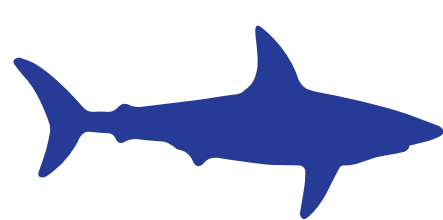


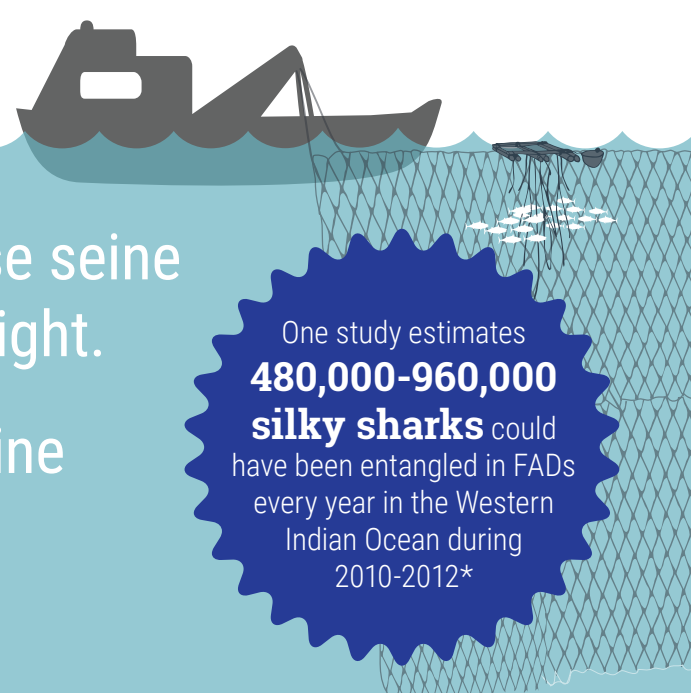
Protecting Sharks



Reducing shark bycatch in purse seine tuna fisheries

The shark bycatch-to-tuna catch ratio in purse seine fisheries is quite small – less than 0.5% in weight.

But given the size of the global tuna purse seine catch, reducing its impact on shark species is essential.



One study estimates **480,000-960,000 silky sharks** could have been entangled in FADs every year in the Western Indian Ocean during 2010-2012*

ISSF research

has identified 4 approaches:

