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Synthesizing and Quantifying Environmental Effects on the Gulf of Mexico

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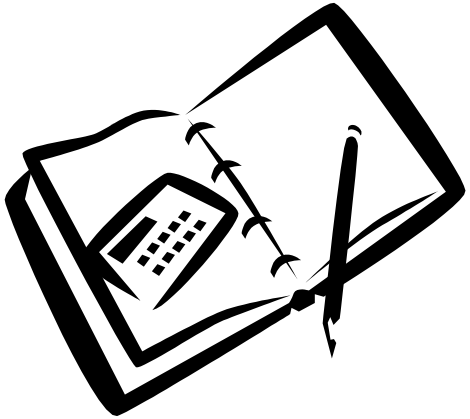
BOEM Information Need:

A quantitative, contextual, updated report on the inputs, fates, and effects of oil, natural gas, and chemicals used in the oil and gas industry on water and sediment quality in the offshore and coastal waters of the Gulf of Mexico to be used as a key reference in BOEM's NEPA documents.

Date Information Required:

As soon as possible



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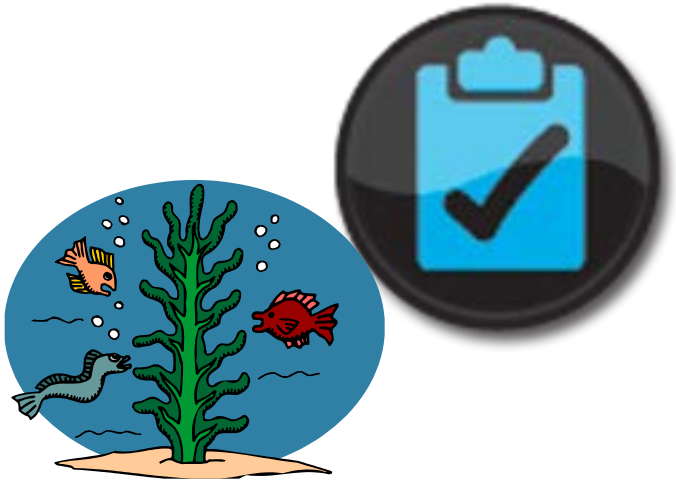
Background:

NEPA documents:

- Appraise water and sediment quality in the GOM
- Evaluate routine, accidental, and cumulative impacts from federal offshore oil and gas (O & G) activities
- Considered BOEM O & G activities in context with:
  - Activities of other Federal agencies (e.g., the military)
  - Natural events or processes
  - State O & G activity
  - Use of land and waterways by humans
    - urbanization
    - agricultural practices
    - coastal industry
    - municipal wastes



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Background:

Essential references

- Oil in the sea III: inputs, fates, and effects

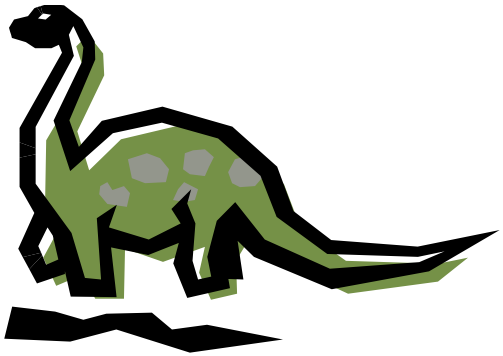
  National Research Council, 2003
- Environmental Risks of Chemical Products Used in Gulf of Mexico Deepwater Oil and Gas Operations

  Literature Review, Boehm et al. 2001, OCS Study MMS 2001-011
- Analysis of U.S. Oil Spillage

  Etkin, D.S. 2009, American Petroleum Institute Publication 356

Challenges:

- Dated
- Not always quantitative
- Do not always put data in context



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Study's Objectives:

To generate a new synthesis of information on oil and gas inputs, including chemicals used in the oil and gas industry, fates, and effects on water and sediment quality in the Gulf of Mexico and to put this information into *quantitative context* along with inputs, fates, and effects of other activities that affect the water and sediment quality of the GOM. The quantitative contribution of each source to each impact should be described.

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Study's Methods:

- Literature and data search/mining
  - Consider pre- and post- spill information
  - Peer reviewed or government sources
  - Publically available
  - Industry only if filling a gap and vetting
- Data synthesis
- Calculations and possible modeling
- No field or laboratory work

Products:

- Report,
- Peer-reviewed paper
- Reference Manager and Endnote readable database of references used
- Electronic copies of
  - References (as allowed by copyright law)
  - Data used (as allowed by copyright law)
  - Electronic copies of calculations
  - BOEM readable files of model generated data and inputs