

Blowout in the Gulf: Cost, Benefits, and Energy Security *(or how to think about the oil spill)*

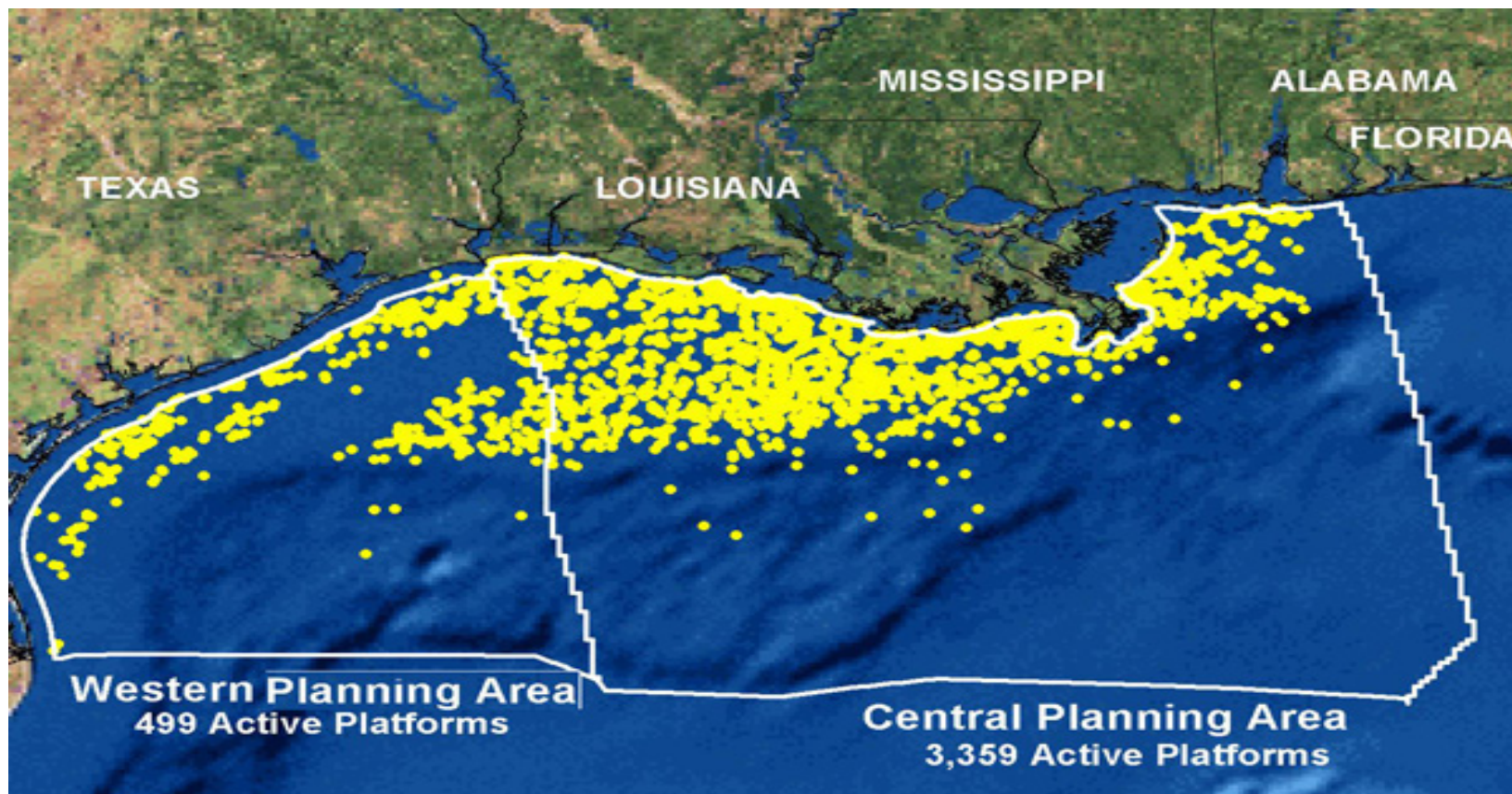
Lucian Pugliaresi
Energy Policy Research Foundation, Inc.
Washington, DC

CIEP Oil Conference
***“A decade of uncertainties:
Coming to grips with new oil market realities”***

