



**NOAA
FISHERIES**

Environmental Compliance for Diversions

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Where are we today?

Sediment and Freshwater Diversions are tools that are being applied as part of a defensive strategy for coastal protection and natural resources enhancement in the Mississippi Delta



What are the challenges?

- Large, complex projects
- Few to no analogues at similar scale
- Lack of complete understanding of the impacts individually and collectively
- Scientific basis for understanding impacts still evolving
- High degree of uncertainty in prediction - including synergistic effects
 - Data deficits
 - Predictive modeling challenges
- **Regulatory requirements for project scoping, siting, design, construction, and operations**

What are the challenges?

Uncertainty results from natural environmental variability and imperfect representation in Models

- There are six specific areas in which diversion uncertainty must be framed and understood (data; analogs; ecological outcomes; economic and social outcomes; design and operations; expectations)
- Uncertainty must be explicitly addressed at the ***planning and design stages of diversions***
- Modeling plant and animal communities presents a considerably greater challenge than modeling the physics, and nonlinear ecological effects should be expected
- Biophysical and social outcomes must be linked, and social outcomes cannot be addressed as an afterthought
- The Panel recommends that highest priority be given mainly to near-term needs in the areas of understanding and forecasting ecological outcomes, incorporating economic and social assessments, and in effective communications

From: Expert Panel on Diversion Planning and Implementation, Report #1, Feb 2014, The Water Institute

Range of potential impacts (+/-)

Intended Effects

- Significantly reduce or stop net land/wetland losses
- Improve resilience to storms, sea level rise, subsidence
- Protect, restore, and enhance ecological services of wetland and coastal habitats, (e.g., water quality enhancement; nursery, refuge & forage habitat for managed species)
- Improved socio-economic conditions

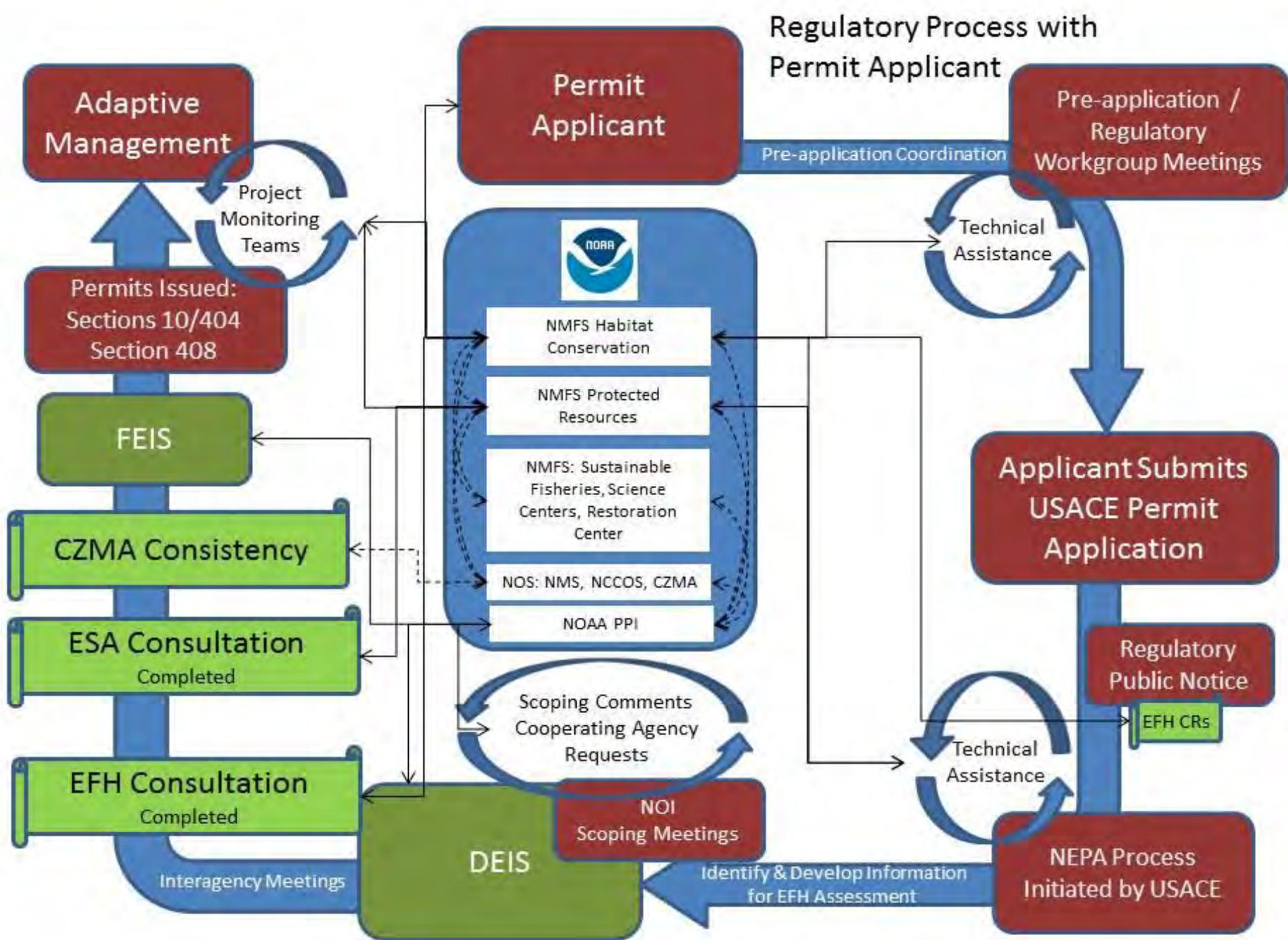
Range of potential impacts (+/-)

Un-intended Effects

- Degraded water quality
- Increased susceptibility of wetlands to perturbations (e.g., storms)
- Modification or conversion of EFH
- Temporary/permanent displacement of estuarine/marine species to less supportive habitats
- Socio-economic hardship for commercial and recreational fishing industries and other sectors

How do we deal with the challenges?

