Oil Spills, Ethics, and Society: How they intersect and where the responsibilities reside

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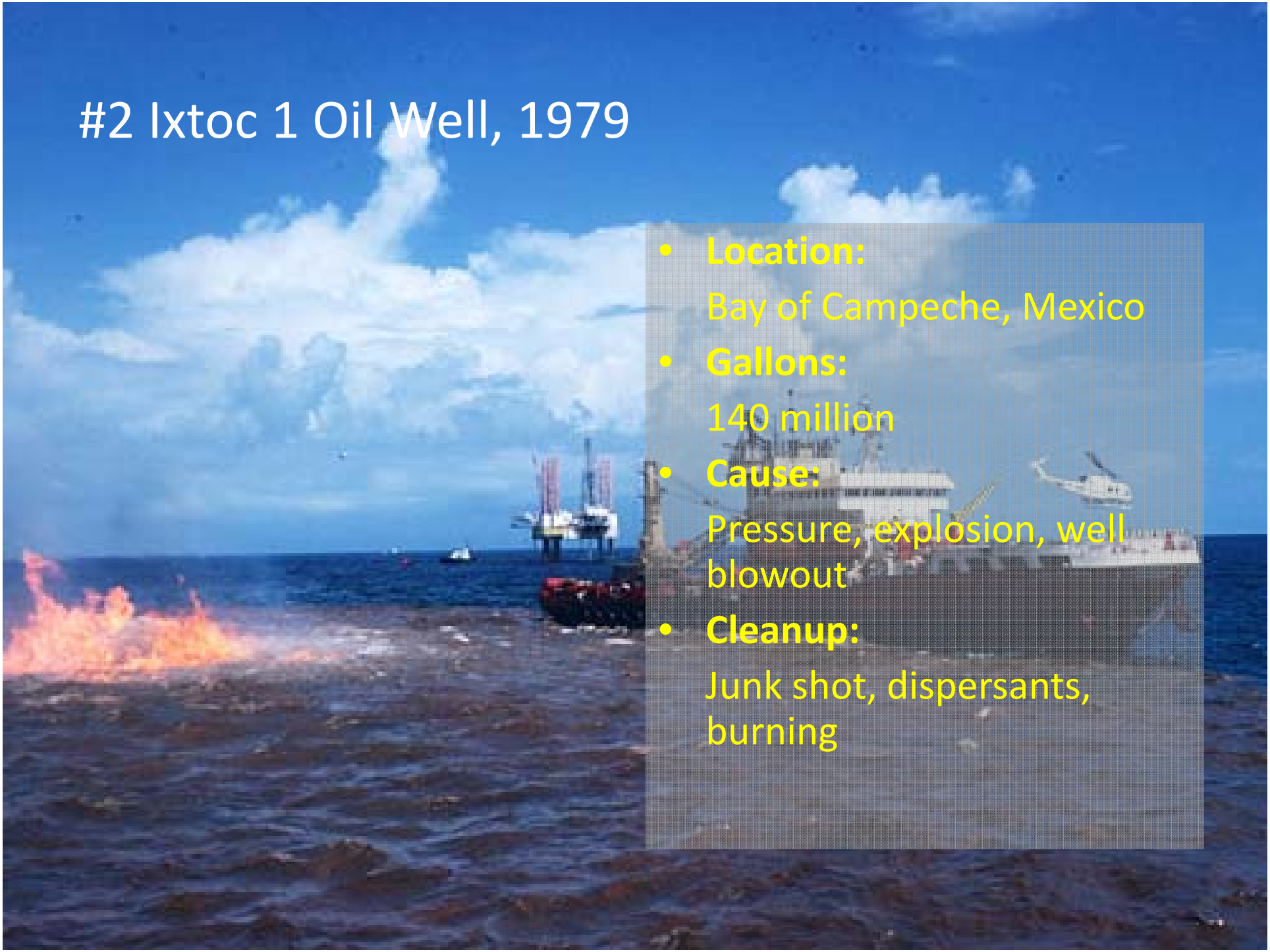
2011 - 2013

#1 Gulf War, 1991

- **Location:**
  Kuwait
- **Gallons:**
  240 to 336 million
- **Cleanup:**
  Close wells & pipes
  25 miles of boom
  21 skimmers
- **Long term damage:**
  Little to coral & local fisheries (Unesco)

#2 Ixtoc 1 Oil Well, 1979



- **Location:**
  Bay of Campeche, Mexico
- **Gallons:**
  140 million
- **Cause:**
  Pressure, explosion, well blowout
- **Cleanup:**
  Junk shot, dispersants, burning