1 July 2010
The Hague

***Clingendael International Energy Programme
Netherlands Institute of International Relations***

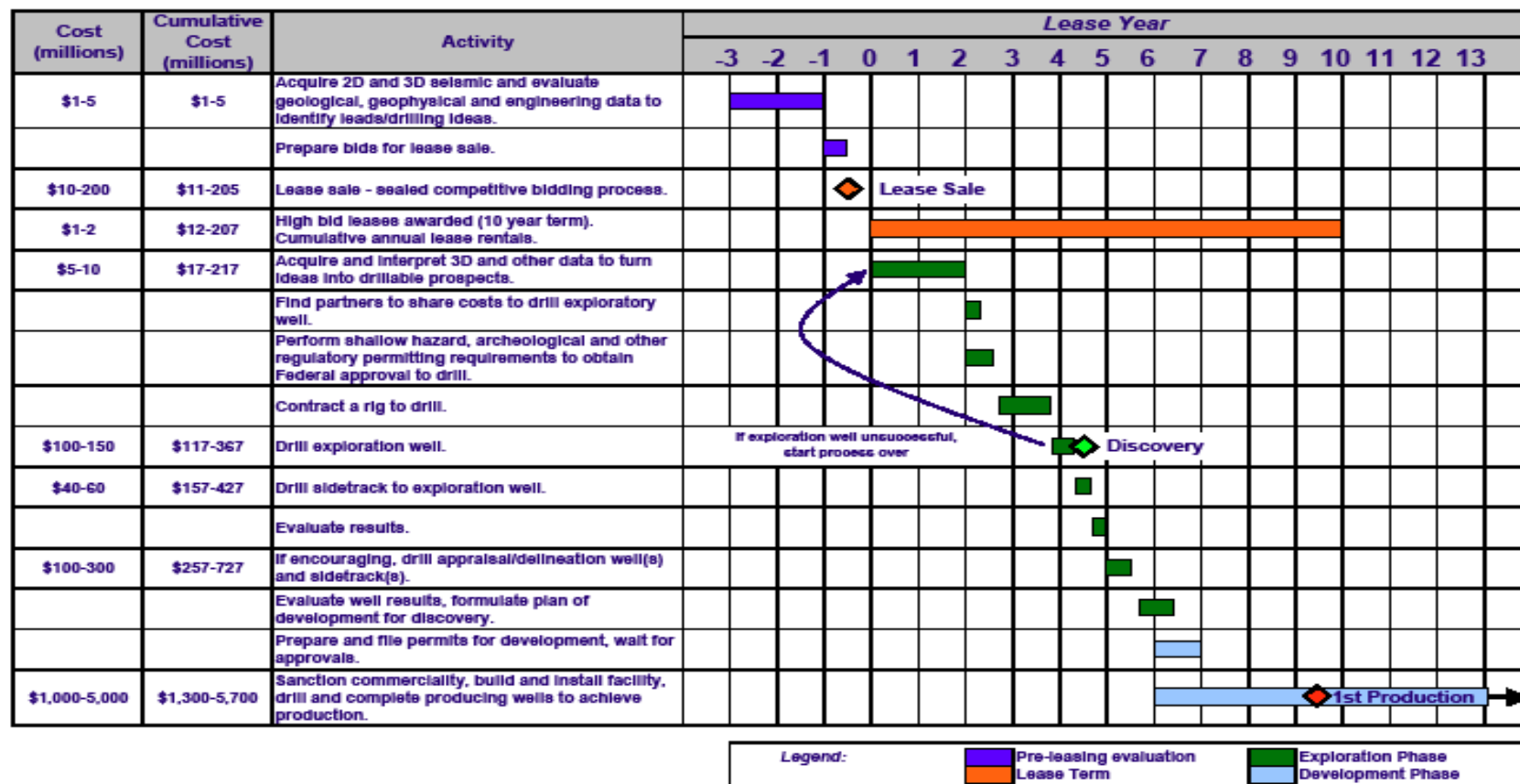
Active Gulf OCS Oil and Gas Platforms



Source: NOAA

Gulf of Mexico Deepwater Frontier Exploration and Production Timeline

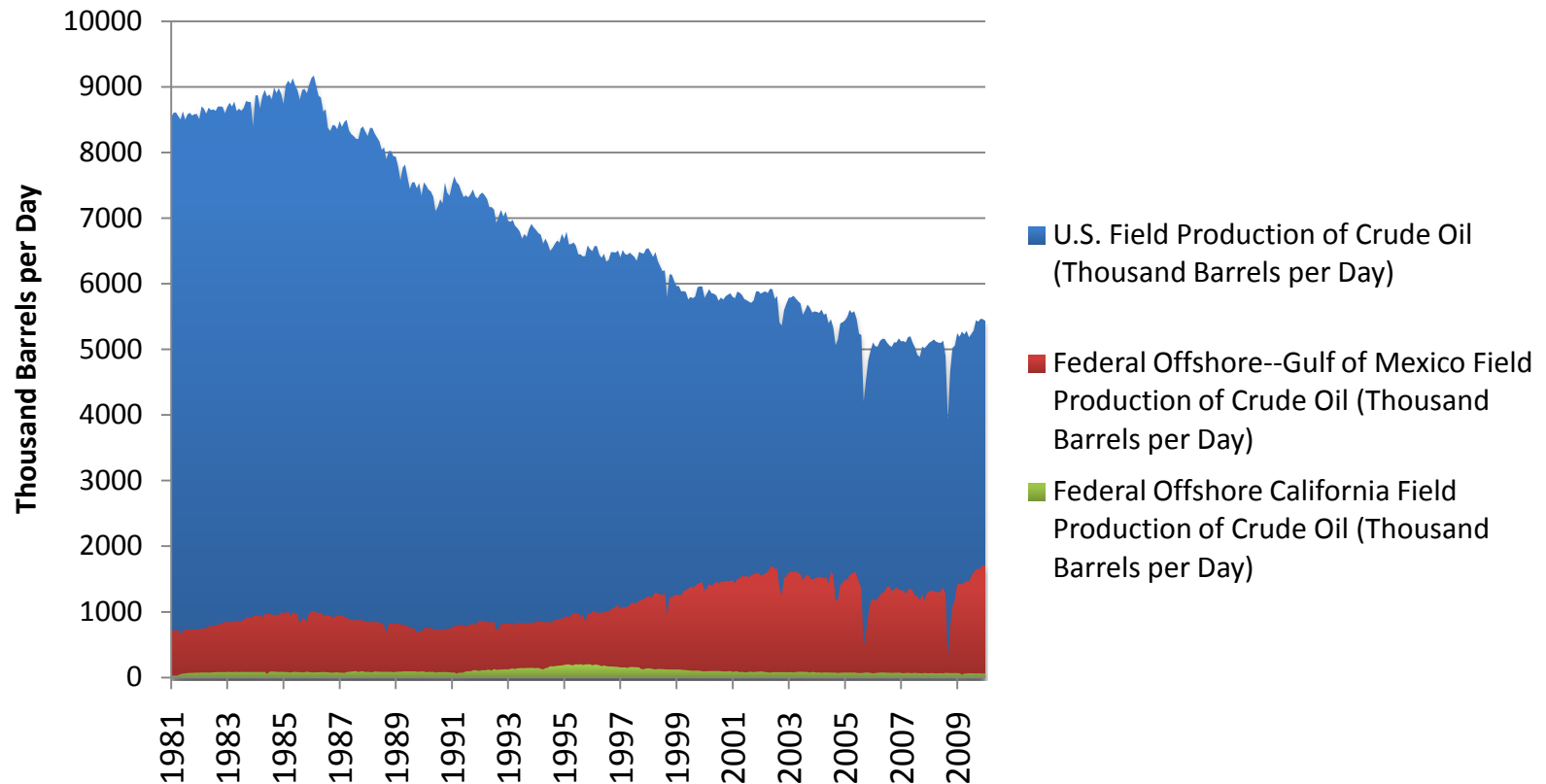
Individual Prospect: 5,000' Water Depth, 30,000' Drilling Depth



Importance of Gulf of Mexico

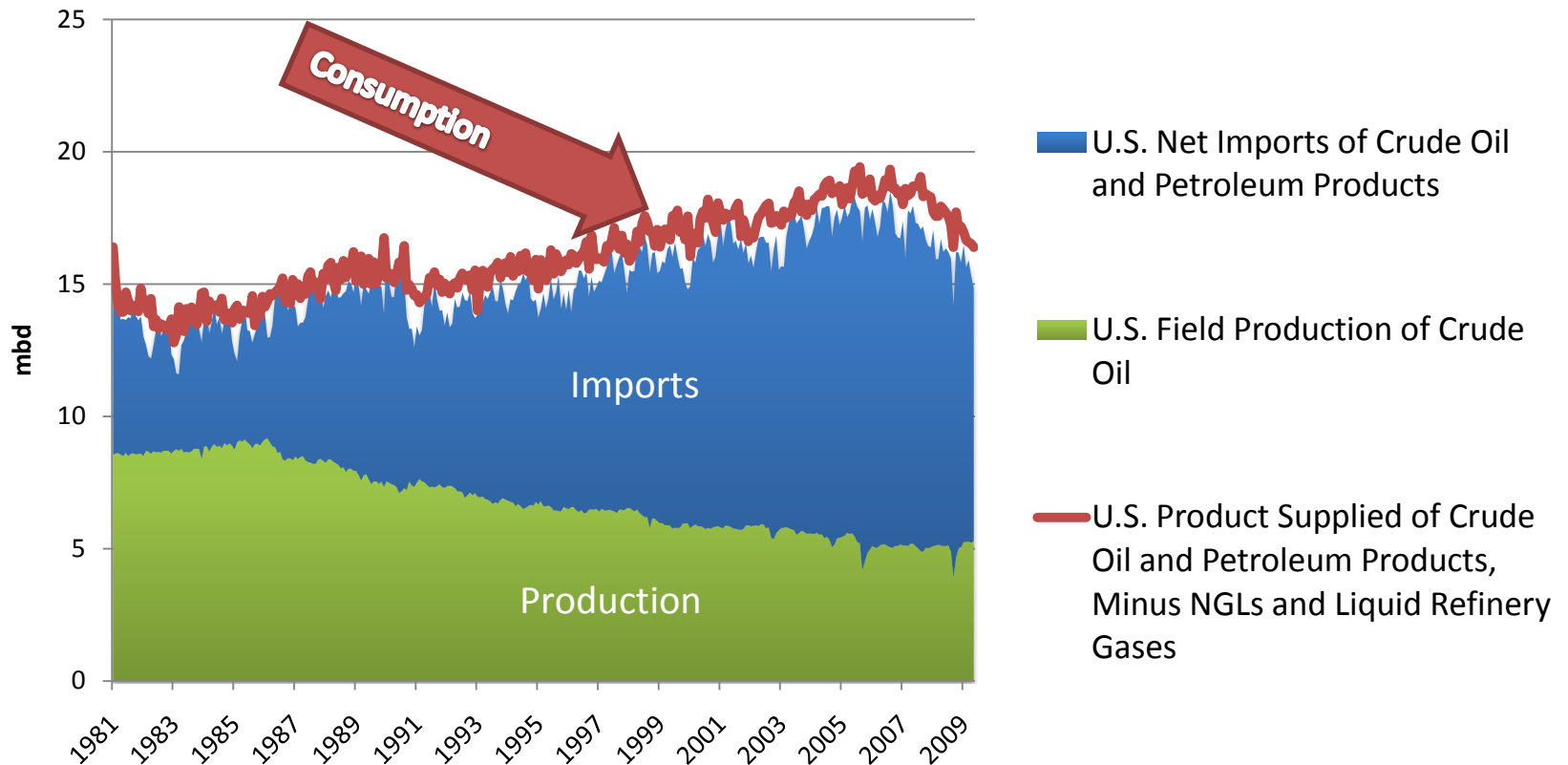
- The Gulf of Mexico accounts for 90% of offshore drilling in the U.S. by volume
- Accounts for approximately one third of all U.S. oil production
- Over 50,000 wells have been drilled since 1947, 4,000 of which are deeper than 1,000 ft
- Today, 80% of offshore drilling, by volume, occurs at a depth of over 1,000 feet.
- Over 400k jobs are directly and indirectly linked to gulf oil production

