

Seismic, Oil & Gas Exploration Update

August 2015



Background – Why are we discussing this?

- BHI property owner survey
- Section 18 - Outer Continental Shelf Lands Act of 1953
- Among other things, requires Bureau of Ocean Energy Management (BOEM) to administer OCS oil and gas exploration and development program
- Currently implementing program for 2012-2017. Released Draft Proposed Program (DPP) for 2017-2022 in February for public comment.



Background – What does the DPP do?

- Provides for a national OCS oil and gas leasing program
- Opens up 1 lease sale in a combined Mid- and South-Atlantic area, 10 in Gulf of Mexico, 3 areas of Alaska. None are included for the Pacific.
- Lease sale in Mid-Atlantic is proposed for 2021 to allow for seismic surveying
- 50 mile buffer



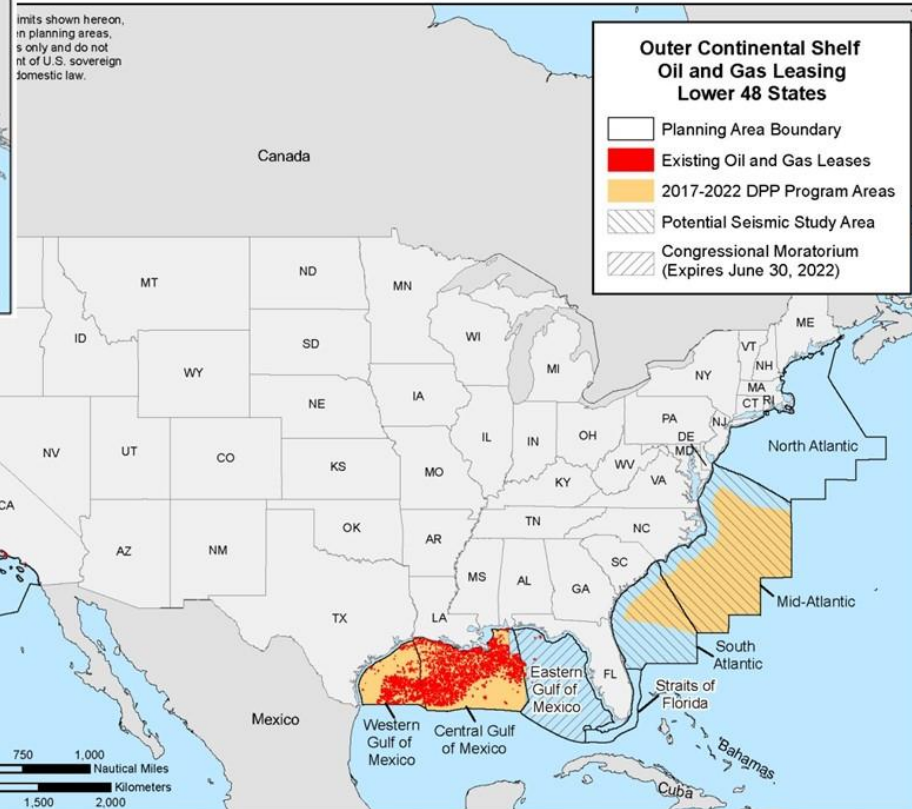
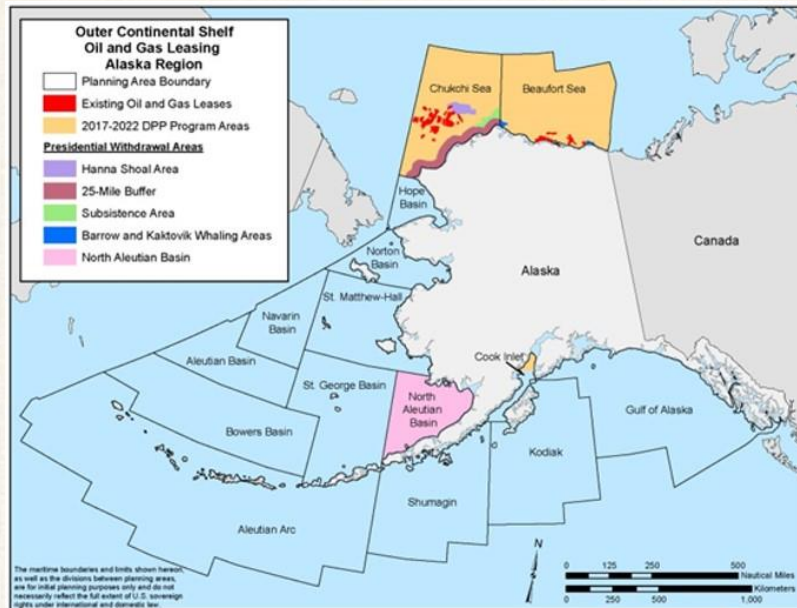
2017 - 2022 Lease Sale Schedule

	Sale Number	Area	Year
1.	249	Gulf of Mexico Region	2017
2.	250	Gulf of Mexico Region	2018
3.	251	Gulf of Mexico Region	2018
4.	252	Gulf of Mexico Region	2019
5.	253	Gulf of Mexico Region	2019
6.	254	Gulf of Mexico Region	2020
7.	255	Beaufort Sea	2020
8.	256	Gulf of Mexico Region	2020
9.	257	Gulf of Mexico Region	2021
10.	258	Cook Inlet	2021
11.	259	Gulf of Mexico Region	2021
12.	260	Mid- and South Atlantic	2021
13.	261	Gulf of Mexico Region	2022
14.	262	Chukchi Sea	2022

Alaska Region Lease Sale
Atlantic Region Lease Sale
Gulf of Mexico Region Lease Sale

Source: Bureau of Ocean Energy Management

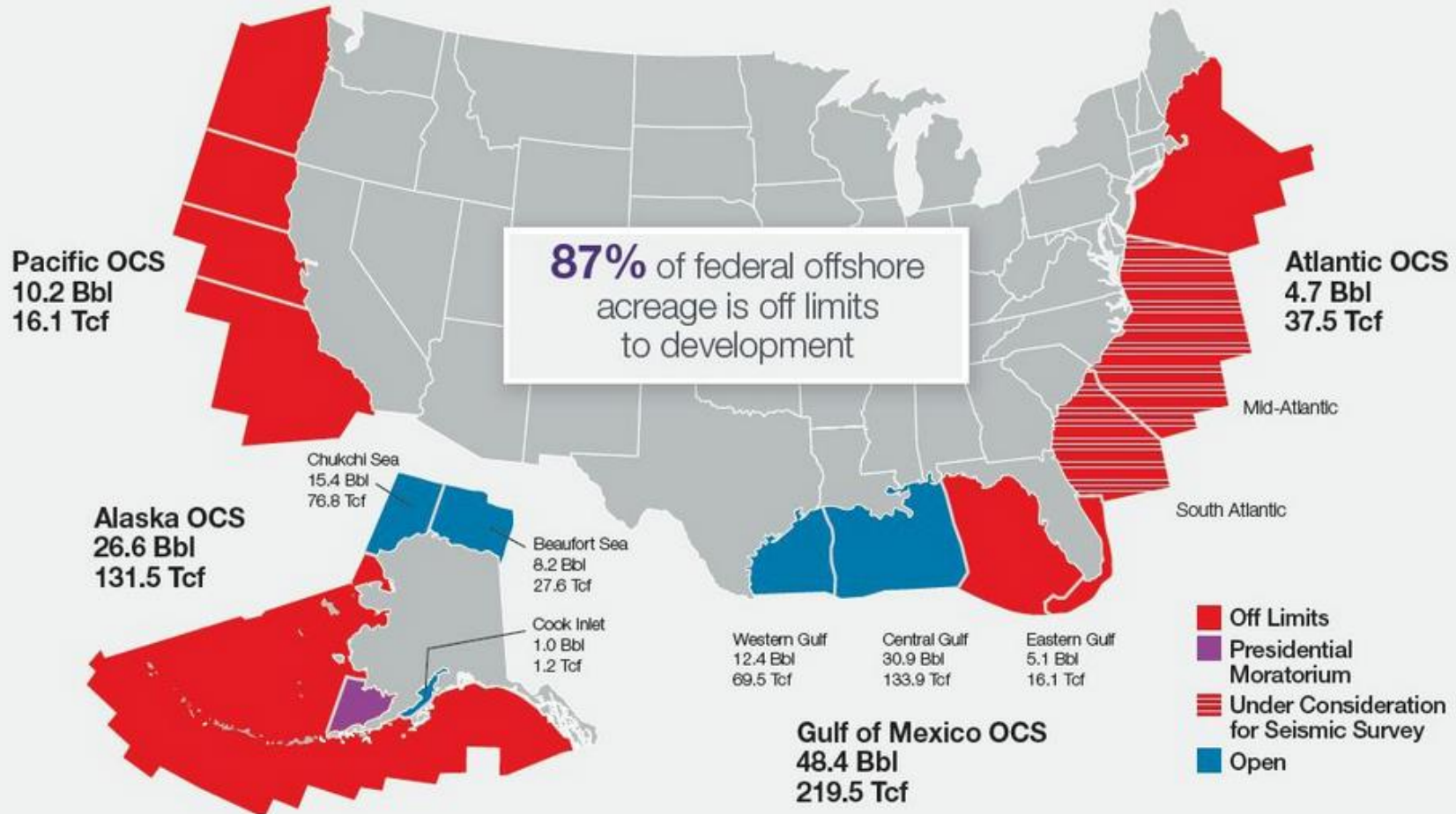
Background – Areas under consideration



Source: Bureau of Ocean Energy Management

Background – What's out there?

U.S. Offshore Undiscovered Technically Recoverable Federal Oil and Natural Gas Resources
(billion barrels — Bbl and trillion cubic feet — Tcf)



Source: The Bureau of Ocean Energy Management (BOEM).