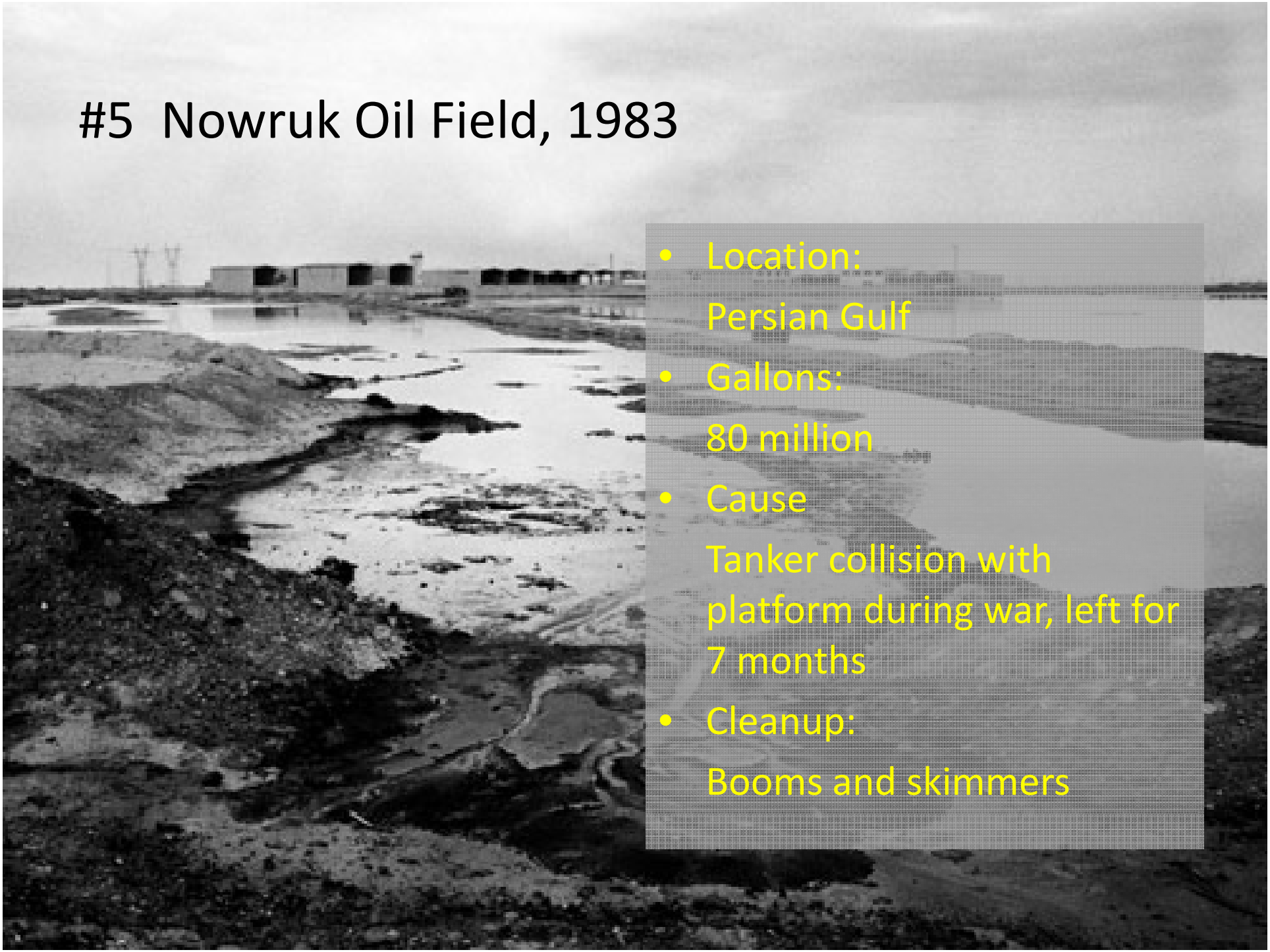
#3 Atlantic Empress, 1979

- **Location:**
  Trinidad and Tobago, West Indies
- **Gallons:**
  88.3 million
- **Cause**
  2-tanker collision
- **Cleanup**
  Firefighting, dispersants, towing, explosion, sinking

#4 Fergana Valley, 1992

- **Location:**
  Uzbekistan
- **Gallons:**
  87.7 million
- **Cause:**
  Well failure (largest inland ever reported)
- **Cleanup:**
  Soaked into ground leaving nothing for crews

#5 Nowruk Oil Field, 1983



- Location:
  Persian Gulf
- Gallons:
  80 million
- Cause
  Tanker collision with platform during war, left for 7 months
- Cleanup:
  Booms and skimmers

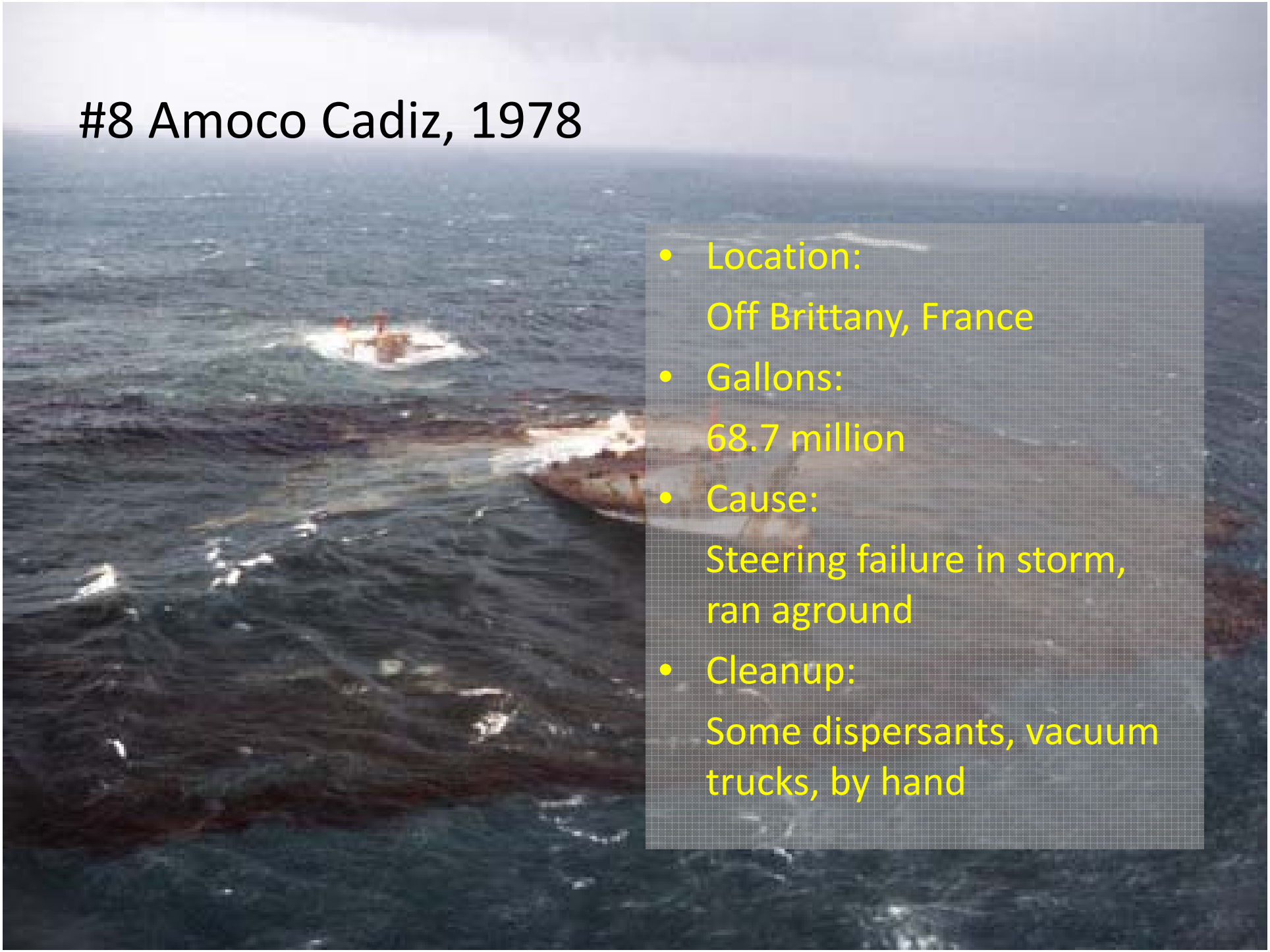
#6 ABT Summer, 1991

- Location:
  Off the coast of Angola
- Gallons:
  80 million
- Cause
  Shipboard explosion
- Cleanup
  Sinking after burning
- Impact
  None known due to sinking, burning and dispersion by high seas