U.S. (Blue) and Federal OCS (Gulf Coast in Red, California in Green) Crude Production



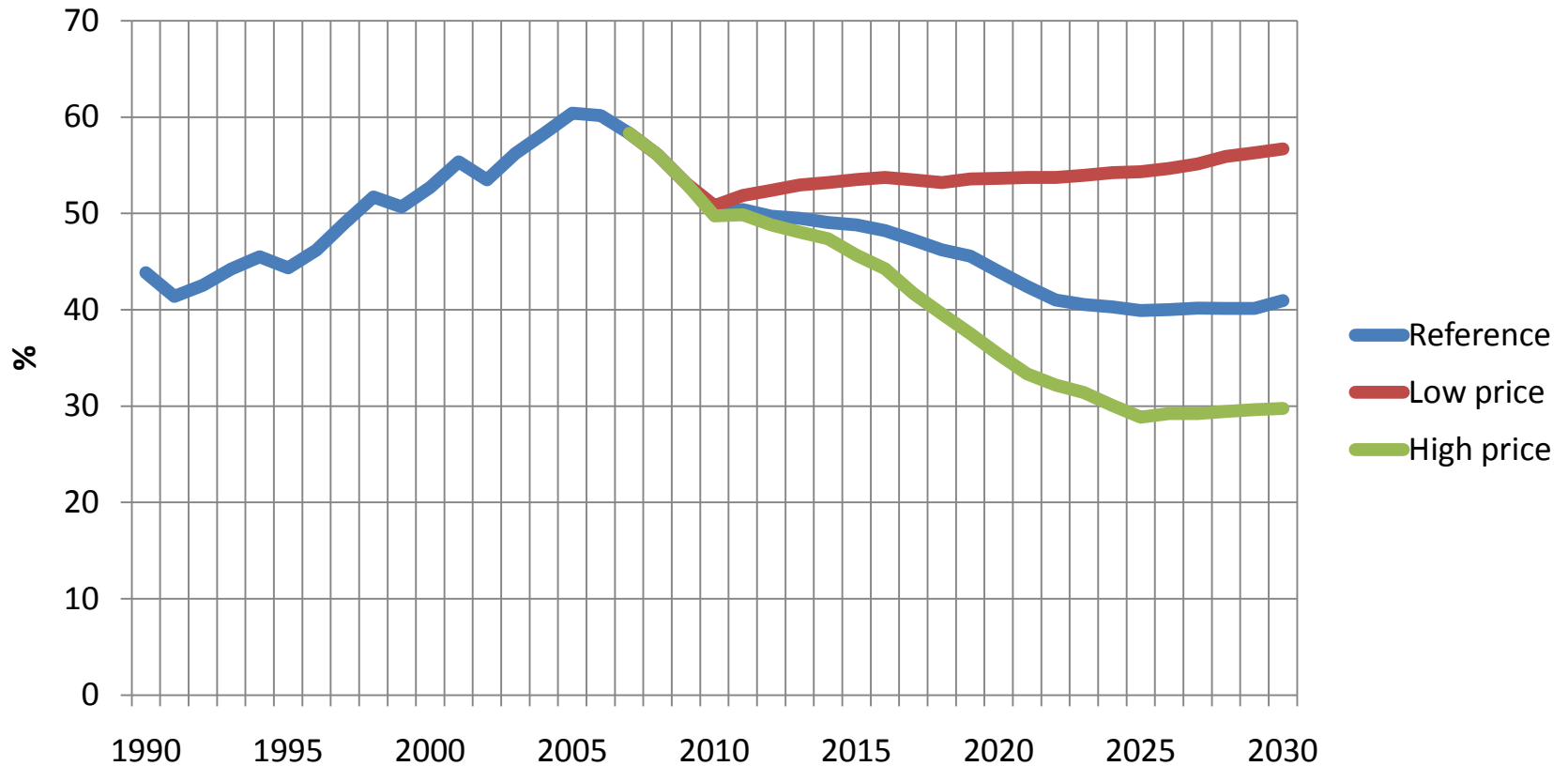
Source: EIA Data

U.S. Crude Oil Disposition



Source: EIA Data

EIA Forecasted Net Imports' Share of U.S. Liquids Consumption



Source: EIA Data

Deepwater* is a Big Producer

6-6.5 mb/d worldwide from deepwater fields, should reach 8.5 mb/d by 2015.

