



Development of a “Draft list of shark species under the purview of the IATTC”

Shane Griffiths, Leanne Fuller, Brad Wiley, Jon Lopez, Jean-Francois Pulvenis, Alexandre Aires-da-Silva

Ecological sustainability

- Antigua Convention mandates IATTC to ensure ecological sustainability

To ensure the “*long-term conservation and sustainable use of the stocks of tunas and tuna-like species and other associated species of fish taken by vessels fishing for tunas and tuna-like species in the eastern Pacific Ocean (EPO)*”

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Article VII. “...adopt, as necessary, conservation and management measures and recommendations for species belonging to the same ecosystem and that are affected by fishing for, or dependent on or associated with, the fish stocks covered by this Convention, with a view to maintaining or restoring populations of such species above levels at which their reproduction may become seriously threatened”

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- Difficult, given the IATTC has not adopted a prescriptive list of shark species under its purview

Resolution C-23-07

- **Resolution C-23-07 “Conservation Measures for the Protection and Sustainable Management of Sharks”**

13. “In 2024, the IATTC scientific staff, in consultation with the IATTC SAC and EBWG, shall develop a draft list of shark species under the purview of the Commission in the Convention Area for its consideration”

IATTC shark vulnerability assessments

- The staff has been proactive in assessing shark vulnerability using ERA
- In this presentation, any reference to “**vulnerability**” means:

“The degree to which a species’ population may be negatively affected by fishing as a combination of its life history and susceptibility to interact with a specific fishing gear”.

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- **Broad definition (SAC-15-13)**

“Unless specified otherwise, including but not limited to citations to vulnerability assessments and any qualitative/quantitative scores (e.g. BYC-10 INF-B; SAC-13-11), the staff’s definition of “vulnerable species” refers to the species that, in the sensu latu, and due to their low-productive life-history traits (i.e. K species in r/K selection theory), are more vulnerable to the impacts of fisheries and other anthropogenic activities on these species or their habitat and ecosystem.”

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- “Vulnerability” has no relevance to similar terminology used by other organizations (e.g., IUCN, CITES), unless explicitly stated

IATTC shark vulnerability assessments

- In 2022, IATTC undertook a vulnerability assessment for all shark species impacted by 8 EPO pelagic fisheries ([SAC-13-11](#))
 - Industrial longline
 - Purse seine (Class 6) – NOA, OBJ, DEL
 - Purse seine (Class 1-5) – NOA, OBJ
 - Artisanal longline
 - Artisanal gillnet



IATTC shark vulnerability assessments

- 49 species recorded as interacting with at least one fishery

Code	Species	Common name	Industrial longline	PS-C6 (DEL)	PS-C6 (NOA)	PS-C6 (OBJ)	PS-C1-5 (NOA)	PS-C1-5 (OBJ)	Artisanal gillnet/longline	Artisanal longline	Total	
BSH	<i>Prionace glauca</i>	Blue shark	168621	198	534	340	3	46		4	6228	175974
FAL	<i>Carcharhinus falciformis</i>	Silky shark	13440	5761	2722	55272	4	5	484	5335	83023	
SMA	<i>Isurus oxyrinchus</i>	Shortfin mako shark	18492	48	445	614	6	7		1973	21585	
PSK	<i>Pseudocarcharias kamoharui</i>	Crocodile shark	17760						2	26	17788	
OCS	<i>Carcharhinus longimanus</i>	Oceanic whitetip shark	4223	616	324	9977	2	54		49	15245	
BTH	<i>Alopias superciliosus</i>	Bigeye thresher	8111	621	710	213	8	1	29	241	9934	
PTH	<i>Alopias pelagicus</i>	Pelagic thresher	6075	515	506	221	11	8	94	2319	9749	
SPL	<i>Sphyrna lewini</i>	Scalloped hammerhead shark	583	331	476	1851	33	55	1009	762	5100	
SPZ	<i>Sphyrna zygaena</i>	Smooth hammerhead shark	2340	194	338	1971	15	51	2	76	4987	
SSQ	<i>Zameus squamulosus</i>	Velvet dogfish	3038								3038	
ALV	<i>Alopias vulpinus</i>	Common thresher	290	155	216	59	4		99	53	876	
CCL	<i>Carcharhinus limbatus</i>	Blacktip shark	285	78	24	35	1	1	97	338	859	
LMA	<i>Isurus paucus</i>	Longfin mako shark	671								671	
SPK	<i>Sphyrna mokarran</i>	Great hammerhead	72	35	42	213	2	3		68	435	
CCG	<i>Carcharhinus galapagensis</i>	Galapagos shark	203		5	17			1		226	
BRD	<i>Carcharhinus brachyurus</i>	Copper shark	8	22	24	114					168	
CNK	<i>Nasolamia velox</i>	Whitenose shark	43	2	1			5	18	92	161	
RHU	<i>Rhizoprionodon longurio</i>	Pacific sharpnose shark		1	3				140	5	149	
CCE	<i>Carcharhinus leucas</i>	Bull shark	2	14	21	17	2		25	39	120	
TIG	<i>Galeocerdo cuvier</i>	Tiger shark	56		5	1			18	24	104	
POR	<i>Lamna nasus</i>	Porbeagle	88								88	
DUS	<i>Carcharhinus obscurus</i>	Dusky shark	45	2	15	10					72	
ISB	<i>Isistius brasiliensis</i>	Cookie cutter shark	66								66	
RHN	<i>Rhincodon typus</i>	Whale shark	1		30	29		2			62	
SCK	<i>Dalatias licha</i>	Kitefin shark	60								60	
LMD	<i>Lamna ditropis</i>	Salmon shark	43								43	
CCR	<i>Carcharhinus porosus</i>	Smalltail shark		3		30			5		38	
CCP	<i>Carcharhinus plumbeus</i>	Sandbar shark		7	18	7					32	
CCA	<i>Carcharhinus altimus</i>	Bignose shark		3		24					27	
SSN	<i>Sphyrna corona</i>	Scalloped bonnethead	2	2	5	5			4	4	22	
SPE	<i>Sphyrna media</i>	Scoophead		1	4	13				2	20	
MUU	<i>Mustelus lunulatus</i>	Sicklefin smooth-hound							7	12	19	
GAG	<i>Galeorhinus galeus</i>	Tope shark	19								19	
CXP	<i>Cynoponticus coniceps</i>	Longnose velvet dogfish	18								18	
GNC	<i>Ginglymostoma cirratum</i>	Nurse shark							2	13	15	
CTK	<i>Mustelus henlei</i>	Brown smooth-hound							1	14	15	
ODH	<i>Odontaspis noronhai</i>	Bigeye sand tiger shark	9								9	
WSH	<i>Carcharodon carcharias</i>	Great white shark	6		1						7	
SUC	<i>Squatina californica</i>	Pacific angelshark	4								4	
CCT	<i>Carcharias taurus</i>	Sand tiger shark	3								3	
CCQ	<i>Carcharhinus sorrah</i>	Spottail shark	2								2	
CTD	<i>Mustelus dorsalis</i>	Sharptooth smooth-hound							2		2	
DGS	<i>Squalus acanthias</i>	Picked/Spiny dogfish	2								2	
NGB	<i>Negaprion brevirostris</i>	Lemon shark		1	1						2	
SPJ	<i>Sphyrna tiburo</i>	Bonnethead			1	1					2	
ALS	<i>Carcharhinus albimarginatus</i>	Silvertip shark								1	1	
BSK	<i>Cetorhinus maximus</i>	Basking shark			1						1	
QYW	<i>Squalus suckleyi</i>	Spotted spiny dogfish	1								1	
TRB	<i>Trienodon obesus</i>	Whitetip reef shark							1		1	

