

# R/V Langseth Environmental Compliance



*Holly Smith, NSF  
Deborah Hutchinson, USGS  
MLSOC Meeting  
December, 2014*

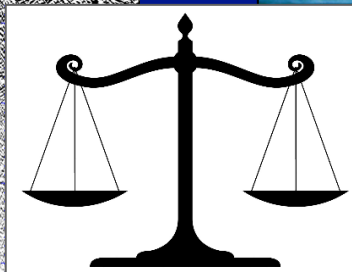
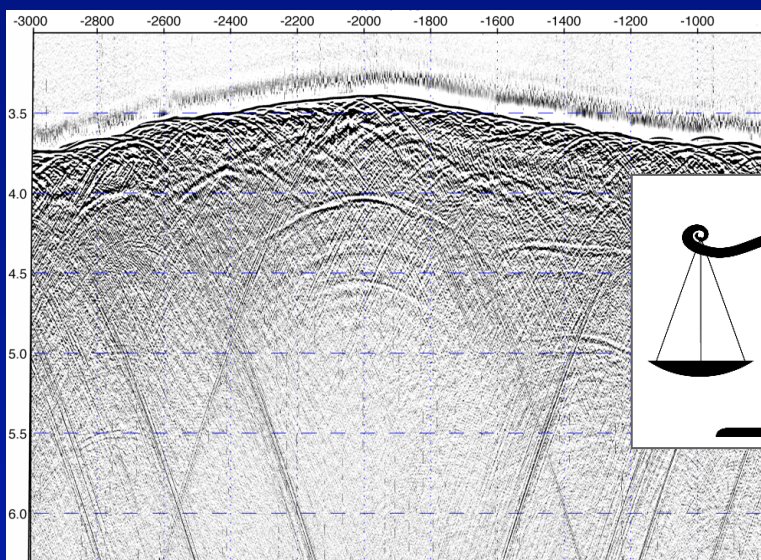


Photo: Bill Lang



# Why EC matters for you...

**PI Question:**  
**Answer:**

**Why me, I've never heard of this?**  
**It's the Law!**



**PI Question:**  
**Answer:**

**If I ignore it will it go away?**  
**No, it will make it worse.**



**PI Question:**  
**Answer:**

**How much work is this for me?**  
**Ideally not much, NSF does the work with your help.**



# The DRIVER: Anthropogenic Sound

## Does it harm the Environment?



*Photo: Dr. Louis M. Herman/NOAA*

## The Problem

- Emotional Issue
- Passionate opponents
- Scientific Uncertainty



*Photo: [http://www.eaglewingtours.com/016\\_WhalesandWild/2714\\_EagleWingWhal.html](http://www.eaglewingtours.com/016_WhalesandWild/2714_EagleWingWhal.html)*



# Environmental Compliance (EC)

*The requirement that federal agencies consider the environmental impacts of their proposed actions and reasonable alternatives to those actions.*



**NEPA & EO 12114**  
(1970 & 1979)

The Laws

**MMPA**  
(1972)

**ESA**  
(1973)

**EFH**  
(1996)

**CZMA**  
(1972)

**NHPA**  
(1966)

**Marine Mammals   Endangered Species   Cultural Resources**  
**Environment                      Coastal Resources**



# How the Agency Decision Making Process Works

## *NEED TRANSPARENCY & PUBLIC INPUT*

### **FUNDING AGENCY (NSF & USGS)**

- *Federal Action (e.g. grant funding)*
- *Assess regulatory framework – determine which regulations apply*
- *Prepare documentation (e.g. Environmental Assessment (EA))*
- *Contract for EC services if needed*
- *Review preliminary assessment of effects*
- *Submit documentation to Regulatory Agencies*

### **REGULATORY AGENCIES**

- *Receive & Review EC documents*
- *Consult with Funding Agencies (iterative process)*
- *Issue Authorizations/Conservation Recommendations/Concurrences*
  - *IHA Authorization (MMPA)*
  - *Biological Opinion/Incidental Take Statement (ESA)*
  - *Effects for EFH, CZMA, NHPA*