#7 Castillo de Bellver, 1983

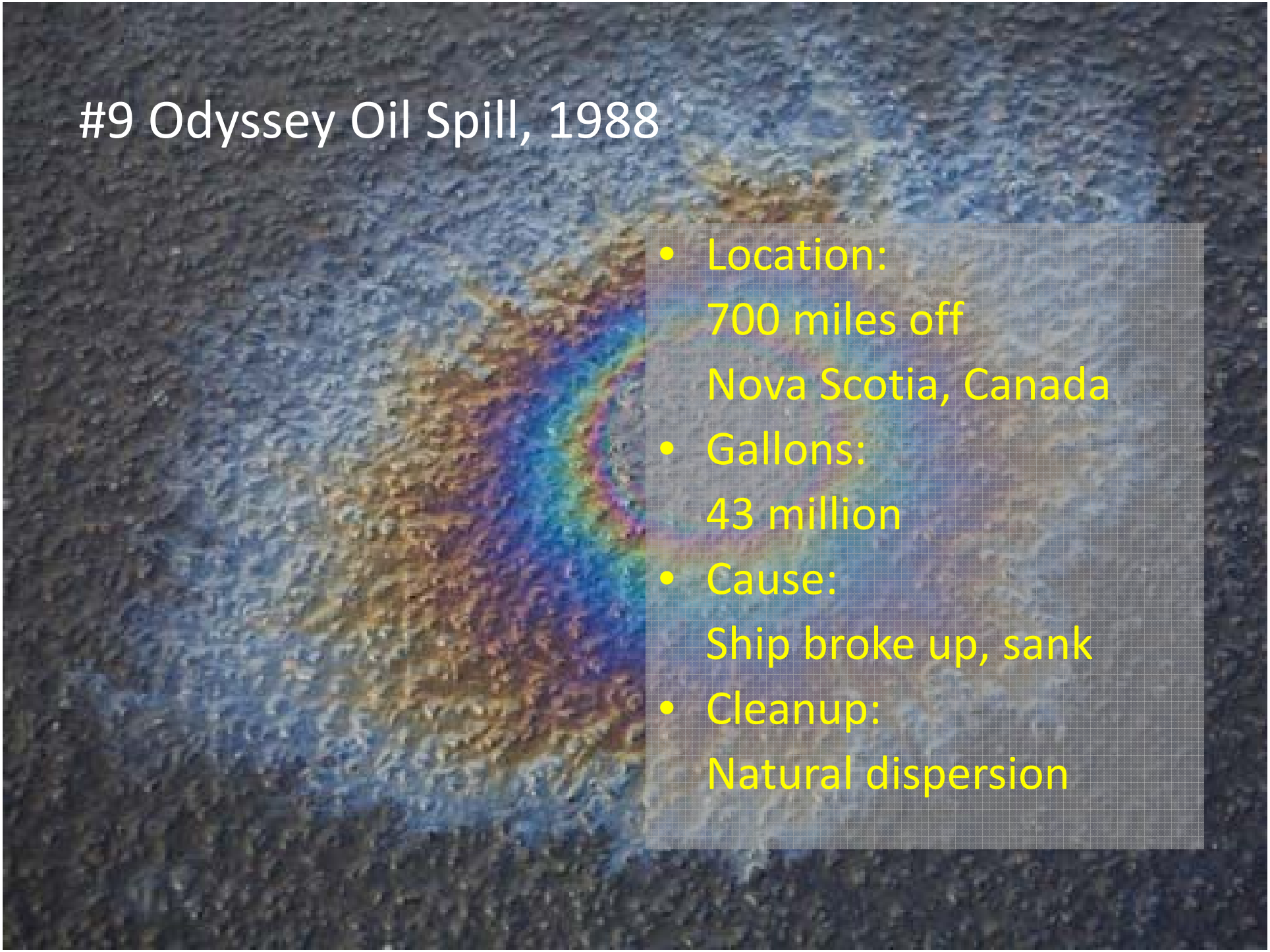
- Location:
  Off Saldanha Bay,
  South Africa
- Gallons:
  78.5 million
- Cause:
  Shipboard fire
- Cleanup:
  Breakup and sinking; minimal dispersants; 1500 birds, no fisheries impact

#8 Amoco Cadiz, 1978



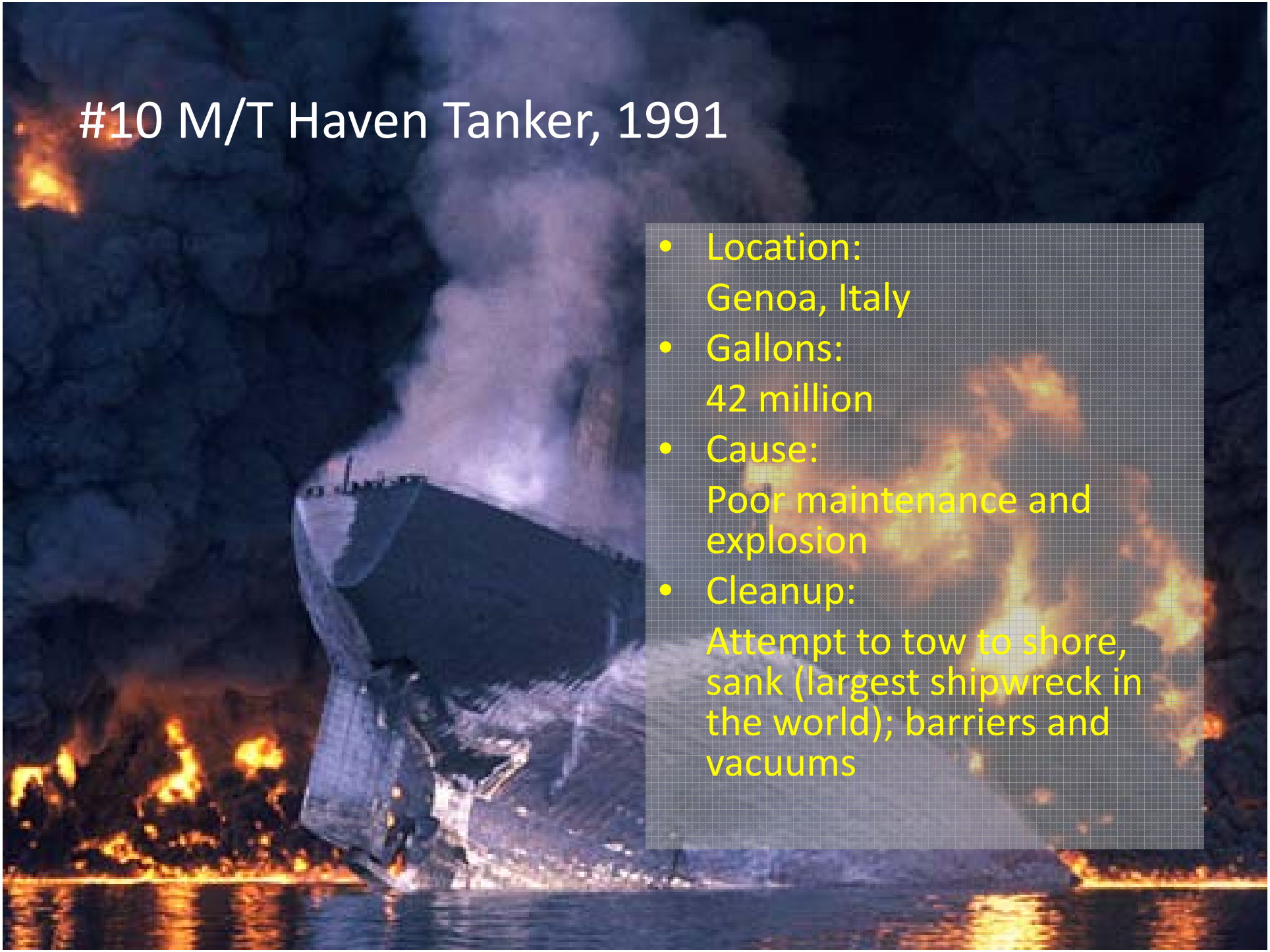
- Location:
  Off Brittany, France
- Gallons:
  68.7 million
- Cause:
  Steering failure in storm, ran aground
- Cleanup:
  Some dispersants, vacuum trucks, by hand

#9 Odyssey Oil Spill, 1988



- Location:
  700 miles off
  Nova Scotia, Canada
- Gallons:
  43 million
- Cause:
  Ship broke up, sank
- Cleanup:
  Natural dispersion