17 countries producing from deepwater fields

28% of non-OPEC offshore crude output

U.S. has 100 deepwater fields, 1.3 mb/d in 2009

*> 400 meters

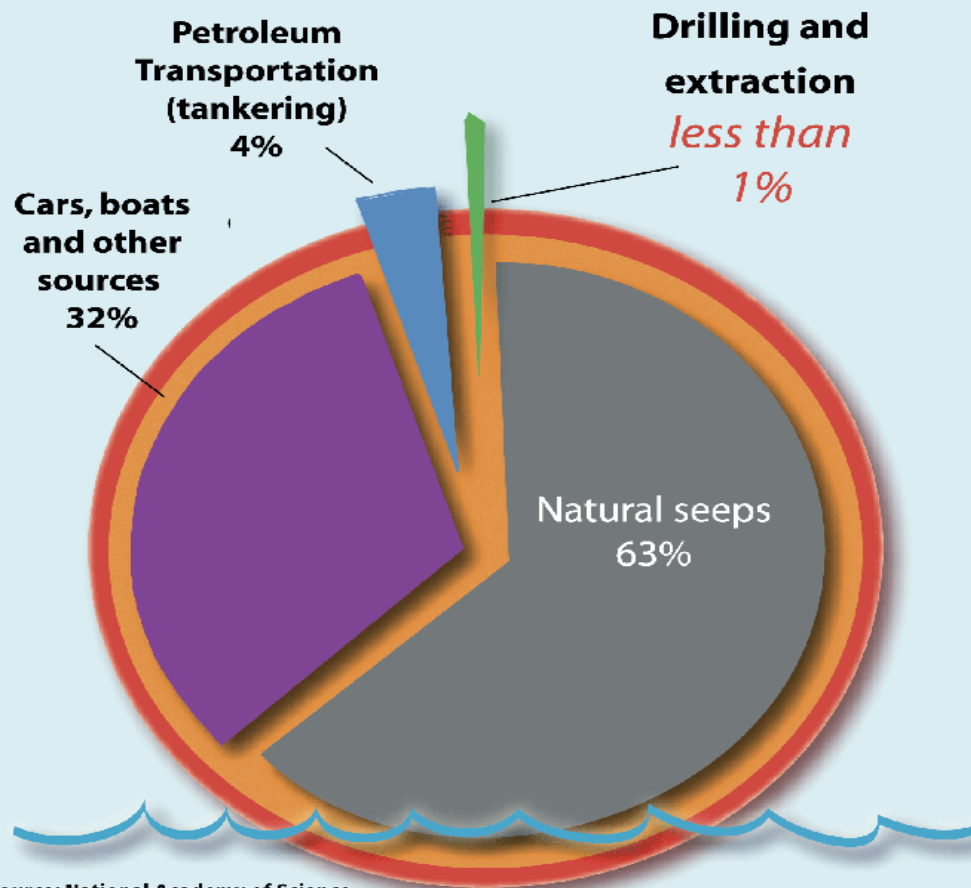
Source: Energy Intelligence Group

DOI Data on OCS Production and Spills

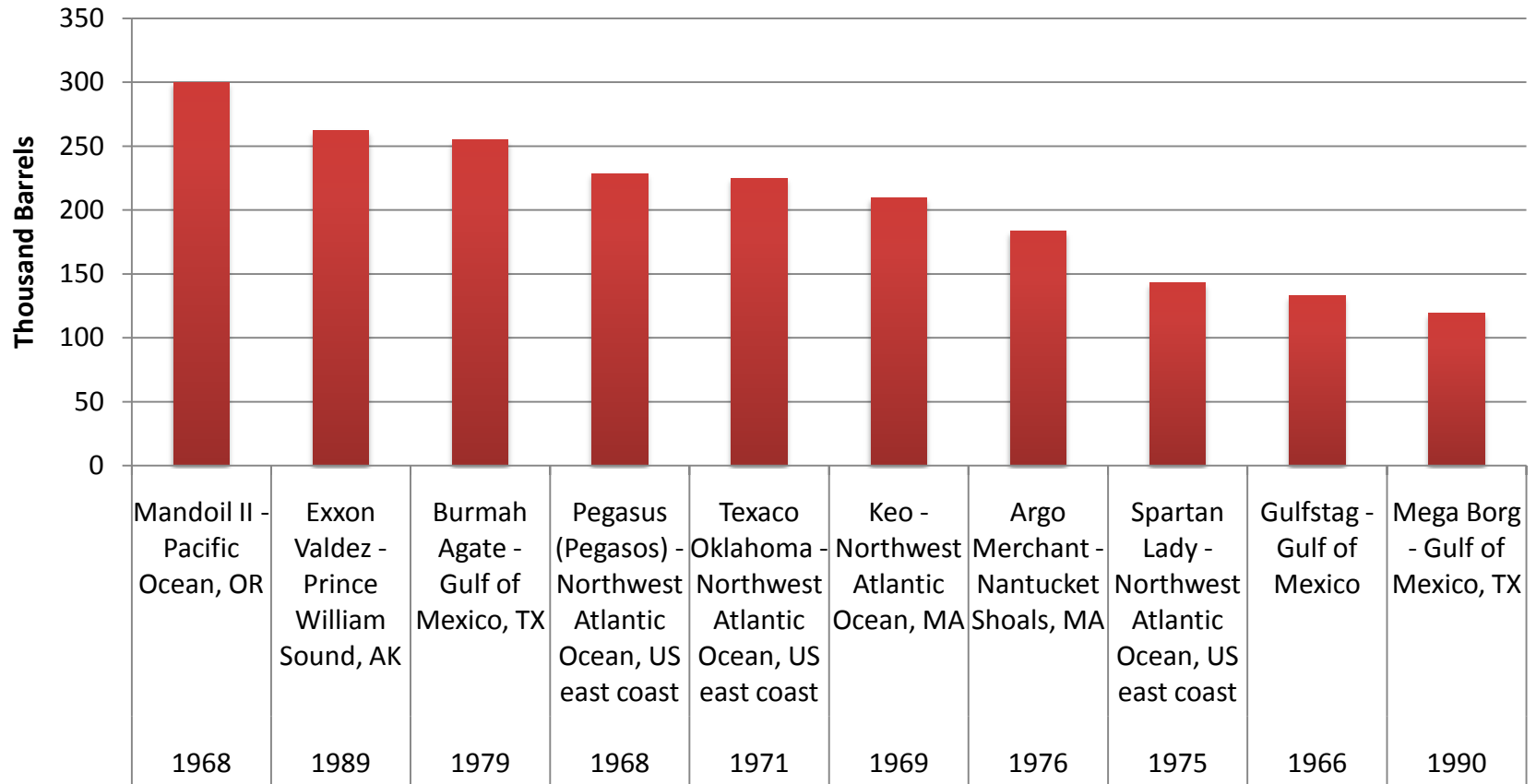
Time Period	OCS Oil Production (Thousand Barrels)	Number of Spills	Barrels Spilled (Thousand Barrels)	Thousand Barrels Produced per Barrel Spilled
1960-1969	1,460,000	13	99	15
1970-1979	3,455,000	32	106	33
1980-1989	3,387,000	38	7	473
1990-1999	4,051,000	15	2	1,592
2000-2009	5,450,000	72	18	296