Source: NC Dept. of Environment and Natural Resources



Energy Consumption Facts

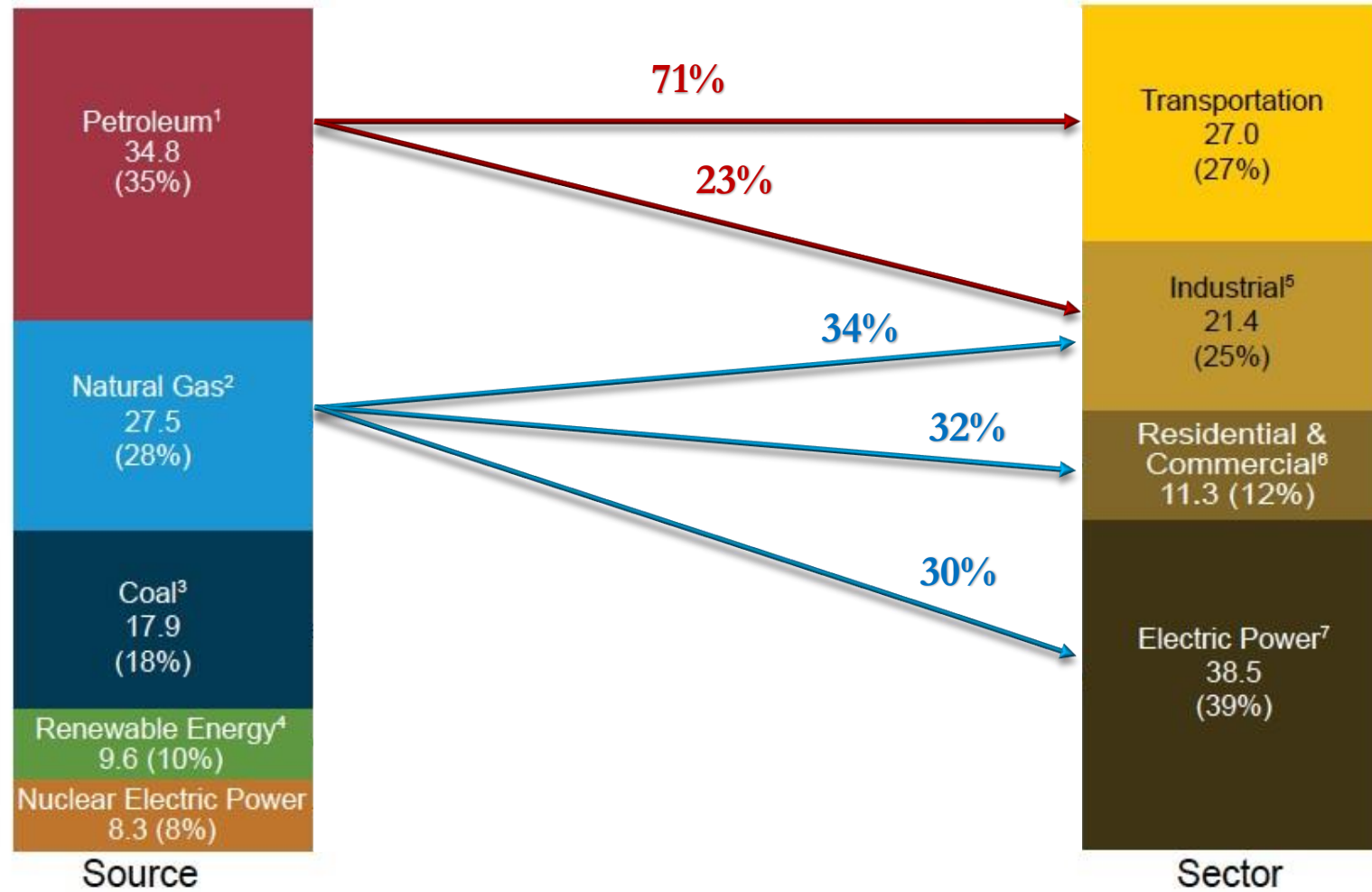
Primary Energy Consumption by Source and Sector, 2014
(Quadrillion Btu)



Source: North Carolina State University

Energy Consumption Facts

Primary Energy Consumption by Source and Sector, 2014
(Quadrillion Btu)



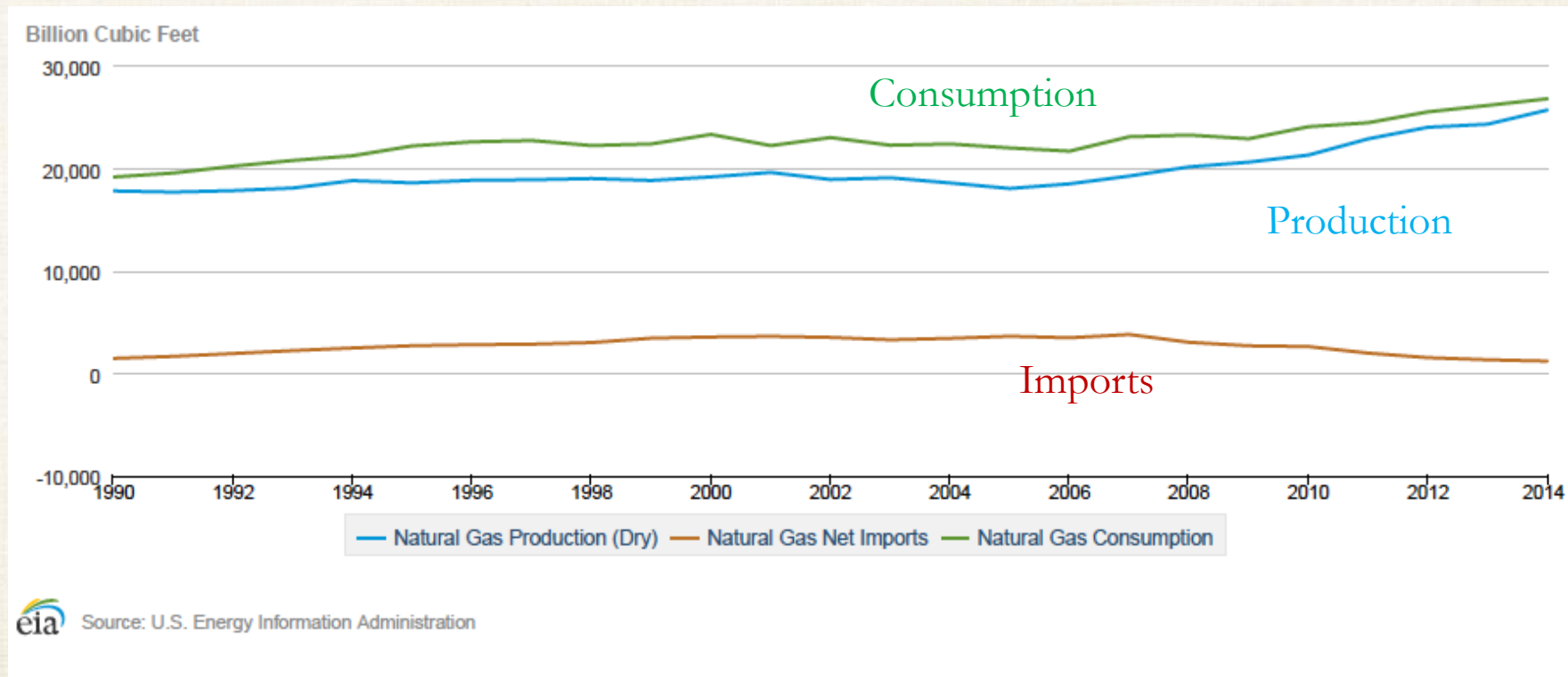
Economic Benefits

- Enhance our energy independence (and by extension national security)
 - National benefit
- Create jobs
 - Local/regional/state benefit
- Increased revenue
 - Local/regional/state/national benefit



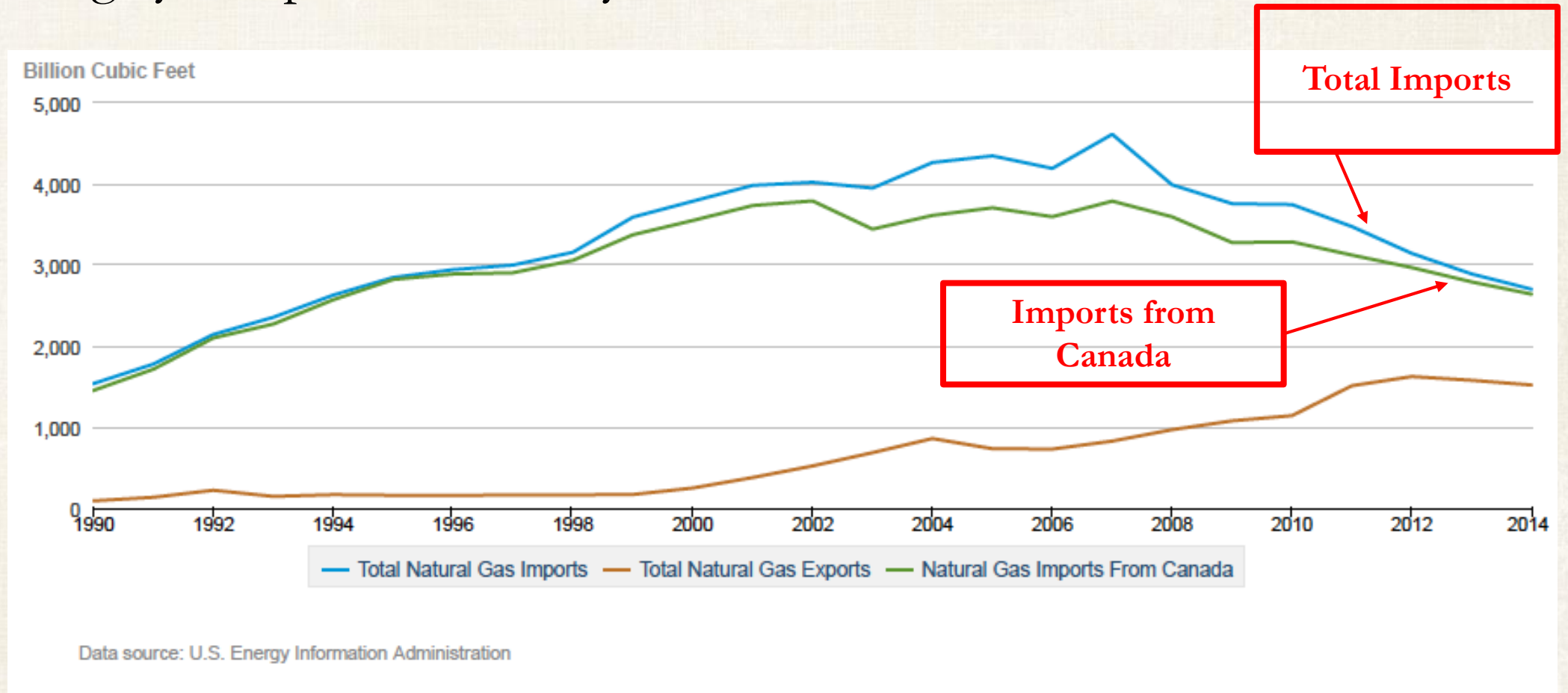
Benefits – Energy independence – Natural Gas

