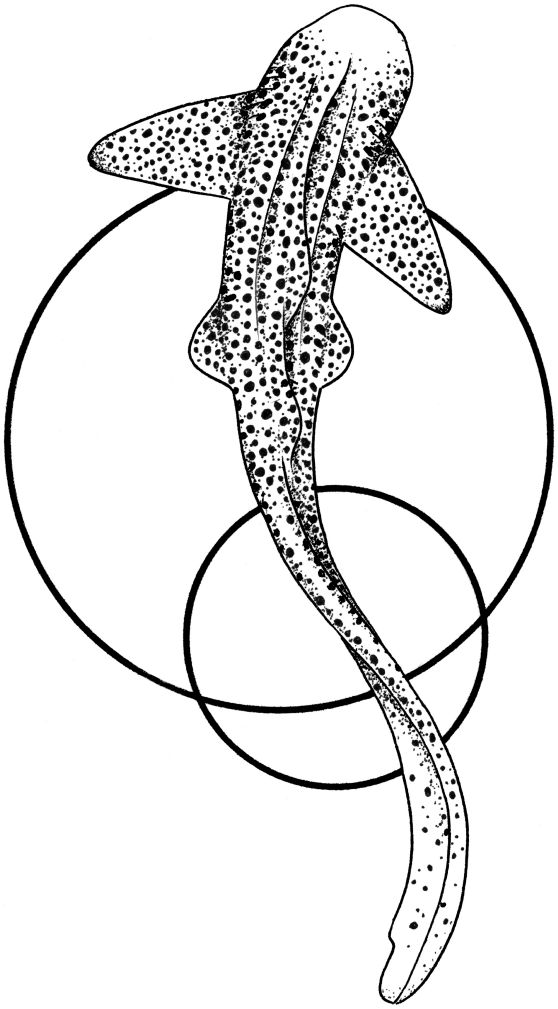
The trading of shark fins from Europe must be stopped!

STOP FINNING - STOP THE TRADE
a European Citizens' Initiative



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Date of publication: 30 April 2023

The European Citizens' Initiative "STOP FINNING – STOP THE TRADE" is supported by more than 100 NGOs, countless partners and volunteers as well as 1,119,996 verified EU citizens who submitted their statement of support.

What is this ECI about? It demands an end to the trade in shark fins from Europe. One of the biggest risks for sharks is being hunted for their fins. This is not just 'finning' in the narrow sense of the word, the brutal practice of catching sharks, cutting off their valuable fins and throwing the animals back into the sea, often while they are still alive, to bleed to death or suffocate. Fortunately, this has been banned in the EU since the "Fins Naturally Attached" Regulation (EU) No 605/2013 of the European Parliament and of the Council, which is still in force.

Despite this, 45% of fins imported to Asia come from the EU. Even if sharks are spared the suffering of finning on board ships, there are huge problems associated with the trade in loose fins. The impact of this trade is far greater than you might think - every single species of the marine ecosystem counts. And when one goes missing, chains are set in motion that affect not just the sharks, but all of us.

Therefore, the demand of this ECI is to change the rules on the trade of loose shark fins. The current "Fins Naturally Attached" regulation states that the fins may not be removed from the body of the shark before landing. In order to stop the trade in loose fins, additional legislation is needed to ban the export, import and transit of loose shark fins!

The following explains why this additional legislation is urgently needed and why the EU must act.

Sharks are essential for the marine ecosystem and climate protection!

1. Sharks ensure the health of the **oceans for tourism**,[1] **fisheries**[2] **and food security**.[3]

Sharks have been an apex predator for over 400 million years,[4] which dates them back further than the dinosaurs. In their evolution, many aquatic species have adapted around them and are dependent on their presence.[5] Examples are deterring overgrazing[6] or keeping intermediate predators in check.[7] To conserve energy, sharks preferentially hunt for injured or sick fish, which contributes to the health of fish populations[8] and reduces risk of zoonosis; pathogens being passed on to humans.[9] Consequently, for fish populations and food security it is essential to have healthy shark populations in the marine ecosystem.