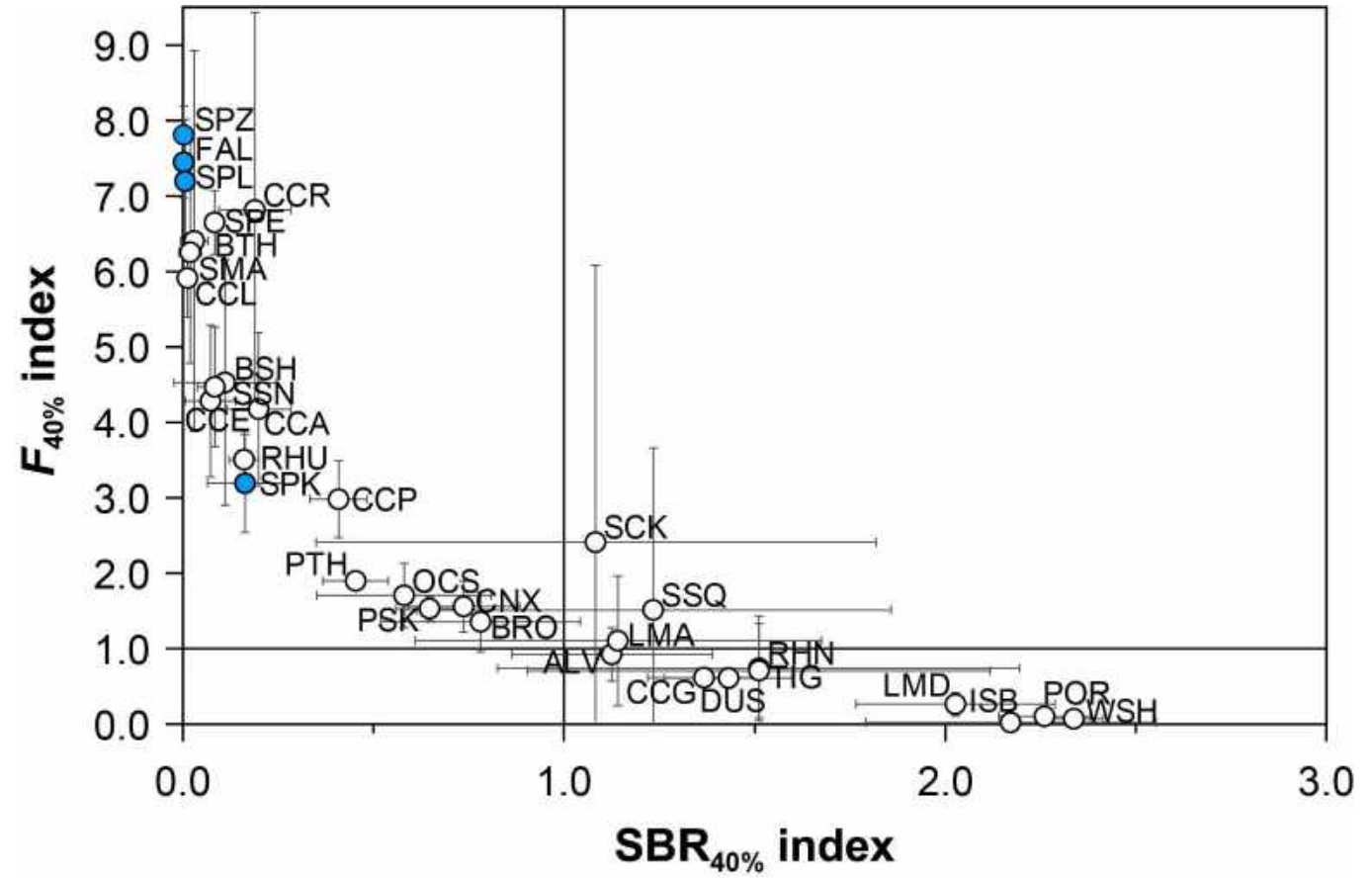
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- 32 species formally assessed using EASI-Fish

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ALS	<i>Carcharhinus albimarginatus</i>	Silvertip shark								1	1
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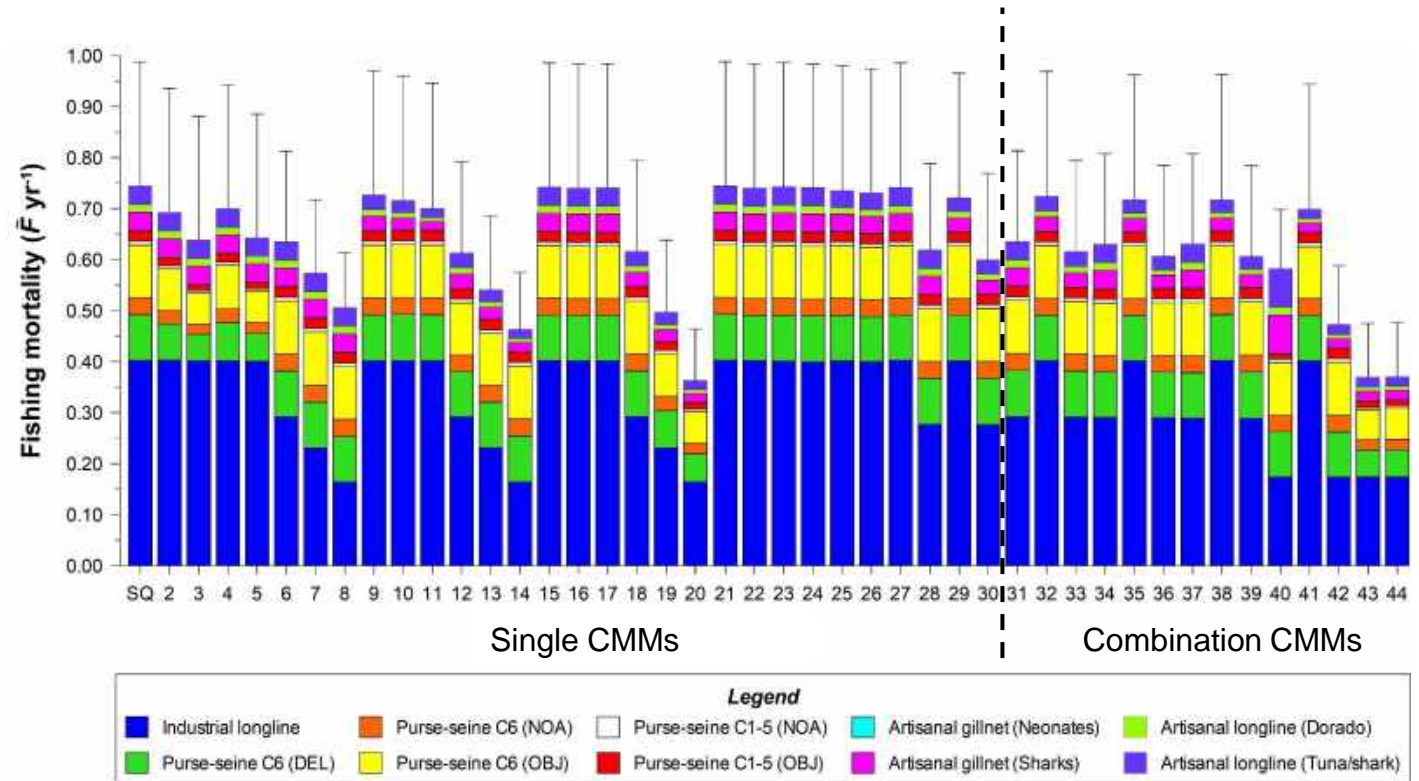
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 - 20 classified as “most vulnerable”



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- 32 species formally assessed using EASI-Fish
 - 20 classified as “most vulnerable”
- Silky shark and 3 hammerhead species among the “most vulnerable” species and became focus of EASI-Fish assessments to test 44 CMMs isolation and in concert ([SAC-14-12](#))



Developing a draft list of species

- 49 'impacted' species classified by:
 - Ecological traits

Family	Species	Geographical distribution	Habitat	Endemic to EPO
Alopiidae	<i>Alopias pelagicus</i>	Oceanic	Pelagic	No
Alopiidae	<i>Alopias superciliosus</i>	Neritic/Oceanic	Pelagic	No
Alopiidae	<i>Alopias vulpinus</i>	Neritic/Oceanic	Pelagic	No
Carcharhinidae	<i>Carcharhinus albimarginatus</i>	Neritic/Oceanic	Pelagic	No
Carcharhinidae	<i>Carcharhinus altimus</i>	Neritic	Demersal	No
Carcharhinidae	<i>Carcharhinus brachyurus</i>	Neritic/Oceanic	Pelagic	No
Carcharhinidae	<i>Carcharhinus falciformis</i>	Oceanic	Pelagic	No
Carcharhinidae	<i>Carcharhinus galapagensis</i>	Neritic/Oceanic	Pelagic	No
Carcharhinidae	<i>Carcharhinus leucas</i>	Neritic	Pelagic	No
Carcharhinidae	<i>Carcharhinus limbatus</i>	Neritic	Demersal	No
Carcharhinidae	<i>Carcharhinus longimanus</i>	Oceanic	Pelagic	No
Carcharhinidae	<i>Carcharhinus obscurus</i>	Neritic	Demersal	No
Carcharhinidae	<i>Carcharhinus plumbeus</i>	Neritic	Demersal	No
Carcharhinidae	<i>Carcharhinus porosus</i>	Neritic	Demersal	Yes
Carcharhinidae	<i>Carcharhinus sorrah</i>	Neritic	Benthopelagic	No
Carcharhinidae	<i>Carcharias taurus</i>	Neritic	Demersal	No

Developing a draft list of species

- 49 'impacted' species classified by:
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 - Existing IATTC Resolution(s)