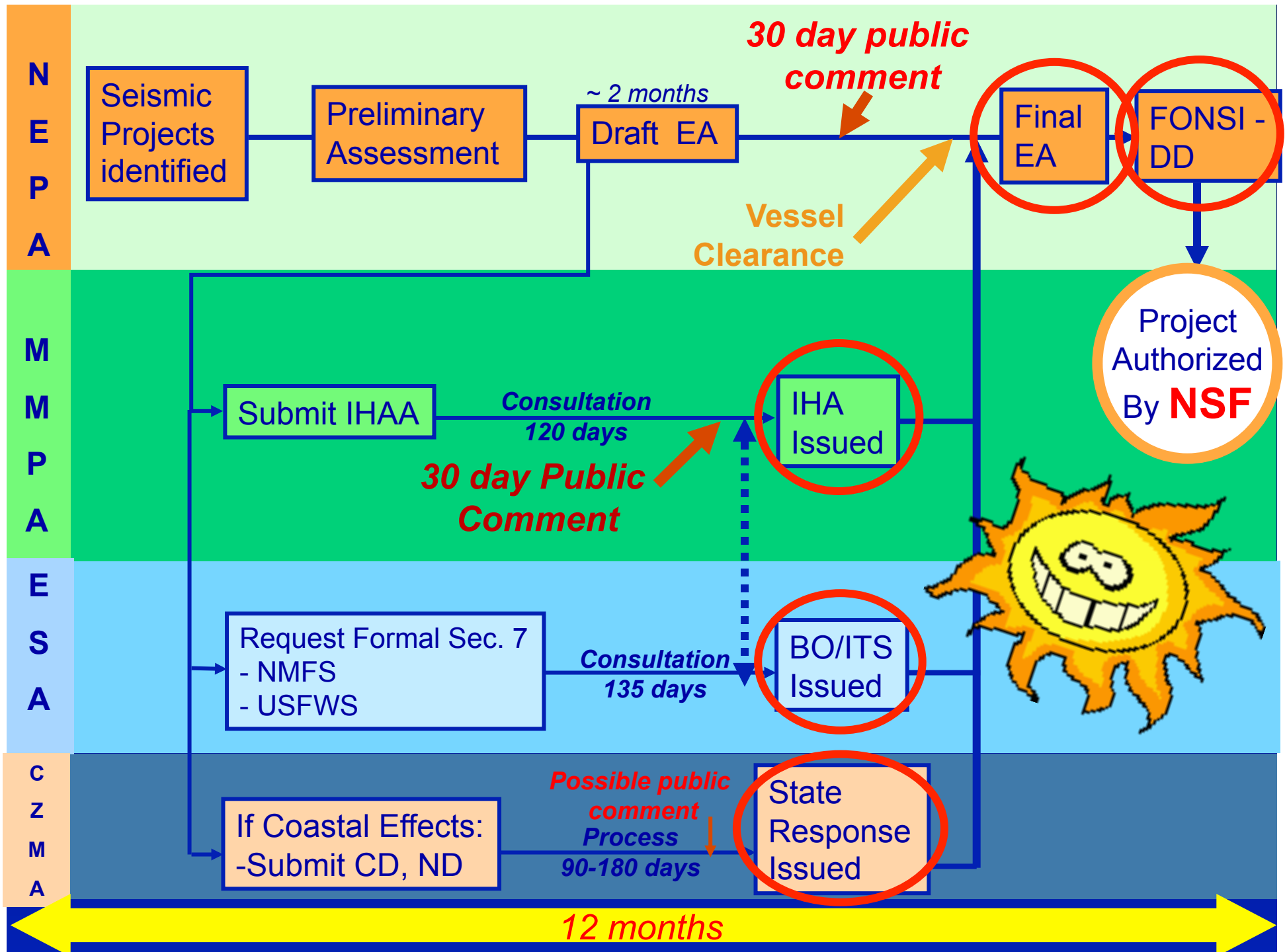


### **FUNDING AGENCY**

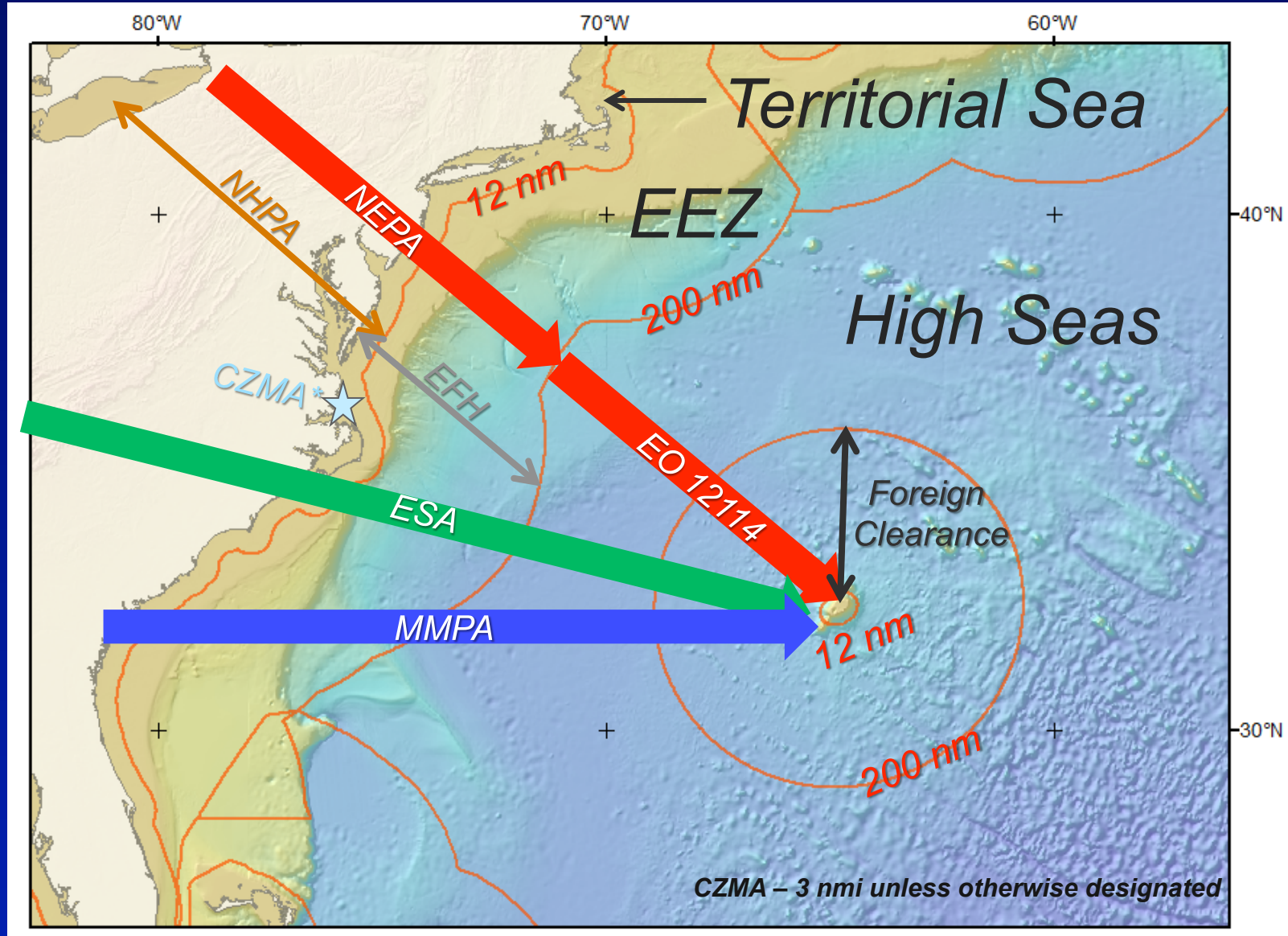
- *Issue final NEPA Document (e.g. Finding of No Significant Impact – FONSI) and Agency Decision to Authorize Langseth to leave the dock*

*Next slide – how the process actually works*

~12 months



# Applying the Laws: US vs Foreign Waters





# R/V Langseth EC Issues

## **PNW (2012):**

- Sanctuary
- Delay in IHA
- Exceeded Take/  
Reinitiated Consultation
- Successfully Completed

## **New Jersey (2014):**

- Delay in IHA
- eNGO & Political Interest
- Misconstrued as O&G
- Lawsuit: CZMA & NEPA
- Project Delayed

## **TAIGER (2009):**

- eNGO, Int'l Political Interest
- Species of Concern
- Successfully Completed
- Caused Other Agency Issues

## **USGS (2014):**

- eNGO Interest
- Species of Concern
- 2014 Successfully Completed
- 2015 Threatened Litigation

