

Photo by Brian Skerry



SHARKS AT THE END OF THE LINE

An Introduction
to SHARK
Conservation

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Saturday, April 12, 2008

Photo by Nick Wegner

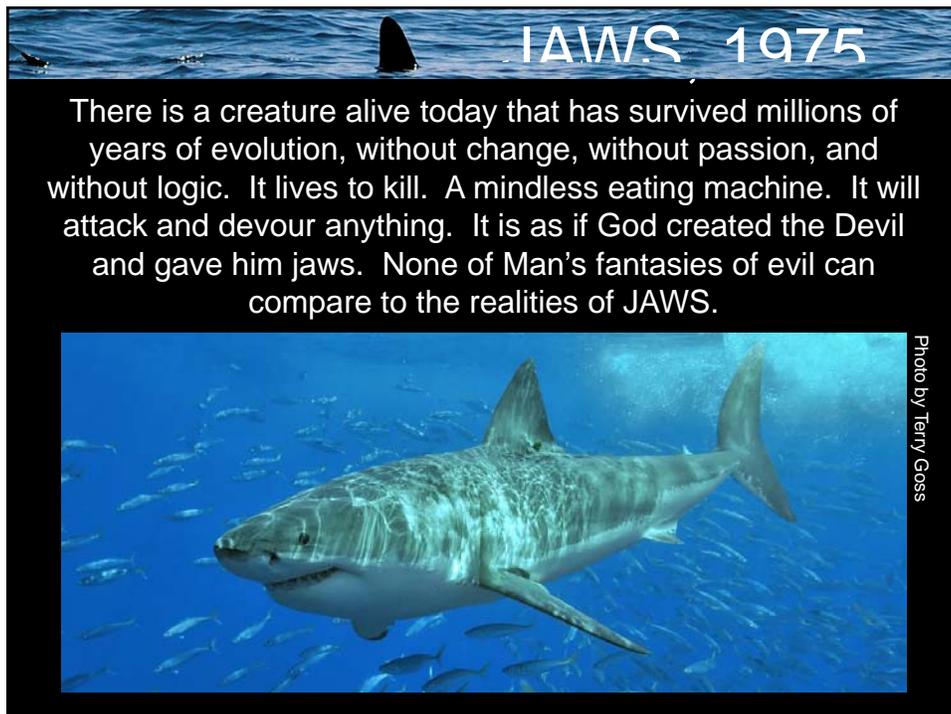
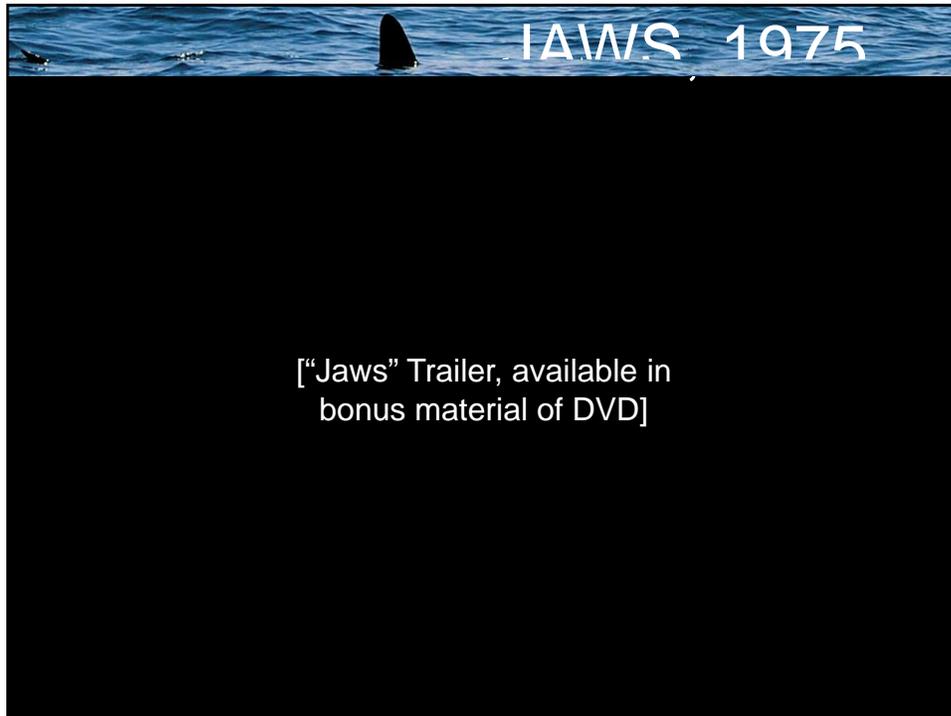