Source: Department of Interior Data

Petroleum in American Waters

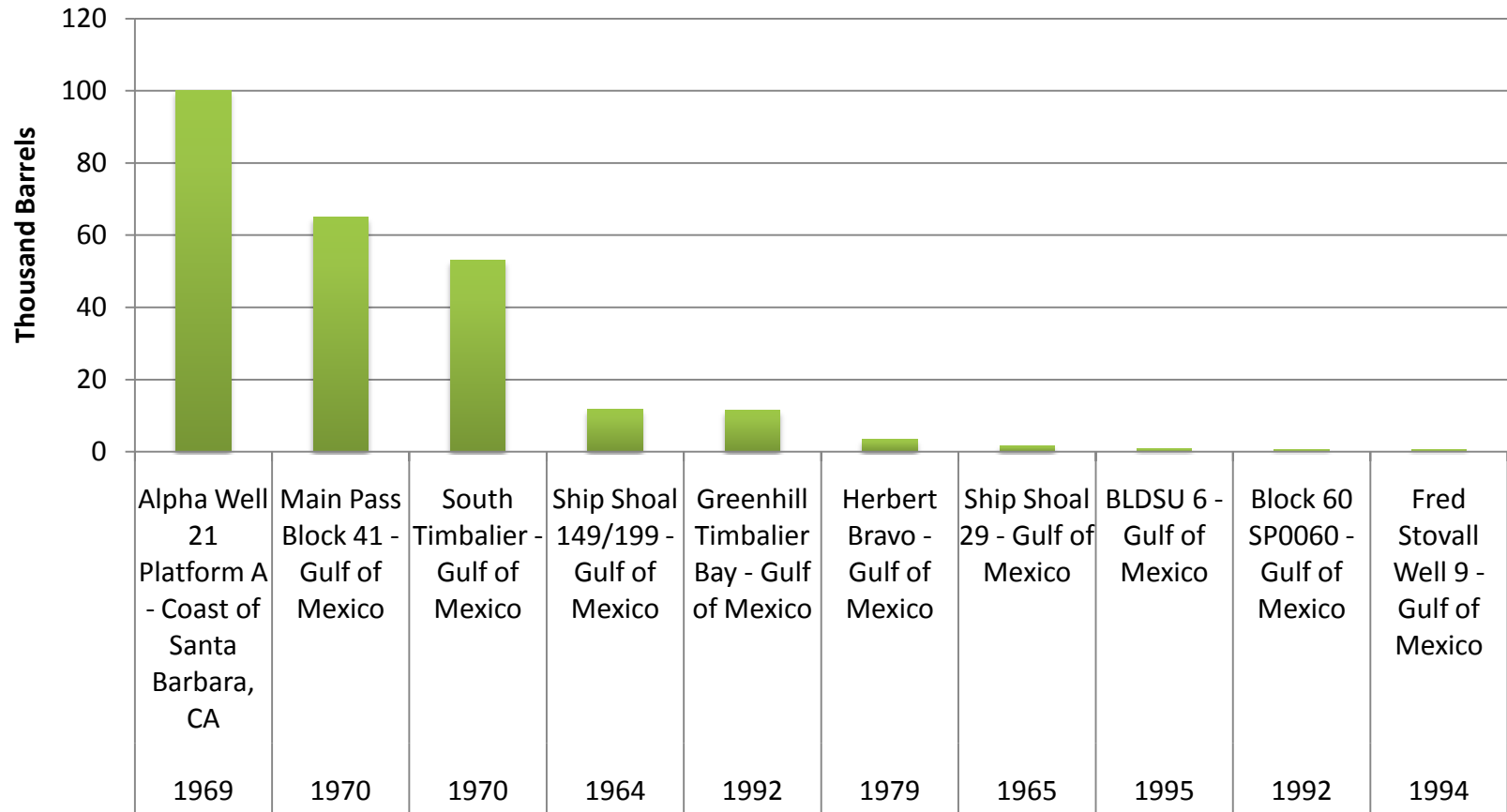


Largest Tanker Spills in and near U.S. Waters



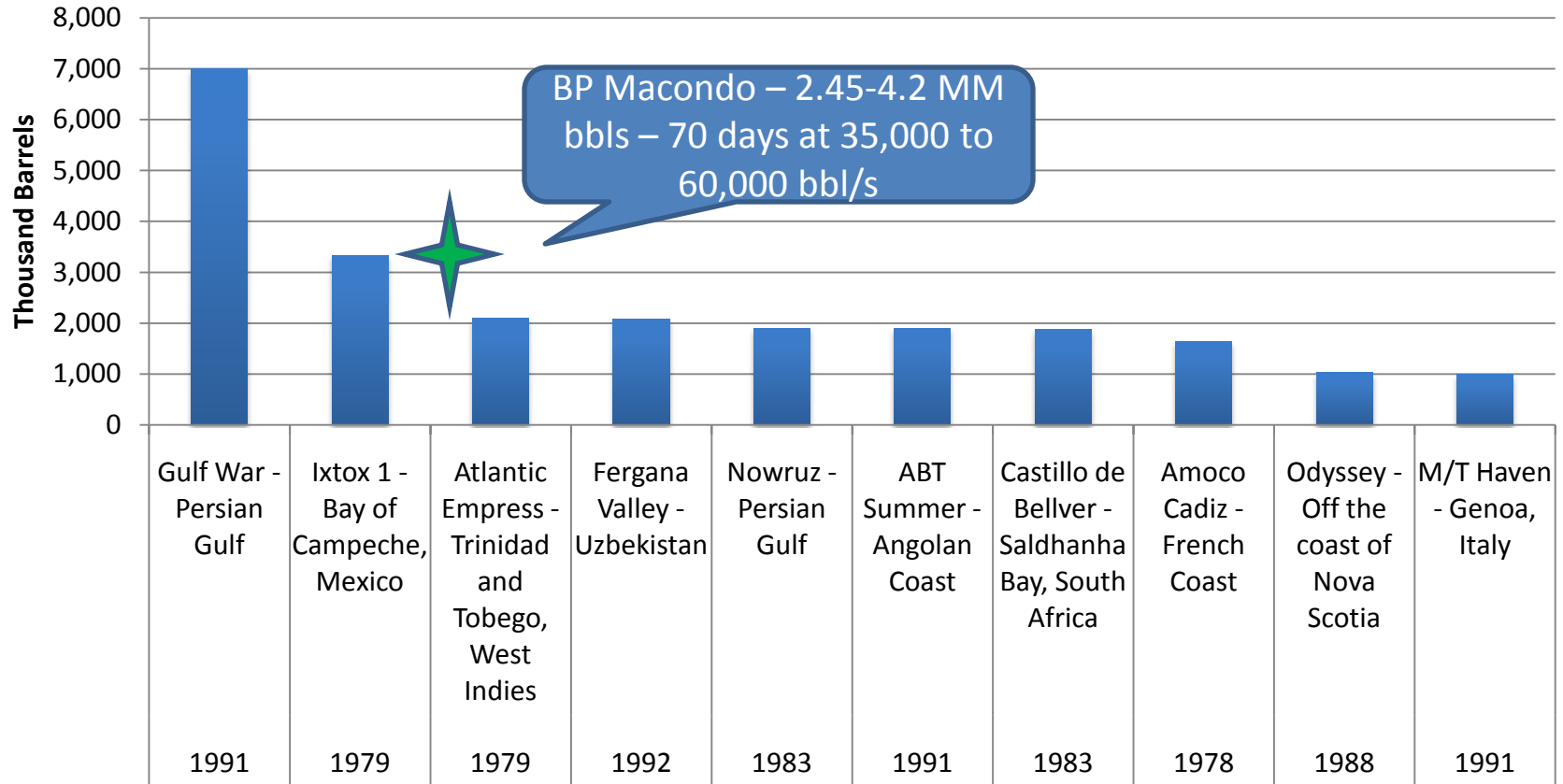
Source: API Data

Largest Marine Blowouts in U.S. Waters



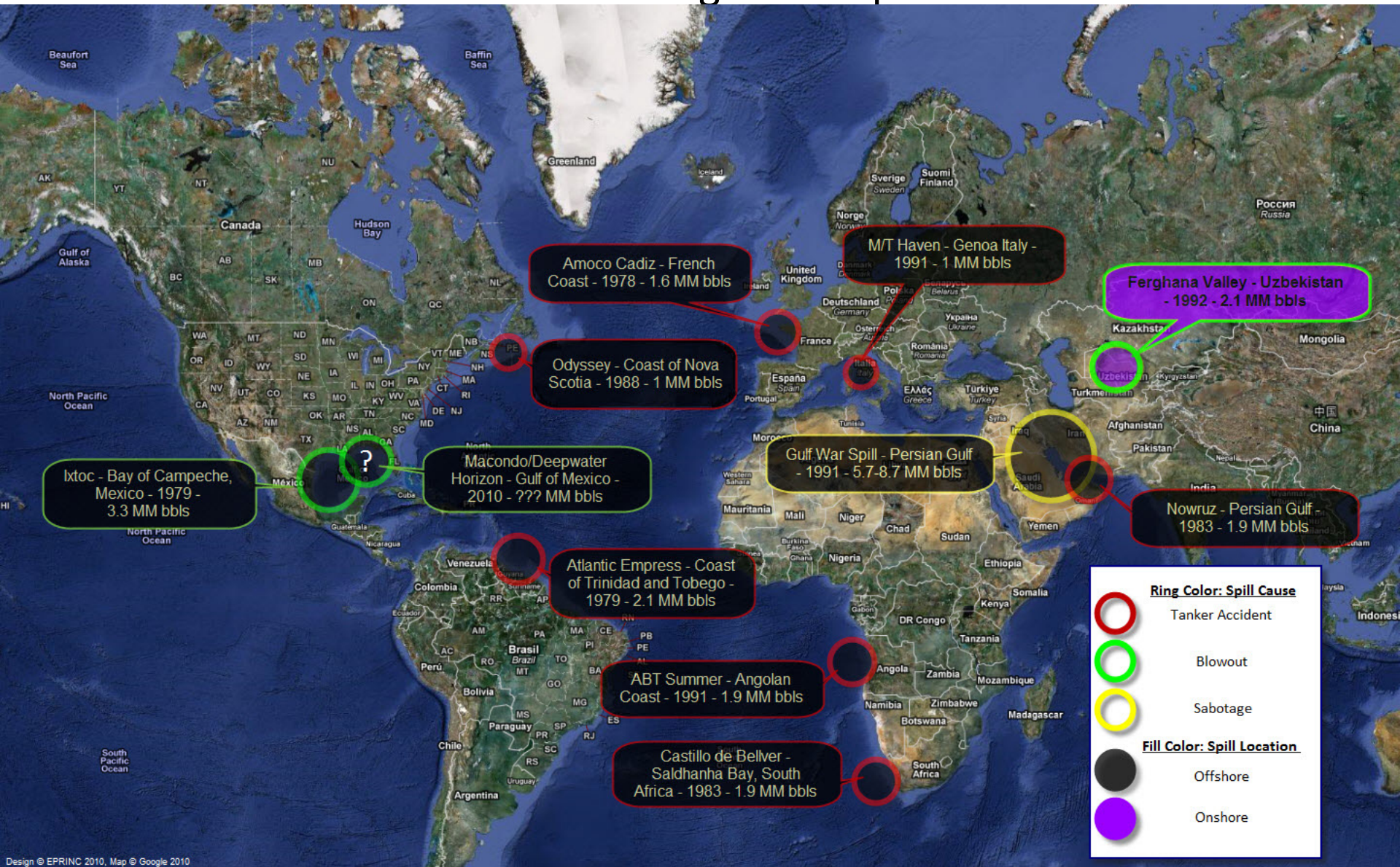
Source: API Data

Ten Largest Oil Spills (in modern times)



Source: Popular Mechanics

World's Largest Oil Spills



April 20, 2010 Blowout on the Macondo Prospect, US GOM

Specific cause of the blowout awaits detailed assessment.....