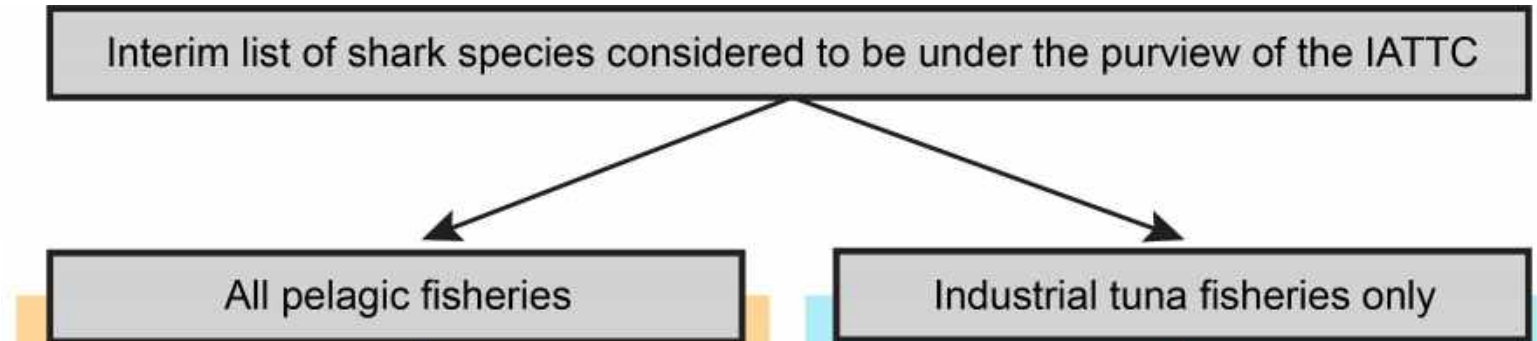
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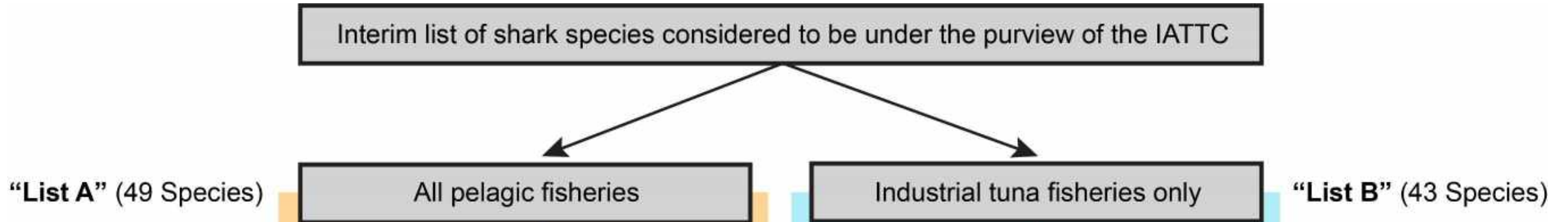
- 49 ‘impacted’ species classified by:
 - Ecological traits
 - Existing IATTC Resolution(s)
 - Conservation status was a *post hoc* consideration – IUCN “CR” or “EN”, or CITES Appendix II

Family	Species	Geographical distribution	Habitat	Endemic to EPO	IATTC Resolution	IUCN classification	CITES Appendix II
Alopiidae	<i>Alopias pelagicus</i>	Oceanic	Pelagic	No	No	EN	Yes
Alopiidae	<i>Alopias superciliosus</i>	Neritic/Oceanic	Pelagic	No	No	VU	Yes
Alopiidae	<i>Alopias vulpinus</i>	Neritic/Oceanic	Pelagic	No	No	VU	Yes
Carcharhinidae	<i>Carcharhinus albimarginatus</i>	Neritic/Oceanic	Pelagic	No	No	VU	Yes
Carcharhinidae	<i>Carcharhinus altimus</i>	Neritic	Demersal	No	No	NT	Yes
Carcharhinidae	<i>Carcharhinus brachyurus</i>	Neritic/Oceanic	Pelagic	No	No	VU	Yes
Carcharhinidae	<i>Carcharhinus falciformis</i>	Oceanic	Pelagic	No	Yes	VU	Yes
Carcharhinidae	<i>Carcharhinus galapagensis</i>	Neritic/Oceanic	Pelagic	No	No	LC	Yes
Carcharhinidae	<i>Carcharhinus leucas</i>	Neritic	Pelagic	No	No	VU	Yes
Carcharhinidae	<i>Carcharhinus limbatus</i>	Neritic	Demersal	No	No	VU	Yes
Carcharhinidae	<i>Carcharhinus longimanus</i>	Oceanic	Pelagic	No	Yes	CR	Yes
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Carcharhinidae	<i>Carcharias taurus</i>	Neritic	Demersal	No	No	CR	Yes