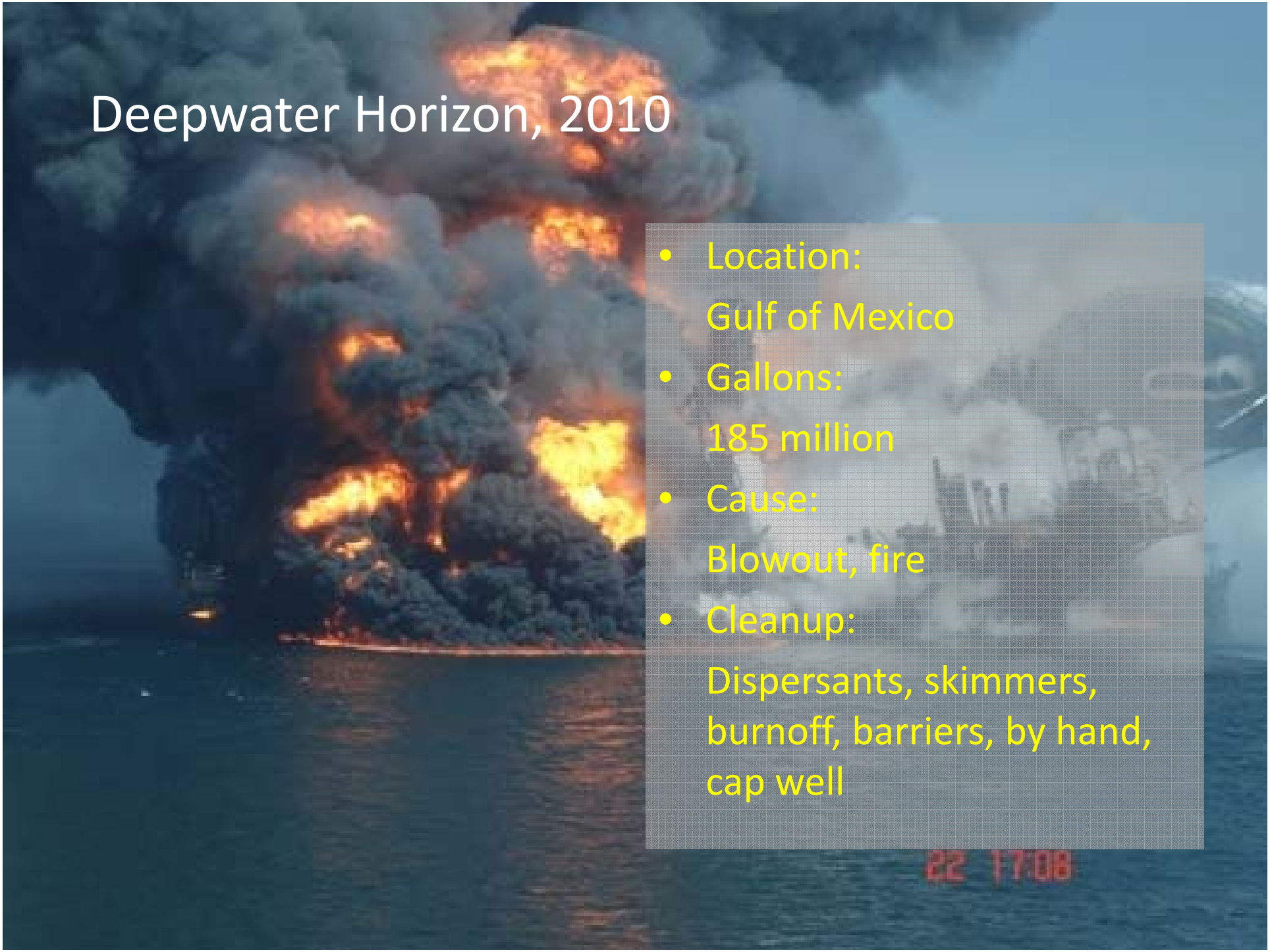
#10 M/T Haven Tanker, 1991



- Location:
  Genoa, Italy
- Gallons:
  42 million
- Cause:
  Poor maintenance and explosion
- Cleanup:
  Attempt to tow to shore, sank (largest shipwreck in the world); barriers and vacuums

None of these spills has had long term, lasting impact

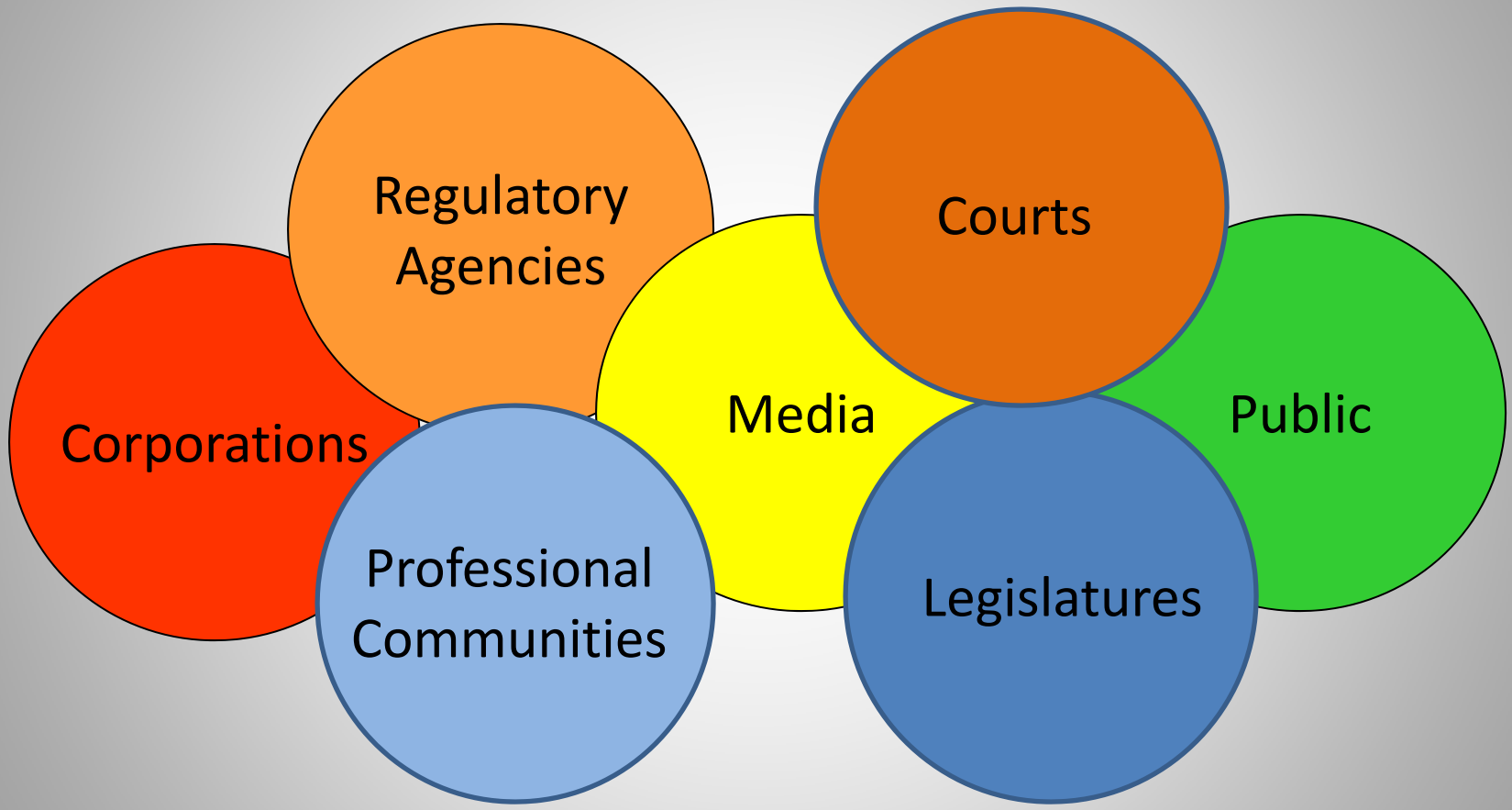
Deepwater Horizon, 2010



- Location:
  Gulf of Mexico
- Gallons:
  185 million
- Cause:
  Blowout, fire
- Cleanup:
  Dispersants, skimmers, burnoff, barriers, by hand, cap well

The *Deepwater Horizon* oil spill
will have had no lasting environmental impact:
"Ultimately mother nature will handle it…"
(Edward B Overton, Professor Emeritus, LSU, 2011)

Constituencies...