- We are largely independent already



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Benefits – Energy independence – Natural Gas

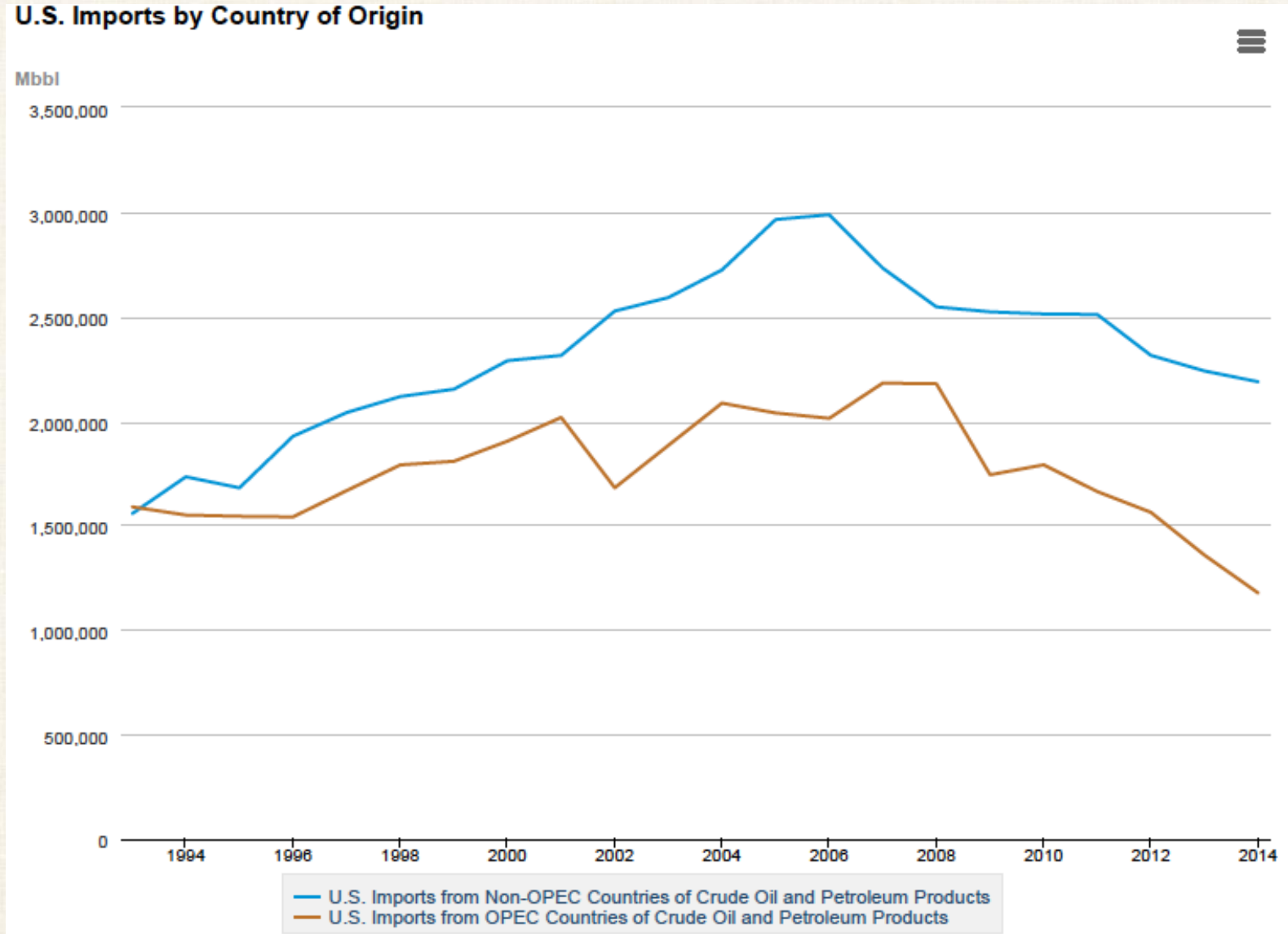
- Atlantic is likely to be a very small percentage

Technically Recoverable Natural Gas			
Lower-48 states, Trillion cubic feet, Jan 2012			
	Proven	Unproven	Total
Onshore	312	1,251	1,663
Offshore	13	309	322
Gulf	12	276	288
Pacific	1	9	10
Atlantic	0	24	24
Total	325	1,660	1,985
Atlantic as % of total	0.00%	1.45%	1.21%

Source: North Carolina State University



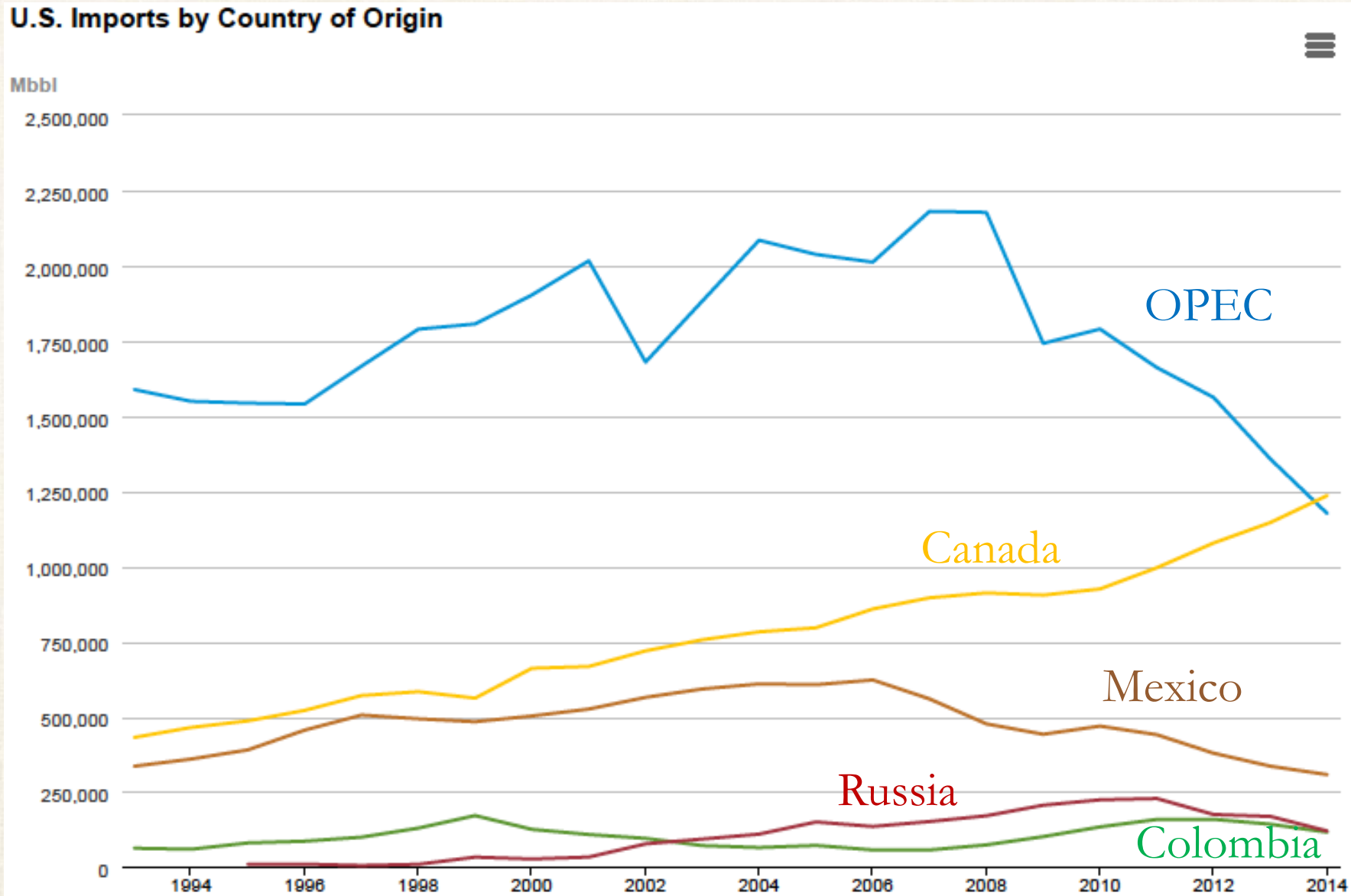
Benefits – Energy independence – Petroleum



Source: U.S. Energy Information Administration



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Benefits – Energy independence – Petroleum