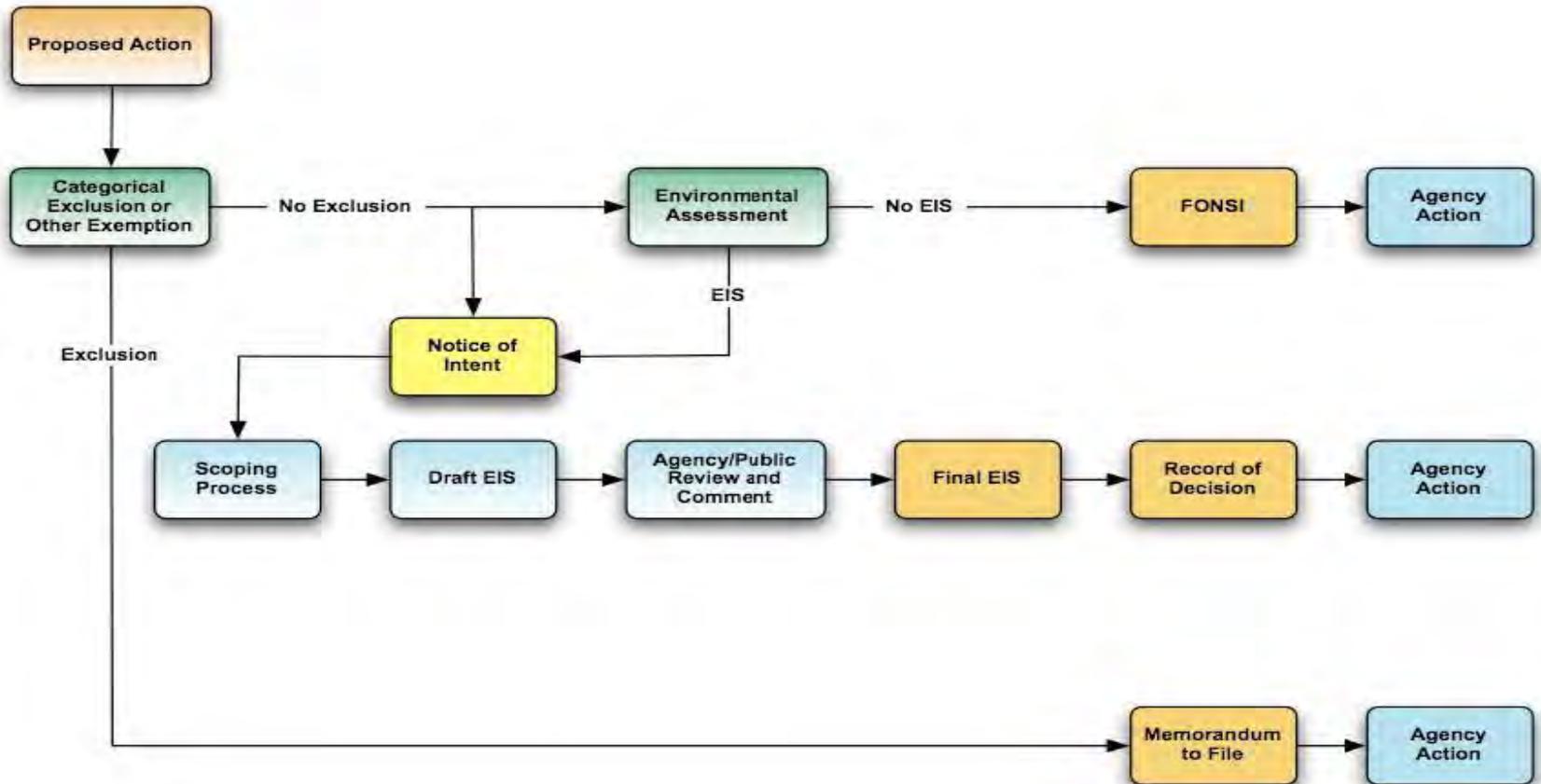
- Coordinate, cooperate, and share information as early in the process as is feasible
- Make management decisions based on sound science
- Make regulatory decisions based on sound science
- If you don't have the necessary information – get it
- In the interim, make the best decisions possible using a balanced approach within the applicable frameworks, and adjust course when it becomes clear that correction is required



Square One: NEPA Compliance

- Signed into law on January 1, 1970, NEPA:
 - Established a national policy for considering environmental effects during federal decision-making
 - Established a White House Council on Environmental Quality (CEQ)
- NEPA requires all federal agencies, when planning programs, projects, or issuing permits or financial assistance awards, to understand the environmental impacts of their actions **before making a decision.**
- The foundation for determining impacts and alternatives

Square One: NEPA Compliance



Magnuson-Stevens Act – Essential Fish Habitat

“*Essential fish habitat* means those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity.”