Before catch

1. Reduce the number of sets on FADs

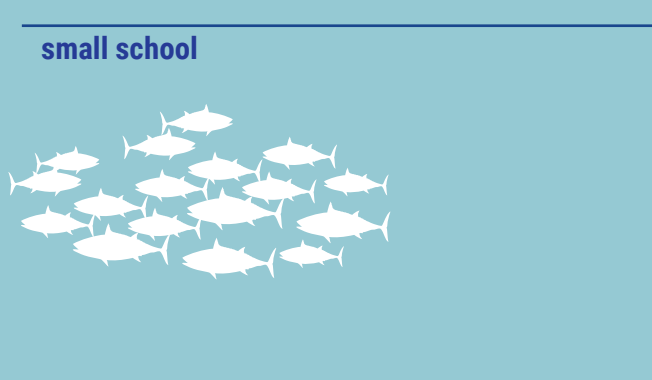
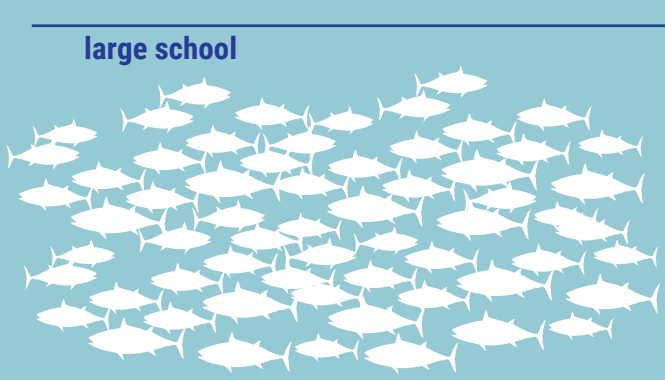
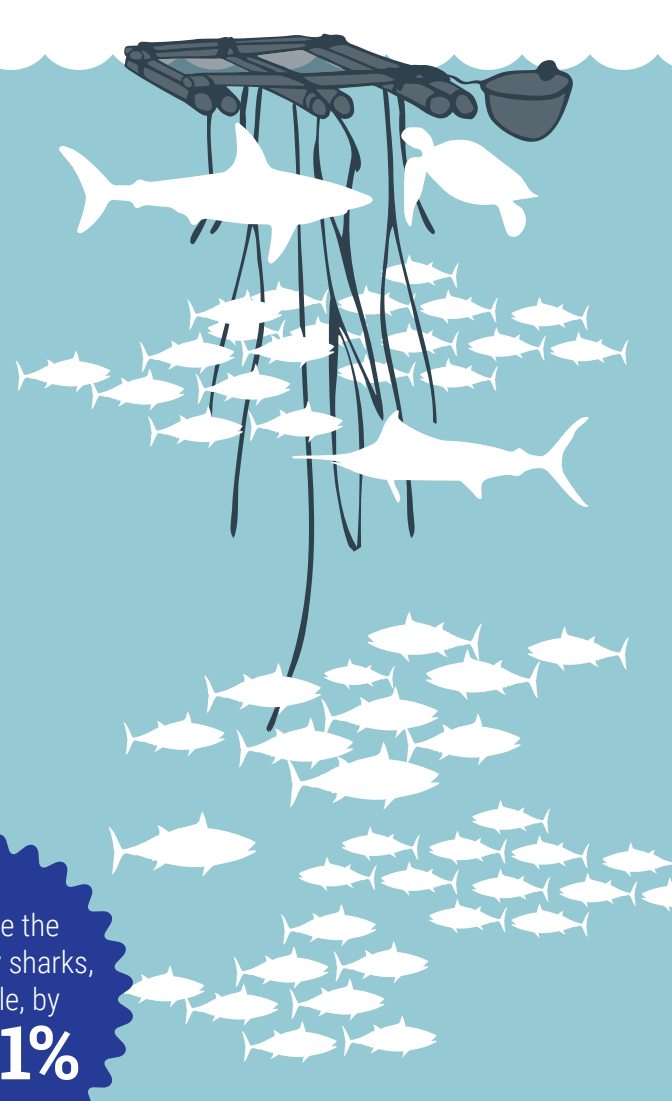
a.) Shift some effort to free school sets

Sharks are more commonly found in natural log and FAD sets than they are on free swimming schools. For a given amount of fishing effort, shift to more free swimming school sets to reduce overall catch of sharks.

b.) Avoid setting on small schools of fish

Avoiding sets on schools of tuna less than 10 tons would reduce the amount of bycatch of silky sharks by 21-41% depending on the region.

Can reduce the catch of silky sharks, for example, by **21-41%**



2. Implement non-entangling FADs

Traditional FADs with open netting and large mesh hanging structures entangle sharks. To avoid capturing sharks in the first place, use non-entangling FADs, as guided by ISSF recommendations and required by three tuna RFMOs