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US Dept of State Geograph

© 2009 GeoBasis-DE

Data SIO, NOAA, U.S. Navy, NGA

# EC Roles/Responsibilities

## PI's

- Pre-cruise planning - **5 P's !!!**
- Provide info for EC docs
- NSF EC Checklist
- Review EC docs
- Respond to questions (Regulators, General Public, Reporters)
- Understand conditions of IHA/ITS

## LDEO

- Provide EC contractor support
- Interface with contractor, PI, NSF, Regulators
- Review, submit EC docs:
  - NSF for approval
  - IHA to NMFS
- Enforce/Liable for IHA

## EC

## NSF

- Interface with contractor, PI, LDEO, Regulators
- Review, approve, submit EC docs to Regulators
- **Final Project Approval**

# When does the EC process start for **Me**?

**EARLY EARLY EARLY**

- Pre-cruise Planning = Proposal submission
  - Minimal Source Size
  - Location
    - Why is your site critical for the science?
    - Are there alternative sites that would have less environmental impact?
    - Consider sensitive marine areas (MPAs, rookeries, etc.)
  - Timing (migration periods, weather, etc.)

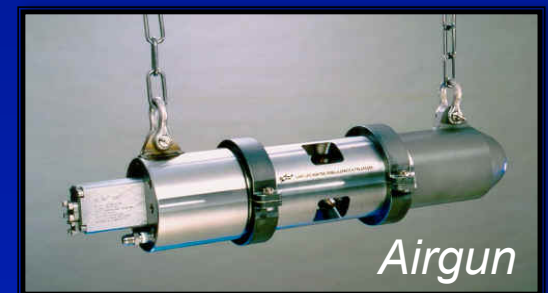


Harbor seal

(Photo: T. Mangelson, Alaska Sea Grant)



OBS




Airgun



# Your Role Once NSF EC Initiated

## ■ When a “Viable” proposal exists, NSF EC Process can begin:

- NSF Checklist
- Provide info for EC docs
  - Flexibility can be built into EC docs
  - You can do less, but not more than what is proposed in EC docs
- Review EC docs



**INSTITUTION/ORGANIZATION ENVIRONMENTAL IMPACTS CHECKLIST**

Proposal Number: \_\_\_\_\_ PI: \_\_\_\_\_

If applicable, Collaborative Proposal Number(s): \_\_\_\_\_ Institution/Organization: \_\_\_\_\_

Proposal Title: \_\_\_\_\_

Part I. A. Does the Proposal only include any of the following activities? (Check all that apply.)		Part I. B. Does the Proposal include any of the following activities?	
<input type="checkbox"/>	1. Interior alterations/renovations (regardless of cost)	<input type="checkbox"/>	1. Field work affecting the natural environment
<input type="checkbox"/>	2. Theoretical and/or laboratory research	<input type="checkbox"/>	2. Drilling of the earth, excavation and/or use of explosives
<input type="checkbox"/>	3. Data analysis/Modeling	<input type="checkbox"/>	3. Weather modification
<input type="checkbox"/>	4. Planning/conducting scientific workshops/conferences	<input type="checkbox"/>	4. Use of techniques that may alter or cause a major disturbance to the local environment
<input type="checkbox"/>	5. Conducting day-to-day management activities of federally funded research and development centers	<input type="checkbox"/>	5. The release of biological-control agents
<input type="checkbox"/>	6. Field work not affecting the natural environment	<input type="checkbox"/>	6. Construction (other than as stated in Part I.A.1.)
		<input type="checkbox"/>	7. Transition of technology from the development stage to large-scale commercialization

Part II. Are any of the following extraordinary circumstances associated with this Proposal?

Yes	No	Maybe	A. Potential impacts (including direct, indirect, and/or cumulative impacts):
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	1. on threatened/endangered species or their habitats, marine mammals, migratory birds, or essential fish habitats
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	2. on historic, cultural, or archaeological resources
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	3. on an environmentally sensitive area (i.e., national park, national forest, national wildlife refuge, national marine sanctuary, ecological preserve, etc.)
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	4. on the air (i.e., resulting from emissions other than emissions from a single car or vessel)
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	5. on soils or geological/topographical features
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	6. on water (i.e., resulting from discharges into wetlands, floodplains, streams, rivers, lakes,

## ■ Submissions to Regulators

- ***Plan submitted is what will be executed, unless altered through consultation process***
- Respond to questions (Regulators, General Public, Reporters)