Furthermore, the value of a shark alive for tourism is a relevant economical factor,[10] especially in Europe where shark tourism is growing. Examples for shark tourism industries are:

- Portugal (e.g., Blue Sharks, Mako Sharks - Azores)
- Spain (e.g., Angel Sharks - Gran Canaria)
- Ireland (Basking Sharks, Hound Sharks and Spiny Dogfish)
- Italy (Blue Sharks - Sicily)
- Croatia (Blue Sharks - Adriatic)

The increasing interest from the diving industry will also create more opportunities in the future,[11] as suggested by other countries like Israel, UK or Norway.

[1] *Torres et al., 2017*
[2] *Hammerschlag, 2019*
[3] *Pauly et al., 2017; FAO, several reports 2020*
[4] *E.g., Davis et al., 2012 or Swift et al., 2016*
[5] *Castro, 2017; Ferretti et al., 2010; Baum and Worm, 2009*
[6] *Gangal et al., 2021; Heithaus et al., 2014*
[7] *Hunsicker et al., 2012*
[8] *Heupel at al., 2019*
[9] *Souza-Araujo et al., 2021; Hammerschlag et al., 2019*
[10] *Cisneros-Montemayor et al., 2013*
[11] *Gonzáles-Mantilla et al., 2022 ; Shamir et al., 2019*

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2. The oxygen in every second breath we take is produced by the oceans.[12] The extinction of sharks would have a **tremendous impact** on the marine ecosystem,[13] which in turn would negatively affect the **climate and CO2 pollution** in the atmosphere.[14]

Sharks play an essential role in the marine ecosystem as top-down processes impact all aspects of the food chain. This includes the composition of algae species. The combined impact of overfishing and nutrient enrichments can change this composition and result in harmful algae blooms. While the blooms are often toxic, the resulting decomposition from microorganisms leads to an oxygen deficit, which results in local fish extinctions – so called 'ocean dead zones'.[15] These tipping points can have devastating impacts on the planet's air composition.

Algae is responsible for at least 50% of the global oxygen production. Furthermore, algae and other organisms in the ocean provide very important ecosystem services in carbon sequestration. A seagrass meadow alone can sequester carbon 35 times faster than a rainforest of the same size.[16] Consequently, the oceans absorb about 31% of humanity's carbon emissions. However, this absorption also creates additional stressors, like ocean acidification. In order to create resilience for oceanic ecosystems and increase their ability to cope with these stressors, biodiversity protection, especially of keystone species (such as sharks), is paramount.

[12] *NOAA, 2021; NASA - Earth Observatory, 2017.*
[13] *Hammerschlag et al.,2017; Baum and Worm, 2009.*
[14] *Atwood, et al., 2015.*
[15] *Dodds, 2006.*
[16] *Macreadie et al., 2014.*

3. **Protecting resilient** biodiversity within ecosystems and ensuring the sustainability of our blue economy and fisheries sector are **high priorities of the EU Green Deal.**[17]

Biodiversity loss exceeds the planetary boundary in which humanity can safely operate more than the impacts of climate change. This is because biodiversity loss is an amplifier for climate change, as mentioned above. Furthermore, the decreasing resilience of ecosystems and therefore the reduction of ecosystem services they can provide, threatens many livelihoods and will result in new refugee migrations.

The EU has also recognized these consequences, as it states in its goals to protect the environment and oceans by means of the EU Green Deal:

Europe's seas, oceans, and environment are a source of natural and economic wealth for Europe. We must preserve and protect them to ensure that they continue sustaining us in the future.