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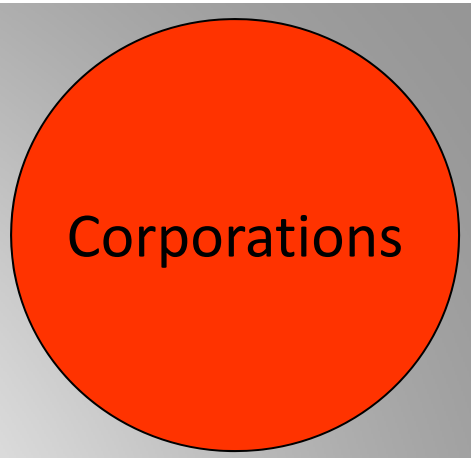


<u>When a spill occurs</u>

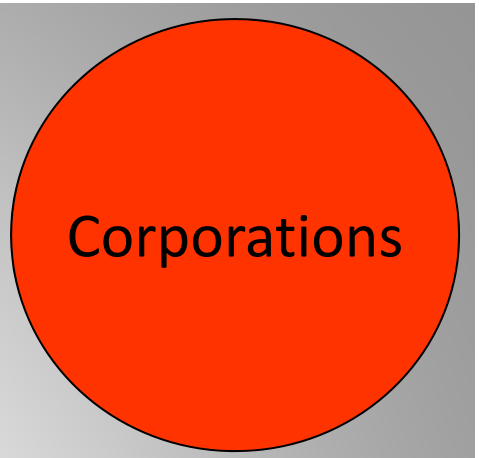
Provide protection to people

Clean up and restore the environment

Investigate and fix the cause

Maintain a transparent flow of information


Lamar McKay
Steven L. Newman



<u>Before a spill</u>

Train and maintain skills

Maintain equipment

Establish clear management systems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"While the oil companies are turning the American consumer upside down at the pump, shaking out every last cent, the White House is defending unnecessary giveaways and tax breaks to big oil," Representative Edward Markey, a Massachusetts Democrat who heads the House Select Committee on Energy Independence and Global Warming, said in an e-mailed statement.

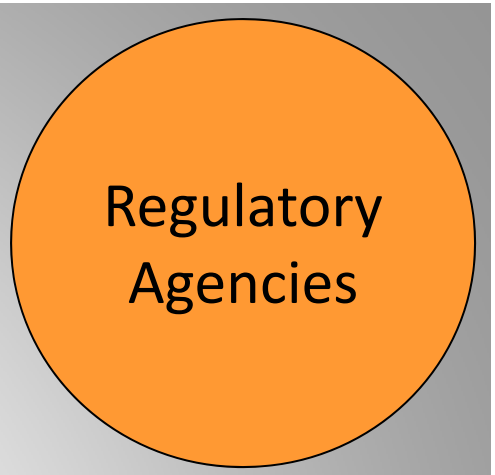
"…if we are going to allow giant oil companies like BP to deplete our ocean energy resources, we will take a small sliver of their massive profits and deposit it into a conservation fund…"


MR. BURGESS
TEXAS
COUNSEL
MR. SCALISE
LOUISIANA

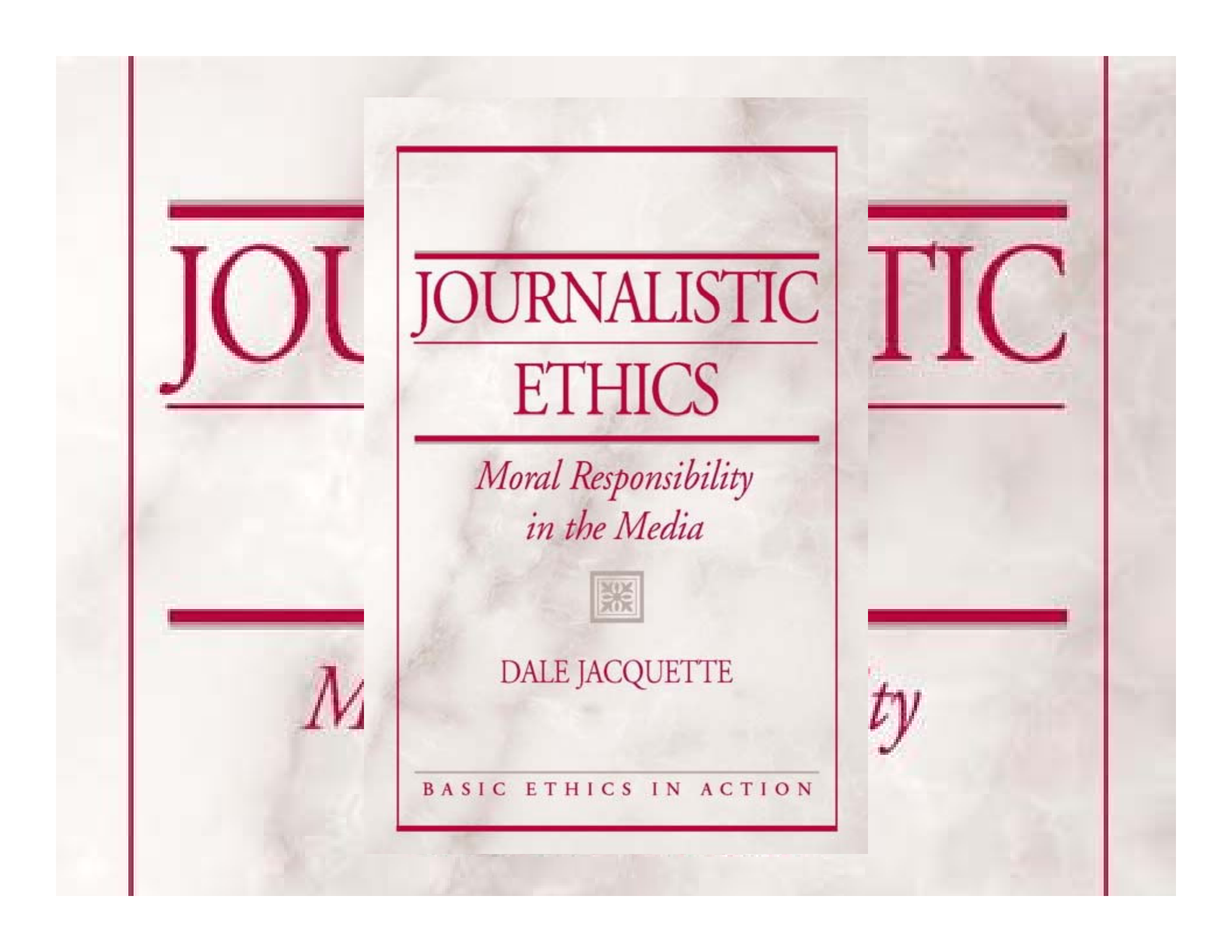
Legislatures

Investigate when appropriate
Listen to testimony
Minimize sensationalism
Formulate laws thoughtfully