Potential species lists

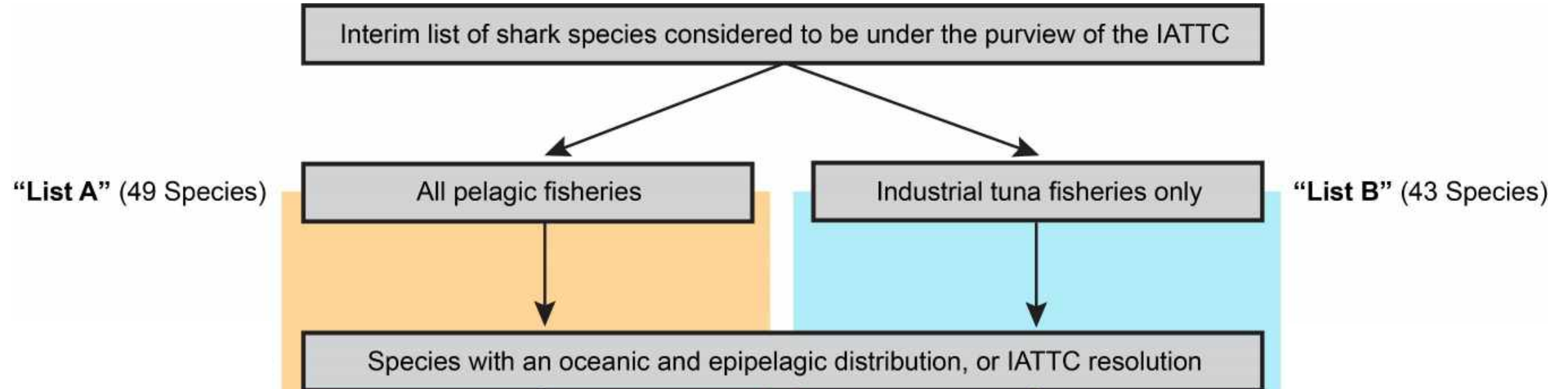


Potential species lists

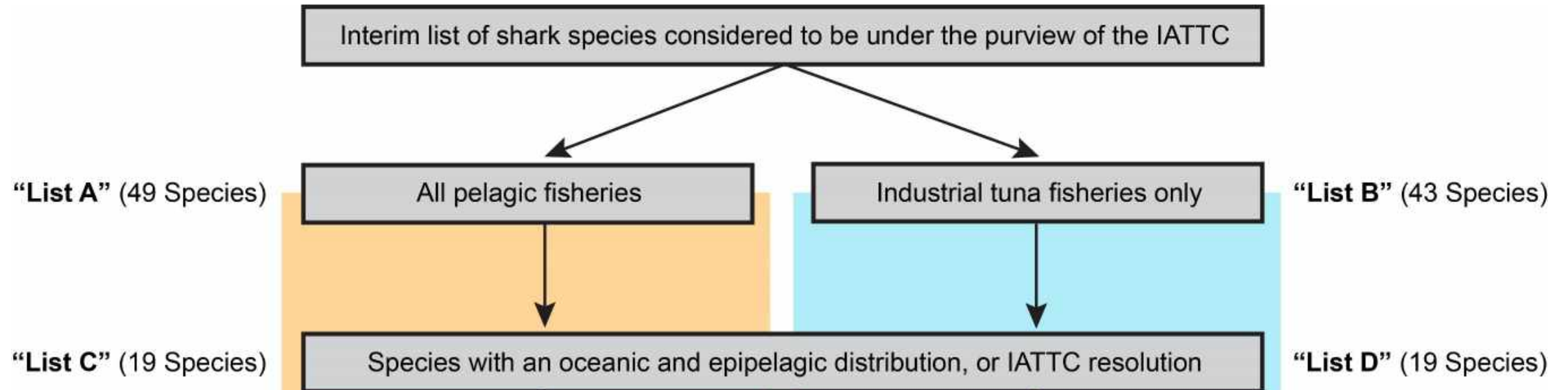


Includes many neritic and/or demersal species rarely caught by tuna fleets

Potential species lists

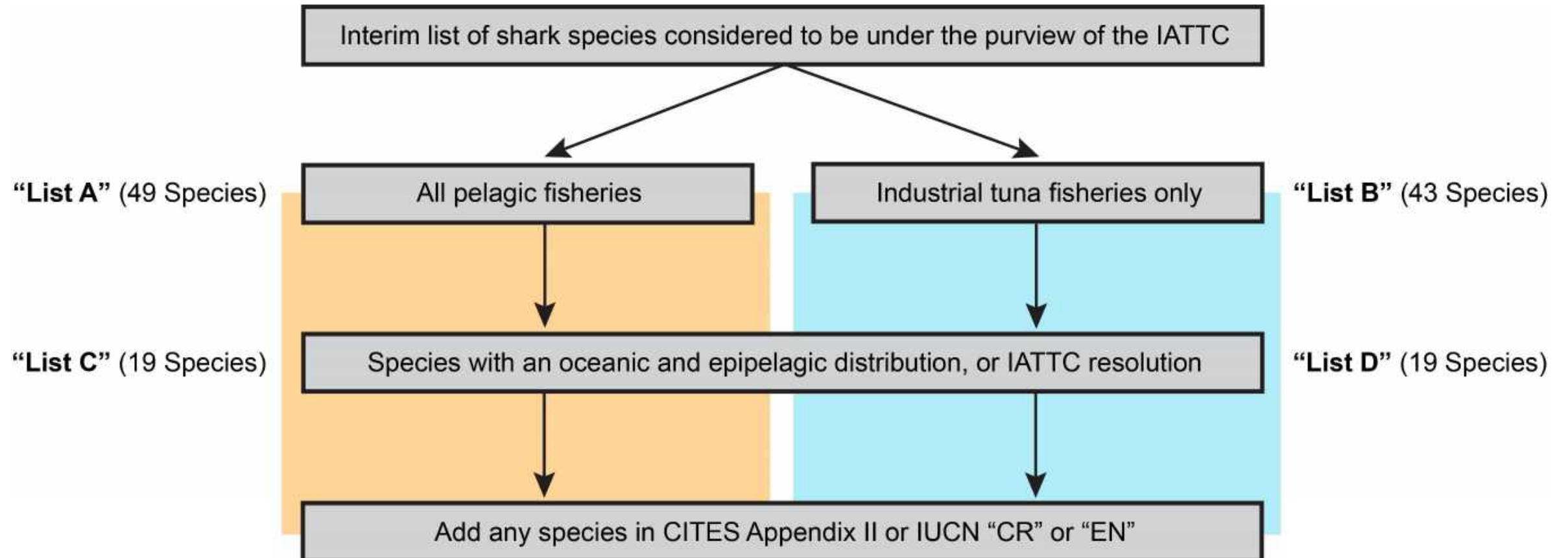


Potential species lists

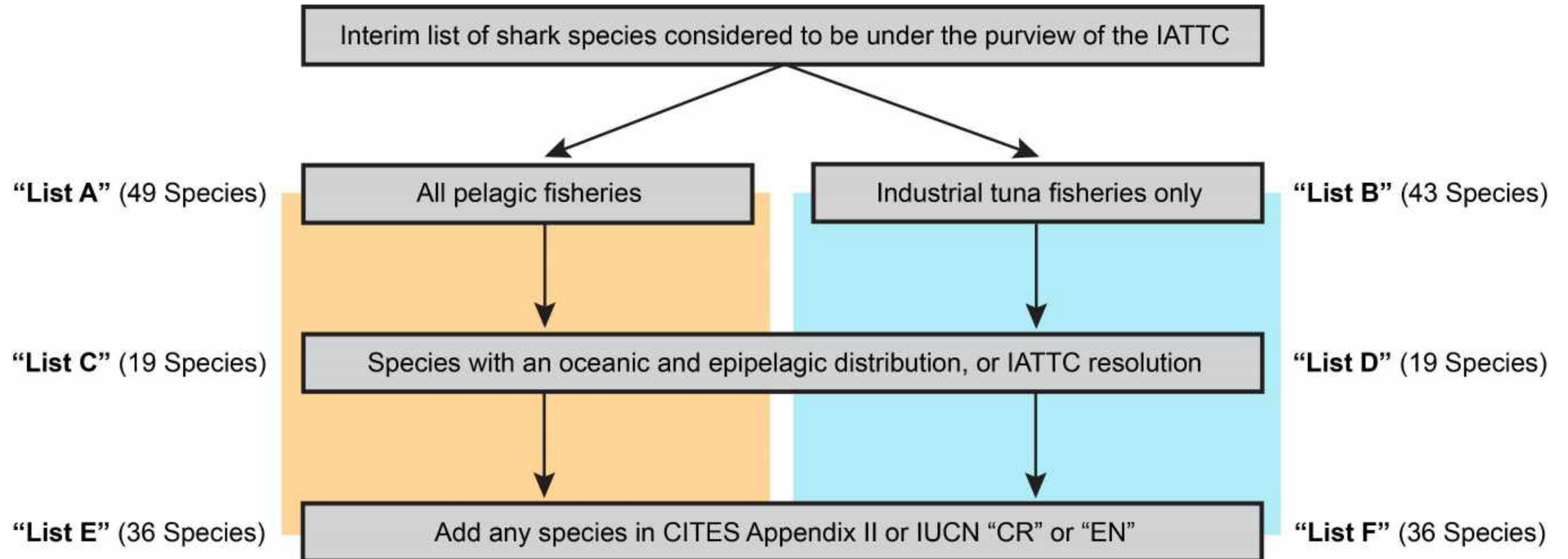


Excludes species of conservation concern where a few mortalities by IATTC fleets may be biologically significant