## ■ Authorizations

- Understand conditions of IHA/ITS

## ■ NSF PROVIDES FINAL PROJECT APPROVAL

# Your Role at Sea

- Understand and uphold conditions of IHA/ITS
- Support Operational Monitoring/Mitigation Measures
- Adhere to Plan in EC docs
  - If you need to change, LDEO/NSF need to consider if re-initiation of consultation is necessary



**PSO Authority to power/shutdown  
trumps all**

**Violation of the MMPA is  
a criminal offense**

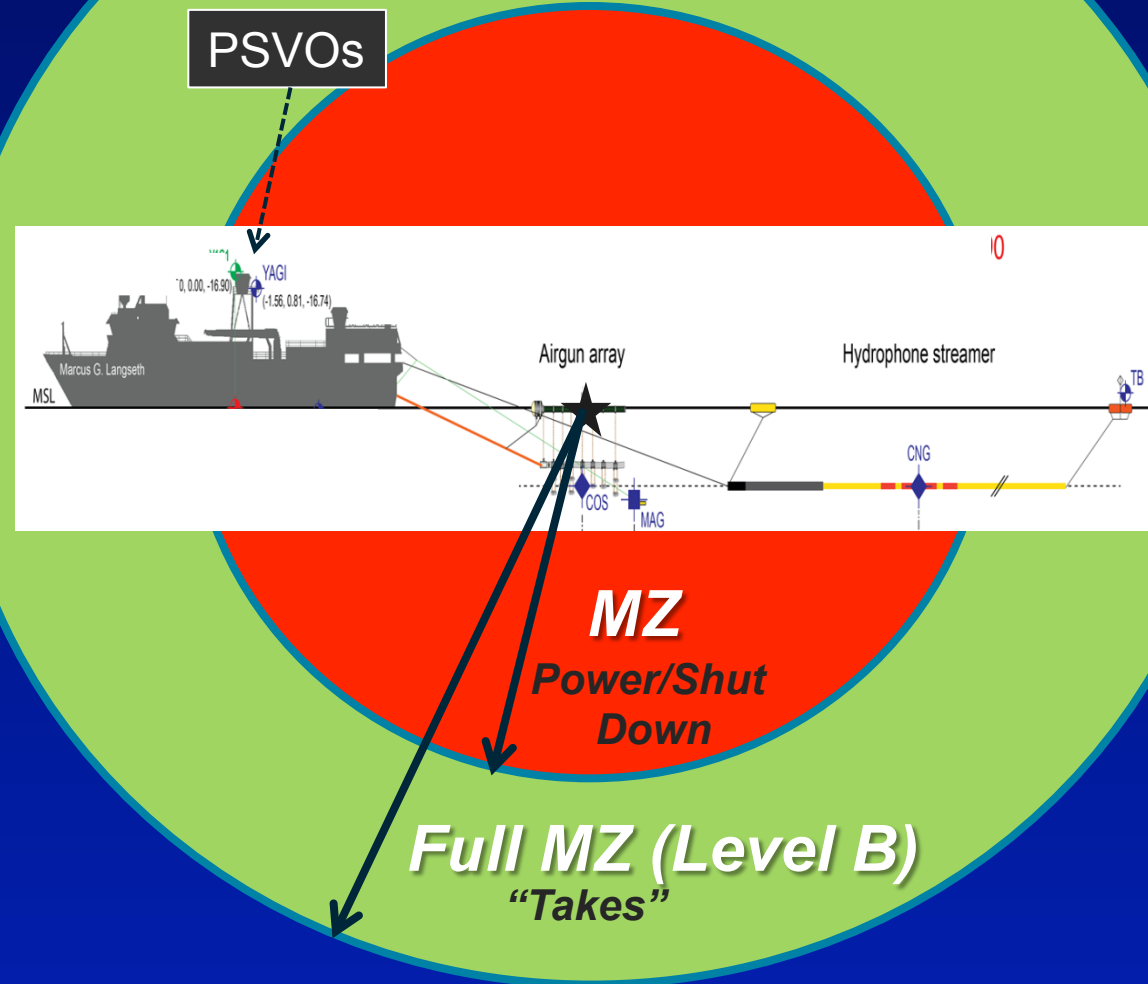


Robert Pittman - NOAA (  
<http://www.afsc.noaa.gov/Quarterly/amj2005/divrptsNMML3.htm>)

# Mitigation During Operations

- *PSVOs*
- *PAM*
- *Power/Shut-downs*
- *Ramp-ups*
- *Speed/course alts*

Size of zones  
depends on size  
of array, water  
depth, etc.