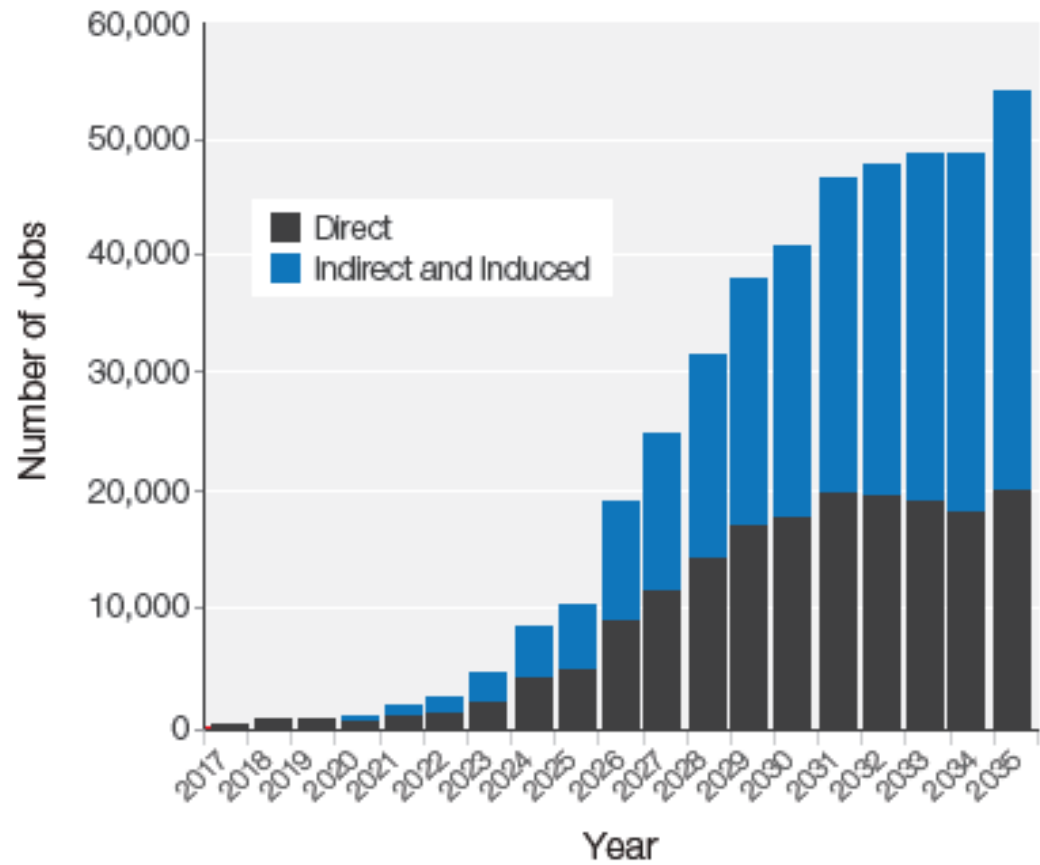
Crude Oil and Products Imports by Country (1,000 barrels)

Total Imports	3,365,489	
		<i>% of total imports</i>
<i>Top-Seven Countries</i>		
Canada	1,236,486	36.7%
Saudi Arabia	425,485	12.6%
Mexico	307,272	9.1%
Venezuela	287,993	8.6%
Iraq	132,847	3.9%
Russia	119,496	3.6%
Kuwait	113,620	3.4%



Source: U.S. Energy Information Administration

Economic Benefits - Jobs



Employment Impact (number)

Technically discoverable quantity: low mean high

Price (\$ oil, \$ natural gas)^a

\$30, \$2.14	118	2900	5902
\$60, \$4.27	472	9595	19,224
\$101, \$5.21 (baseline)	-	16,910	-
\$90, \$6.41	809	17,437	34,400
\$110, \$7.83	1046	22,428	45,024
\$120, \$8.54	1163	25,126	50,252
\$160, \$11.39	1686	35,918	72,005

^a price of oil per barrel; price of natural gas per 1000 cubic feet

Source: The Economic Potential from Developing North Carolina's On-Shore and Off-Shore Energy Resources; Dr. Michael Walden, North Carolina State University, 2013

Source: The Economic Benefits of Increasing U.S. Access to Offshore Oil and Natural Gas Resources in the Atlantic; Quest Offshore Resources, 2013



Economic Benefits – Revenue sharing

Accounting Year	Revenues Reported from OCS Development
2012	\$6,862,760,911.14
2011	\$6,538,541,450.97
2010	\$5,254,161,316.02
2009	\$5,819,678,113.03
2008	\$18,044,630,413.54
2007	\$7,019,308,639.96

Source: OCS Governors Coalition

- Revenue sharing is the largest non-tax source of revenue for Federal Government
- OCS Coalition lobbying for revenue sharing agreement
- Currently, **no revenue sharing plan** in place for Atlantic region
- Federal legislation on deck
 - Offshore Production and Energizing National Security Act of 2015 (OPENS Act)



OPENS Act Details – Title III

- Sponsored by Senator Murkowski (R-AK)
- Provides revenue sharing at 37.5% for qualified revenues, with no cap
- Gives governor authority to distribute monies to public transportation, alternative energy production, beach nourishment/dredging, enhance water conservation. No mandate for mitigation.
- Eliminates crude oil export ban
- Requires 1 lease sale in 2021 and 2 lease sales in 2022
- Allows permanent surface production facilities **as close as 12 miles.**
Viewshed is to be considered ‘to the maximum extent practicable.’



GOMESA

- Patterned after GOMESA (Gulf of Mexico Energy Security Act, 2006)
 - FY2007-2016 = 37.5% shared by four states (TX, LA, MI, AL)
 - FY2017-2057 = 37.5% shared by four states, with \$500 million cap
- Revenue NOT guaranteed. In past three years,
 - **Feds received \$22.3 billion in revenue offshore in GoM**
 - **Four states received a combined \$4 million (.02%)***
- President Obama proposed in 2016 budget a reduction in the revenue sharing for these states.



**Letter from four U.S. Senators to President Obama dated March 4, 2015*

Source: Senate Energy and Natural Resources Committee

Revenue Sharing

- “We’ve talked a lot about profit sharing tonight,” said Rivenbark. “I bet there are a lot of people on the Gulf Coast who would give all that money back. It’s nice to know that there hasn’t been an oil spill on the Atlantic sea board.”

–Wilmington City Councilman Charlie Rivenbark, July 22, 2015

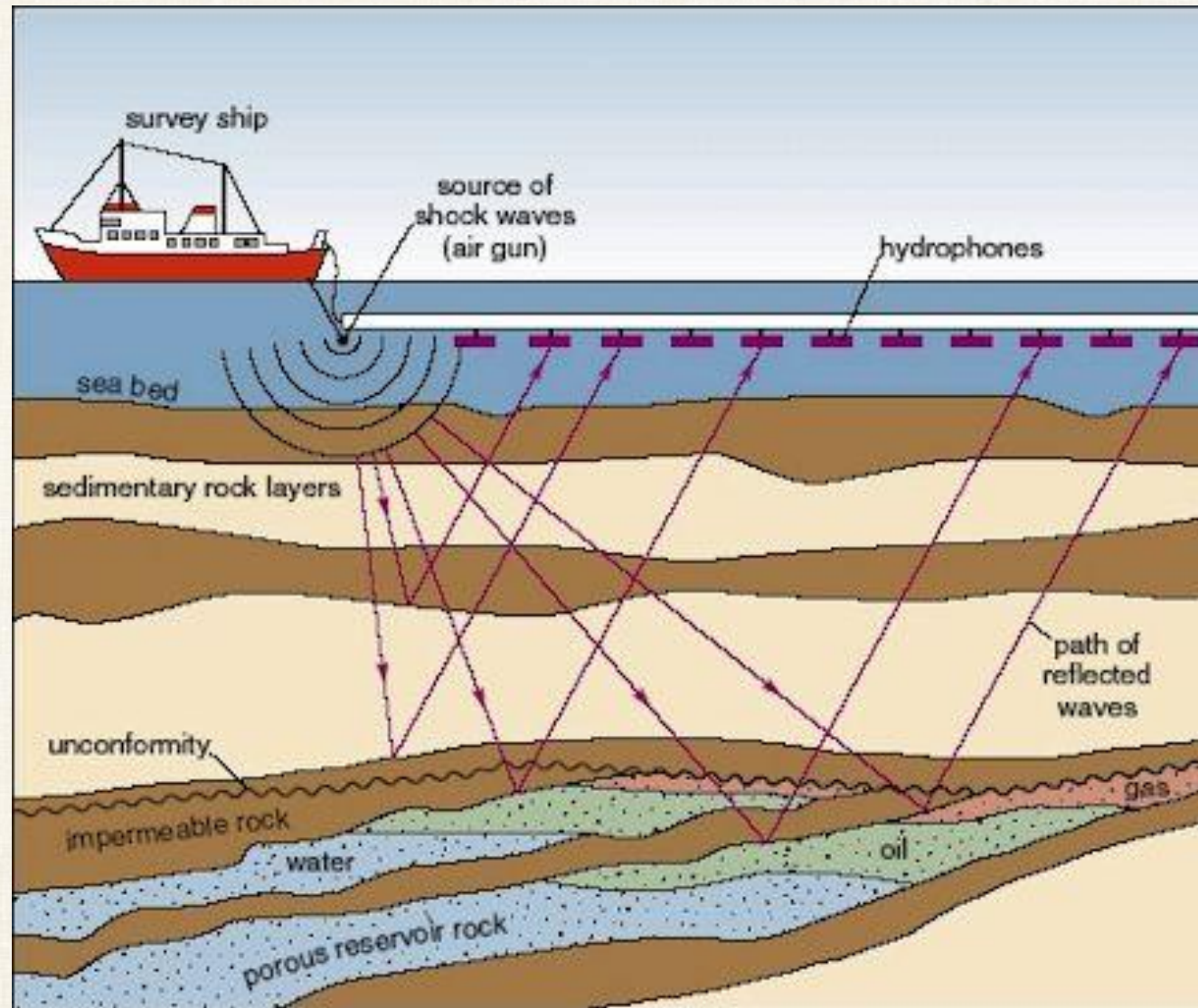


Environmental Risks

- Seismic surveying
- Small to mid-sized spills are frequent
- Catastrophic spill
- Impact on wildlife
- Land loss
- Impact on tourism