European Green Deal priorities include protecting our biodiversity and ecosystems, [...] [and] ensuring the sustainability of our blue economy and fisheries sectors'.[18] *These goals are also part of the EU Biodiversity Strategy for 2030.*[19]

Healthy shark populations can aid the prevention of these threatening impacts described above. They can make an essential contribution to healthy ecosystems and climate. Consequently, a shark fin trade ban would be in line with the goals sought by the EU. The EU has recently demonstrated its ambitions in shark protection by supporting Panama's proposal to list all requiem sharks on CITES Appendix II during the CITES CoP19 in November 2022. The EU support for this application was well received and aligns with our proposal, as the CITES agreement will foster a reduction in the trade of the CITES protected shark species. However, due to its own sphere of competence and more concrete possibilities at the European level, a trade ban on loose fins offers the EU the chance to lend credibility to the ambitions of the CITES application on its own legislation and to exhaust all possibilities that are necessary.

The current situation, on the other hand, is not compatible with EU goals. A change in the form of the requested amendment to the regulation is therefore also urgently needed in the interests of the EU.

[17] *European Commission, website European Green Deal, accessed August 2022; European Commission, COM(2021) 240 final*
[18] *European Commission, website European Green Deal, accessed August 2022*
[19] *European Commission, website Biodiversity strategy for 2030, accessed August 2022*


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Hunting sharks for their fins can only end with a trade ban for loose fins!

4. More than **100,000,000 sharks** are killed **every year**, mainly for their fins.[20]

In 2015, the FAO reported a 20% decline of shark catches compared to 900,000 tonnes in 2003. This was associated with the adoption of better management measures, especially related to shark fin measures.[21] While this highlights the effectiveness of such measures, it also showcases that far more than 100 million sharks are landed each year. This number is widely accepted in the literature and confirmed by the landing tonnage of declared catches of the FAO.[22] Furthermore, sharks and shark fins are especially affected by underreporting, due to landing legislations, such as the 'natural fin attached policy.'[23]

[20] *Worm et al., 2013.*
[21] *FAO, 2012.*
[22] *FAO, 2019.*
[23] *FAO, 2015.*

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5. **167 shark species are threatened with extinction**.[24] The number of sharks in the high seas has **declined by more than 70%** in the last 50 years.[25]

Of the 536 shark species which have been assessed by the IUCN, 167 are either Vulnerable (76), Endangered (56) or Critically Endangered (35). 72 sharks are data deficient. These are typically not well studied, as they are either endemic to a remote region and therefore occur in low numbers or have not been well documented, which could also suggest vulnerability. Sharks which are vulnerable, are often larger in size and are especially important to provide ecosystem services as a top predator.

Sharks are especially vulnerable to overexploitation, due to slow sexual maturity and a low reproductive rate. This, combined with the demand for shark fins, has led to a decline of sharks in the high seas of over 70% in the last 50 years. For some species this number is significantly higher. This includes sharks occurring in Europe like the Thresher or Mako shark.

[24] *Dulvy. et al., 2021*
[25] *Pacoureau, Rigby, Kyne et al., 2021. and Dulvy et al., 2017*

6. The high market value of shark fins is the **only reason** to fish sharks at **unsustainable** rates[26] and to continue the bloody practice of **'finning'**, whether it's legal or not.[27]

The fins make shark catches lucrative. They hold an extremely high market value between 500 and 1,000 USD per kilogram,[28] which is the decisive incentive to catch sharks. The fins are processed into shark fin soup, mainly in Asia. The cartilage tissue of the fin is tasteless itself and only gets a taste by means of chicken broth. A single bowl of soup can cost several hundred euros. This high price is a result of the soup's symbol of prosperity and the belief that fins could cure cancer. However, this belief has long been scientifically tested and disproven.[29] On the contrary, the consumption of shark fins or cartilage pills may pose a significant health risk.[30]

The consumption of shark fin products comes at a high price. As already outlined the overexploitation of the animals leads to ecosystem instability and consequently further climate impacts. Shark meat has also been found to exceed advised levels of mercury for consumption and therefore endangers human health.