MSA §3

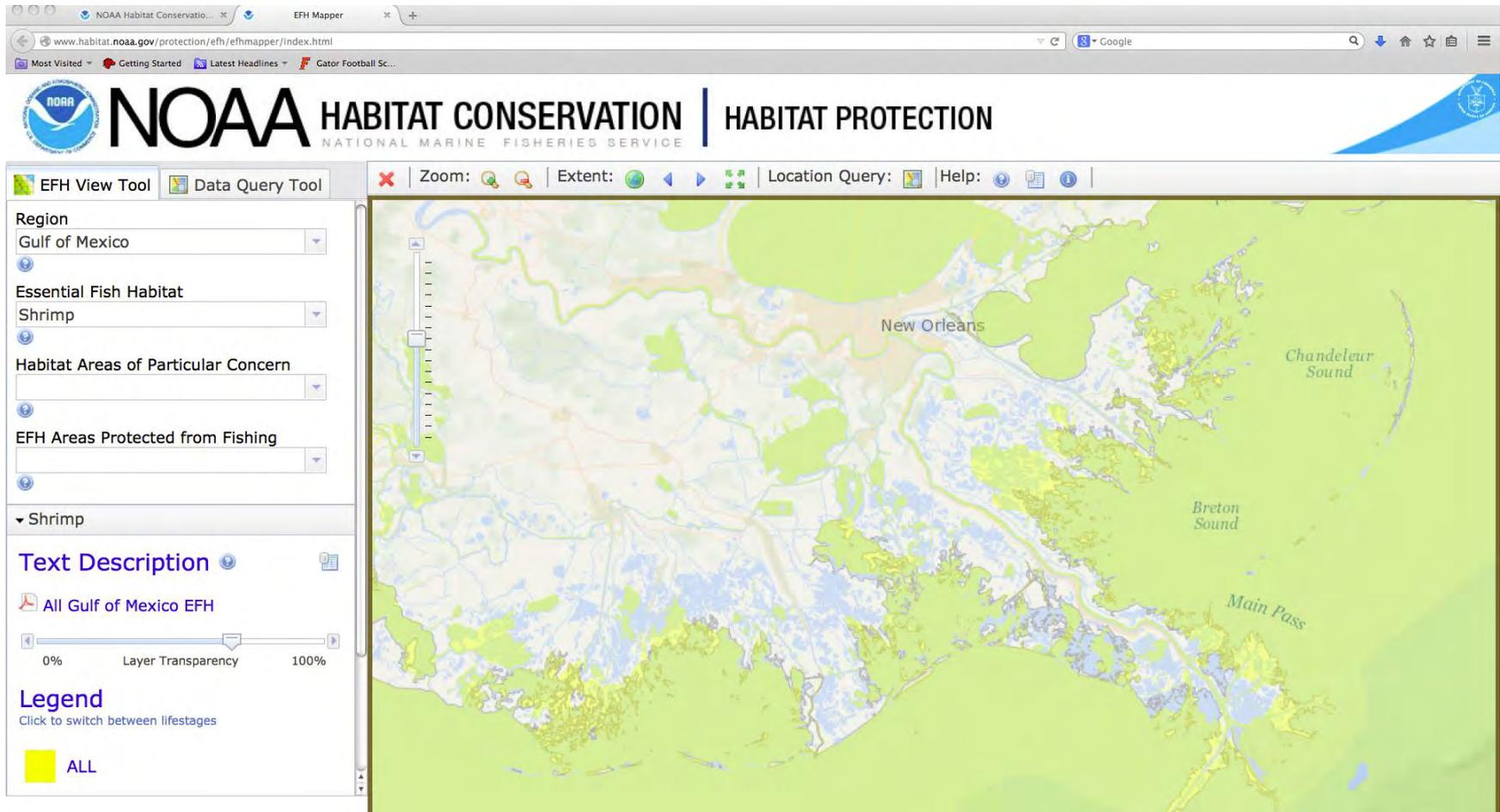
- EFH is designated by the Fishery Management Councils
- EFH is described for federally managed species
- EFH text is included in federal fishery management plans (FMPs) and geographic extent is shown on the EFH mapper