***IHA = Authorization to Incidentally Harass Marine Mammals - "Takes"***



# EC Process Conclusion

- PSO Report completed
- Submit to Regulators
- Accepted by Regulators



## Draft Protected Species Mitigation and Monitoring Report

Juan de Fuca Plate Evolution and Hydration  
in the Northeast Pacific Ocean

14 June 2012 - 8 July 2012

*R/V Marcus G. Langseth*



# Take Home Messages...

- **EVERY PROJECT IS UNIQUE... *Location, location!***
  - Less is ok, but not more (and sometimes not different!)
  - Foreign Territorial Waters and EEZs
    - US and Foreign rules may apply
    - Avoid politically-sensitive disputed waters
  - Marine sanctuaries/protected areas may require additional monitoring/mitigation or can be harder/impossible to get authorization
  - “Deep” water is typically better
- Assume people are interested in your project
- “Outreach” may be required
- “Rumor Mill” might be faulty - Contact LDEO or NSF
- Understand conditions of IHA & PSO Authority
- **Provide your project info in a timely manner**
  - No negotiation on statutory timeline
  - Delay in info = delay in schedule
- **PROJECT IS NOT AUTHORIZED UNTIL NSF EC IS COMPLETED**

# Contacts & Resources

- NSF ECO: Holly Smith, [hesmith@nsf.gov](mailto:hesmith@nsf.gov), 703-292-7713
- NSF Environmental Counsel:  
Caroline M. Blanco, Assistant General Counsel,  
[cblanco@nsf.gov](mailto:cblanco@nsf.gov), (703) 292-4592
- USGS: Debbie Hutchinson, [dhutchinson@usgs.gov](mailto:dhutchinson@usgs.gov)
- LDEO: Sean Higgins, [sean@ldeo.columbia.edu](mailto:sean@ldeo.columbia.edu)
- MLSOC

\*\*\*\*\*

\*

- NSF EC: <http://www.nsf.gov/geo/oce/envcomp/index.jsp>
- USGS:  
[http://woodshole.er.usgs.gov/project-pages/  
environmental\\_compliance/](http://woodshole.er.usgs.gov/project-pages/environmental_compliance/)
- NEPA: Council on Environmental Quality  
([www.whitehouse.gov/ceq](http://www.whitehouse.gov/ceq))
- MMPA: <http://www.nmfs.noaa.gov/pr/laws/mmpa/>
- ESA: <http://www.nmfs.noaa.gov/pr/laws/esa/>  
<http://www.fws.gov/angered/>
- CZMA: NOAA's Ocean and Coastal Resource Management Office  
([www.coastalmanagement.noaa.gov](http://www.coastalmanagement.noaa.gov))
- NHPA: Advisory Council on Historic Preservation ([www.achp.gov](http://www.achp.gov))



# *Questions....*



Steve Snodgrass <http://flickr.com/photos/10710442@N08/342406526>

# *Thank you!!*

# Extra Slides

# Compliance Obligation...

- Environmental compliance is a **federal** legal obligation\*
- It is the obligation of **NSF**, not the awardee
- At NSF, compliance is triggered because of the **issuance of federal funds**
- NSF must complete environmental compliance **before** a funding decision is made
- Compliance should be done at the **earliest** possible point in the process, but **only after a proposal is deemed viable for funding**

\*Note: Awardees typically are the entities responsible for obtaining required permits to carry out the proposed activities.

# National Environmental Policy Act of 1969,

## 42 U.S.C. 4321

- **Procedural** statute requiring federal agencies to take a “hard look” at environmental impacts of proposed action and determine if it **significantly affects** the quality of the human environment
  - Requires **informed decision-making**, including consideration of public input **prior** to activities being carried out
  - NEPA applies when there is a ‘federal hook’ - \$\$\$
- 
- NSF regulations for complying with NEPA are set forth in: Title 45 C.F.R. PART 640—COMPLIANCE WITH THE NATIONAL ENVIRONMENTAL POLICY ACT
    - Most NSF awards are not “major Federal actions significantly affecting the quality of the human environment”
    - Some research may have potential environmental effects and require *at least* an environmental assessment :
      - technology transition from development stage to large-scale commercial utilization
      - Construction
      - field work affecting the natural environment will be conducted\*
      - drilling of the earth, excavation, explosives, weather modification, or other techniques that may alter a local environment\*
      - testing and release of biological-control agents for purposes of ecosystem manipulation and assessment of short- and long-term effects of major ecosystem perturbation\*