[26] *Van Houtan et al., 2020*
[27] *Worm et al., 2013*
[28] *Fabinyi, Liu, 2014*
[29] *Ostrander et al., 2004; Loprinzi et al.2005*
[30] *Mondo et al., 2012*


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The EU is part of the problem!


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7. Currently, Member States Spain, Portugal and France are among the **Top 15 shark-fishing nations of the world**[31] and are often even **subsidised by the EU**.[32]

The fact that the European Member States Spain, Portugal and France remain among the top 15 shark-fishing nations worldwide is also reflected in the trade data. This shows that the EU has a considerable share of the worldwide trade in shark products and therefore, the EU is still part of the problem.

A recent study found that the EU Member States supplied on average up to 45% (increasing from 28% in 2003) of the shark fin related imports into Hong Kong, Singapore and Taiwan in 2020.[33] With a total of 51,795 metric tonnes recorded between 2003 and 2020, and an annual average of 2,877 metric tonnes, Spain was the largest reported source of all the reported imports from EU Member States. In second place is Portugal with a total of 642 metric tonnes. In third place comes the Netherlands with a total of 621 metric tonnes. This was the result of a single shipment in 2013 and since then, there have been no further records. France follows with a total of 295 metric tonnes recorded. The study also found a discrepancy between import data from Hong Kong, Singapore and Taiwan and export data from the EU. Discrepancies ranged from 1,650 tons to 2,318 tonnes, which suggests a concerning case of potential misreporting in the shark fin-related trade and may be worth further investigation by the relevant governing bodies.[34]

Contrary to the argument of job necessity, this industry is not essential for employment of EU citizens. Most jobs on EU fishing vessels targeting sharks, are often filled by non-EU country workers. However, sharks and their related healthy ecosystems are essential for oceans to provide ecosystem services. These include the tourism industry, which has enormous economic power through beach vacations, diving, snorkelling and coastal protection, resulting in more revenue and job opportunities than shark fishing.

[31] *TRAFFIC, 2019*
[32] *Council directive 2003/96/EC; European Commission Proposal für Council directive COM(2021) 563 final, 2021/0213 (CNS)*
[33] *IFAW, 2022*
[34] *IFAW, 2022*

8. Although the **EU has conservation obligations under CITES**[35] **and CMS,**[36] threatened/protected shark species are entering the market due to current inadequate legislation.[37]

An investigation found that one-third of the shark fins sold in the largest shark fin market in Hong Kong were identified as threatened species. This also included shark species listed in Appendix II of the CITES convention.[38]

Ray products such as fins and gills are also often traded illegally under CITES. Rays are closely related to sharks. As with shark fins, the majority of ray gill rakers found in traditional medicine markets come from protected, endangered species and are illegal to trade under CITES, yet persist in the marketplace.[39] Evidence suggests that these products are part of the same international trade as shark fins.[40]

[35] *Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), especially Articles I - III, Appendices I-III*
[36] *Convention on the Conservation of Migratory Species of Wild Animals (CMS)*
[37] *Fields et al., 2017; Giovos et al., 2019*
[38] *Fields et al., 2017*
[39] *Steinke, Bernard, Horn et al., 2017*
[40] *Heinrichs, O'Malley, Medd, Hilton, 2011; Whitcraft, O'Malley, Hilton, 2014*

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9. A legal market for shark fins creates a **loophole for illegal fins**, as origin and species are difficult to trace.[41] Loose shark fins can only be identified with complex and expensive DNA tests.[42]

As long as a trade for loose fins exists, it will not be possible to differentiate between permitted and non-permitted trade and as a result there is a loophole for illegal fins. The main problem is that the species of shark that the fin came from cannot be determined by visually inspecting a loose fin. It is therefore not possible to determine whether the fins belong to a protected species and whether it is legal to trade them. This can only be determined by means of a complex and expensive DNA procedure. In view of the large quantities traded, such procedure cannot be done or paid for by the responsible authorities, so it is not practical for adequate control. It is therefore difficult to assume that these DNA procedures are applied to reasonable sample numbers. As a result, as long as fins are allowed to be traded, there will always be illegal fins among them. This assumption is supported by the results of the aforementioned study, which found that one third of the shark fins sold on the largest shark fin market in Hong Kong were identified as threatened species.