Magnuson-Stevens Act – Essential Fish Habitat

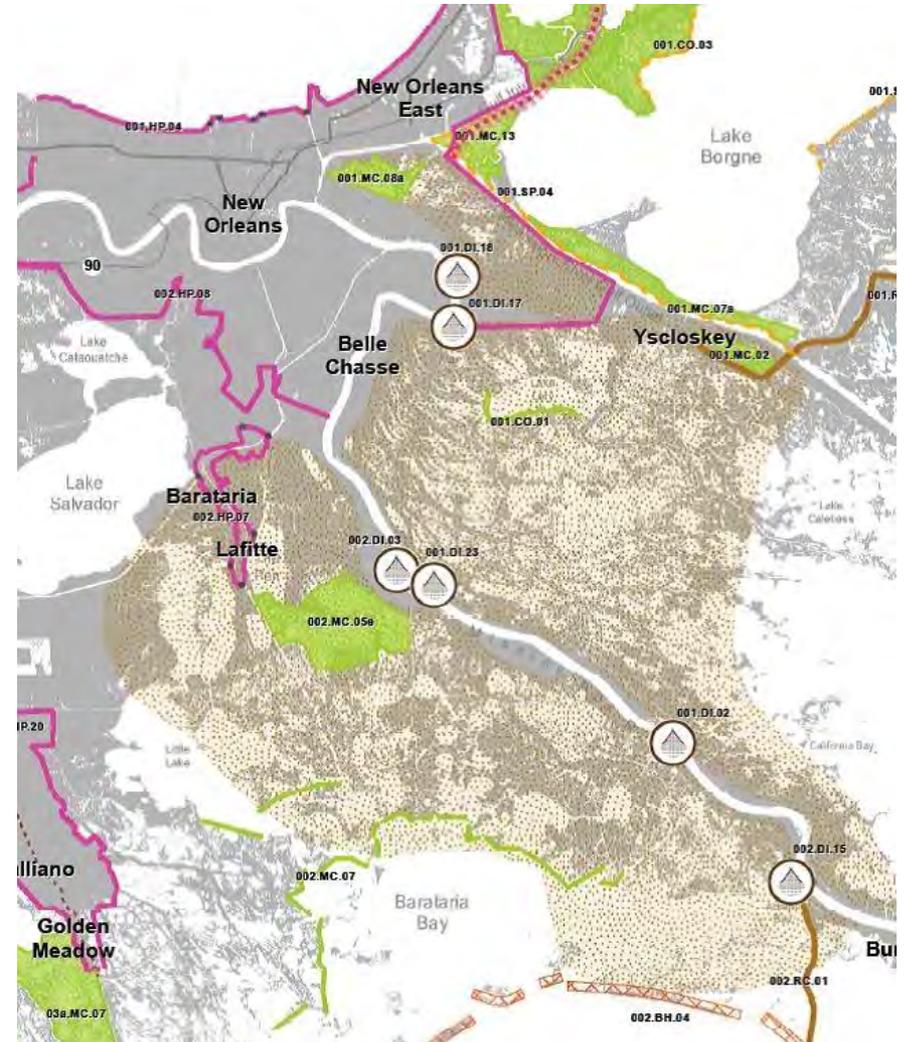
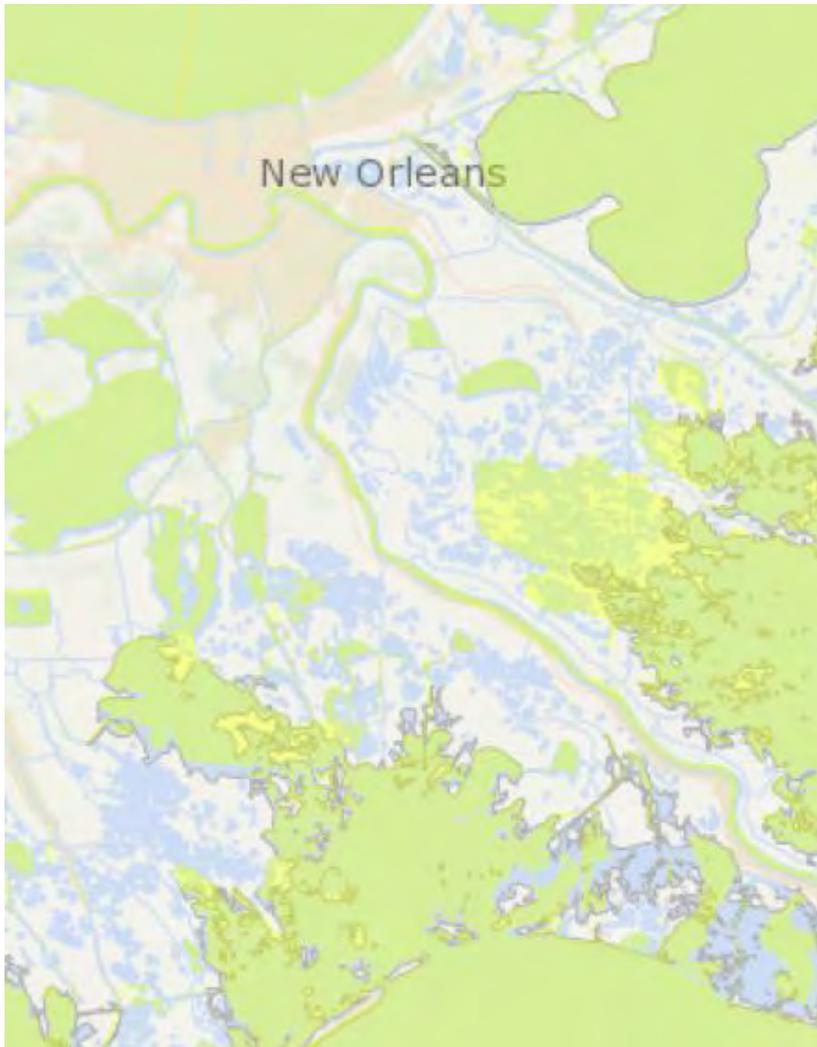
Federal agencies must:

- Evaluate the effects of their actions authorized, funded, taken or proposed to be authorized, funded or taken on EFH
- Consult with the Secretary of Commerce (NOAA) with respect to any action that may adversely affect any EFH identified under this Act
 - ◆ **Adverse effect = ‘any impact that reduces the quality and/or quantity of EFH’**
- Prepare a written assessment of any action that requires consultation
- Mitigation required to offset adverse impacts