OUTLINE

- I. What is the **current state** of shark populations worldwide?
- II. What **impacts** do shark declines have on humans and the environment?
- III. What **causes** declines in shark populations?
- IV. What can be done to **conserve** sharks?
- V. What can **you** do?
- VI. Are we **willing** to conserve sharks?

Photo by J.J. Newman







STATE OF SHARKS

Approximately 100 million sharks are killed every year

Shark populations worldwide have declined by about 90%

From 1985 to 2004, reported shark catches increased by about 30%, but this is probably a gross underestimate

20% of shark species are listed as **endangered** or **vulnerable**

Only the **great white**, **basking** and **whale** sharks are protected internationally under CITES regulations

In 2007, 7 shark species were upgraded to heightened threat categories under the IUCN Red List



Photo by Brian Skerry



IMPACTS

Declines in shark populations impact both humans and the environment.



www.shopmymyshanghai.com



Photo by Doug Perrine

QuickTime™ and a TIFF (Uncompressed) decompressor are needed to see this picture.

IMPACTS ON HUMANS

MEAT: Many people in developing countries are losing a significant portion of their diets and source of protein.

Photo by Mark Edwards

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Photo by Dan Cartmill



IMPACTS ON HUMANS

SHARK FIN SOUP: This lucrative Asian luxury will ultimately become scarce as shark populations decline.

Photo by Arthur Hungry



IMPACTS ON HUMANS

TOURISM: SCUBA divers cherish shark encounters. Sharks are worth far more alive than dead.



Photo by Pretoma, Costa Rica

IMPACTS ON ENVIRONMENT

TROPHIC CASCADES, FOOD WEB CHANGES



Photo by www.sharkdiving.us Photo by www.elasamodiver.com Photo by Janessa Cobb

Great Sharks → Cownose Ray → Bay Scallop

IMPACTS ON ENVIRONMENT

DECREASED CORAL COVER, INCREASED SUSCEPTIBILITY TO DISEASE & BLEACHING

Coral reefs with highly altered food webs (apex predators have been removed) are **less healthy, less biodiverse and less resilient to disease and warming episodes.**



Photo by www.practicalfishkeeping.co.uk
Photo by www.duiops.net

THREATS

BIOLOGICAL VULNERABILITY

As apex predators, sharks are **not designed for heavy predation**. Sharks have few, if any, natural predators.

- Sharks are SLOW GROWING
- Sharks are LONG-LIVED
- Sharks are LATE TO MATURE
- Sharks have LONG GESTATION
- Sharks PRODUCE FEW OFFSPRING



Photo by Andy Nosal



THREATS

OVERFISHING

Shark populations are fragile when targeted by unregulated fisheries. Rising catches are followed by rapid declines followed by slow recoveries, if stocks are subsequently protected.

SPINY DOGFISH (NE Atlantic)

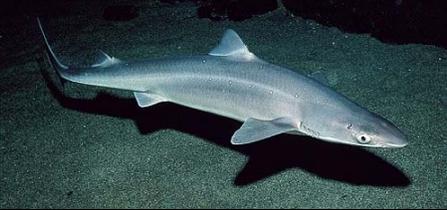
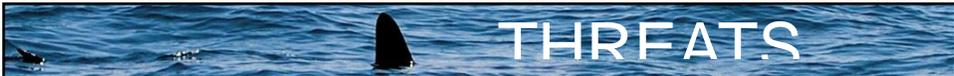


Photo by www.niscuba.net



Photo by www.searingforkey.com

PORBEAGLE SHARK (NE Atlantic)



THREATS

BYCATCH

Sharks are often caught accidentally while attempting to catch another "target" species. Sharks caught as bycatch are often thrown overboard or finned.

TRAWLING NETS
PURSE SEINES
GILLNETS
LONGLINES



Photos by www.chickenofthesea.com



LOG FISHING/FISH AGGREGATION DEVICES (FADs)

THREATS

SHARK FINNING

26 - 73 million sharks are finned annually.