DEEP WATER



Perform oversight diligently
Investigate thoroughly
Modify regulations appropriately
Restore operations timely


JOURNALISTIC
ETHICS
Moral Responsibility
in the Media
DALE JACQUETTE
BASIC ETHICS IN ACTION

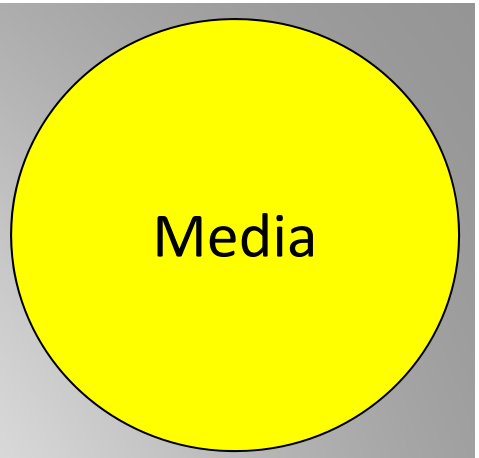
Was **Anderson Cooper** digging too deep while reporting on the BP oil spill? According to a government report on the Deepwater Horizon Oil Spill: Yes.

It may or may not come as a shock that the commission,… identifies a new ~~scapegoat~~ culprit: the media.

In particular, the report accuses **Anderson Cooper** of intentionally seeking out people that were upset with the government response to the disaster:
"Journalists encouraged state and local officials and residents to display their anger at the federal response, and offered coverage when they did. Anderson Cooper reportedly asked a Parish President to bring an angry, unemployed offshore oil worker on his show**. When the Parish President could not promise the worker would be "angry," both were disinvited."**

BP Sand Shark Hunts Tarball Prey On Devastated Gulf Coast Beaches


DEERE
270C LC



Deliver information
Differentiate opinion and advocacy from reporting
Avoid sensationalism
Avoid worst case scenario focus


Ford
LES FRANCOFOL
DE MONTRE
DRY

Only 25% of Americans were scientifically literate in a 2008 survey.

(Jon Miller, Professor, Michigan State University)

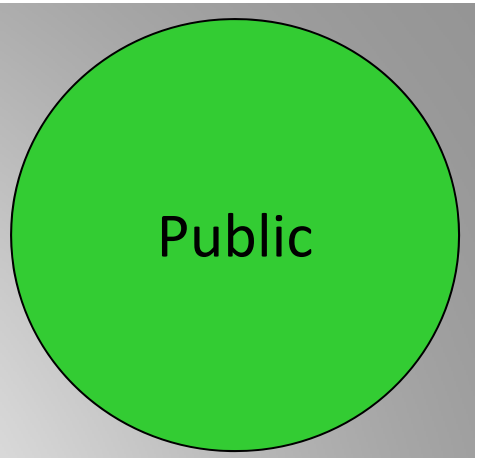
Only 53% of adults know how long it takes for the Earth to revolve around the Sun.

Only 59% of adults know that the earliest humans and dinosaurs did not live at the same time.

Only 47% of adults can roughly approximate the percent of the Earth's surface that is covered with water.*

Only 21% of adults answered all three questions correctly.

(California Academy of Sciences, 2009)

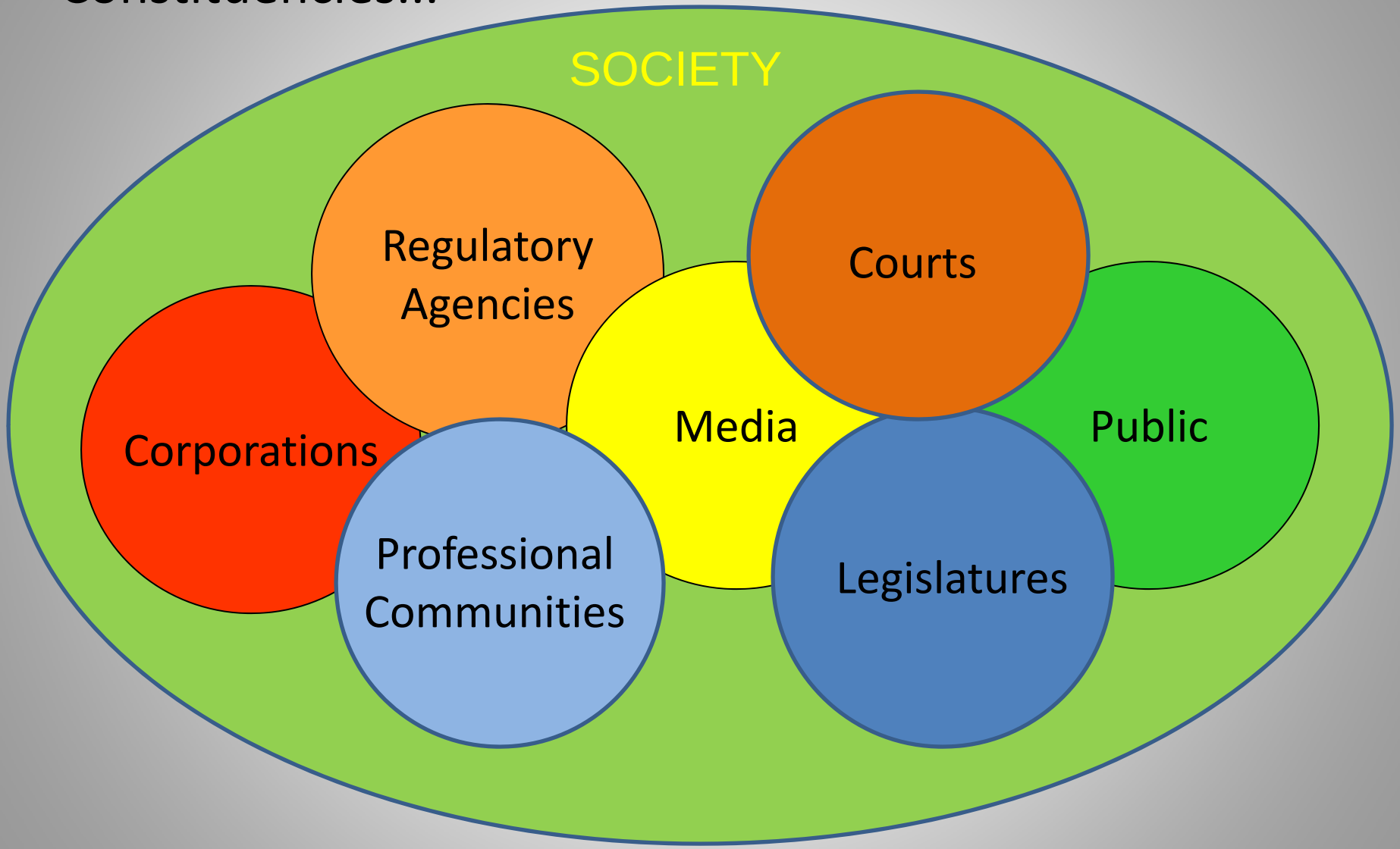


Become educated
Become informed
Question
Understand the full societal context of issues

Professional Communities

Perform work diligently
Perform work without prejudice
Identify and point out inaccuracies
Inform those around us
Explain full societal contexts

Constituencies...



