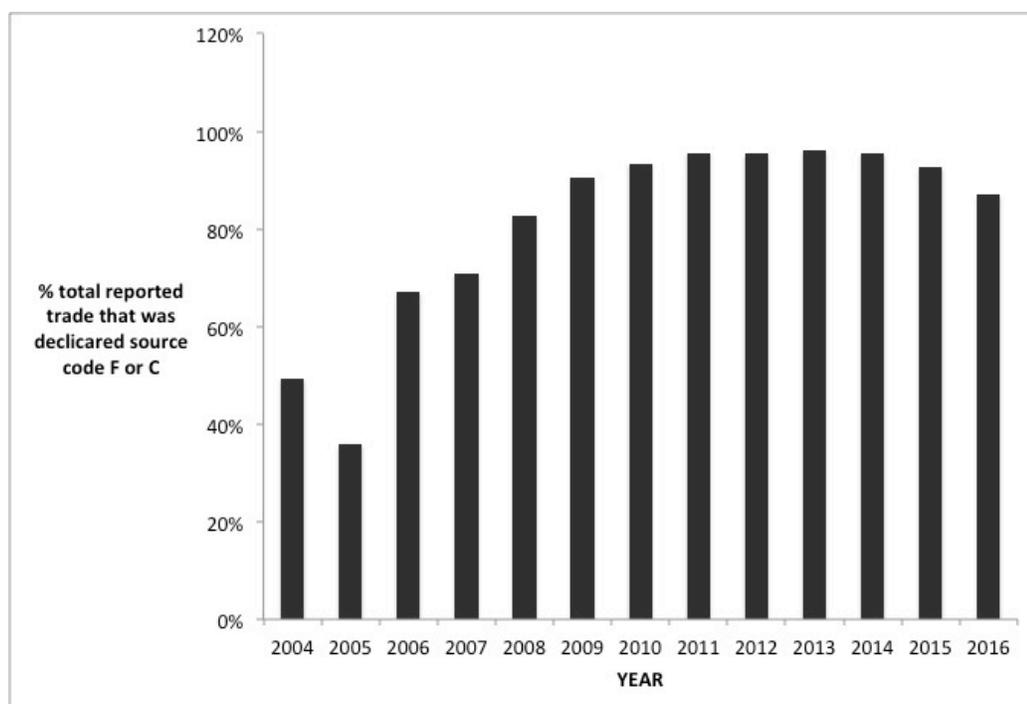


Figure 2. Proportion (%) of total live seahorse trade reported in the CITES database from 2004 to 2016 that was reported as source code F or C.

6. Present situation

Although historically important source Parties for seahorses are no longer exporting these fishes legally, because of either self- or CITES-imposed trade suspensions, illegal exports continue. To implement the Convention effectively, CITES Parties need to address three challenges:

1. Zero quotas, export suspensions, or both may not make a notable difference to seahorse conservation in most areas. The great majority of these fishes will continue to be caught in non-selective fishing gear and removed from the wild, whether traded or not. Parties need to implement existing national laws and rules that could reduce extractive pressure on seahorses. Such action will help Parties make positive NDFs.
2. With good oversight and adaptive management, many Parties could lift their zero quotas, export suspensions, or both and implement the inclusion of seahorses in Appendix II of CITES for an enduring sustainable, legal and regulated trade. For seahorses, the road map is there, the tools are in place and the available protocols should allow good progress. Such a transition would involve making preliminary conditional NDFs and then strengthening them as information improves, with good monitoring/feedback systems in place. Parties would also benefit from the production of legal acquisition guidance for seahorses.
3. Where zero quotas, export suspensions, or both remain, strengthened enforcement is needed by both exporting and importing Parties. Many seahorses obtained as bycatch can be moved easily across borders when dried. Although the level of illegal trade in live seahorses is currently unknown, improved monitoring and enforcement can help ensure that zero quotas and export suspensions are effectively implemented.

7. Where to next – A road map for success through CITES Decisions

To improve the current conservation situation for CITES-listed species, we recommend the following decisions for consideration at CoP18:

Directed to the Secretariat:

Decision 18.AA

The Secretariat shall update the CITES website to include available materials to support CITES implementation for seahorses (NDF guidance, identification materials, etc.) – as listed in Document CoP18 Doc. ** within 180 days after CoP18.