Environmental Risks – Seismic Surveying

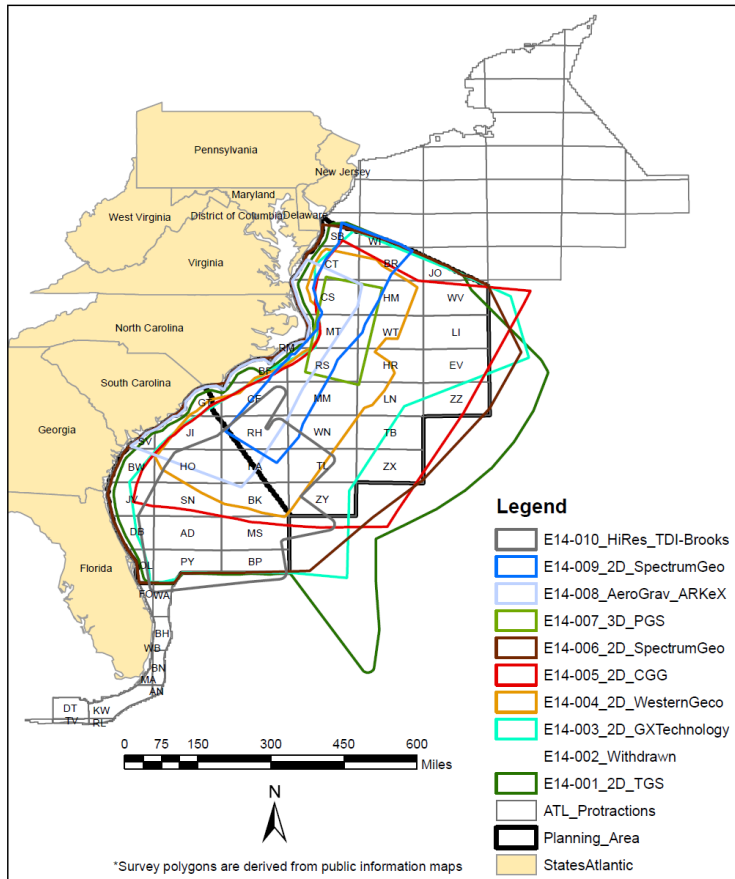


Source: BOEM

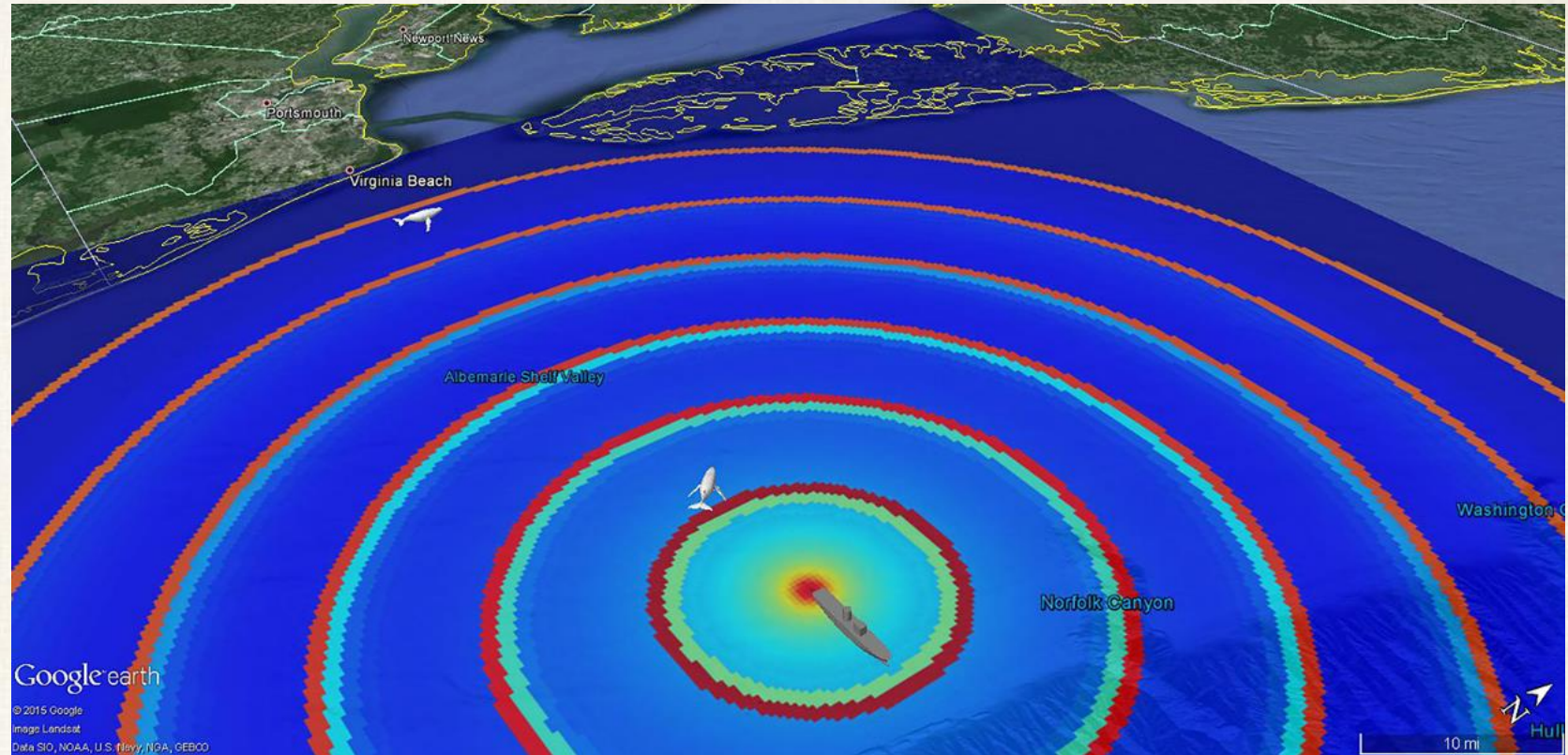


Environmental Risks – Seismic Surveying

Atlantic Pending Surveys



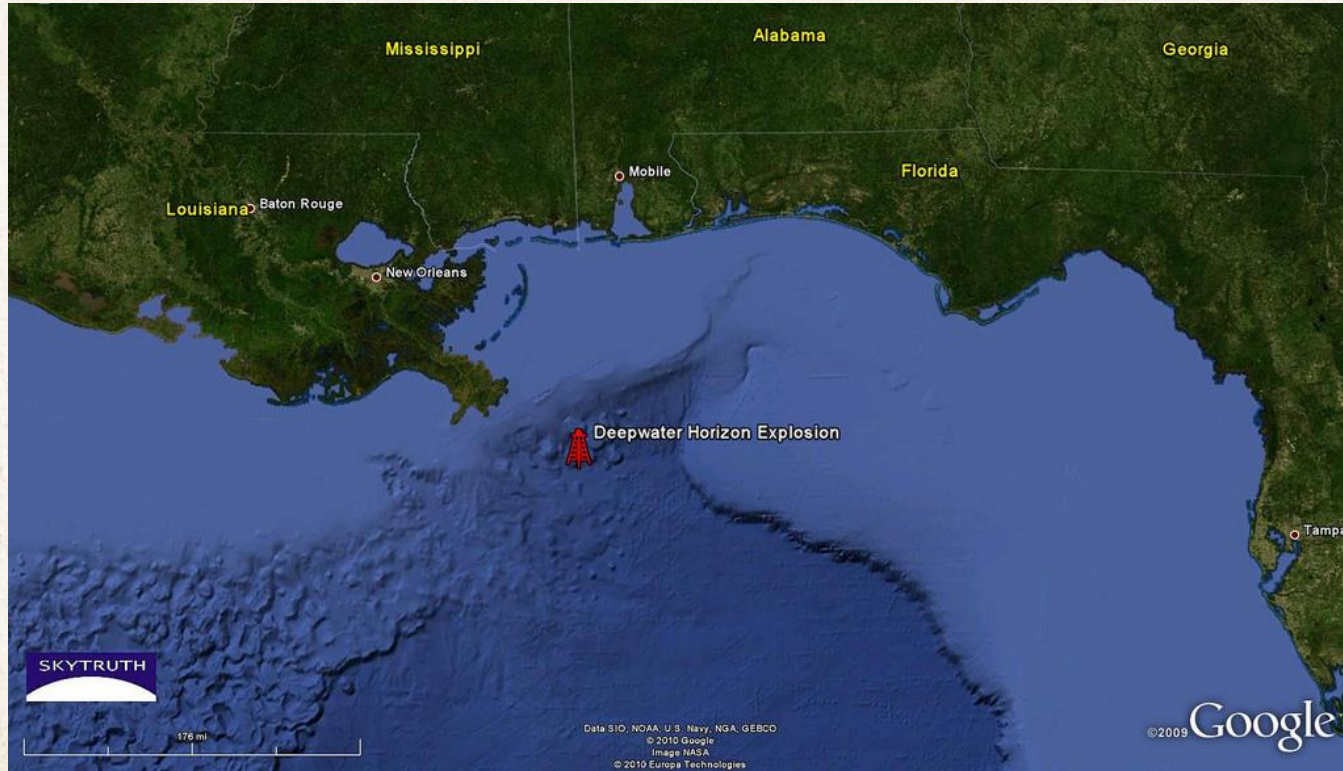
Source: BOEM



Source: Duke University Marine Laboratory



Environmental Risks – Deep water risk



- The **BP/Deepwater Horizon** blowout was 45 miles offshore in 5000 ft of water



Environmental Risks – Impact on wildlife

- Researchers for the state Department of Natural Resources have **found evidence of petroleum compounds and the dispersant** used to clean up the oil in **90 % of the eggs of pelicans nesting in Minnesota**