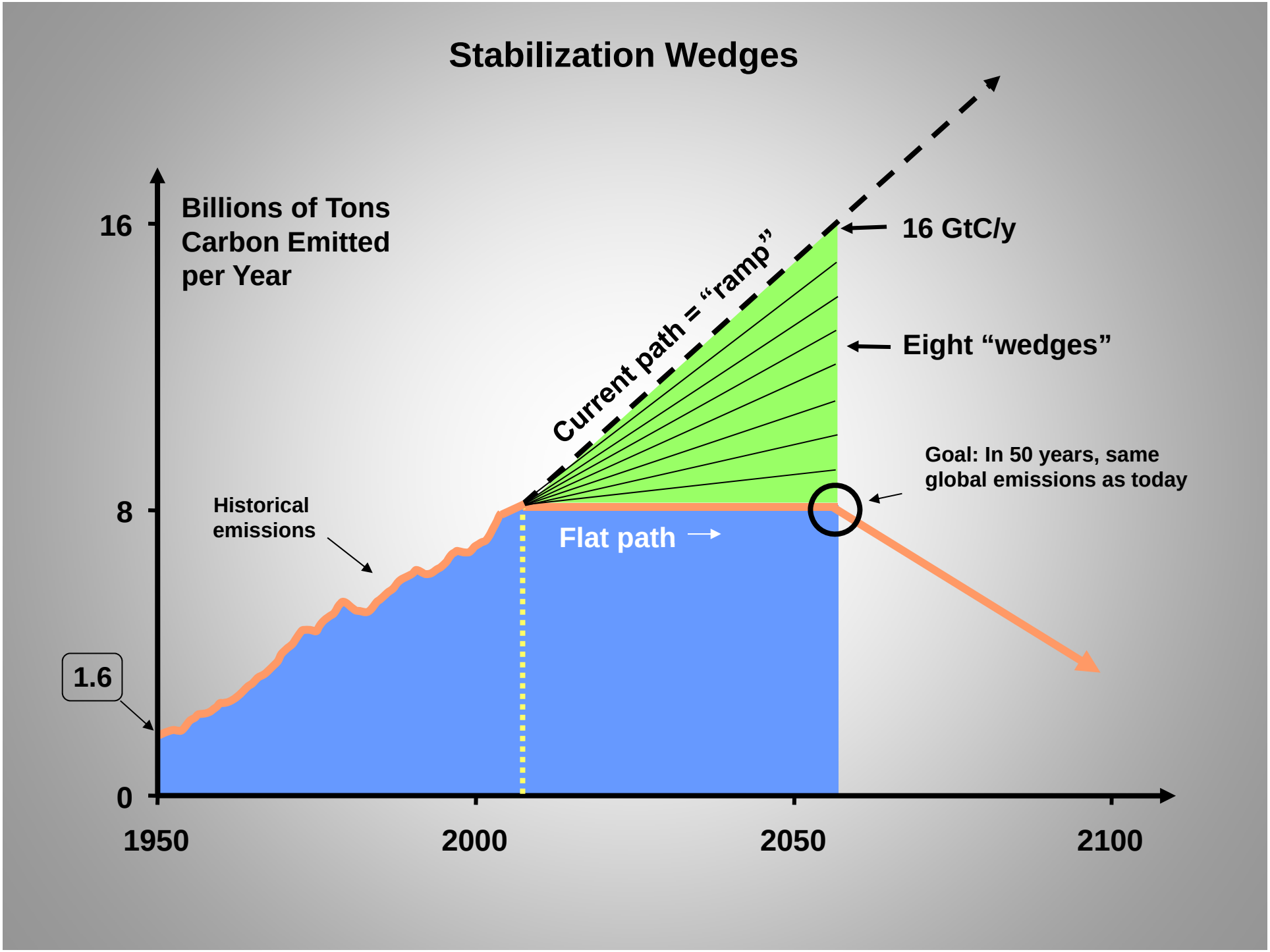
The commercial case for clean energy has never been stronger

Rising climate change concerns

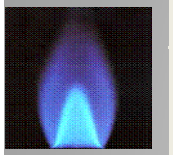
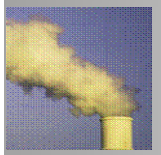
Demand growth

Energy security challenges

Oil, gas and coal supply constraints


Stabilization Wedges
Billions of Tons
Carbon Emitted
per Year
16
8
0
1.6
1950
2000
2050
2100
Current path = "ramp"
16 GtC/y
Eight "wedges"
Goal: In 50 years, same
global emissions as today
Historical
emissions
Flat path

Examples of stabilisation wedges

	Wedges	Detail	Feasibility
	Efficiency	Double fuel efficiency of 2 billion cars from 30 to 60 mpg	There are 600 million cars in the world today, Projection is 2 billion by 2054. **1 wedge ☸ Double the average fuel efficiency of the fleet.**
	Fuel Switching	Replace 1400 coal electric plants with natural gas-powered facilities (adding an amount in 2054 almost equal to today's world gas usage)	**1 wedge ☸ bringing one Alaska pipeline** on line every year for 50 years; or **1 wedge ☸ 50 large LNG tankers** docking & discharging / day
	Carbon capture and storage	Capture AND store emissions from 800 coal electric plants	**1 wedge ☸ 3500 In Salah** developments (each need to last through to 2054)
	Nuclear	Add double the current global nuclear capacity to replace coal-based electricity	400 nuclear plants today, **1 wedge ☸ adding 700** more in the next 50 years
	Wind	Increase wind electricity capacity by 50 times relative to today, for a total of 2 million large windmills	**1 wedge ☸ windmills on an area of 372,000 sq mi**
	Solar	Use 40,000 square kms of solar panels to produce hydrogen for fuel cell cars	**1 wedge ☸ solar panels covering area an area of 230,000 sq mi**
	Natural sinks	Eliminate tropical deforestation AND create new plantations on non-forested land to quintuple current plantation area	**1 wedge ☸ new plantations with a total area of 2.3 million sq mi**

Efficiency

Double fuel efficiency of 2 billion cars

from 30 to 60mpg

600 million cars in the world today

Projection is 2 billion by 2054

1wedge =

Double the average fuel efficiency of the fleet

Fuel Switching

Replace 1400 coal plants with gas facilities
(adding an amount in 2054 equal to
today's gas usage)

1wedge =

Bring one Alaska pipeline on line for 50 years, *or*

50 large LNG tankers docking and discharging/day

Carbon capture and storage

Capture and store emissions from

800 coal electric plants

1wedge =

3500 In Salah developments

(each need to last through 2054)

Nuclear

Add double the current global nuclear capacity

to replace coal-based electricity

400 nuclear plants today

1wedge =

Add 700 more in the next 50 years

Wind

Increase wind electricity capacity by 50 times,

for a total of 2 million large windmills

1wedge =

Windmills on an area of 372,000 sq mi

(Equivalent to all acreage in

North & South Dakota, Nebraska, Kansas, & Oklahoma)