Consequently, legal fins mask illegal fins. This is the reason why protection measures such as the classification of protected species and trade bans on the fins of protected shark species are not sufficient and can never fulfil the purpose of shark protection, which is so urgently needed. Therefore, the current shark protection measures of the EU, such as a listing of individual shark species in Appendix II of CITES or the current “fins naturally attached” regulation, which only applies to landings of sharks but not to the trade, are not sufficient.

The only way to end the trade is to ban possession, sale or trade of shark fin products.


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[41] *Fields et al., 2017; Giovos et al., 2019*
[42] *Feitosa, Martins, Giarrizzo et al., 2018; Sembiring, 2015.*

The current "Fins Naturally Attached" regulation states that the fins shall not be removed from the sharks' body before landing. In order to stop the trade of loose fins, the scope of the regulation must be extended to the export, import and transit of sharks and rays!

With this change of the regulation the EU fulfils its **conservation obligations**, secures a **sustainable economy** as well as **food security** and becomes **part of the growing community of states, which take these responsibilities seriously**.

What the required extension of Regulation (EU) No 605/2013 will do:

- It will ban the commercial trade of fins as well as the export and import of loose fins within and through the EU. No one would be allowed to enter fins into the marketplace, if they are not naturally attached to the carcass.
- Since there would be no legal pathway for the commercial trade of fins, it would dramatically simplify and make enforcement more effective because:
  - No special training is needed to identify shark fins;
  - No DNA testing is required to confirm species; and
  - No loopholes exist such as shark fins that a e claimed as a permitted species but are in fact taken from rare and endangered species
- It would be a consistent implementation of the goals pursued in the EU Green Deal.

What the required extension of Regulation (EU) No 605/2013 will not do:

- It will **not** affect legal recreational or legal commercial fishing; it will solely affect the trade of loose fins
- It will **not** compete or conflict with fishery law. It will remain legal to catch a shark with fins naturally attached.
- Therefore, it will also **not** prevent anyone from catching a shark and taking it home to eat it. Subsistence fishing will not be prohibited.

Sources

1. *Torres, Paulo et al.*, Dead or alive: The growing importance of shark diving in the Mid-Atlantic region, Journal for Nature Conservation 36 (2017), 20-28.

2. *Hammerschlag, Neil*, Quantifying shark predation effects on prey: dietary data limitations and study approaches, Endangered Species Research 38 (2019), 147-151.

3. *Pauly, Daniel et al.*, Global trends in world fisheries: impacts on marine ecosystems and food security, Philos Trans R Soc Lond B Bio 360, 1453 (2005), 5-12; *FAO*, Protecting our marine ecosystems for food security and nutrition, https://www.fao.org/north-america/news/detail/en/c/1264903/, 02/28/2020, last access: 08/10/2022; *FAO*, The State of World Fisheries and Aquaculture, SOFIA Report 2020, https://www.fao.org/documents/card/en/c/ca9229en, last access: 08/10/2022; *FAO*, Healthy oceans are key to achieving the SDGs including zero hunger, https://www.fao.org/news/story/en/item/335684/icode/, 10/06/2015, last access: 08/10/2022.

4. *Davis, S. P., Finarelli, J. A., and Coates, M. I.*, Acanthodes and shark-like conditions in the last common ancestor of modern gnathostomes. *Nature, 486* (7402) (2012), 247-250; *Swift, D. G., Dunning, L. T., Igea, J., Brooks, E. J., Jones, C. S., Noble, L. R., Ciezarek, A., Humble, E., and Savolainen, V.*, Evidence of positive selection associated with placental loss in tiger sharks, BMC Evolutionary Biology, 16 (1) (2016), 1-10.