Sharks are caught and the fins cut off and sun-dried.

QuickTime™ and a TIFF (LZW) decompressor are needed to see this picture.

The body is then thrown back, often still alive, where the animal bleeds to death.

US\$200 to US\$450 per pound.

Finning wastes 95-99% of animal's body-weight.

Photo by Jeff Rotman

Photo by Luke Gibson

THREATS

SHARK FINNING

[Clip from "Sharkwater"]

THREATS

SHARK FINNING

Hong Kong & China are the world's largest fin importers

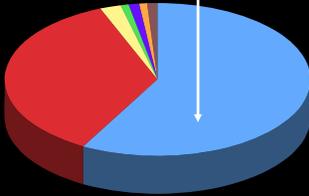
Increased demand for shark fins due to booming Asian economy and increased disposable income.

Shark fin imports increase by 6% every year and have tripled since 1980.

Hong Kong



Photo by www.dls.com



■ Hong Kong
 ■ China
 ■ Malaysia
 ■ Indonesia
 ■ Taiwan
 ■ Thailand
 ■ Other

Shark Fin Imports FAO Statistics

THREATS

SHARK FINNING

China Wildlife Conservation Association Survey, 05-06

26% of restaurants surveyed sold shark fin dishes.

14% of grocery stores surveyed sold shark fins.



Photo by Luke Gibsons

80% of interviewees did not know what shark fin soup, called "fish wing soup" in Chinese, is made of.

35% of interviewees had eaten shark fin, mostly men between 41-60.

31% of fin consumers chose to eat shark fin for its nutritional value and 49% said potential health risks would stop them.



THREATS

SHARK FINNING

A growing recognition of the shark fin problem

- Houston Rockets' star Yao Ming shuns shark fin soup
- Disneyland Hong Kong removes shark fin soup from menus
- Increased bans and legislation on shark finning




Photo by www.seashepard.org

Photo by www.freehunter.com



CONSERVATION

1. Implement an international ban on shark finning
2. Effectively manage shark fisheries, reduce bycatch
3. Conduct more research on shark biology, ecology and population dynamics
4. Raise awareness about threats facing sharks

The real answer: **YOU!**



CONSERVATION

N

The real answer: YOU!

You, the consumer, drive the market!

Sharks will not be fished or finned if there is no demand.

Make smart consumer choices and spread the word!




ARE WE

Are we willing to conserve sharks?

WILLING?

irrational fear of sharks

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Once we regard sharks in the same way we do dolphins, everything else will fall into place.

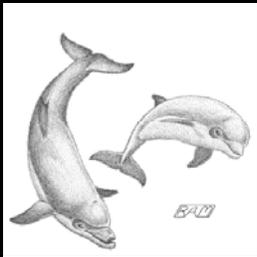
Photo by Ullstein-Lange





ATTITUDE

Photo by R. Aidan Martin



Dolphins versus Sharks:
Do dolphins really beat up sharks in the wild?

Isolated incident at the Miami Seaquarium: Dolphin butts and kills a curious (hungry) sandbar shark while protecting its calf.

This incident inspired the television series, "Flipper," produced in association with the Miami Seaquarium.

However, dolphins and sharks are not considered natural enemies.