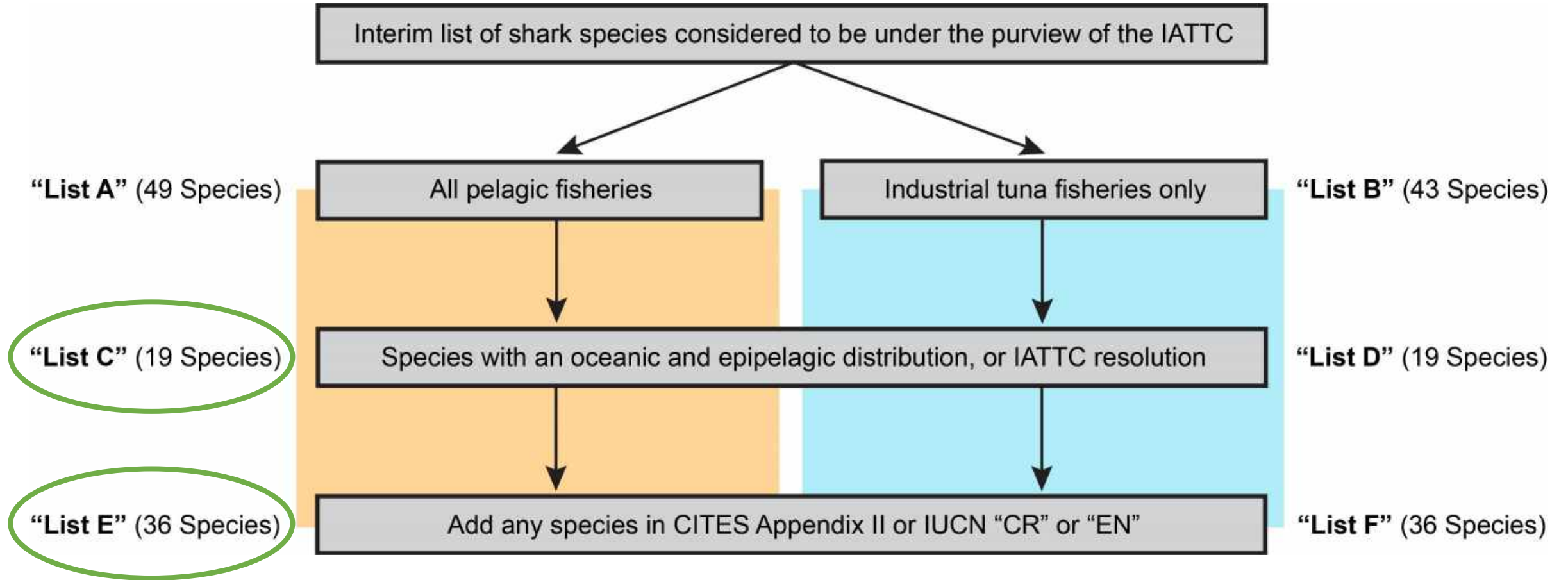
Potential species lists



Potential species lists



Potential species lists



Comparisons with existing lists

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Alpiidae	<i>Alpius superciliosus</i>	Bigeye thresher		
Alpiidae	<i>Alpius vulpinus</i>	Common thresher		
Carcharhinidae	<i>Carcharhinus albimarginatus</i>	Silvertip shark		
Carcharhinidae	<i>Carcharhinus albus</i>	Bignose shark		
Carcharhinidae	<i>Carcharhinus brachyurus</i>	Copper shark		
Carcharhinidae	<i>Carcharhinus falciformis</i>	Silky shark		
Carcharhinidae	<i>Carcharhinus galapagensis</i>	Balsasago shark		
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Carcharhinidae	<i>Carcharhinus longimanus</i>	Oceanic whitetip shark		
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Carcharhinidae	<i>Carcharhinus porosus</i>	Smalltail shark		
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Carcharhinidae	<i>Nasalamia velox</i>	Whitenose shark		
Carcharhinidae	<i>Negaprion brevirostris</i>	Lemon shark		
Carcharhinidae	<i>Prionace glauca</i>	Blue shark		
Carcharhinidae	<i>Rhizoprionodon longurio</i>	Pacific sharpnose shark		
Carcharhinidae	<i>Trienodon obesus</i>	Whitetip reef shark		
Cetorhinidae	<i>Cetorhinus maximus</i>	Basking shark		
Dalatiidae	<i>Dalatis licha</i>	Kitefin shark		
Dalatiidae	<i>Istius brasiliensis</i>	Cookie cutter shark		
Galeorhinidae	<i>Galeocerdo cuvier</i>	Tiger shark		
Ginglymostomatidae	<i>Ginglymostoma cirratum</i>	Nurse shark		
Lamnidae	<i>Carcharodon carcharias</i>	Great white shark		
Lamnidae	<i>Larus oxyrinchus</i>	Shortfin mako shark		
Lamnidae	<i>Larus paucus</i>	Longfin mako shark		
Lamnidae	<i>Lamna ditropis</i>	Salmon shark		
Lamnidae	<i>Lamna nasus</i>	Porbeagle shark		
Muraenocidae	<i>Cynoponticus caniceps</i>	Longnose velvet dogfish		
Odontaspidae	<i>Odontaspis noronhai</i>	Bigeye sand tiger shark		
Pseudocarchariidae	<i>Pseudocarcharias kamoharui</i>	Crocodile shark		
Rhincodontidae	<i>Rhincodon typus</i>	Whale shark		
Somniosidae	<i>Zameus squamulosus</i>	Velvet dogfish		
Sphyrnidae	<i>Sphyrna corona</i>	Scalloped bonnethead		
Sphyrnidae	<i>Sphyrna lewini</i>	Scalloped hammerhead		
Sphyrnidae	<i>Sphyrna media</i>	Scoophead		
Sphyrnidae	<i>Sphyrna mokarran</i>	Brewer hammerhead		
Sphyrnidae	<i>Sphyrna tiburo</i>	Bonnethead		
Sphyrnidae	<i>Sphyrna zygaena</i>	Smooth hammerhead		
Squalidae	<i>Squalus suckleyi</i>	Spotted spiny dogfish		
Squalidae	<i>Squalus acanthias</i>	Picked/Spiny dogfish		
Squatrinidae	<i>Squatina californica</i>	Pacific angelfish		
Triakidae	<i>Isaemelinus galeus</i>	Tope shark		
Triakidae	<i>Mustelus dorsalis</i>	Sharptooth smooth-hound		
Triakidae	<i>Mustelus henle</i>	Brown smooth-hound		
Triakidae	<i>Mustelus lunulatus</i>	Sicklefin smooth-hound		

Comparisons with existing lists

Family	Species	Common name	List C	List E	UNCLOS Annex I
Alopiidae	<i>Alapias pelagicus</i>	Pelagic thresher			
Alopiidae	<i>Alapias superciliosus</i>	Bigeye thresher			
Alopiidae	<i>Alapias vulpinus</i>	Common thresher			
Carcharhinidae	<i>Carcharhinus albimarginatus</i>	Silvertip shark			
Carcharhinidae	<i>Carcharhinus albus</i>	Bignose shark			
Carcharhinidae	<i>Carcharhinus brachyurus</i>	Copper shark			
Carcharhinidae	<i>Carcharhinus falciformis</i>	Silky shark			
Carcharhinidae	<i>Carcharhinus galapagensis</i>	Balsasago shark			
Carcharhinidae	<i>Carcharhinus leucas</i>	Bull shark			
Carcharhinidae	<i>Carcharhinus limbatus</i>	Blacktip shark			
Carcharhinidae	<i>Carcharhinus longimanus</i>	Oceanic whitetip shark			
Carcharhinidae	<i>Carcharhinus obscurus</i>	Dusky shark			
Carcharhinidae	<i>Carcharhinus plumbeus</i>	Sandbar shark			
Carcharhinidae	<i>Carcharhinus porosus</i>	Smalltail shark			
Carcharhinidae	<i>Carcharias taurus</i>	Sand tiger shark			
Carcharhinidae	<i>Carcharhinus terraenovae</i>	Spottail shark			
Carcharhinidae	<i>Nasalamia velox</i>	Whitenose shark			
Carcharhinidae	<i>Negaprion brevirostris</i>	Lemon shark			
Carcharhinidae	<i>Prionace glauca</i>	Blue shark			
Carcharhinidae	<i>Rhizoprionodon longurio</i>	Pacific sharpnose shark			
Carcharhinidae	<i>Triakodon abesus</i>	Whitetip reef shark			
Cetorhinidae	<i>Cetorhinus maximus</i>	Basking shark			
Delalidae	<i>Delatias licha</i>	Kitefin shark			
Delalidae	<i>Isotodus brasiiliensis</i>	Cookie cutter shark			
Galeocerdonidae	<i>Galeocerdo cuvier</i>	Tiger shark			
Ginglymostomatidae	<i>Ginglymostoma cirratum</i>	Nurse shark			
Lamnidae	<i>Carcharodon carcharias</i>	Great white shark			
Lamnidae	<i>Isurus paucus</i>	Shortfin mako shark			
Lamnidae	<i>Isurus paucus</i>	Longfin mako shark			
Lamnidae	<i>Lamna ditropis</i>	Salmon shark			
Lamnidae	<i>Lamna nasus</i>	Porbeagle shark			
Muraenocidae	<i>Cynoglossus caniceps</i>	Longnose velvet dogfish			
Odontaspidae	<i>Odontaspis noronhai</i>	Bigeye sand tiger shark			
Pseudocarchariidae	<i>Pseudocarcharias kamoharui</i>	Crocodile shark			
Rhincodontidae	<i>Rhincodon typus</i>	Whale shark			
Somniosidae	<i>Zameus squamulosus</i>	Velvet dogfish			
Sphyrnidae	<i>Sphyrna corona</i>	Scalloped bonnethead			
Sphyrnidae	<i>Sphyrna lewini</i>	Scalloped hammerhead			
Sphyrnidae	<i>Sphyrna media</i>	Scoophead			
Sphyrnidae	<i>Sphyrna mokarran</i>	Broad hammerhead			
Sphyrnidae	<i>Sphyrna tiburo</i>	Bonnethead			
Sphyrnidae	<i>Sphyrna zygaena</i>	Smooth hammerhead			
Squalidae	<i>Squalus suckleyi</i>	Spotted spiny dogfish			
Squalidae	<i>Squalus acanthias</i>	Picked/Spiny dogfish			
Squatrinidae	<i>Squatina californica</i>	Pacific angelfish			
Triakidae	<i>Galeorhinus galeus</i>	Tope shark			
Triakidae	<i>Mustelus dorsalis</i>	Sharptooth smooth-hound			
Triakidae	<i>Mustelus henlei</i>	Brown smooth-hound			
Triakidae	<i>Mustelus lunulatus</i>	Sicklefin smooth-hound			

- UNCLOS Annex 1 in Preamble of Antigua Convention
- Similar species composition as **List E**

ANNEX I. HIGHLY MIGRATORY SPECIES

1. Albacore tuna: *Thunnus alalunga*.
2. Bluefin tuna: *Thunnus thynnus*.
3. Bigeye tuna: *Thunnus obesus*.
4. Skipjack tuna: *Katsuwonus pelamis*.
5. Yellowfin tuna: *Thunnus albacares*.
6. Blackfin tuna: *Thunnus atlanticus*.
7. Little tuna: *Euthynnus alletteratus*; *Euthynnus affinis*.
8. Southern bluefin tuna: *Thunnus maccoyii*.
9. Frigate mackerel: *Auxis thazard*; *Auxis rochei*.
10. Pomfrets: Family Bramidae.
11. Marlins: *Tetrapturus angustirostris*; *Tetrapturus belone*; *Tetrapturus pfluegeri*; *Tetrapturus albidus*; *Tetrapturus audax*; *Tetrapturus georgei*; *Makaira mazara*; *Makaira indica*; *Makaira nigricans*.
12. Sail-fishes: *Istiophorus platypterus*; *Istiophorus albicans*.
13. Swordfish: *Xiphias gladius*.
14. Sauries: *Scomberesox saurus*; *Cololabis saira*; *Cololabis adocetus*; *Scomberesox saurus scombroides*.
15. Dolphin: *Coryphaena hippurus*; *Coryphaena equiselis*.
16. Oceanic sharks: *Hexanchus griseus*; *Cetorhinus maximus*; Family Alopiidae; *Rhincodon typus*; Family Carcharhinidae; Family Sphyrnidae; Family Isurida.
17. Cetaceans: Family Physeteridae, Family Balaenopteridae; Family Balaenidae; Family Eschrichtiidae; Family Monodontidae; Family Ziphiidae; Family Delphinidae.