Anecdotal evidence points to structural integrity of the well casing (inadequate seal of the well bore).

Failure of the Blowout Preventer (BOP) to engage.

But was it poor well control practices, inadequate well design, or a failure to install an adequate “culture of safety?”

Obama Administration Response to Blowout

- Has named British Petroleum as the responsible party
- Imposed a moratorium on sensitive offshore drilling regions
 - Includes deepwater oil wells (below 500 feet) on GOM lower 48
 - All offshore Alaska drilling at any depth
- Restructured Mineral Management Service (MMS)
- Created the “National Commission on the BP Deepwater Horizon Oil Spill and Offshore Drilling”
- BP to fund \$20 billion Escrow Account for Liability Claims

Moratorium Lost Production Forecasts

EIA: 26,000 bbl/d in Q4 2010
82,000 bbl/d in 2011

IEA: 100,000-300,000 bbl/d by 2015 should regulations tighten

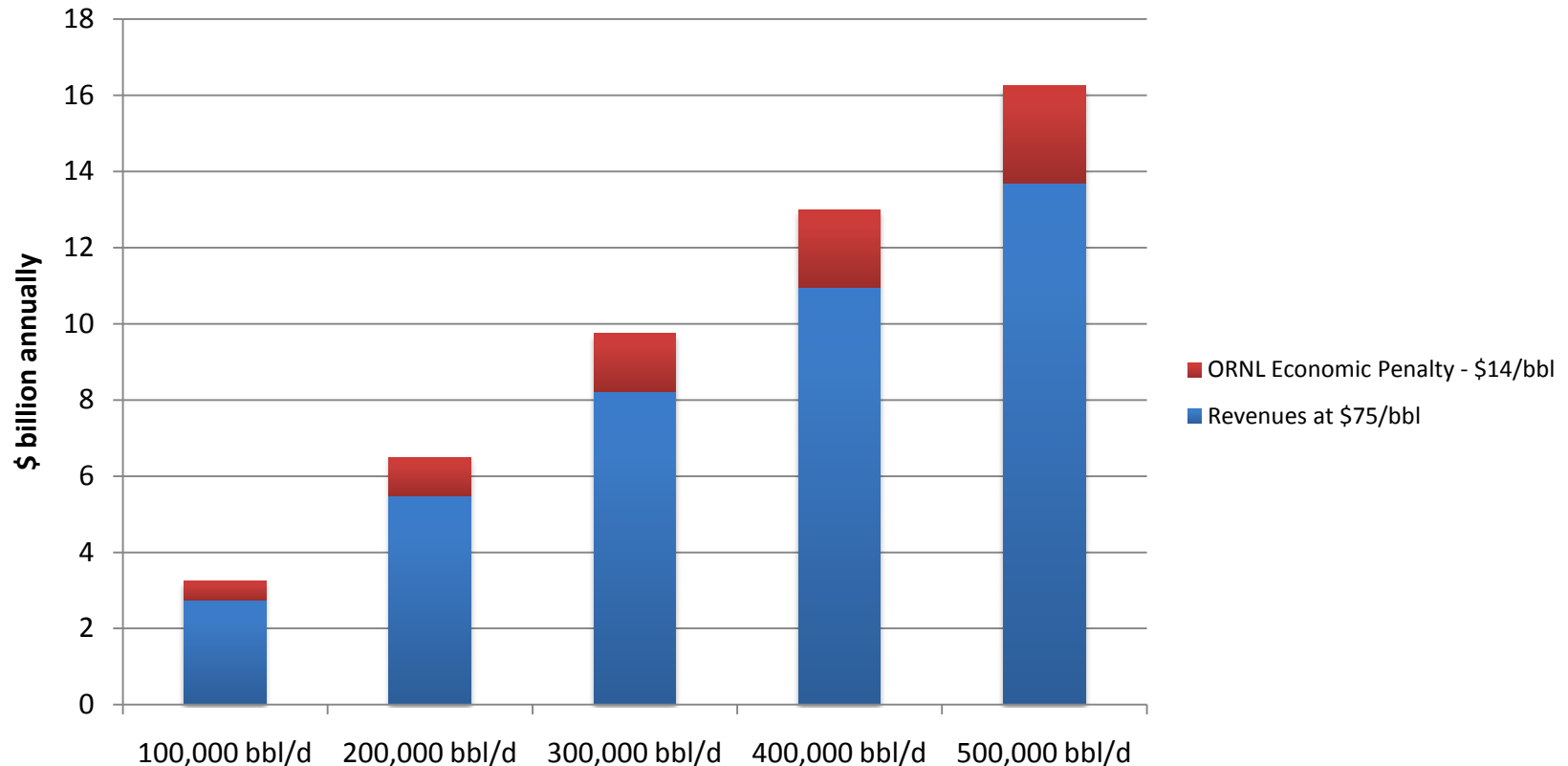
IEA: If regulations tighten worldwide, could cost 800,000-900,000 bbls/d. Would encroach on OPEC spare capacity, support prices.

Forecasts from Raymond James, DB, Credit Suisse range from 100,000 - 400,000 bbl/d of lost production should the moratorium remain in place for 6-12 months.