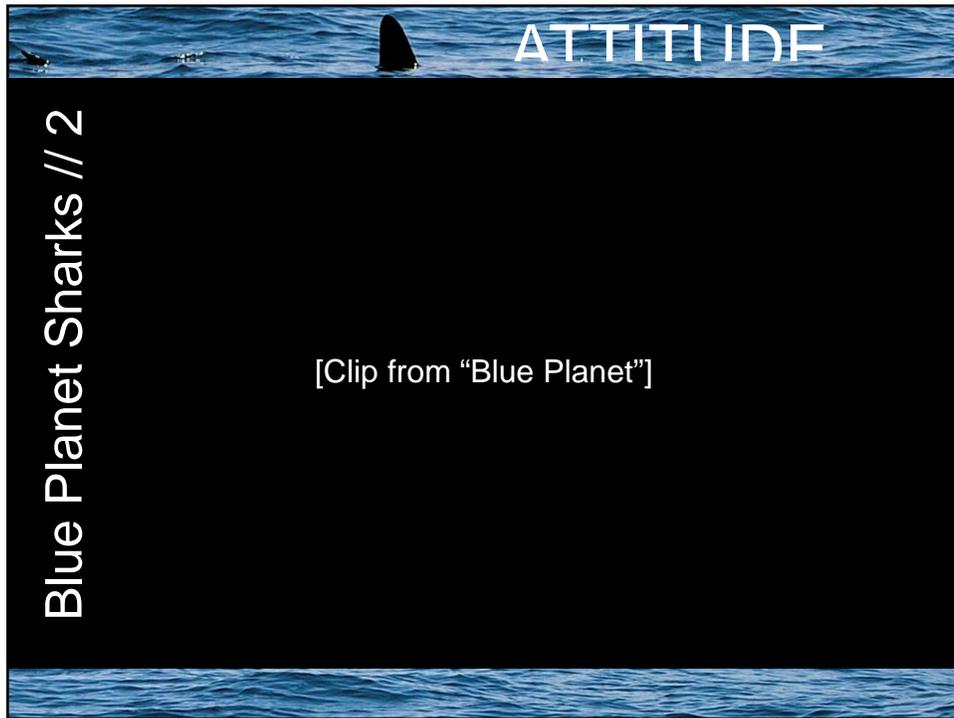

ATTITUDE

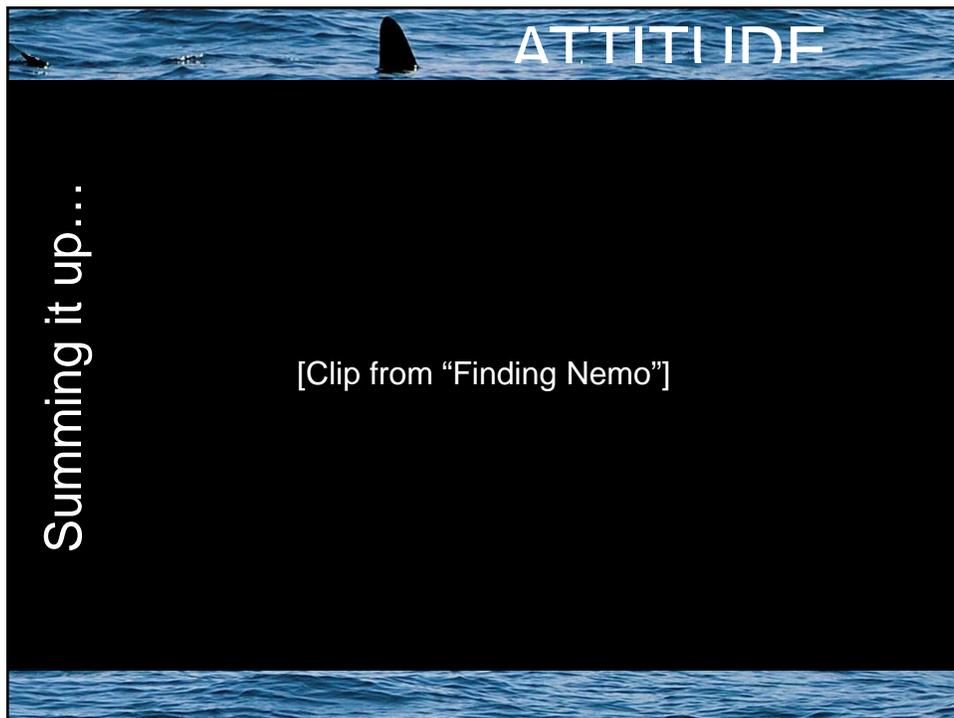
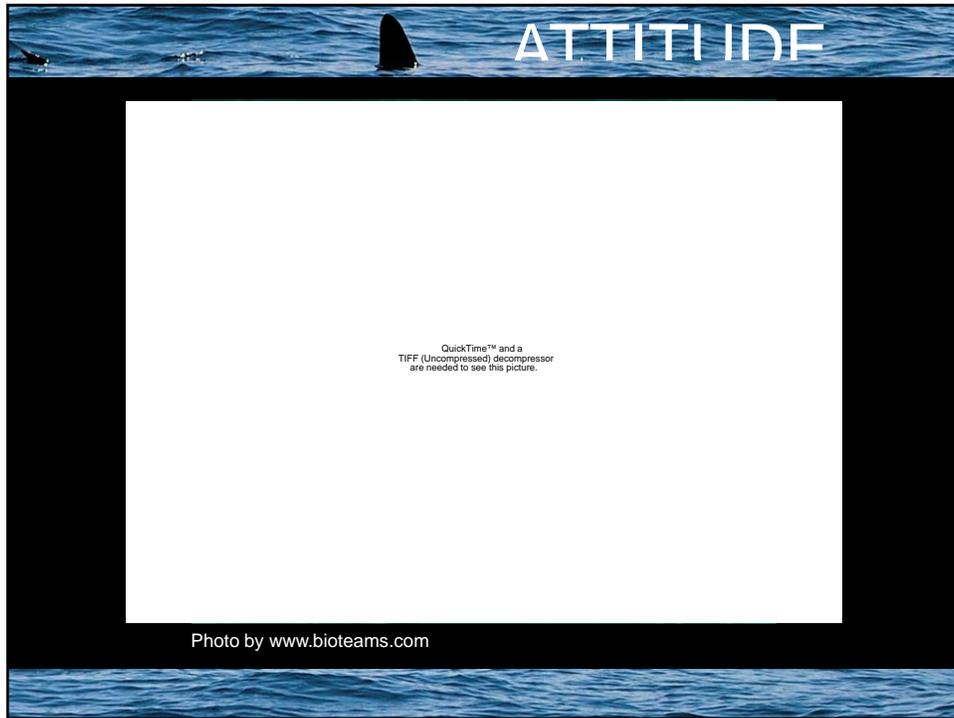
Jaws 3-D