Magnuson-Stevens Act – Essential Fish Habitat



Magnuson-Stevens Act – Essential Fish Habitat



Magnuson-Stevens Act – Essential Fish Habitat

Categories of EFH affected

- Emergent wetlands
- Mangrove wetlands
- Submerged aquatic vegetation
- Benthic substrates (mud, sand, shell (e.g., oyster reef))
- Estuarine water column
- Nearshore water column
- Nearshore non-vegetated bottom

Species Potentially Impacted

- Shrimp (white and brown)
- Red drum
- Snapper (dog, lane, gray)
- Sharks (bonnethead, Atlantic sharpnose, blacknose)

Other important species

- American oyster
- Atlantic croaker
- Gulf menhaden
- Seatrout (sand, spotted)
- Black drum
- Southern flounder
- Blue crab
- Striped mullet
- Highly migratory species

Magnuson-Stevens Act – Essential Fish Habitat

Information needs – monitoring, assessment, analysis, and modeling to evaluate and inform design, siting, construction, and adaptive management of operations

- Potential Benefits
- Hydrodynamics
- Habitat modification
- Species-specific variation in distribution, abundance, productivity, fecundity, health
- Socioeconomic impacts to fishery user groups
- Ecosystem change
- Cumulative effects
- Evaluation of alternatives (e.g., mitigation measures)

Endangered Species Act

Section 7(a)(2)



Section 7(a)(2) of the Act requires every Federal agency, in consultation with and with the assistance of the Secretary, to insure that any **action it authorizes, funds, or carries out**, in the United States or upon the high seas, **is not likely to jeopardize the continued existence of any listed species or results in the destruction or adverse modification of critical habitat.**

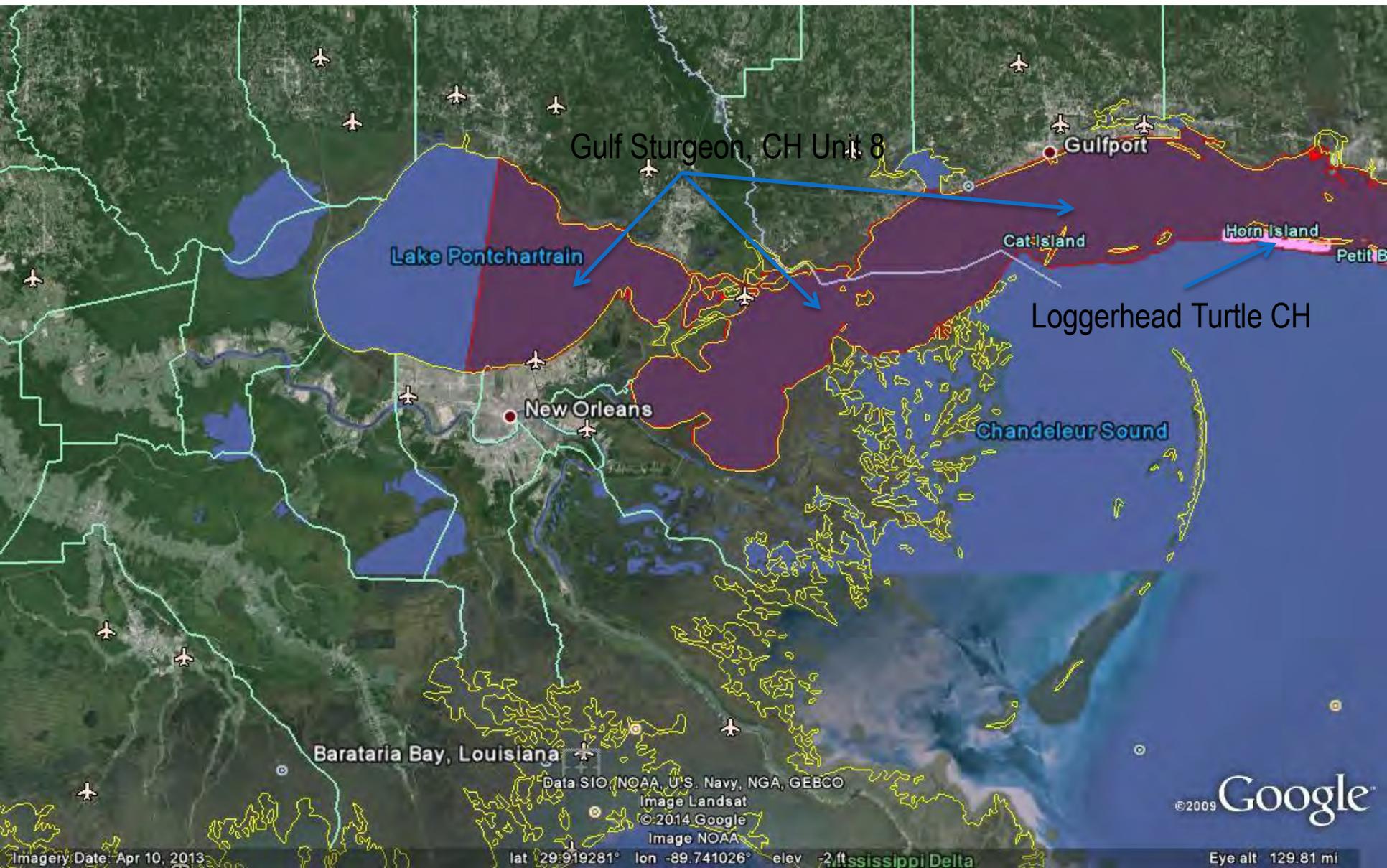
Endangered Species Act Considerations

- Listed Species and Jurisdictions
- Species Impacts (direct and indirect)
- Critical Habitat Impacts (direct and indirect)
- Informal v. Formal Consultations
- Information Needs
- Potential for coordinated consultation

How Do We Consult?