Comparisons with existing lists

Family	Species	Common name	List C	List E	UNCLOS Annex I
Alopiidae	<i>Alapias pelagicus</i>	Pelagic thresher			
Alopiidae	<i>Alapias superciliosus</i>	Bigeye thresher			
Alopiidae	<i>Alapias vulpinus</i>	Common thresher			
Carcharhinidae	<i>Carcharhinus albimarginatus</i>	Silvertip shark			
Carcharhinidae	<i>Carcharhinus albus</i>	Bignose shark			
Carcharhinidae	<i>Carcharhinus brachyurus</i>	Copper shark			
Carcharhinidae	<i>Carcharhinus falciformis</i>	Silky shark			
Carcharhinidae	<i>Carcharhinus galapagensis</i>	Balsasago shark			
Carcharhinidae	<i>Carcharhinus leucas</i>	Bull shark			
Carcharhinidae	<i>Carcharhinus limbatus</i>	Blacktip shark			
Carcharhinidae	<i>Carcharhinus longimanus</i>	Oceanic whitetip shark			
Carcharhinidae	<i>Carcharhinus obscurus</i>	Dusky shark			
Carcharhinidae	<i>Carcharhinus plumbeus</i>	Sandbar shark			
Carcharhinidae	<i>Carcharhinus porosus</i>	Smalltail shark			
Carcharhinidae	<i>Carcharias taurus</i>	Sand tiger shark			
Carcharhinidae	<i>Carcharhinus zerra</i>	Spottail shark			
Carcharhinidae	<i>Nasalamia velox</i>	Whitenose shark			
Carcharhinidae	<i>Negaprion brevirostris</i>	Lemon shark			
Carcharhinidae	<i>Prionace glauca</i>	Blue shark			
Carcharhinidae	<i>Rhizoprionodon longurio</i>	Pacific sharpnose shark			
Carcharhinidae	<i>Triakodon abesus</i>	Whitetail reef shark			
Cetorhinidae	<i>Cetorhinus maximus</i>	Basking shark			
Delatidae	<i>Delatias licha</i>	Kitefin shark			
Delatidae	<i>Isotius brasiliensis</i>	Cookie cutter shark			
Galeoracnoidae	<i>Galeocerdo cuvier</i>	Tiger shark			
Ginglymostomatidae	<i>Ginglymostoma cirratum</i>	Nurse shark			
Lamnidae	<i>Carcharodon carcharias</i>	Great white shark			
Lamnidae	<i>Isurus paucus</i>	Shortfin mako shark			
Lamnidae	<i>Isurus paucus</i>	Longfin mako shark			
Lamnidae	<i>Lamna ditropis</i>	Salmon shark			
Lamnidae	<i>Lamna nasus</i>	Porbeagle shark			
Muraenocidae	<i>Cynoponticus caniceps</i>	Longnose velvet dogfish			
Odontaspidae	<i>Odontaspis noronhai</i>	Bigeye sand tiger shark			
Pseudocarchariidae	<i>Pseudocarcharias kamoharui</i>	Crocodile shark			
Rhincodontidae	<i>Rhincodon typus</i>	Whale shark			
Somniosidae	<i>Zameus squamulosus</i>	Velvet dogfish			
Sphyrnidae	<i>Sphyrna corona</i>	Scalloped bonnethead			
Sphyrnidae	<i>Sphyrna lewini</i>	Scalloped hammerhead			
Sphyrnidae	<i>Sphyrna media</i>	Scoophead			
Sphyrnidae	<i>Sphyrna mokarran</i>	Broad hammerhead			
Sphyrnidae	<i>Sphyrna tiburo</i>	Bonnethead			
Sphyrnidae	<i>Sphyrna zygaena</i>	Smooth hammerhead			
Squalidae	<i>Squalus suckleyi</i>	Spotted spiny dogfish			
Squalidae	<i>Squalus acanthias</i>	Picked/Spiny dogfish			
Squatrinidae	<i>Squatina californica</i>	Pacific angel shark			
Triakidae	<i>Galeorhinus galeus</i>	Tope shark			
Triakidae	<i>Mustelus dorsalis</i>	Sharptooth smooth-hound			
Triakidae	<i>Mustelus henle</i>	Brown smooth-hound			
Triakidae	<i>Mustelus lunulatus</i>	Sicklefin smooth-hound			

- UNCLOS Annex 1 in Preamble of Antigua Convention
- Similar species composition as **List E**

ANNEX I. HIGHLY MIGRATORY SPECIES

1. Albacore tuna: *Thunnus alalunga*.
2. Bluefin tuna: *Thunnus thynnus*.
3. Bigeye tuna: *Thunnus obesus*.
4. Skipjack tuna: *Katsuwonus pelamis*.
5. Yellowfin tuna: *Thunnus albacares*.
6. Blackfin tuna: *Thunnus atlanticus*.
7. Little tuna: *Euthynnus alletteratus*; *Euthynnus affinis*.
8. Southern bluefin tuna: *Thunnus maccoyii*.
9. Frigate mackerel: *Auxis thazard*; *Auxis rochei*.
10. Pomfrets: Family Bramidae.
11. Marlins: *Tetrapturus angustirostris*; *Tetrapturus belone*; *Tetrapturus pfluegeri*; *Tetrapturus albidus*; *Tetrapturus audax*; *Tetrapturus georgei*; *Makaira mazara*; *Makaira indica*; *Makaira nigricans*.
12. Sail-fishes: *Istiophorus platypterus*; *Istiophorus albicans*.
13. Swordfish: *Xiphias gladius*.
14. Sauries: *Scomberesox saurus*; *Cololabis saira*; *Cololabis adocetus*; *Scomberesox saurus scombroides*.
15. Dolphin: *Coryphaena hippurus*; *Coryphaena equiselis*.
16. Oceanic sharks: *Hexanchus griseus*; *Cetorhinus maximus*; Family Alopiidae; *Rhincodon typus*; Family Carcharhinidae; Family Sphyrnidae; Family Isurida.
17. Cetaceans: Family Physeteridae; Family Balaenopteridae; Family Balaenidae; Family Eschrichtiidae; Family Monodontidae; Family Ziphiidae; Family Delphinidae.

59 species

11 species

IATTC Director's Memorandum

- Since 2021, the Director circulates a memo to CPCs regarding **specifications for data provision** (on IATTC website), including for non-tuna species

SPECIFICATIONS FOR DATA PROVISION

- The technical aspects for data that are compiled and maintained by the IATTC on species under its purview have been established by the Director in accordance with Resolutions [C-03-05](#)¹ on data provision and [C-04-05](#) on bycatch.
- The requirements for reporting on, restrictions on, and provisions for the operations of vessels in the Antigua Convention Area² are established in Resolutions [C-18-06](#) on a Regional Vessel Register, [C-02-03](#) on the capacity of the tuna fleet in the eastern Pacific Ocean, and [C-11-05](#) on the establishment of a list of longline vessels over 24 m (LSTLFVs) authorized to operate in the eastern Pacific Ocean.
- Confidentiality of all information provided is maintained in strict accordance with Resolution [C-04-10](#) on catch reporting (“...*categories containing two or less vessels or companies shall be pooled.*”) and paragraph 50 of the IATTC Rule of Procedure (“50. *Reports and statistics of individual fisheries production and details of the operations that companies individually provide to the Commission or its staff shall be considered as confidential and treated in accordance with rules on confidentiality established by the Commission*”).

IATTC Director's Memorandum

- Since 2021, the Director circulates a memo to CPCs regarding **specifications for data provision** (on IATTC website), including for non-tuna species
- Table 2 lists 46 'associated' and 'dependent' and potentially vulnerable taxa
 - **19 sharks**, 8 rays, 10 large teleosts, 5 sea turtles, 4 marine mammals, no seabirds.

SPECIFICATIONS FOR DATA PROVISION

- The technical aspects for data that are compiled and maintained by the IATTC on species under its purview have been established by the Director in accordance with Resolutions [C-03-05](#)¹ on data provision and [C-04-05](#) on bycatch.
- The requirements for reporting on, restrictions on, and provisions for the operations of vessels in the Antigua Convention Area² are established in Resolutions [C-18-06](#) on a Regional Vessel Register, [C-02-03](#) on the capacity of the tuna fleet in the eastern Pacific Ocean, and [C-11-05](#) on the establishment of a list of longline vessels over 24 m (LSTLFVs) authorized to operate in the eastern Pacific Ocean.
- Confidentiality of all information provided is maintained in strict accordance with Resolution [C-04-10](#) on catch reporting (“...*categories containing two or less vessels or companies shall be pooled.*”) and paragraph 50 of the IATTC Rule of Procedure (“50. *Reports and statistics of individual fisheries production and details of the operations that companies individually provide to the Commission or its staff shall be considered as confidential and treated in accordance with rules on confidentiality established by the Commission*”).