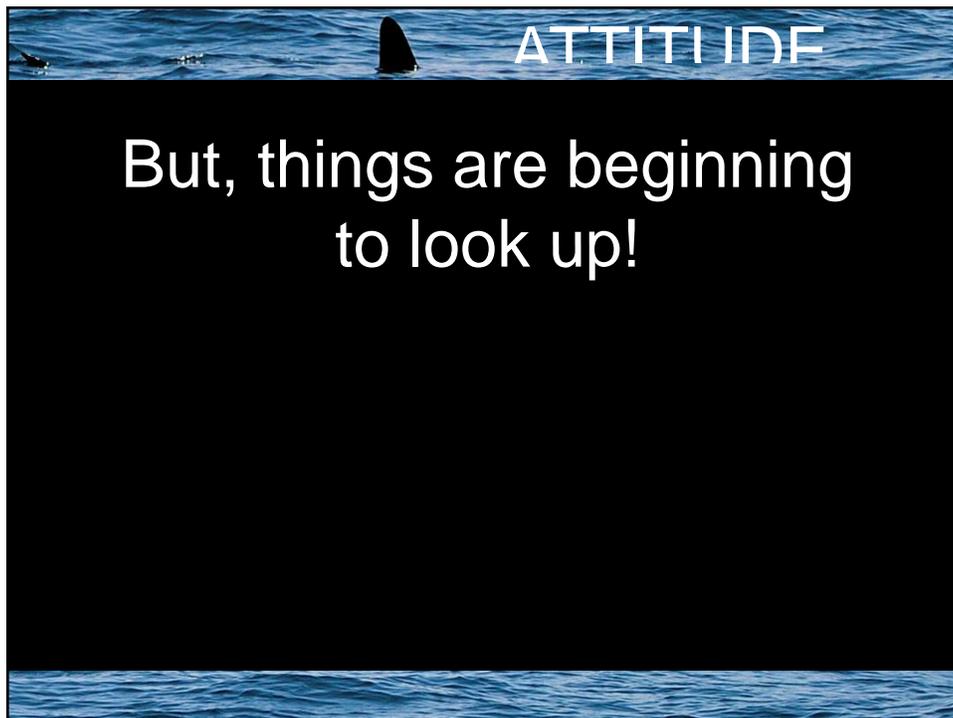
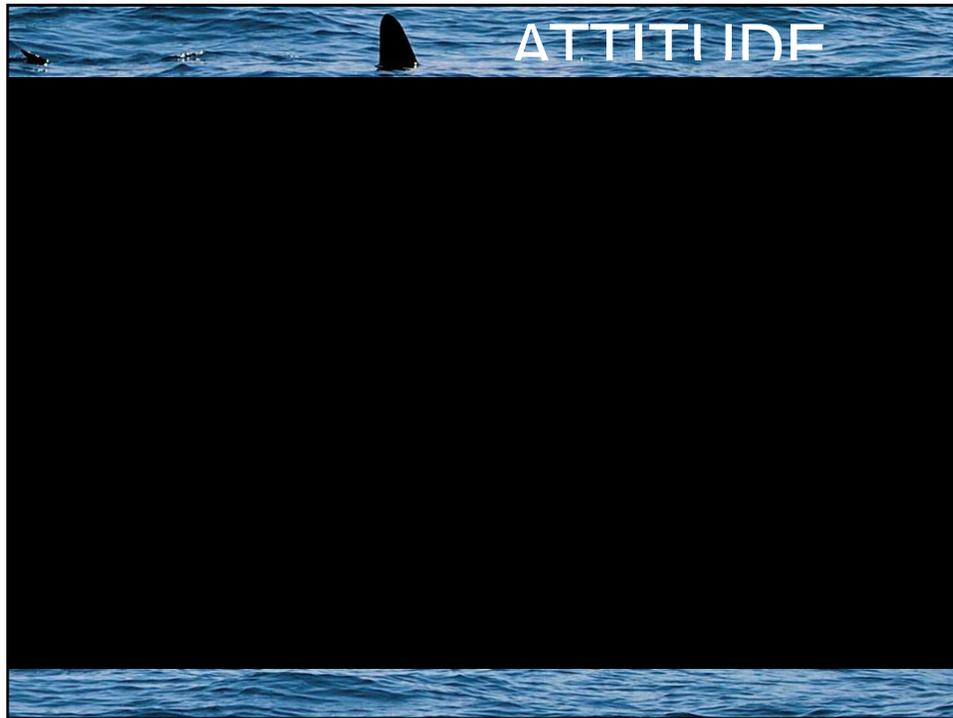
[Clip from "Jaws 3-D"]