5. *Castro, A. I.*, The origins and rise of shark biology in the 20th century, Mar. Fish. Rev. 78 (2017), 14–33; *Ferretti, F.*, The Role of Sharks in Marine Ecosystems: Evaluating Overexploited Marine Fish Communities to Detect Long-term Effects of Predator Removal (2010).; *Baum, J. K., Worm, B.*, Cascading top down effects of changing oceanic predator abundances, Journal of animal ecology, 78(4) (2009), 699-714.

6. *Gangal, M., Gafoor, A. B., D'Souza, E., Kelkar, N., Karkarey, R., Marbà, N., Arthur, R., Alcoverro, T.*, Sequential overgrazing by green turtles causes archipelago-wide functional extinctions of seagrass meadows, Biological Conservation, 260 (2021), 109195;
Heithaus, M. R., Alcoverro, T., Arthur, R., Burkholder, D. A., Coates, K. A., Christianen, M. J., Kelkar, N., Manuel, S.A., Wirsing, A.J., Kenworthy, W.J., Fourqurean, J. W., Seagrasses in the age of sea turtle conservation and shark overfishing, Frontiers in Marine Science, 28 (1) (2014).

7. *Hunsicker, M. E., Olson, R. J., Essington, T. E., Maunder, M. N., Duffy, L. M., Kitchell, J. F.*, Potential for top-down control on tropical tunas based on size structure of predator- prey interactions, Marine Ecology Progress Series, 445 (2012), 263-277.

8. *Heupel, M. R., Papastamatiou, Y. P., Espinoza, M., Green, M. E., Simpfendorfer, C. A.*, Reef shark science–Key questions and future directions, Frontiers in Marine Science, 12 (6) (2019).

9. *Souza-Araujo, J., Souza-Junior, O. G., Guimarães-Costa, A., Hussey, N. E., Lima, M. O., Giarrizzo, T.*, The consumption of shark meat in the Amazon region and its implications for human health and the marine ecosystem, Chemosphere, 265 (2021), 129132;
Hammerschlag, N., Schmitz, O. J., Flecker, A. S., Lafferty, K. D., Sih, A., Atwood, T. B., Gallagher, A. J., Irschick, D. J., Skubel, R., Cooke, S. J., Ecosystem function and services of aquatic predators in the Anthropocene, Trends in ecology & evolution, 34 (4) (2019), 369-383.

10. *Cisneros-Montemayor, A. M., Barnes-Mauthe, M., Al-Abdulrazzak, D., Navarro-Holm, E., Sumaila, U. R.*, Global economic value of shark ecotourism: implications for conservation, Oryx, 47 (3) (2013), 381-388.

11. *Gonzáles-Mantilla, P. G., Gallagher, A. J., León, C. J., Vianna, G. M.*, Economic impact and conservation potential of shark-diving tourism in the Azores Islands, Marine Policy, 135 (2022), 104869; *Shamir, Z. Z., Shamir, S. Z., Becker, N., Scheinin, A., Tchernov, D.*, Evidence of the impacts of emerging shark tourism in the Mediterranean, Ocean & Coastal Management, 178 (2019), 104847.

12. *NOAA*, How much oxygen comes from the Ocean?, https://oceanservice.noaa.gov/facts/ocean-oxygen.html, 02/26/2021, last access: 08/10/2022;
NASA - Earth Observatory, Every Other Breath, https://earthobservatory.nasa.gov/blogs/fromthefield/2017/02/09/every-other-breath/, 02/19/2017, last access: 08/10/2022.

13. *Hammerschlag, Neil et al.*, Predator declines and morphological changes in prey: evidence from coral reefs depleted of sharks, Marine Ecology Progress Series 586 (2017), 127-139; *Baum and Worm*, Cascading top-down effects of changing oceanic predator abundances, Journal of Animal Ecology 78 (4) (2009), 699-714.