Environmental Risks – Impact on wildlife



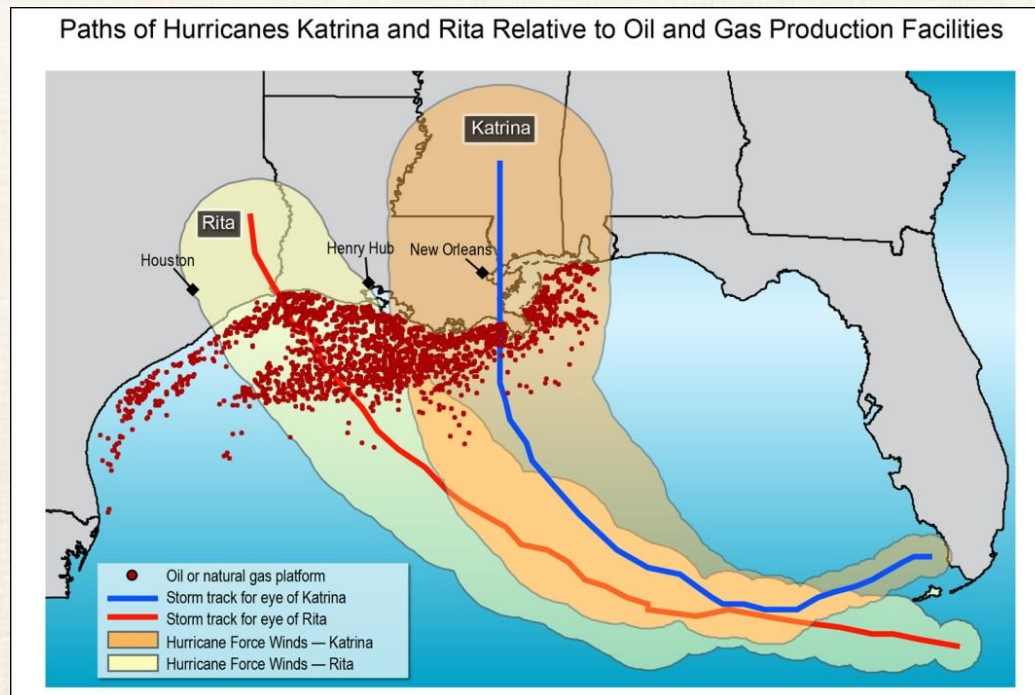
2010

2012



Environmental Risks - Hurricanes

- **More than 9 million gallons of oil** spilled from damaged offshore and coastal infrastructure
- **Over 100 offshore platforms** were totally destroyed
- **More than 450 seafloor pipeline breaks**
- Six weeks after Rita, **Tank Barge *DBL 152*** struck the unmarked ruins of an offshore oil platform that Rita had demolished
- **2 million gallons of "slurry oil" dumped.** Only 5% of this oil was recovered



Source: Peg Howell, SODA: Stop Offshore Drilling in the Atlantic



Environmental Risks – Oil spills



Exxon Valdez
11 million gallons
March 1989



Santa Barbara
3 million
gallons
January 1969



Santa Barbara
pipeline break oil on
9 miles of beach
May 2015

Every United States coast
where offshore drilling has taken place
has suffered multiple massive spills
and billions of dollars in damages

The Atlantic coast would be no different

*Source: Peg Howell, SODA: Stop
Offshore Drilling in the Atlantic*



Deepwater Horizon
210 million gallons
April 2010



Galveston Bay oil
spills are routine –
averages 285 spills a
year.



Oil Rig Explosion
Kills 4 in Gulf of
Mexico
April 2015



Taylor Platform
Destroyed by Ivan
Leaking oil since 2004



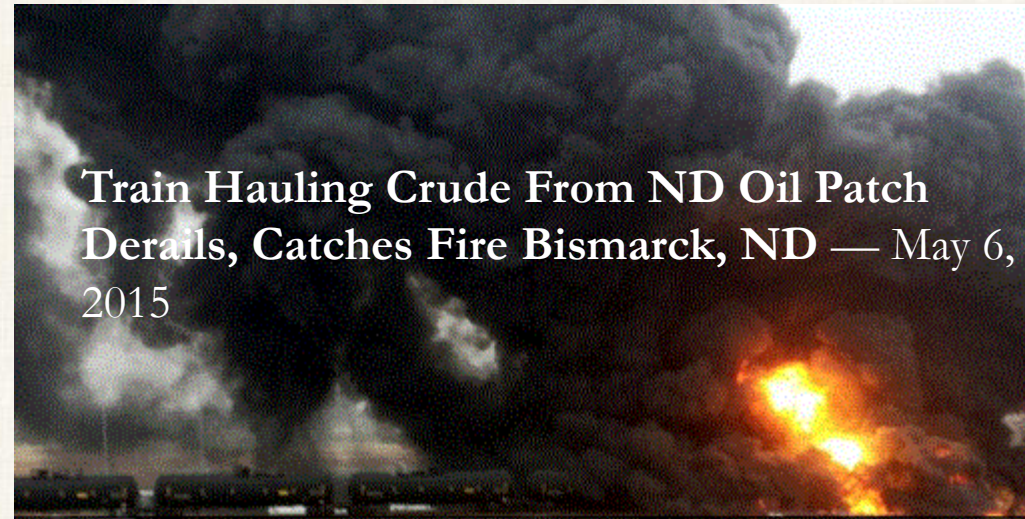
Hurricane Katrina
9 million gallons oil
100 rigs destroyed
450 pipeline breaks
August 2005



Environmental Risks – Oil spills – sample since March 23rd



**Oil Rig Explosion
Kills 4 in Gulf of
Mexico**
April 1, 2015



**Train Hauling Crude From ND Oil Patch
Derails, Catches Fire Bismarck, ND — May 6,
2015**



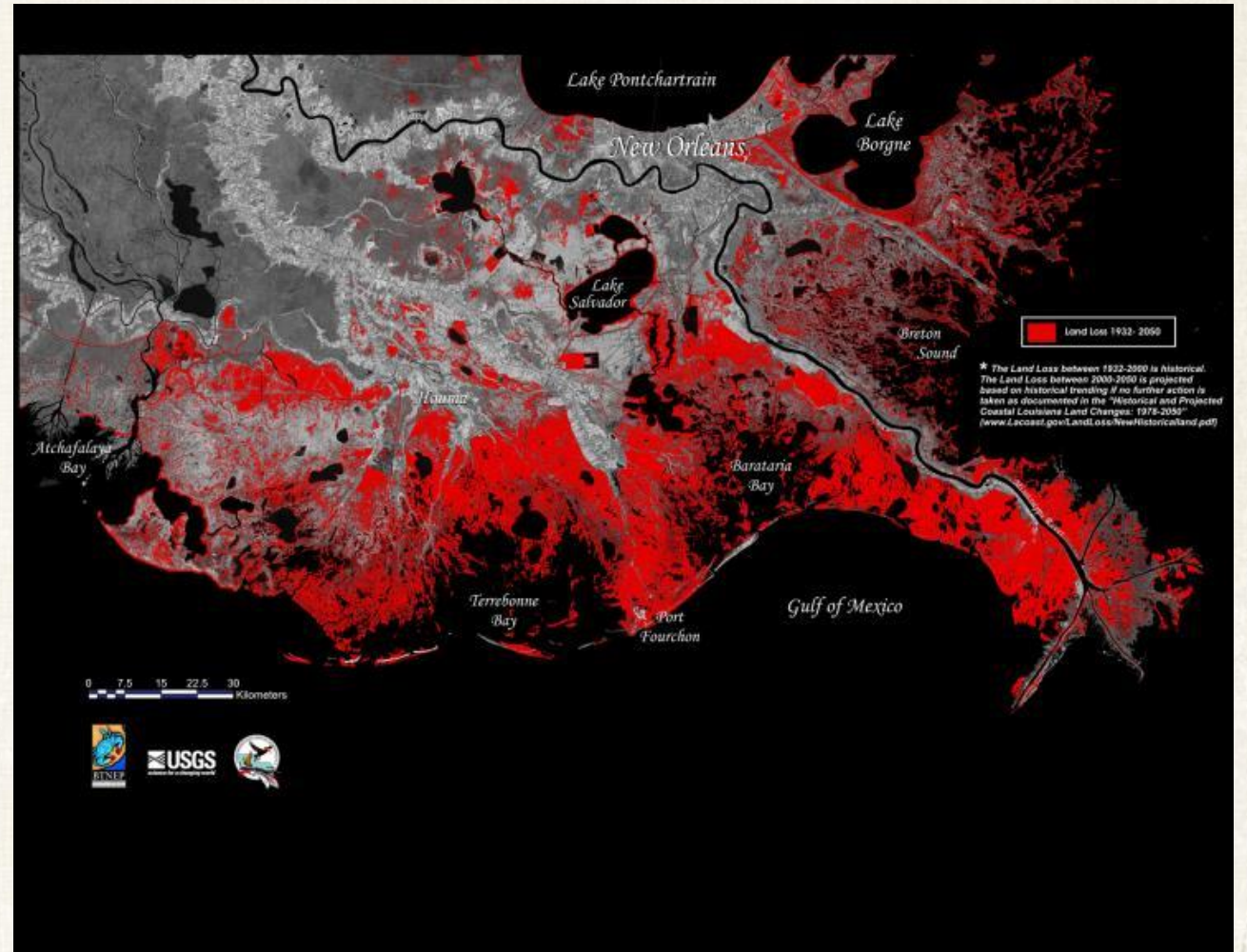
**Corpus Christi -Lightning strikes oil
tank, causing explosion near Banquete**
May 13, 2015



**Oil spills in Galveston Bay a
routine occurrence.**
Since the late 90's, Galveston Bay
has averaged 285 spills a year.

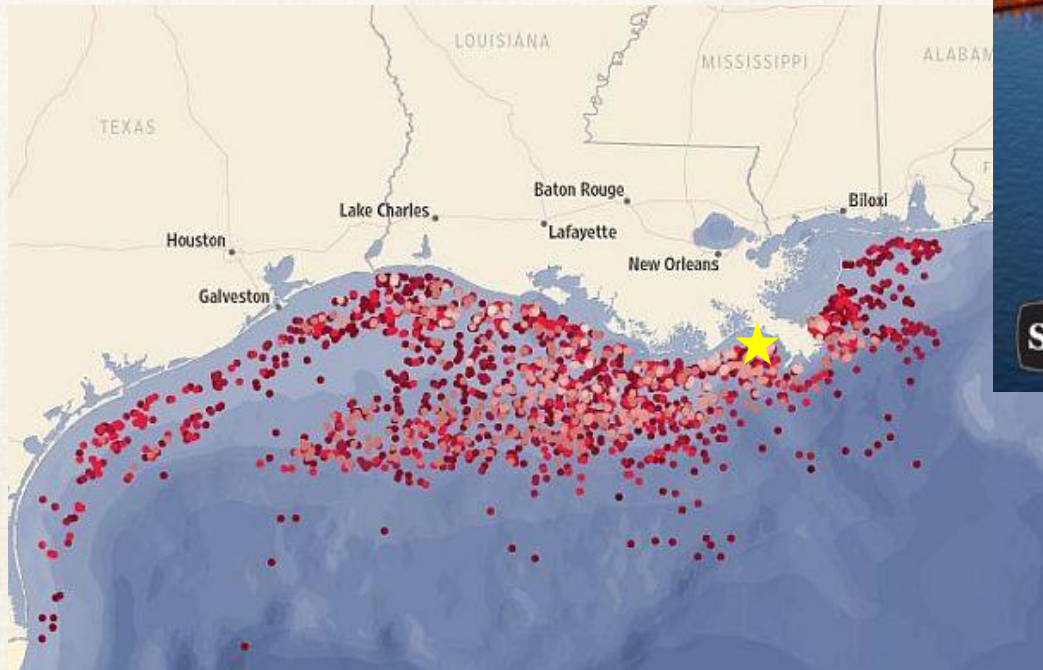


Environmental Risks – Land loss



Environmental Risks – Industrial landscape

- Port Fourchon (LA) has been in the making for 50+ years
- 1300 acre port - now adding another 4000 acres
- 250 oil field-related companies and LOOP (Louisiana Offshore Oil Port) pipeline