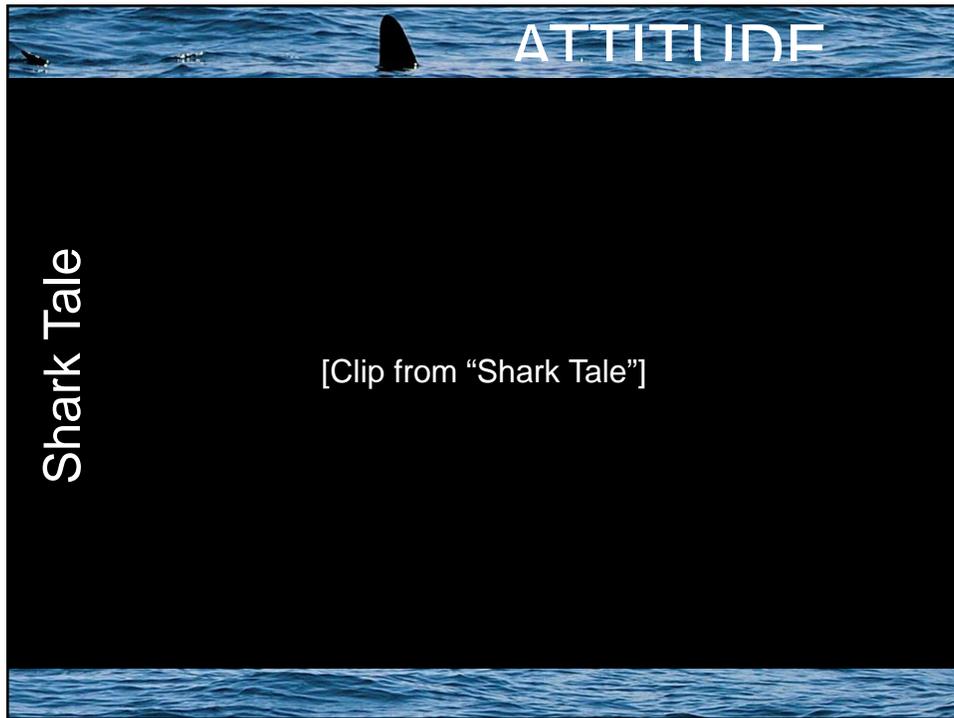
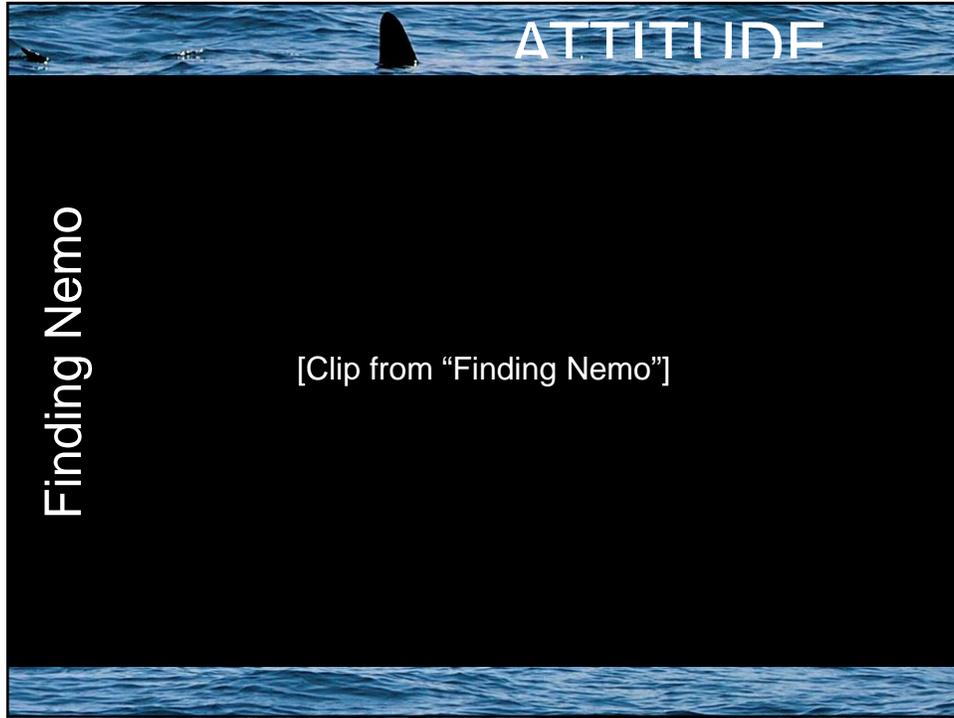