14. *Atwood, T. B. et al.*, Predators help protect carbon stocks in blue carbon ecosystems, Nature Climate Change 5 (2015), 1038-1045.

15. *Dodds, W. K.*, Nutrients and the “dead zone”: the link between nutrient ratios and dissolved oxygen in the northern Gulf of Mexico, Frontiers in Ecology and the Environment, 4 (4) (2006), 211-217.

16. *Macreadie, P. I., Baird, M. E., Trevathan-Tackett, S. M., Larkum, A. W. D., and Ralph, P. J.*, Quantifying and modelling the carbon sequestration capacity of seagrass meadows–a critical assessment, Marine pollution bulletin 83(2) (2014), 430-439.

17. *European Commission*, European Green Deal: Protecting the environment and oceans with the Green Deal, https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal/protecting-environment-and-oceans-green-deal_en, last access 08/10/2022; *European Commission*, Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, On a new approach for a sustainable blue economy in the EU, Transforming the EU’s Blue Economy for a Sustainable Future, COM(2021) 240 final.

18. *European Commssion*, European Green Deal: Protecting the environment and oceans with the Green Deal, ttps://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal/protecting-environment-and-oceans-green-deal_en#preserving-our-environment, last access 08/10/2022.

19. *European Commission*, Biodiversity strategy for 2030, https://environment.ec.europa.eu/strategy/biodiversity-strategy-2030_en, last access 08/10/2022.

20. *Worm, Boris et al.*, Global catches, exploitation rates, and rebuilding options for sharks, Marine Policy 40 (2013), 194–204.

21. *Fischer, J. et al.*, Review of the Implementation of the International Plan of Action for the Conservation and Management of Sharks, FAO Fisheries and Aquaculture Circular No. 1076, 2012, Rome, FAO, 120 pp.

22. *FAO*, Fishery and Aquaculture Statistics, Global capture production 1950–2017 (FishstatJ), FAO Fisheries and Aquaculture Department [online], Rome, Updated 2019, www.fao.org/fishery/ statistics/software/fishstatj/en, last access 09/14/2022.

23. *Dent, F. and Clarke, S.*, State of the global market for shark products, FAO Fisheries and Aquaculture Technical Paper No. 590, 2015, Rome, FAO, 187 pp.

24. *Dulvy, Nicholas K. et al.*, Overfishing drives over one-third of all sharks and rays toward a global extinction crisis, Current Biology, 31 (21) (2021), 4773-4787.

25. *Pacoureau, N., Rigby, CL, Kyne, PM, et al.*, Half a century of global decline in oceanic sharks and rays, Nature 589 (7843) (2021), 567-571.
Dulvy, N. K., Simpfendorfer, C. A., Davidson, L. N. K., Fordham, S. V., Bräutigam, A., Sant, G., et al. (2017). Challenges and priorities in shark and ray conservation. Curr. Biol. 27, R565–R572. doi: 10.1016/j.cub.2017.04.038

26. *Van Houtan, Kyle S. et al.*, Coastal sharks supply the global shark fin trade, Biology Letters, 16 (10) (2020), 4 pp.

27. *Worm, Boris et al.*, Global catches, exploitation rates, and rebuilding options for sharks, Marine Policy, 40 (2013), 194–204.

28. *Fabinyi, Michael, Liu, Neng*, Seafood Banquets in Beijing: Consumer Perspectives and Implications for Environmental Sustainability, Conservation & Society, 12 (2) (2014), 218-228.

29. *Ostrander, Gary K. et al.*, Shark Cartilage, Cancer and the Growing Threat of Pseudoscience, Cancer Res 64 (23) (2004), 8485–8491; *Loprinzi, Charles L. et al.*, Evaluation of Shark Cartilage in Patients with Advanced Cancer, Cancer, 104 (1) (2005), 176-182.