□ Port Fourchon is **not a vacation destination**



Impact on Tourism - NC

Tourism is one of North Carolina's largest industries

In 2014:

- 6th most visited state in the nation
 - \$21.3 billion in domestic visitor spending (5.4% increase over 2013)
 - \$2.3 billion generated in tax receipts (record high)
 - 204,832 jobs supported by tourism
-
- NC Division of Marine Fisheries reported 2014 commercial fish landings in NC to be worth \$93,843,254



Impact on Tourism – Brunswick Co.

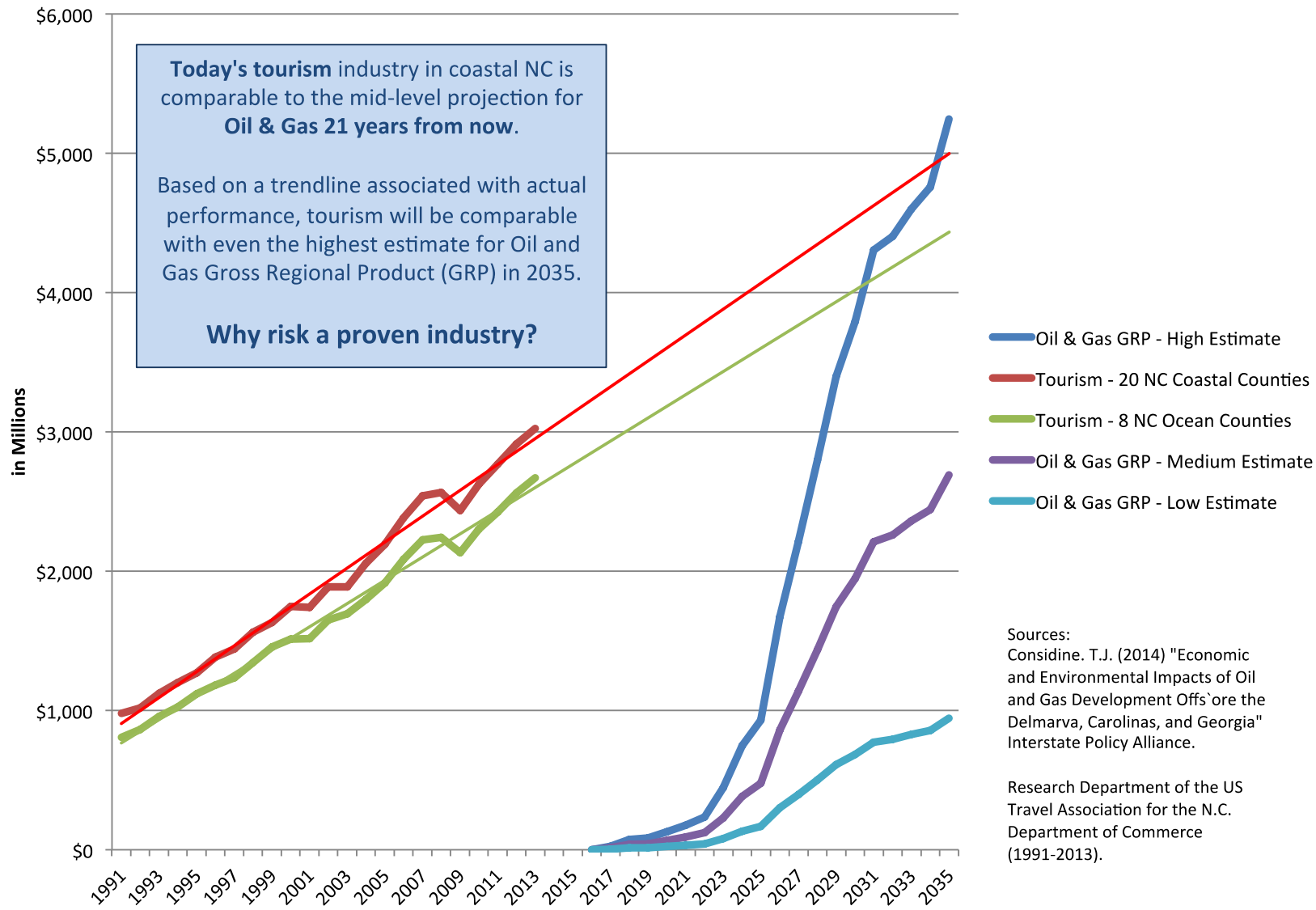
In 2014:

- Ranked 9th in tourism among NC's 100 counties
- Economic impact of \$496 million
- Nearly 6,000 jobs directly supported by tourism