ATTITUDE

Kenny the Shark

[Clip from "Kenny The Shark"]



SUMMARY

Shark populations are declining worldwide due mostly to overfishing, bycatch and shark finning.

Shark finning produces unnecessary waste and is by far the greatest threat to sharks.

Shark declines have environmental consequences and affect humans as well.

Sharks' greatest chance at survival lies in the hands of the average consumer with the right attitude.

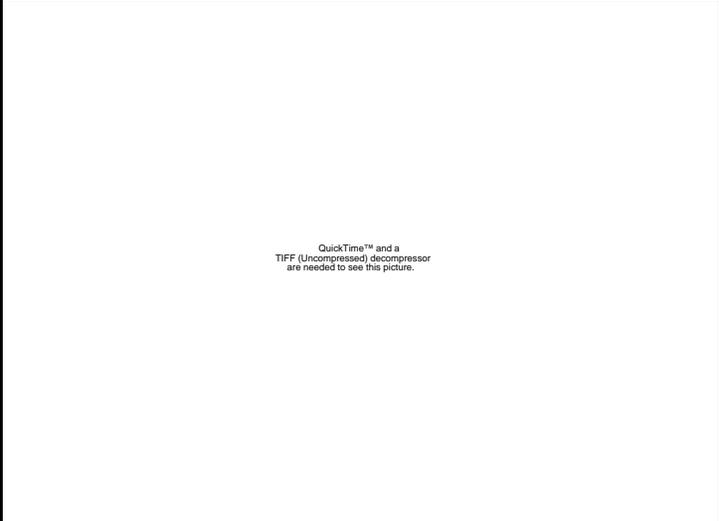




SUMMARY

TAKE HOME MESSAGE:

Ancient Polynesian cultures revered sharks. To them, sharks were heroes and guardian angels, guiding lost canoe paddlers to safety. Sharks were righteous and merciful rulers of the sea. Let us try and see sharks the way the ancient Polynesians did.



QuickTime™ and a
TIFF (Uncompressed) decompressor
are needed to see this picture.

Photo by www.bioteams.com