Alaskan Depth Charge

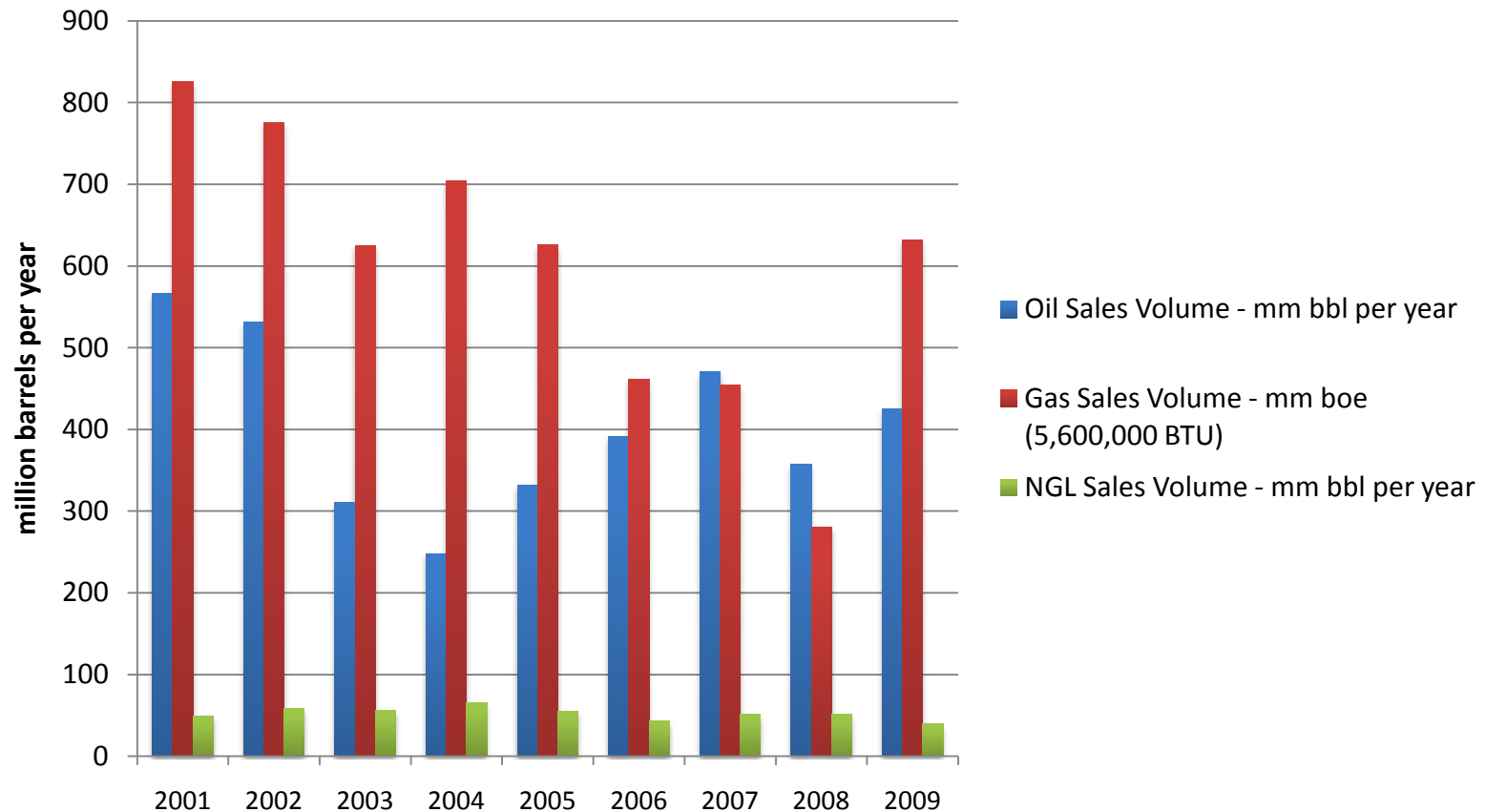
- Moratorium applies to all offshore drilling in Alaska, any depth.
- Shell's exploratory drilling program in Chukchi Sea now on hold.
- Risks extend beyond lost Chukchi Sea production because of costs challenges to Trans Alaskan Pipeline System (TAPs)
- TAPs throughput at 670,000 b/d declining at 6% per year. When throughput hits 300,000 b/d costs accelerate and producing North Slope producing fields face potential for premature abandonment.
- Moratorium places base load North Slope output at risk.