Comparisons with existing lists

Family	Species	Common name	List C	List E	UNCLOS Annex I	IATTC Memo
Alpiidae	<i>Alpias pelagicus</i>	Pelagic thresher				
Alpiidae	<i>Alpias superciliosus</i>	Bigeye thresher				
Alpiidae	<i>Alpias vulpinus</i>	Common thresher				
Carcharhinidae	<i>Carcharhinus albimarginatus</i>	Silvertip shark				
Carcharhinidae	<i>Carcharhinus albus</i>	Bignose shark				
Carcharhinidae	<i>Carcharhinus brachyurus</i>	Copper shark				
Carcharhinidae	<i>Carcharhinus falciformis</i>	Silky shark				
Carcharhinidae	<i>Carcharhinus galapagensis</i>	Balsasago shark				
Carcharhinidae	<i>Carcharhinus leucas</i>	Bull shark				
Carcharhinidae	<i>Carcharhinus limbatus</i>	Blacktip shark				
Carcharhinidae	<i>Carcharhinus longimanus</i>	Oceanic whitetip shark				
Carcharhinidae	<i>Carcharhinus obscurus</i>	Dusky shark				
Carcharhinidae	<i>Carcharhinus plumbeus</i>	Sandbar shark				
Carcharhinidae	<i>Carcharhinus porosus</i>	Smalltail shark				
Carcharhinidae	<i>Carcharias taurus</i>	Sand tiger shark				
Carcharhinidae	<i>Carcharhinus zerra</i>	Spottail shark				
Carcharhinidae	<i>Nasalamia velox</i>	Whitenose shark				
Carcharhinidae	<i>Negaprion brevirostris</i>	Lemon shark				
Carcharhinidae	<i>Prionace glauca</i>	Blue shark				
Carcharhinidae	<i>Rhizoprionodon longurio</i>	Pacific sharpnose shark				
Carcharhinidae	<i>Triakodon abesus</i>	Whitetip reef shark				
Cetorhinidae	<i>Cetorhinus maximus</i>	Basking shark				
Delatidae	<i>Delatias licha</i>	Kitefin shark				
Delatidae	<i>Isotius brasiliensis</i>	Cookie cutter shark				
Galeocerdonidae	<i>Galeocerdo cuvier</i>	Tiger shark				
Ginglymostomatidae	<i>Ginglymostoma cirratum</i>	Nurse shark				
Lamnidae	<i>Carcharodon carcharias</i>	Great white shark				
Lamnidae	<i>Isurus paucus</i>	Shortfin mako shark				
Lamnidae	<i>Isurus paucus</i>	Longfin mako shark				
Lamnidae	<i>Lamna ditropis</i>	Salmon shark				
Lamnidae	<i>Lamna nasus</i>	Porbeagle shark				
Muraenocidae	<i>Cynogantius caniceps</i>	Longnose velvet dogfish				
Odontaspidae	<i>Odontaspis noronhai</i>	Bigeye sand tiger shark				
Pseudocarchariidae	<i>Pseudocarcharias kamoharui</i>	Crocodile shark				
Rhincodontidae	<i>Rhincodon typus</i>	Whale shark				
Somniosidae	<i>Zameus squamulosus</i>	Velvet dogfish				
Sphyrnidae	<i>Sphyrna corona</i>	Scalloped bonnethead				
Sphyrnidae	<i>Sphyrna lewini</i>	Scalloped hammerhead				
Sphyrnidae	<i>Sphyrna media</i>	Scoophead				
Sphyrnidae	<i>Sphyrna mokarran</i>	Broad hammerhead				
Sphyrnidae	<i>Sphyrna tiburo</i>	Bonnethead				
Sphyrnidae	<i>Sphyrna zygaena</i>	Smooth hammerhead				
Squalidae	<i>Squalus suckleyi</i>	Spotted spiny dogfish				
Squalidae	<i>Squalus acanthias</i>	Picked/Spiny dogfish				
Squatrinidae	<i>Squatina californica</i>	Pacific angel shark				
Triakidae	<i>Isaemelinus galeus</i>	Tope shark				
Triakidae	<i>Mustelus dorsalis</i>	Sharptooth smooth-hound				
Triakidae	<i>Mustelus henlei</i>	Brown smooth-hound				
Triakidae	<i>Mustelus lunulatus</i>	Sicklefin smooth-hound				

- Similar to **List C** but some key oceanic species absent
 - Common thresher
 - Whale shark
 - Great white shark

Comparisons with existing lists

Family	Species	Common name	List C	List E	UNCLOS Annex I	IATTC Memo	IATTC SAC-10 IIRF-Q
Alpiidae	<i>Alpius pelagicus</i>	Pelagic thresher					
Alpiidae	<i>Alpius superciliosus</i>	Bigeye thresher					
Alpiidae	<i>Alpius vulpinus</i>	Common thresher					
Carcharhinidae	<i>Carcharhinus albimarginatus</i>	Silvertip shark					
Carcharhinidae	<i>Carcharhinus albus</i>	Bignose shark					
Carcharhinidae	<i>Carcharhinus brachyurus</i>	Copper shark					
Carcharhinidae	<i>Carcharhinus falciformis</i>	Silky shark					
Carcharhinidae	<i>Carcharhinus galapagensis</i>	Balsasago shark					
Carcharhinidae	<i>Carcharhinus leucas</i>	Bull shark					
Carcharhinidae	<i>Carcharhinus limbatus</i>	Blacktip shark					
Carcharhinidae	<i>Carcharhinus longimanus</i>	Oceanic whitetip shark					
Carcharhinidae	<i>Carcharhinus obscurus</i>	Dusky shark					
Carcharhinidae	<i>Carcharhinus plumbeus</i>	Sandbar shark					
Carcharhinidae	<i>Carcharhinus porosus</i>	Smalltail shark					
Carcharhinidae	<i>Carcharias taurus</i>	Sand tiger shark					
Carcharhinidae	<i>Carcharhinus zerra</i>	Spottail shark					
Carcharhinidae	<i>Nasalamia velox</i>	Whitenose shark					
Carcharhinidae	<i>Negaprion brevirostris</i>	Lemon shark					
Carcharhinidae	<i>Pristiurus glauca</i>	Blue shark					
Carcharhinidae	<i>Rhizoprionodon longurio</i>	Pacific sharpnose shark					
Carcharhinidae	<i>Triacodon abesus</i>	Whitetip reef shark					
Cetorhinidae	<i>Cetorhinus maximus</i>	Basking shark					
Dalatiidae	<i>Dalatis licha</i>	Kitefin shark					
Dalatiidae	<i>Istiblacus brasiliensis</i>	Cookie cutter shark					
Galeocerdonidae	<i>Galeocerdo cuvier</i>	Tiger shark					
Ginglymostomatidae	<i>Ginglymostoma cirratum</i>	Nurse shark					
Lamnidae	<i>Carcharodon carcharias</i>	Great white shark					
Lamnidae	<i>Isurus paucus</i>	Shortfin mako shark					
Lamnidae	<i>Isurus paucus</i>	Longfin mako shark					
Lamnidae	<i>Lamna ditropis</i>	Salmon shark					
Lamnidae	<i>Lamna nasus</i>	Porbeagle shark					
Muraenocidae	<i>Cynoponticus caniceps</i>	Longnose velvet dogfish					
Odontaspidae	<i>Odontaspis noronhai</i>	Bigeye sand tiger shark					
Pseudocarchariidae	<i>Pseudocarcharias kamoharui</i>	Crocodile shark					
Rhincodontidae	<i>Rhincodon typus</i>	Whale shark					
Somniosidae	<i>Zameus squamulosus</i>	Velvet dogfish					
Sphyrnidae	<i>Sphyrna corona</i>	Scalloped bonnethead					
Sphyrnidae	<i>Sphyrna lewini</i>	Scalloped hammerhead					
Sphyrnidae	<i>Sphyrna media</i>	Scoophead					
Sphyrnidae	<i>Sphyrna mokarran</i>	Broad hammerhead					
Sphyrnidae	<i>Sphyrna tiburo</i>	Bonnethead					
Sphyrnidae	<i>Sphyrna zygaena</i>	Smooth hammerhead					
Squalidae	<i>Squalus suckleyi</i>	Spotted spiny dogfish					
Squalidae	<i>Squalus acanthias</i>	Picked/Spiny dogfish					
Squatrinidae	<i>Squatina californica</i>	Pacific angel shark					
Triakidae	<i>Isaemelinus galeus</i>	Tope shark					
Triakidae	<i>Mustelus dorsalis</i>	Sharptooth smooth-hound					
Triakidae	<i>Mustelus henle</i>	Brown smooth-hound					
Triakidae	<i>Mustelus lunulatus</i>	Sicklefin smooth-hound					

- Staff and participants of IATTC's data improvements workshop for the industrial longline fishery in 2023 developed a list of species for reporting ([WS-DAT-01-Report](#)).