- If the Agency believes that the action is **not likely to adversely affect**, they can conclude consultation with concurrence from NOAA Fisheries (***informal consultation***)
 - **Beneficial effects** are contemporaneous positive effects without any adverse effects to the species.
 - **Insignificant effects** relate to the size of the impact and should never reach the scale where take occurs.
 - **Discountable effects** are those extremely unlikely to occur.
- **Formal consultation** results in a Biological Opinion, a document that analyzes the proposed action and provides the NOAA Fisheries' opinion on whether the action is **likely to jeopardize** the continued existence of a threatened or endangered species or result in the **destruction or adverse modification of critical habitat**.
- A Biological Opinion that concludes no jeopardy or adverse modification to critical habitat includes an Incidental Take Statement
 - Reasonable and prudent measures (RPMs)
 - Terms and conditions
- A Biological Opinion that concludes jeopardy or adverse modification to critical habitat, includes reasonable and prudent alternatives (RPAs)
- Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or attempt to engage in any such conduct.
 - Harm is further defined by regulation to include ***significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavioral patterns including breeding, feeding, or sheltering.***
 - Incidental take is defined as take that is incidental to, and not the purpose of, carrying out of an otherwise lawful activity.

Designated Critical Habitat in and Near the Delta



Sections 101(a)(5)(A) and (D) of the MMPA

The MMPA states that, upon request, the Secretary (of the Department of Commerce) **shall** allow the **incidental take** (but not intentional take) of **small numbers** of marine mammals pursuant to a **specified activity** (other than commercial fishing) within a **specific geographic area** if:

- After opportunity for **public comment** The Secretary finds:
 - The total taking will have a **negligible impact** on the affected species (or stock)
 - The total taking will not have an unmitigable adverse impact on the availability of the affected species or stocks for **subsistence uses**
- The permissible methods of taking are clearly set forth
- Means of effecting the least practicable adverse impact on the affected species, their habitat, and subsistence uses are set forth (**mitigation measures**), paying particular attention to rookeries, mating grounds, and areas of similar significance
- Requirements pertaining to the **monitoring and reporting** of the taking are set forth



MMPA & ESA Compliance

Issuance of an incidental take authorization (ITA) is a Federal action - requires we consider effects of MMPA authorization issuance on ESA-listed species

For authorizing take in MMPA ITA, formal Section 7 consultation is required.

The MMPA ITP Program consults under Section 7 concurrently with the lead Federal action agency.

NMFS MMPA ITP cannot issue an MMPA ITA unless and until a “No Jeopardy” Biological Opinion (BiOp) is issued under ESA

NMFS ESA Division cannot issue an incidental take statement (ITS - pursuant to the ESA, under the BiOp) until an MMPA ITA has been issued

NMFS MMPA and ESA and staff coordinate throughout both the ESA and MMPA processes.

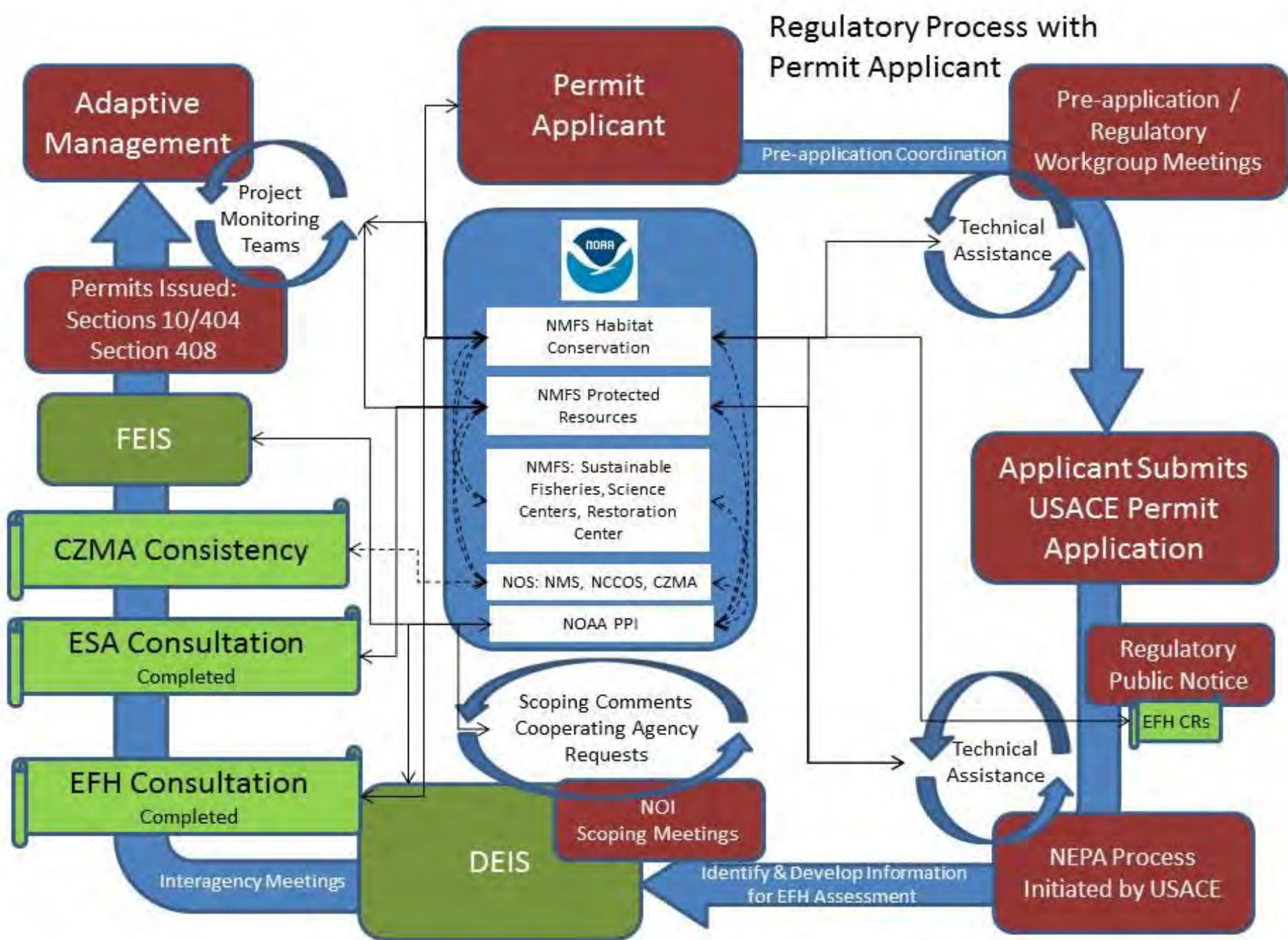
- Work together on mitigation and other recommendations
- Coordinate timelines