Incremental Import Penalty to U.S. Economy



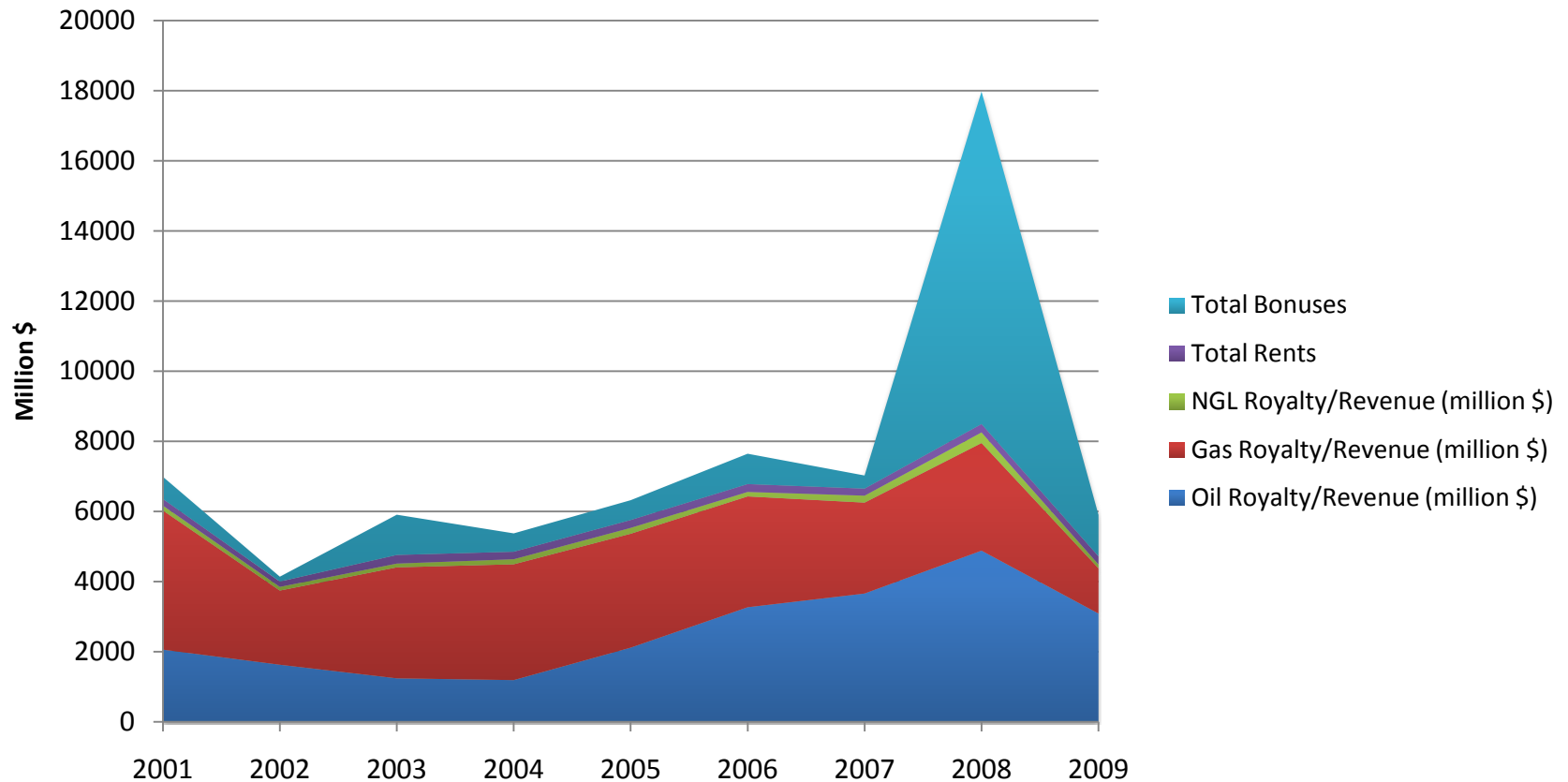
Source: EPRINC Calculation, ORNL Data

Federal OCS Oil, Gas and NGL Sales Volumes



Source: MMS Data

Federal OCS Revenues



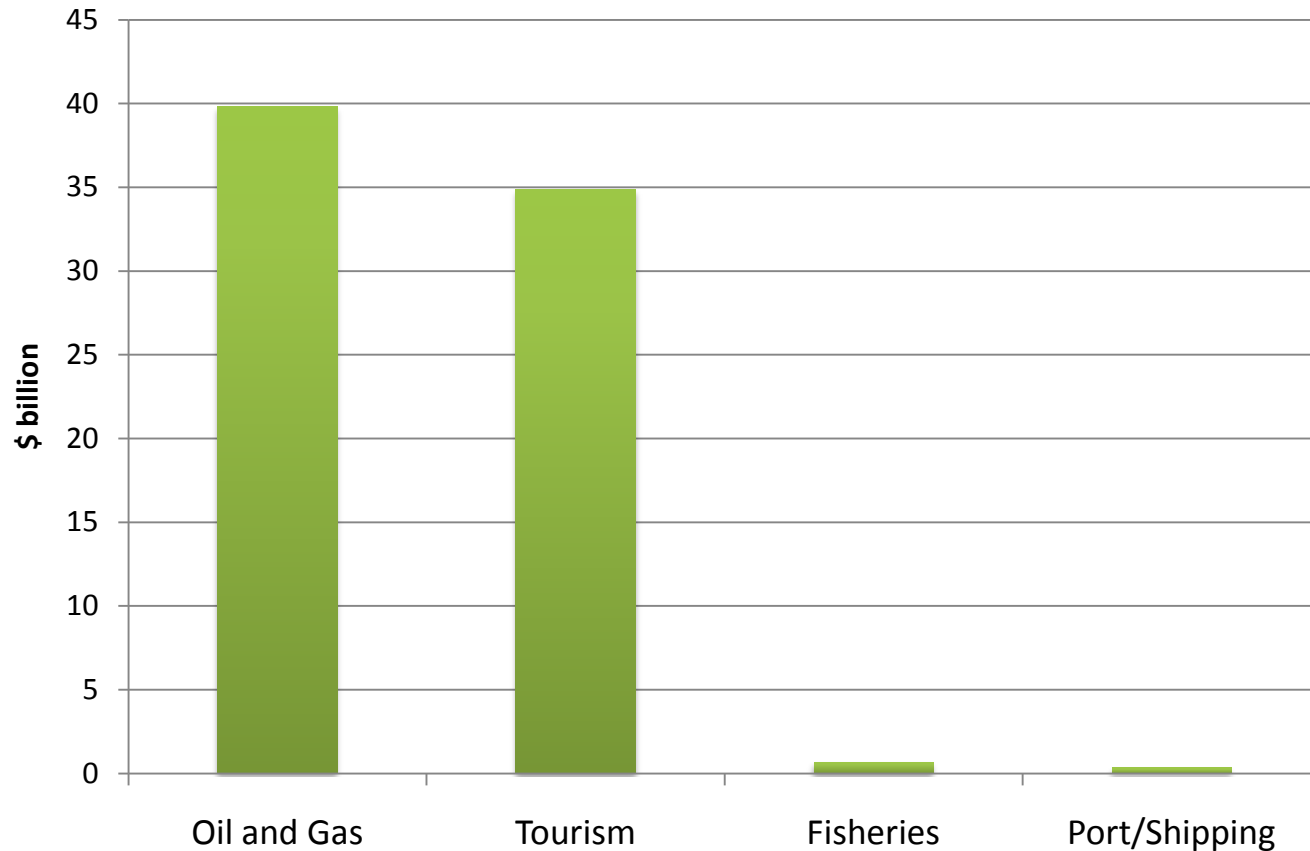
Source: MMS Data

2009 MMS Disbursements

	Billion \$
States, Counties and Parishes	\$1.99
U.S. Treasury	\$5.74
34 American Indian Tribes and Mineral Owners	\$0.45
Reclamation Fund for Water Projects	\$1.45
Land and Water Conservation Fund	\$0.90
<u>Historic Preservation Fund</u>	<u>\$0.15</u>
Total:	\$10.68

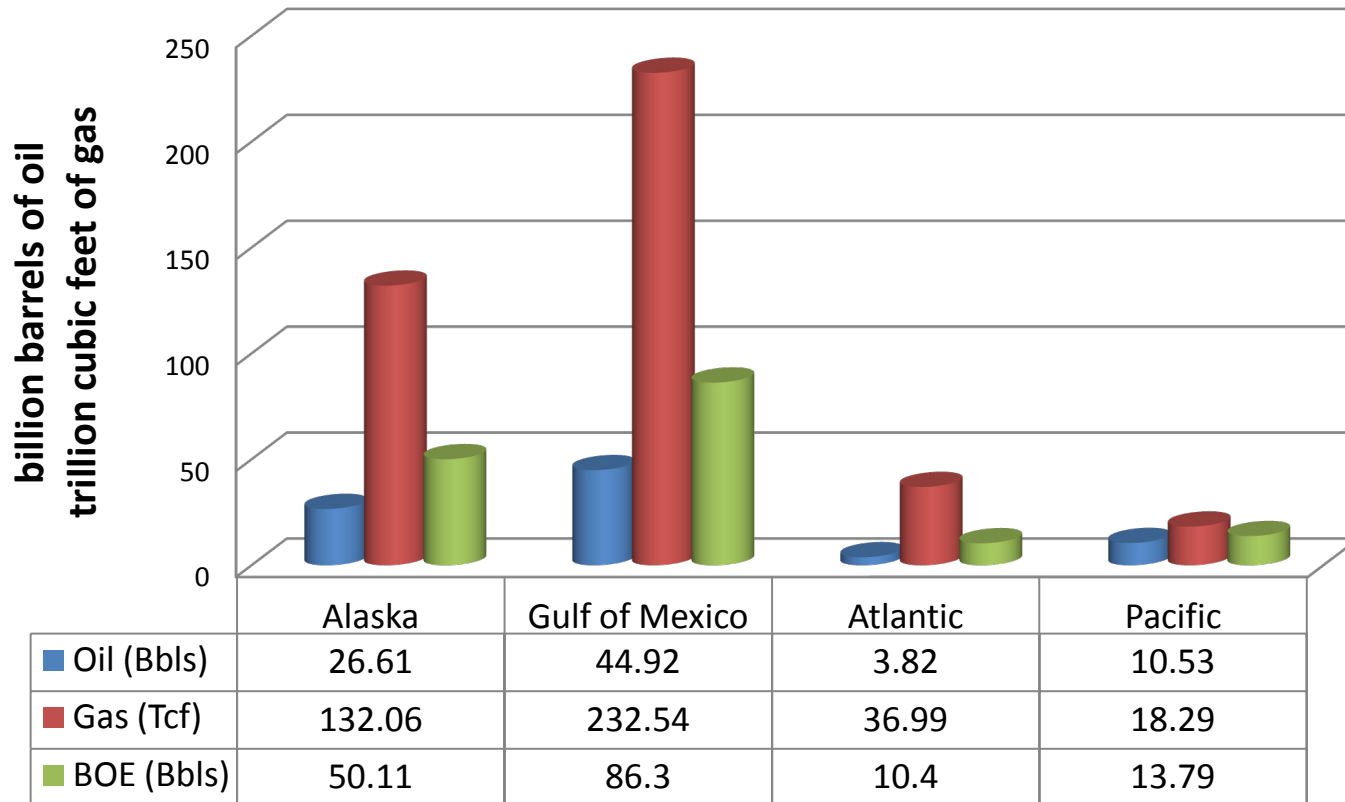
Source: MMS Data

Major Industries of the Gulf Coast of the United States



James C. Cato. Gulf of Mexico Origin, Waters, and Biota Volume 2, Ocean and Coastal Economy. Texas A&M University Press. 2009. Values can vary widely depending on commodity prices (e.g., assumes and oil price of \$28.50/bbl) and therefore it should be considered a conservative estimate of the relative values of the included industries.

MMS Estimated Technically Recoverable Undiscovered OCS Resources



Source: MMS Data

Blowout on the Macondo Prospect Alternate Views

Two views from the operators.....

- Getting hit by a meteor is an accident, everything else is human error.
- @#!&*#! Happens!!!

One view from the government.....

- It is not that we shoot ourselves in the foot that is so impressive, but how quickly we reload.

Four Themes for the Presidential Commission

Regulatory Program – Don't Fight the Last War, i.e., safety culture yields higher returns than regulatory prescriptions

Building Public Trust – confidence is needed that industry can respond to a spill

Getting Liability Balance Very Important

Commission needs to understand BP's biggest partner was not Anadarko, it was the USG

Moratorium not reducing net risk?

What are the Stakes for the United States

OCS, particularly deepwater GOM, and Alaska are high valued assets with high energy security benefits

Value to Federal and state governments could easily range well in excess of \$500 billion (money to U.S. Treasury)

Infra-marginal benefits also large (jobs, return on capital)

U.S. to remain large oil importer, alternate fuels are false choice.