Comparisons with existing lists

Family	Species	Common name	List C	List E	UNCLOS Annex I	IATTC Memo	IATTC SAC: ID IFF-C
Alopiidae	<i>Alapias pelagicus</i>	Pelagic thresher					
Alopiidae	<i>Alapias superciliosus</i>	Bigeye thresher					
Alopiidae	<i>Alapias vulpinus</i>	Common thresher					
Carcharhinidae	<i>Carcharhinus albimarginatus</i>	Silvertip shark					
Carcharhinidae	<i>Carcharhinus albus</i>	Bignose shark					
Carcharhinidae	<i>Carcharhinus brachyurus</i>	Copper shark					
Carcharhinidae	<i>Carcharhinus falciformis</i>	Silky shark					
Carcharhinidae	<i>Carcharhinus galapagensis</i>	Balsasago shark					
Carcharhinidae	<i>Carcharhinus leucas</i>	Bull shark					
Carcharhinidae	<i>Carcharhinus limbatus</i>	Blacktip shark					
Carcharhinidae	<i>Carcharhinus longimanus</i>	Oceanic whitetip shark					
Carcharhinidae	<i>Carcharhinus obscurus</i>	Dusky shark					
Carcharhinidae	<i>Carcharhinus plumbeus</i>	Sandbar shark					
Carcharhinidae	<i>Carcharhinus porosus</i>	Smalltail shark					
Carcharhinidae	<i>Carcharias taurus</i>	Sand tiger shark					
Carcharhinidae	<i>Carcharhinus zerra</i>	Spottail shark					
Carcharhinidae	<i>Nasalamia velox</i>	Whitenose shark					
Carcharhinidae	<i>Negaprion brevirostris</i>	Lemon shark					
Carcharhinidae	<i>Prionace glauca</i>	Blue shark					
Carcharhinidae	<i>Rhizoprionodon longurio</i>	Pacific sharpnose shark					
Carcharhinidae	<i>Triakodon abesus</i>	Whitetip reef shark					
Cetorhinidae	<i>Cetorhinus maximus</i>	Basking shark					
Delaliidae	<i>Delalium licha</i>	Kitefin shark					
Delaliidae	<i>Istiobius brasiliensis</i>	Cookie cutter shark					
Galeocerdonidae	<i>Galeocerdo cuvier</i>	Tiger shark					
Ginglymostomatidae	<i>Ginglymostoma cirratum</i>	Nurse shark					
Lamnidae	<i>Carcharodon carcharias</i>	Great white shark					
Lamnidae	<i>Isurus paucus</i>	Shortfin mako shark					
Lamnidae	<i>Isurus paucus</i>	Longfin mako shark					
Lamnidae	<i>Lamna ditropis</i>	Salmon shark					
Lamnidae	<i>Lamna nasus</i>	Porbeagle shark					
Muraenocidae	<i>Cynoponticus caniceps</i>	Longnose velvet dogfish					
Odontaspidae	<i>Odontaspis noronhai</i>	Bigeye sand tiger shark					
Pseudocarchariidae	<i>Pseudocarcharias kamoharui</i>	Crocodile shark					
Rhincodontidae	<i>Rhincodon typus</i>	Whale shark					
Somniosidae	<i>Zameus squamulosus</i>	Velvet dogfish					
Sphyrnidae	<i>Sphyrna corona</i>	Scalloped bonnethead					
Sphyrnidae	<i>Sphyrna lewini</i>	Scalloped hammerhead					
Sphyrnidae	<i>Sphyrna media</i>	Scoophead					
Sphyrnidae	<i>Sphyrna mokarran</i>	Broad hammerhead					
Sphyrnidae	<i>Sphyrna tiburo</i>	Bonnethead					
Sphyrnidae	<i>Sphyrna zygaena</i>	Smooth hammerhead					
Squalidae	<i>Squalus suckleyi</i>	Spotted spiny dogfish					
Squalidae	<i>Squalus acanthias</i>	Picked/Spiny dogfish					
Squatrinidae	<i>Squatina californica</i>	Pacific angel shark					
Triakidae	<i>Isaemelinus galeus</i>	Tope shark					
Triakidae	<i>Mustelus dorsalis</i>	Sharptooth smooth-hound					
Triakidae	<i>Mustelus henlei</i>	Brown smooth-hound					
Triakidae	<i>Mustelus lunulatus</i>	Sicklefin smooth-hound					

- Staff and participants of IATTC’s data improvements workshop for the industrial longline fishery in 2023 developed a list of species for reporting ([WS-DAT-01-Report](#)).
- 86 ‘associated’/‘dependent’/vulnerable taxa
 - **26 sharks**, 9 rays, 28 teleosts, 5 sea turtles, 13 marine mammals, 5 seabirds.
- Similarly precautionary as **List E**, but includes many neritic species rarely caught by tuna fleets



Conclusions

- The staff considers, at a minimum, **19 species in List C** (for industrial and artisanal fleets) be adopted as an interim list of shark species

Family	Species	Common name
Alopiidae	<i>Alopias pelagicus</i>	Pelagic thresher
Alopiidae	<i>Alopias superciliosus</i>	Bigeye thresher
Alopiidae	<i>Alopias vulpinus</i>	Common thresher
Carcharhinidae	<i>Carcharhinus brachyurus</i>	Copper shark
Carcharhinidae	<i>Carcharhinus falciformis</i>	Silky shark
Carcharhinidae	<i>Carcharhinus galapagensis</i>	Galapagos shark
Carcharhinidae	<i>Carcharhinus longimanus</i>	Oceanic whitetip shark
Carcharhinidae	<i>Prionace glauca</i>	Blue shark
Cetorhinidae	<i>Cetorhinus maximus</i>	Basking shark
Galeocerdonidae	<i>Galeocerdo cuvier</i>	Tiger shark
Lamnidae	<i>Carcharodon carcharias</i>	Great white shark
Lamnidae	<i>Isurus oxyrinchus</i>	Shortfin mako shark
Lamnidae	<i>Isurus paucus</i>	Longfin mako shark
Lamnidae	<i>Lamna ditropis</i>	Salmon shark
Lamnidae	<i>Lamna nasus</i>	Porbeagle shark
Rhincodontidae	<i>Rhincodon typus</i>	Whale shark
Sphyrnidae	<i>Sphyrna lewini</i>	Scalloped hammerhead
Sphyrnidae	<i>Sphyrna mokarran</i>	Great hammerhead
Sphyrnidae	<i>Sphyrna zygaena</i>	Smooth hammerhead

Conclusions

- The staff considers, at a minimum, **19 species in List C** (for industrial and artisanal fleets) be adopted as an interim list of shark species
- EBWG suggested to add the vertically migrating bathypelagic crocodile shark (*Pseudocarcharias kamoharai*)
- Potentially, total 20 species

Family	Species	Common name
Alopiidae	<i>Alopias pelagicus</i>	Pelagic thresher
Alopiidae	<i>Alopias superciliosus</i>	Bigeye thresher
Alopiidae	<i>Alopias vulpinus</i>	Common thresher
Carcharhinidae	<i>Carcharhinus brachyurus</i>	Copper shark
Carcharhinidae	<i>Carcharhinus falciformis</i>	Silky shark
Carcharhinidae	<i>Carcharhinus galapagensis</i>	Galapagos shark
Carcharhinidae	<i>Carcharhinus longimanus</i>	Oceanic whitetip shark
Carcharhinidae	<i>Prionace glauca</i>	Blue shark
Cetorhinidae	<i>Cetorhinus maximus</i>	Basking shark
Galeocerdonidae	<i>Galeocerdo cuvier</i>	Tiger shark
Lamnidae	<i>Carcharodon carcharias</i>	Great white shark
Lamnidae	<i>Isurus oxyrinchus</i>	Shortfin mako shark
Lamnidae	<i>Isurus paucus</i>	Longfin mako shark
Lamnidae	<i>Lamna ditropis</i>	Salmon shark
Lamnidae	<i>Lamna nasus</i>	Porbeagle shark
Rhincodontidae	<i>Rhincodon typus</i>	Whale shark
Sphyrnidae	<i>Sphyrna lewini</i>	Scalloped hammerhead
Sphyrnidae	<i>Sphyrna mokarran</i>	Great hammerhead
Sphyrnidae	<i>Sphyrna zygaena</i>	Smooth hammerhead
Pseudocarchariidae	<i>Pseudocarcharias kamoharai</i>	Crocodile shark

Conclusions

- Given sharks are generally data-poor, we must consider **Article IV. Application of the Precautionary Approach**
 - 2. “...*The absence of adequate scientific information shall not be used as a reason for postponing or failing to take conservation and management measures.*”
- Given no single organization is currently responsible for sharks in the EPO, the staff notes that additional species could warrant special attention due to their ecological importance, and suggest to cooperate in relevant research and data collection efforts, to the extent possible.

Preguntas – Questions?



SSF (2012)

Photo: Jeff Muir