Potential Impacts to Barataria Bay Dolphins

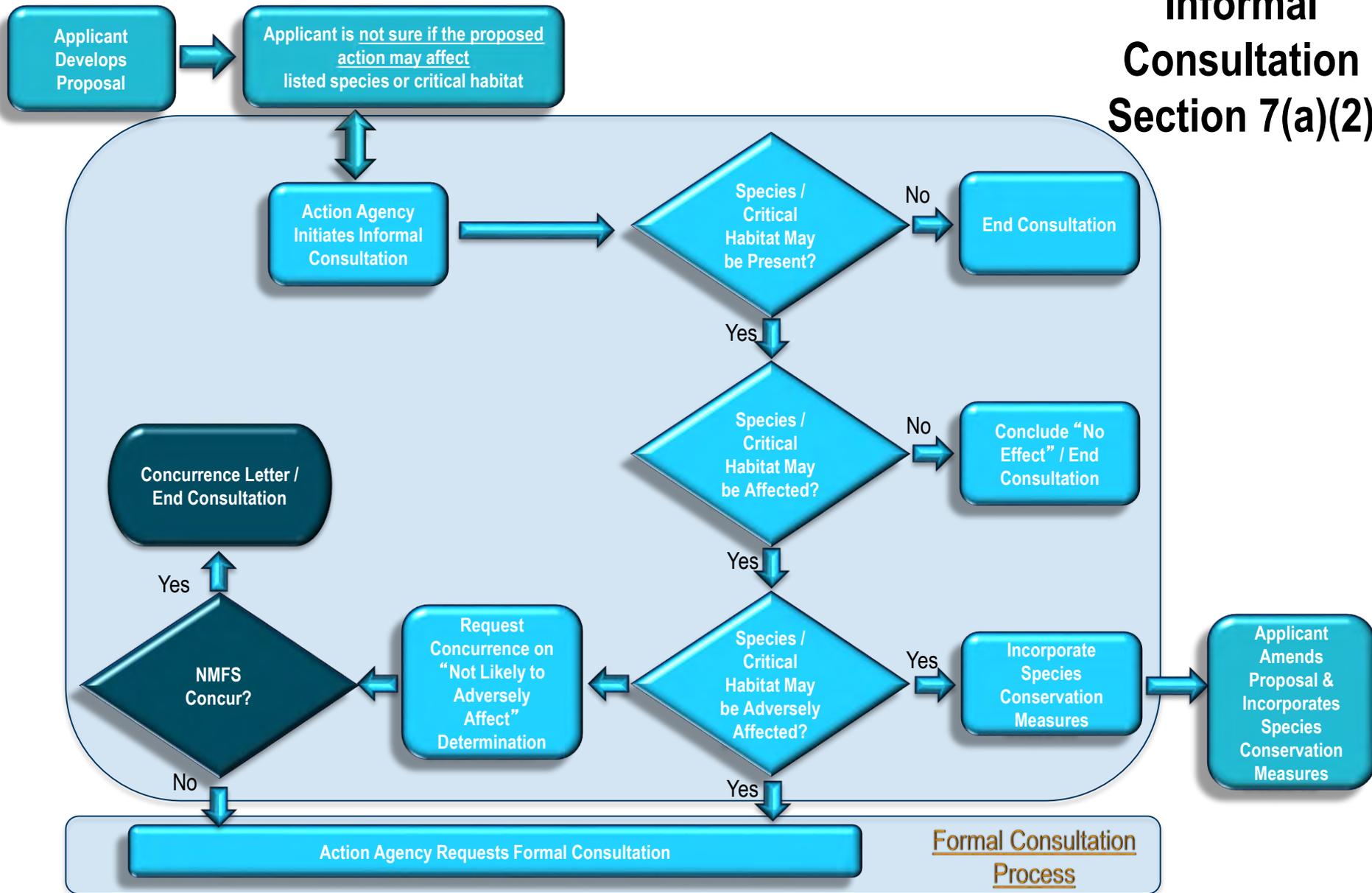
- Resident population of bottlenose dolphin
- Chronic illness
- Unusual mortality event
- Potential increased susceptibility to FW inputs
- Associated changes in prey species
- Potential temporary construction impacts
- May require mitigation measures
- May require incidental take authorization