\* NSF Directorates may determine that certain “routine” projects do not require an EA but require specific approval



# NEPA Compliance

- **Categorical Exclusions**
  - Agency determines that proposed activity has ***no significant*** impacts, individually or cumulatively, on the environment
  - Agency's determination of no significant impacts is documented in its regulations
  - NSF's categorical exclusions are set forth in 45 C.F.R. 640.3(b)
- **Environmental Assessments**
  - Activity is neither categorically excluded nor the type of activity which is anticipated to have significant environmental impacts requiring a more rigorous environmental analysis
  - Concise public document: briefly provides sufficient evidence and analysis to determine whether further analysis is warranted, or a Finding of No Significant Impact ("*FONSI*") should be prepared
- **Environmental Impact Statement**
  - Detailed written statement of the proposed activity and its anticipated impacts on the human environment
  - Designed to assist agencies in planning actions and making decisions
  - Prepared in accordance with CEQ regulations

# Executive Order 12114:

## Environmental effects abroad of major Federal actions

- Order which furthers the purpose of the National Environmental Policy Act, etc.
- Requires Federal agencies to be informed and take into account pertinent environmental considerations when making decisions on major federal actions taken outside the US, its territories and possessions.

# Marine Mammal Protection Act (MMPA)

- Act established to protect marine mammals; to establish a Marine Mammal Commission; for other purposes.
- In 1994, MMPA section 101(a)(5) was amended to establish an expedited process (**120 days**) by which citizens of the U.S. can apply for an authorization to incidentally **"take"** numbers of marine mammals by **"harassment"** **Incidental Harassment Authorization**
- "Takes" is defined as:
  - **Level A** - any act with the potential to injure a marine mammal or marine mammal stock in the wild
  - **Level B** - any act that disturbs or is likely to disturb a marine mammal or marine mammal stock in the wild by causing disruption of natural behavioral patterns, including, but not limited to, migration, surfacing, nursing, breeding, feeding, or sheltering, to a point where such behavioral patterns are abandoned or significantly altered.

**CRIMINAL OFFENSE**

# Endangered Species Act (ESA)

- Requires agencies to consider impacts of their activities on endangered and threatened species, and their habitat.
- Agencies are to consult with the **US FWS** and **NMFS** under “ESA Section 7” regarding whether the proposed activity is likely to jeopardize the continued existence of any endangered or threatened species or result in the adverse modification of habitat of such species.
- Section 7 consultation with US FWS/NMFS can be informal or formal.
  - Informal: Not likely to have adverse effects. Get concurrence from USFWS *in writing*.
  - Formal (**135 days**): Likely to have adverse effects. Agency prepares biological assessment and USFWS/NMFS prepares biological opinion.
- Any takings of marine mammals listed as threatened or endangered under the ESA must be authorized under both the ESA and MMPA. The ESA takes are authorized by an Incidental Take Statement (ITS) under Section 7 (for Federal agency actions).



# Coastal Zone Management Act (CZMA)

- Federal Statute requiring federal agencies to determine whether proposed federal activity is likely to have “effects” on coastal uses or resources
- 4 Types of federal actions:
  - Federal Agency activities (Subpart C – 90 day)
  - Federal license or permit activities (Subpart D – 60 day)
  - OCS Plans (Subpart E)
  - Federal assistance to state and local governments (Subpart F – 60 day)
- If effects are likely, federal agency must comply with the “consistency” provisions of the CZMA and consult with the coastal state to ensure that the proposed activity is “consistent to the maximum extent practicable” with the enforceable policies of the coastal state’s coastal management plan