Decision 18.BB

The Secretariat shall:

- (a) issue a Notification to the Parties within 180 days of the end of the CoP inviting them to inform the Secretariat of (i) any national quotas for seahorses, including any zero quotas; (ii) any trade suspensions for seahorses; and (iii) how they are implementing and enforcing such quotas and trade suspensions for seahorses;
- (b) communicate the existence of national quotas, including any zero quotas, and trade suspensions for seahorses to CITES Authorities through a Notification to the Parties and through its website; and

(c) report how Parties are implementing and enforcing any quotas and trade suspensions for seahorses to the 73th meeting of the Standing Committee.

Decision 18.CC

The Secretariat, subject to the availability of external funding, shall:

- (a) facilitate the organization of an expert workshop for Parties to explore *CITES Implementation and Enforcement after Review of Significant Trade for Seahorses* and propose practical steps to be taken to ensure full implementation and enforcement of the inclusion of seahorses in Appendix II of CITES, in collaboration with relevant international and regional organizations; and
- (b) report the workshop findings and recommendations to the 31st meeting of the Animals and 73rd meeting of the Standing Committee, as appropriate.

Decision 18.DD

The Secretariat, subject to the availability of external funding and in consultation with relevant Parties, is requested to:

- (a) contract independent consultant(s) to undertake a study of the domestic controls in consumer markets for seahorse species for which international trade is predominantly illegal;
- (b) contract independent consultant(s) to undertake a study of live seahorse trade in key consumer countries to understand shifts in trade patterns since the inclusion of seahorses in Appendix II of CITES and since Review of Significant Trade; and
- (c) report the findings and recommendations of these studies to the 31st meeting of the Animals Committee and 73rd meeting of the Standing Committee, as appropriate.

Decision 18.EE

The Secretariat is invited to seek external funding from interested Parties and intergovernmental and nongovernmental organizations to support the work described in Decisions 18.CC and 18.DD.

Directed to the Parties:

Decision 18.FF

To effectively implement the inclusion of seahorses in Appendix II of CITES, Parties are invited to:

- (a) inform the Secretariat of (i) any national quotas for seahorses, including any zero quotas; (ii) any trade suspensions for seahorses; and (iii) how they are implementing and enforcing such quotas and trade suspensions for seahorses;
- (b) share copies of their NDFs with the CITES Secretariat for posting on the CITES website to assist other CITES Parties;
- (c) inform seahorse traders within their jurisdiction of any quotas, including any zero quotas, and any trade suspensions for seahorses to further facilitate compliance and enforcement by all participants in the trade.

Decision 18.GG

Parties are encouraged to:

- (a) use existing tools for effective CITES implementation and enforcement that are relevant to seahorses;
- (b) where quotas, trade suspensions, or both are in place, develop monitoring programs for seahorses in their national waters to understand effectiveness of these actions and any other relevant implementation and enforcement actions for seahorse conservation and management; and
- (c) share the design and initial results of these programs with the CITES Secretariat to report out at the 19th meeting of the Conference of the Parties.

Directed to the Animals Committee:

Decision 18.HH

The Animals Committee shall consider the findings and recommendations of the workshop referred to in Decision 18.CC, the findings and recommendations from actions taken pursuant to Decision 18.DD, and other relevant information available to the Animals Committee, and develop recommendations as appropriate to ensure sustainable harvest and legal trade in seahorses.

Directed to the Standing Committee:

Decision 18.II

The Standing Committee shall consider the report of the Secretariat referred to in Decision 18.BB, the findings and recommendations of the workshop referred to in Decision 18.CC, the findings and recommendations from actions taken pursuant to Decision 18.DD, information provided by the Parties pursuant to Decisions 18.FF and 18.GG, and recommendations developed pursuant to Decision 18.HH, and develop recommendations as appropriate to address the illegal trade of seahorses and strengthen CITES implementation and enforcement.

Directed to Secretariat:

Decision 18.JJ

The Secretariat is invited to consult the International Union for Conservation of Nature (IUCN) SSC Seahorse, Pipefish and Stickleback Specialist Group and other relevant experts, subject to the availability of external funding, to continue helping Parties to fully implement and enforce the Convention and ensure that the international trade in seahorses is not detrimental to the survival of wild populations.