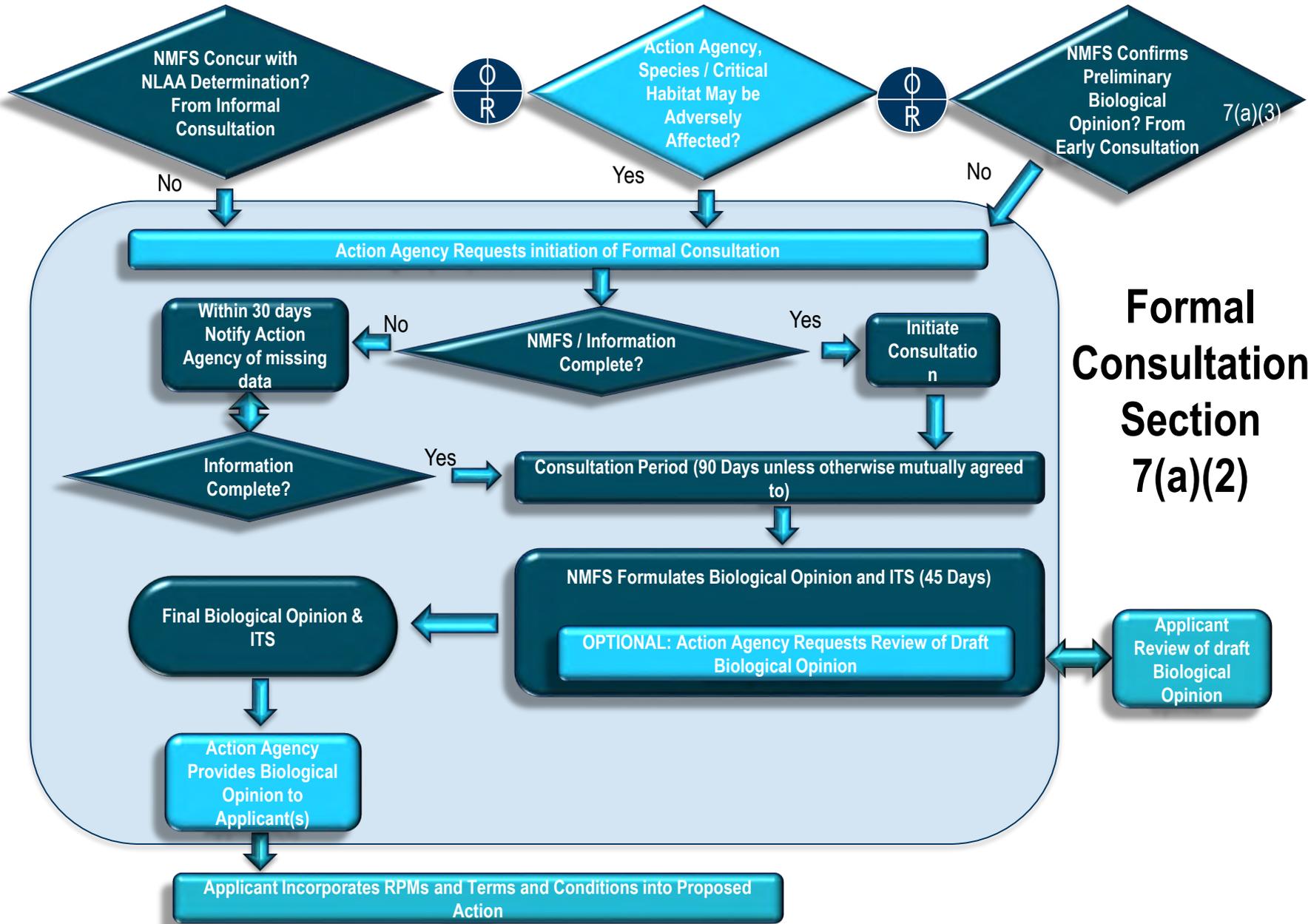


NOLA.com | The Times-Picayune



Informal Consultation Section 7(a)(2)





Formal Consultation Section 7(a)(2)

7(a)(3)

Tools and Resources

EFH essentials:

- EFH website: <http://www.habitat.noaa.gov/efh>
- EFH Mapper and Data Inventory: <http://www.habitat.noaa.gov/efhmapper>

Guidance documents:

- EFH Consultation Guidance:
http://www.habitat.noaa.gov/pdf/efhconsultationguidancev1_1.pdf
- Preparing EFH Assessments:
<http://www.habitat.noaa.gov/pdf/preparingefhassessments.pdf>

Contact info:

SE Regional contacts can be found at: http://sero.nmfs.noaa.gov/habitat_conservation/index.html