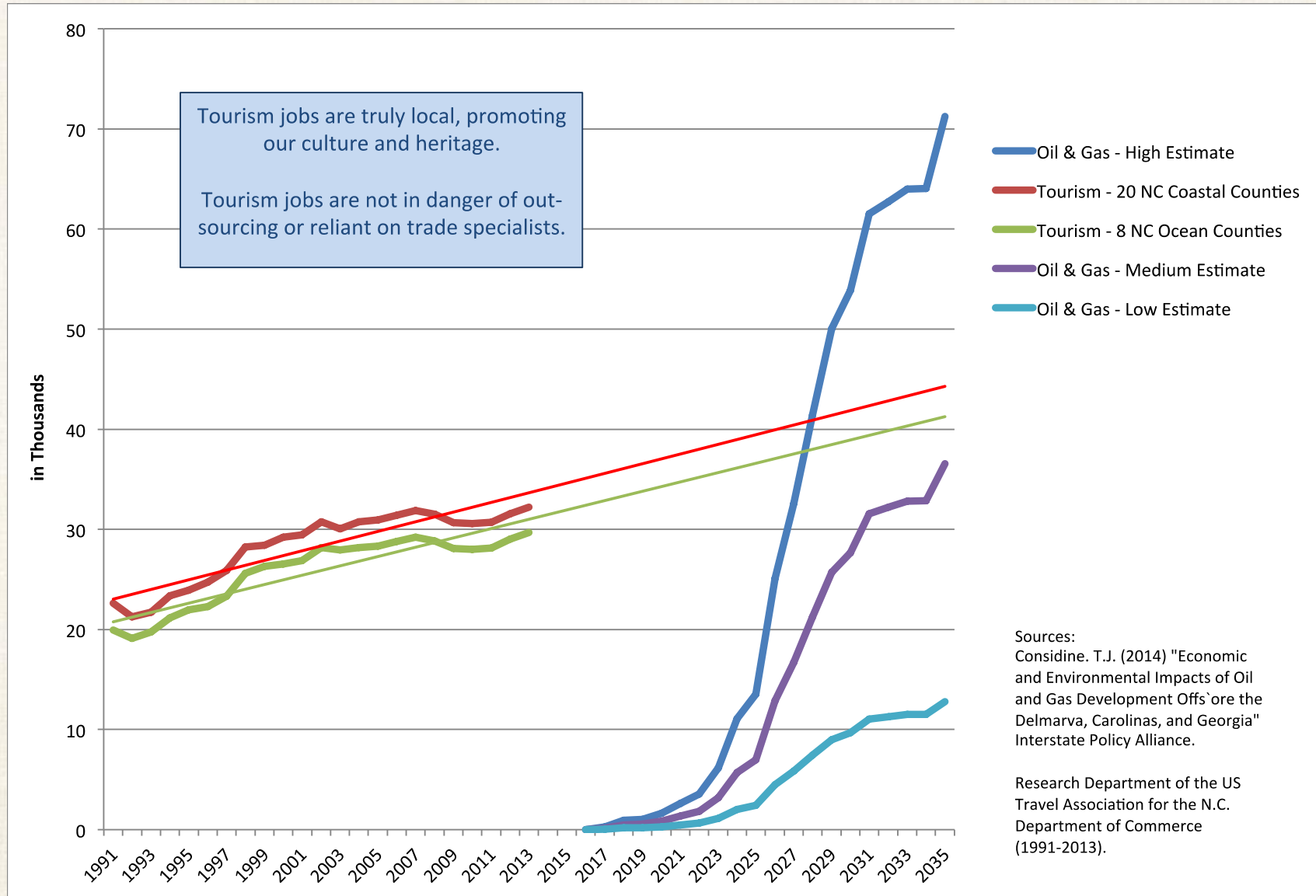


Source: VisitNC.com

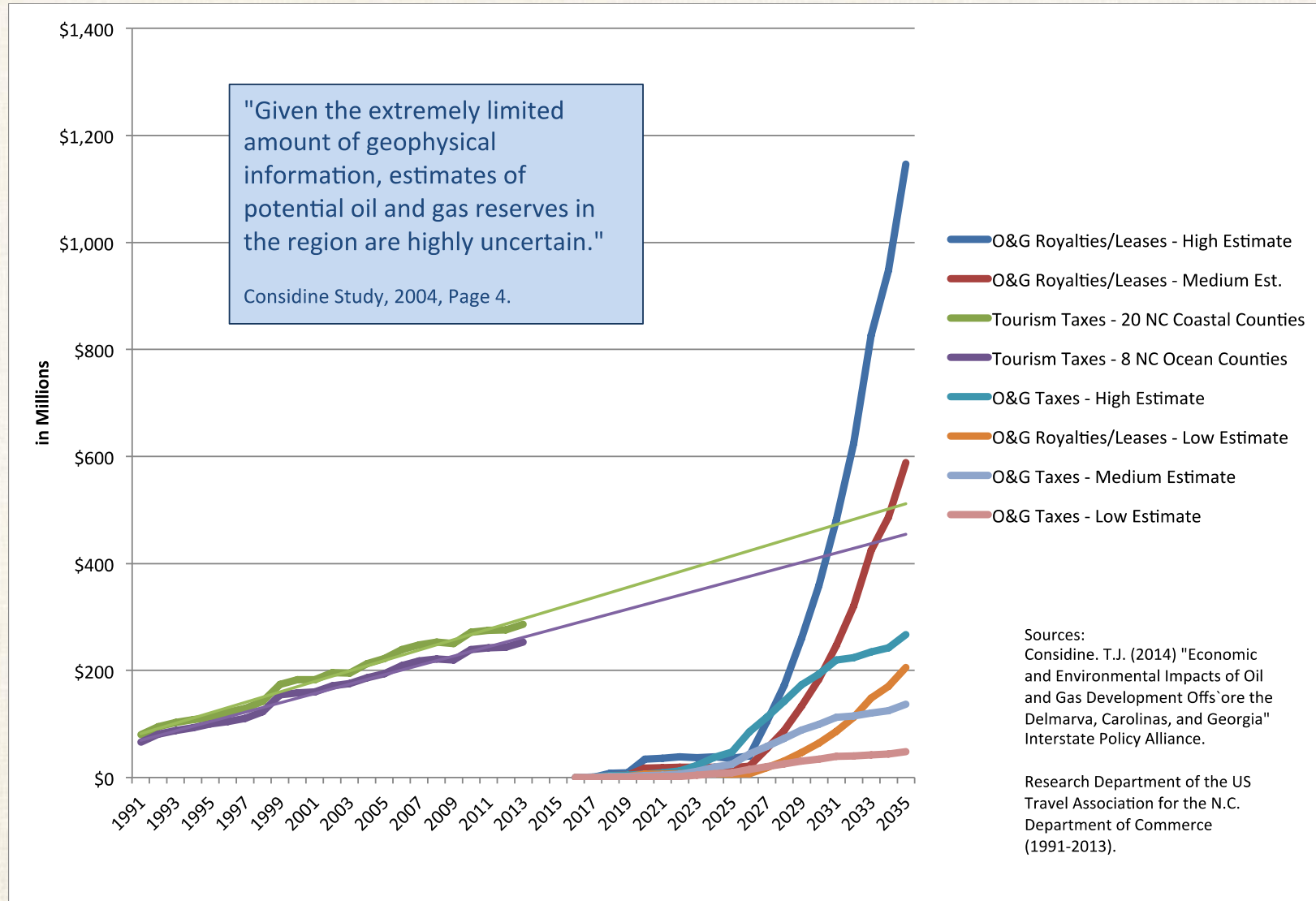
Impact on Tourism



Impact on Tourism - Jobs



Impact on Tourism – State/Local Revenue



Royalties and Lease estimates assume the states will be able to negotiate and receive 37.5% of the lease sales and royalty payments.

Source: Outer Banks Visitors Bureau



Impact on property values

Table 7. Key Economic Values for Tourism and Fishing in North Carolina Coastal Counties At-Risk from Damage from Off-Shore Energy Recovery Activities, 2011.

Annual Spending	Annual Employment	Associated Property Value ¹
\$3.1 billion	37,872	\$34.4 billion

Source: *IMPLAN* for North Carolina; North Carolina Department of Commerce, *The 2011 Economic Impact of Travel on North Carolina Counties*. Tourism values are based on county numbers from the “travel economic impact model”, then augmented to include multiplier effects using the state “travel satellite model”.

¹ Based on capitalization rate of 9%, from *Cap Rate Survey*, CBRE, February 2012.

Table 7 – Includes 7 key coastal counties of Brunswick, Carteret, Currituck, Dare, New Hanover, Onslow, and Pender

Table 8. Economic Values in Core North Carolina Counties Affected by On-Shore Energy Development.

	Personal Income (2011)	Employment (2011)	Real Property Value (2009)
Key	\$8.5 billion	112,435	\$21.2 billion

Sources: U.S. Department of Commerce; North Carolina State Data Center

Table 8 – Includes parts of Anson, Chatham, Durham, Granville, Lee, Montgomery, Moore, and Wake



Source: *The Economic Potential from Developing North Carolina's On-Shore and Off-Shore Energy Resources*; Dr. Michael Walden, North Carolina State University, 2013

What is Happening Now

- Aerial surveying
- Four permits for seismic surveying are being reviewed
- Murkowski's bill moves to US Senate
- Amendments to Dept. of Interior's budget
- Governor requesting buffer be reduced to 30 miles/add another lease sale
- Growing grassroots opposition



What is Happening Now – Opposition is growing

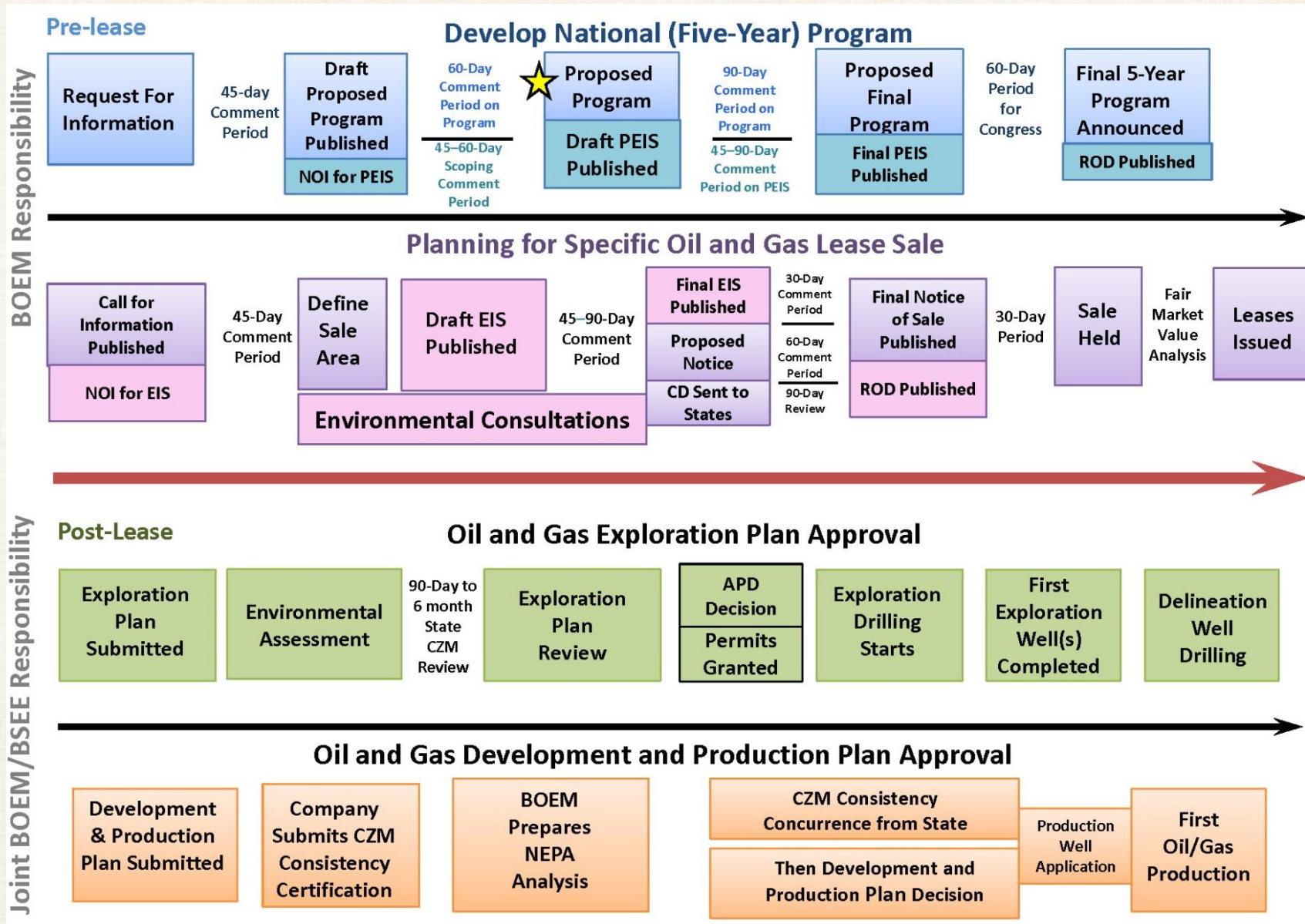
- Regional Grassroots Opposition by Municipalities – just August

- Myrtle Beach, SC City Council
- Beaufort, NC Board of Commissioners
- Holly Ridge, NC Town Council
- Morehead City, NC Town Council
- Southport, NC Board of Aldermen
- Carteret County, NC Board of Commissioners
- Brunswick County, NC Board of Commissioners
- Emerald Isle, NC Town Council
- N. Myrtle Beach, NC City Council

- 70+ East Coast communities
- 90 members of Congress
- Roughly 500 local and state officials
- More than 160 conservation/animal welfare orgs.
- Southeastern Fisheries Association
- South Atlantic Fishery Management Council
- Mid-Atlantic Fishery Management Council
- 500,000 signatures delivered to BOEM



Next Steps



Source: BOEM



Resources

- Baldheadassociation.com
- Coastal Review Online Series –
<http://www.coastalreview.org/category/specialreports/offshore-drilling-series/>
- Oceana – <http://usa.oceana.org/seismic-airgun-testing/grassroots-opposition-atlantic-drilling>
- BOEM – [http:// www.boem.gov/Oil-and-Gas-Energy-Program/](http://www.boem.gov/Oil-and-Gas-Energy-Program/)



QUESTIONS?

Carrie Moffett –

carrie@baldheadassociation.com

Karen Mosteller –

karen@baldheadassociation.com

