

THE STATE OF OUR OCEANS

Oceans Education Presentations

CONTENTS

INTRODUCTION - WHY OUR OCEANS ARE SO IMPORTANT

What the oceans provide: food, jobs, transportation, water, recreation, wildlife, weather and climate control, oxygen

Three key human-induced factors are making the oceans sick: overfishing, climate change, and marine pollution

MARINE POLLUTION - THE IMPACTS OF PLASTIC DEBRIS

About plastic and plastic in the oceans

What is plastic?

What is plastic so bad for our environment?

How much plastic gets into our oceans and how does it get there?

- From land sources

- From ocean sources

What happens to plastics in the oceans?

- Photodegradation and fragmentation

- Floating, sinking, and suspended plastic

- Ocean gyres, the North Pacific and the North Atlantic gyres

The 4 major problems with plastics in the oceans:

1. LEACHING AND ABSORPTION

Toxic chemicals that are leached and absorbed by plastic

Bioaccumulation and biomagnification

How the toxic chemicals from leaching and absorption of plastic are affecting both marine animals and humans

How plastics are hurting, poisoning, and killing marine animals:

2. ENTANGLEMENT

Which debris causes the most entanglement

Results of entanglement

Victims of entanglement:

- Seabirds

- Sea turtles

- Seals and sea lions

- Cetacean species (Whales, dolphins, porpoises)

3. INGESTION

Why marine animals ingest plastic

Results of ingestion of plastic by marine animals

Which marine animals ingest plastic and how they are affected?:

Seabirds

Sea turtles

Marine mammals

Fish

Small filter feeders and plankton

4. SPREAD OF INVASIVE ALIEN SPECIES

The current status of plastic disposal and some of the things that we can do

MARINE POLLUTION – TOXIC WASTE

Types of marine pollution

Sources of marine pollution

Land-based

Ocean-based

The results of marine pollution from toxic waste:

Bioaccumulation and biomagnification

The effects of marine pollution on marine animals

Marine mammals

Sea turtles

Marine birds

The effects of marine pollution on humans

Results of oil spills

Eutrophication

Dead zones

MARINE POLLUTION – MAN-MADE NOISE AND LIGHT

1. Man-made Noise

Underwater sound and marine animals

Three major sources of man-made ocean noise:

Surface ocean traffic

Military sonar

Seismic air guns

Other sources of marine noise pollution

Results of exposure to man-made ocean noise

Noise pollution is causing many marine animals to beach themselves

2. Artificial Light

Effects of artificial light on wildlife

OVERFISHING

Unsustainable fishing:

Bycatch

Types of unsustainable fishing practices:

Bottom trawling

Longlining

Gillnetting

Purse seining

Drift netting

Small-scale fisheries bycatch

Factory Ships

Dynamite and Cyanide fishing (coral reefs)

Shark Finning

Results of overfishing

Reducing overfishing

CLIMATE CHANGE – IMPACTS ON OUR OCEANS AND LAND

Global warming and climate change

Major man-made sources of global greenhouse gas emissions

Global emissions, temperature rise, and species extinction

OUR OCEANS AND GLOBAL WARMING

Ocean acidification and ocean warming

- How they are affecting life in the oceans

OTHER IMPACTS OF GLOBAL WARMING

Melting sea ice

Weather patterns and severe weather events

Melting glaciers – water and food security

Rising sea levels

Higher levels of precipitation

Desertification

Climate change is already threatening many animals

Future warming

Ways to reduce greenhouse gas emissions