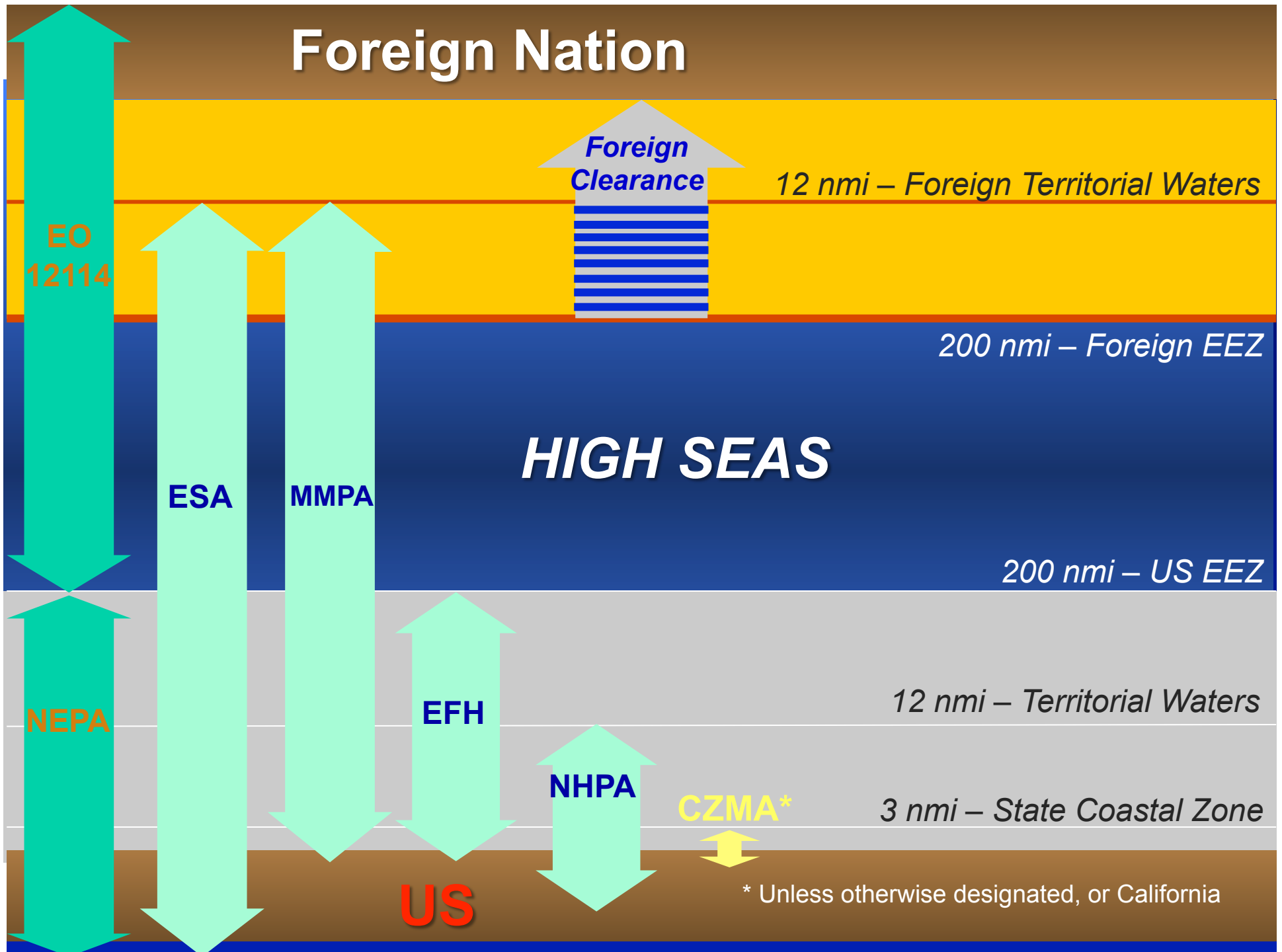
# New Process

*Pilot → Phased Rollout in January 2014*

1. After the PI's institution prepares an environmental impacts checklist, the PO reviews the checklist and determines the appropriate level of NEPA review.
2. If impacts are anticipated, Program Officer works with ECO Team to determine level of environmental analysis required and whether analysis can be completed in-house or with the assistance of a contractor
3. Completion of environmental compliance can take from a couple of minutes to over a year, depending upon the level of impacts associated with the proposed project
4. Environmental impacts are factored into NSF's decision-making process

## \*\*\*QUIZ \*\*\*

- What does NEPA stand for?
- Once an EA is submitted to NMFS is the permitting process over?
- They did it, so I can, too... (Location, location! foreign territorial waters, EEZs, etc.)
- True or False: The PI is **not** responsible for following and enforcing the IHA requirements during a seismic survey.





# NEPA is called a Decision Making Process

- Begin EC *early* in the decision-making process