30. *Mondo, Kiyo et al.*, Cyanobacterial neurotoxin β-N-methylamino-L-alanine (BMAA) in shark fins, Marine drugs, 10 (2) (2012), 509-20.

31. *Okes, N. and Sant, G.*, An overview of major shark traders, catchers and species, TRAFFIC, Cambridge, UK, 2019, 38 pp.

32. COUNCIL DIRECTIVE 2003/96/EC of 27 October 2003 restructuring the Community framework for the taxation of energy products and electricity, Official Journal of the European Union (2003), L 283, 51-70; EUROPEAN COMMISSION, Proposal for a COUNCIL DIRECTIVE restructuring the Union framework for the taxation of energy products and electricity (recast) COM(2021) 563 final, 2021/0213 (CNS).

33. *Shea, S., Slee, B., O'Toole, M.*, Supply and Demand: the EU's role in the global shark trade, Stichting IFAW (International Fund for Animal Welfare), The Hague, The Netherlands, 2022, 36 pp.

34. *Shea, S., Slee, B., O'Toole, M.*, Supply and Demand: the EU's role in the global shark trade, Stichting IFAW (International Fund for Animal Welfare), The Hague, The Netherlands, 2022, 36 pp.

35. Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), especially Articles I - III, Appendices I-III, EU is contracting party, Entry into force: 08 July 2015.

36. Convention on the Conservation of Migratory Species of Wild Animals (CMS), EU is contracting party, Entry into force: 01 November 1983.

37. *Fields, Andrew T. et al.*, Species composition of the international shark fin trade assessed through a retail-market survey in Hong Kong, Conservation Biology 32 (2) (2017), 376–389; *Giovos, Ioannis et al.*,'Assessing multiple sources of data to detect illegal fishing, trade and mislabelling of elasmobranchs in Greek markets, Marine Policy 112 (11) (2019), 103730.

38. *Fields, Andrew T. et al.*, Species composition of the international shark fin trade assessed through a retail-market survey in Hong Kong, Conservation Biology 32 (2) (2017), 376–389.

39. *Steinke, D., Bernard, A.M., Horn, R.L. et al.*, DNA analysis of traded shark fins and mobulid gill plates reveals a high proportion of species of conservation concern, Scientific Reports 7: 9505 (2017), 6 pp.

40. *Heinrichs, Shawn, O'Malley Mary, Medd, Hannah, Hilton, Paul*, The global threat to manta and mobula rays, Manta Ray of Hope, 2011 Report, http://wildaid.org/wp-content/uploads/2017/09/The-Global-Threat-to-Manta-and-Mobula-Rays-WEB.pdf, last access 08/15/2022; *Whitcraft, Samantha, O'Malley, Mary, Hilton, Paul*, The continuing threat to manta and mobula rays, 2013-2014 Market Surveys, Guangzhou, China, 2014, https://wildaid.org/wp-content/uploads/2017/09/The-Continuing-Threat-to-Manta-Mobula-Rays_2013-14-Report_FINAL.pdf, last access 08/15/2022.

41. *Fields, Andrew T. et al.*, Species composition of the international shark fin trade assessed through a retail-market survey in Hong Kong, Conservation Biology 32 (2) (2017), 376–389; Giovos, Ioannis et al.,'Assessing multiple sources of data to detect illegal fishing, trade and mislabelling of elasmobranchs in Greek markets, Marine Policy 112 (11) (2019), 103730.

42. *Feitosa, L.M., Martins, A.P.B., Giarrizzo, T. et al.*, DNA-based identification reveals illegal trade of threatened shark species in a global elasmobranch conservation hotspot, Scientific Reports 8: 3347 (2018), 11 pp.; *Sembiring, Adrianus et. al.*, DNA barcoding reveals targeted fisheries for endangered sharks in Indonesia, Fisheries Research, 164 (2015), 130-134.

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