Solar

Use 40,000sq kms of solar panels to produce hydrogen for fuel cell cars

1wedge =

Solar panels covering an area of 230,000 sq mi

Natural sinks

Eliminate tropical deforestation AND

create new plantations on non-forested land to

quintuple current plantation area

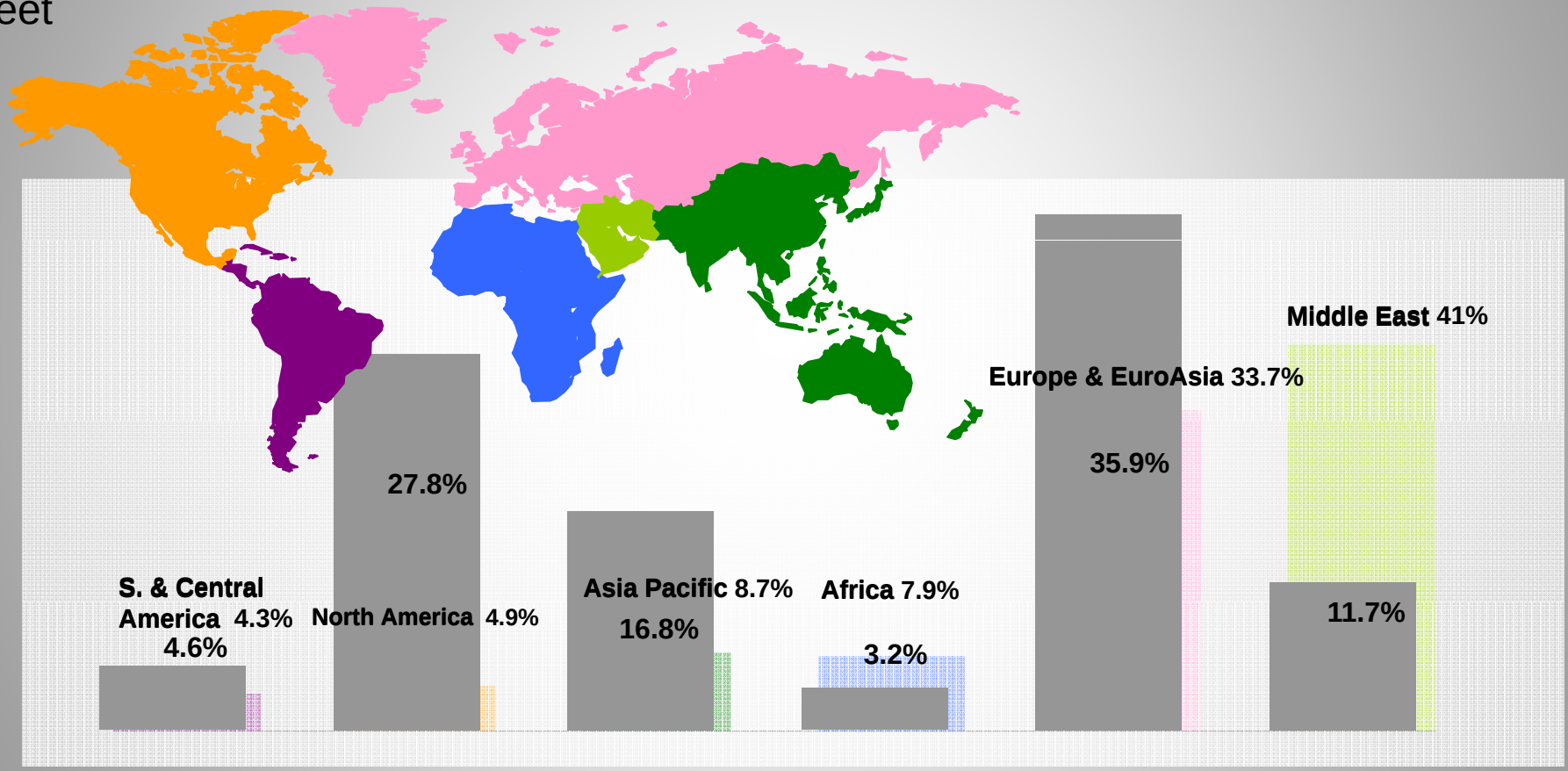
1wedge =

New plantations with a total area of 2.3 million sq mi

(Equivalent to 2/3 of US, Brazil, or Australia)

World Proved Gas Reserves

Trillion cubic feet



Global Reserves 6,534 Tcf

Global Demand

Source: BP Statistical Review 2010

US demand for hydrocarbons is
projected to continue growing

Saudi Arabian demand for it's own production
may reach 50% by 2035

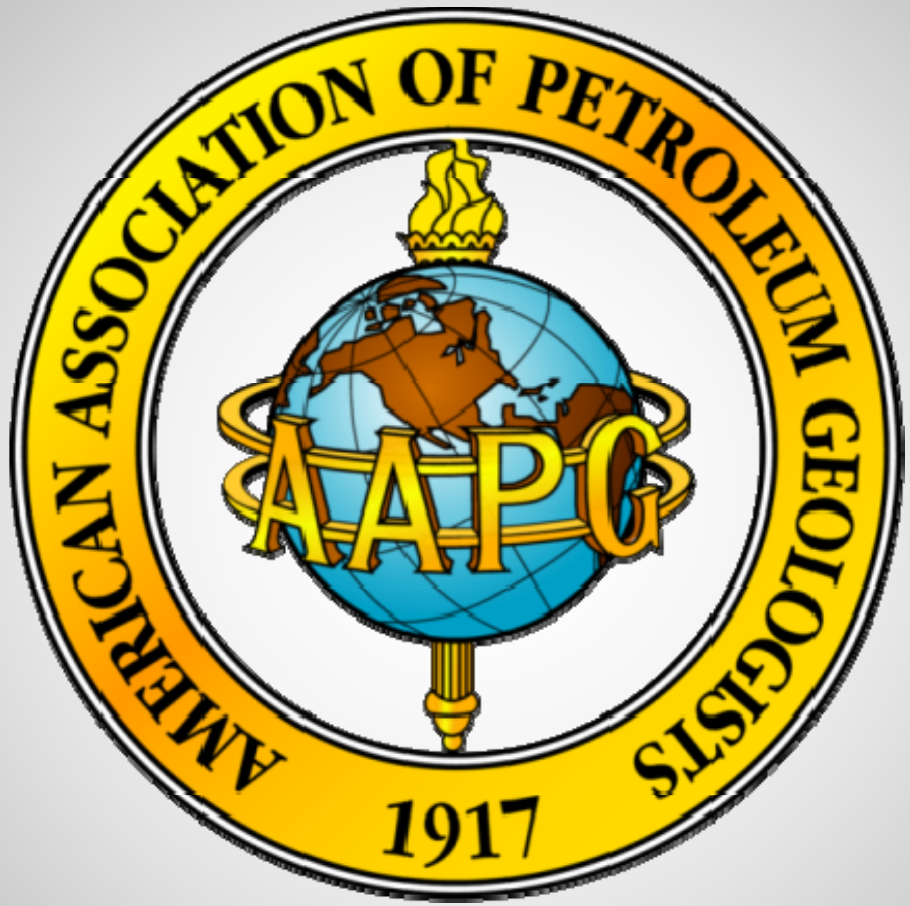
Economic growth in China and India
continues at 7 to 9% per year

Ultimate responsibilities for oil spills lie within
a mix of competing demands and expectations

The mix is far more complicated
than most people are aware of or are willing to consider

All energy consumers have an ethical obligation
to educate ourselves
and those around us
regarding
the consequences of our demands for
cheap energy and a preserved environment


I WANT YOU


AMERICAN ASSOCIATION OF PETROLEUM GEOLOGISTS
AAPG
1917


Transocean