Completely **eliminate** entanglement

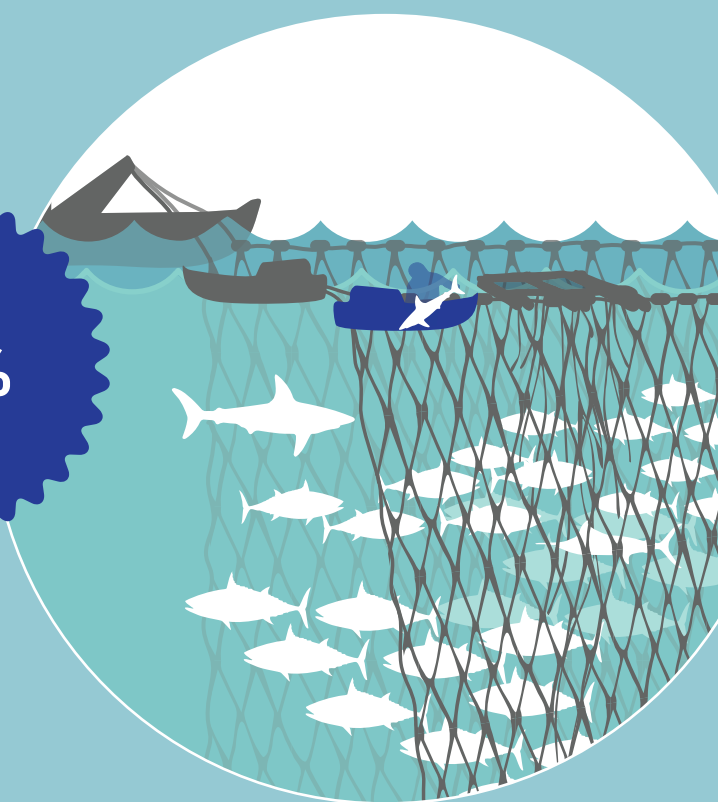
After catch

3. Release from net

Fishing sharks out of purse seine net with hand line

Releasing sharks from purse seine nets while still free swimming rather than on deck can improve their survival. Fishing sharks from the net with handlines and baited hooks is a promising technique.

can save at least **20%** of sharks encircled

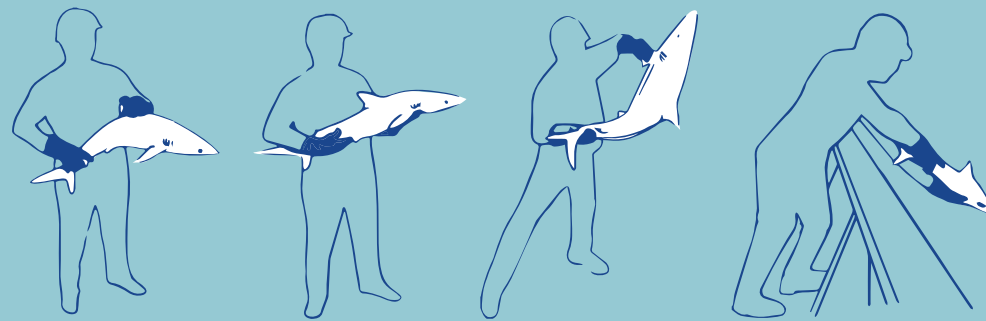


4. Release from deck after incidental catch

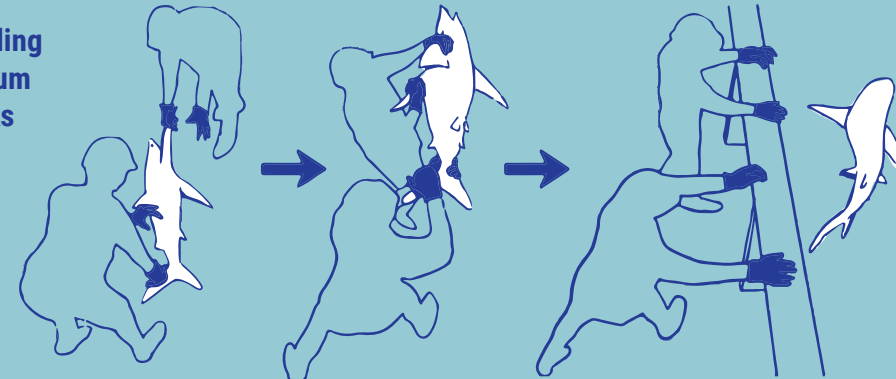
Implement best practices to maximize shark survival after release

Can save **15-20%** of sharks caught

Handling small sharks



Handling medium sharks



Illustrations based on Poisson et al, 2012

To learn more about bycatch in tuna fisheries, visit www.issf-foundation.org



And view the Bycatch Research Cruise Compendium

<http://issf-foundation.org/knowledge-tools/reports/technical-reports/download-info/issf-technical-report-2016-13-compendium-of-issf-at-sea-bycatch-mitigation-research-activities-as-of-july-2016/>