

# Murphy Oil USA Refinery Spill Chalmette & Meraux, LA



U.S. EPA Region 6  
Response and Prevention Branch  
Oil Team

May 2006



# Murphy Oil Spill Time Line

- August 29 - Hurricane Katrina hits south Louisiana
- Waters from surge flood St. Bernard Parish and Meraux, LA from North
  - Mississippi River Gulf Outlet (MRGO)
  - Lake Borne
- Murphy Refinery, entire tank farm under water
- Overflights observe no oil spill

# Murphy Oil Spill

- EPA and Murphy overflights on **August 30** find no spill
- Flood waters over dikes
- Levees on north side of Chalmette and Meraux opened, drain Parish.
- Waters begin to recede





# Murphy Oil Spill

- September 3 - Murphy Refinery worker and local resident discovers oil spill in neighborhood
  - Finds failed berm at Tank 250-2
  - Sandbags berm
- Murphy notifies NRC
- 25,110 bbls spilled
- Initial estimate 1800+ homes oiled



# Murphy Oil Spill

- Tank 250-2 is 250,000 bbl
- Tank reported to have only 85,000 bbl
- Tank floated, moved 33' to east, 4' to north
- 25,000 bbl oil spilled
  - Mixed Arabian Crude
  - 38° API Gravity
- City canals and over 1 sq mile of neighborhoods oiled



# Murphy Oil Spill

- EPA FOSC first federal official on site, on Sept. 3 - orders response/cleanup by Murphy
- Spill in USCG Area of Responsibility - USCG assumes lead for oversight
- EPA/USCG Memorandum of Understanding (10/08/05)
  - To maintain span of control and optimize critical resources in southern Louisiana
  - USCG responsibility for oversight of clean up of waterways
  - EPA responsibility for oversight of long-term remediation, clean up on land, residential areas, non-commercial waterways



# Murphy Oil Spill

- Murphy responds immediately
- Begins pumping out containment, canals
- ~72% of oil recovered (~18,000 bbls)



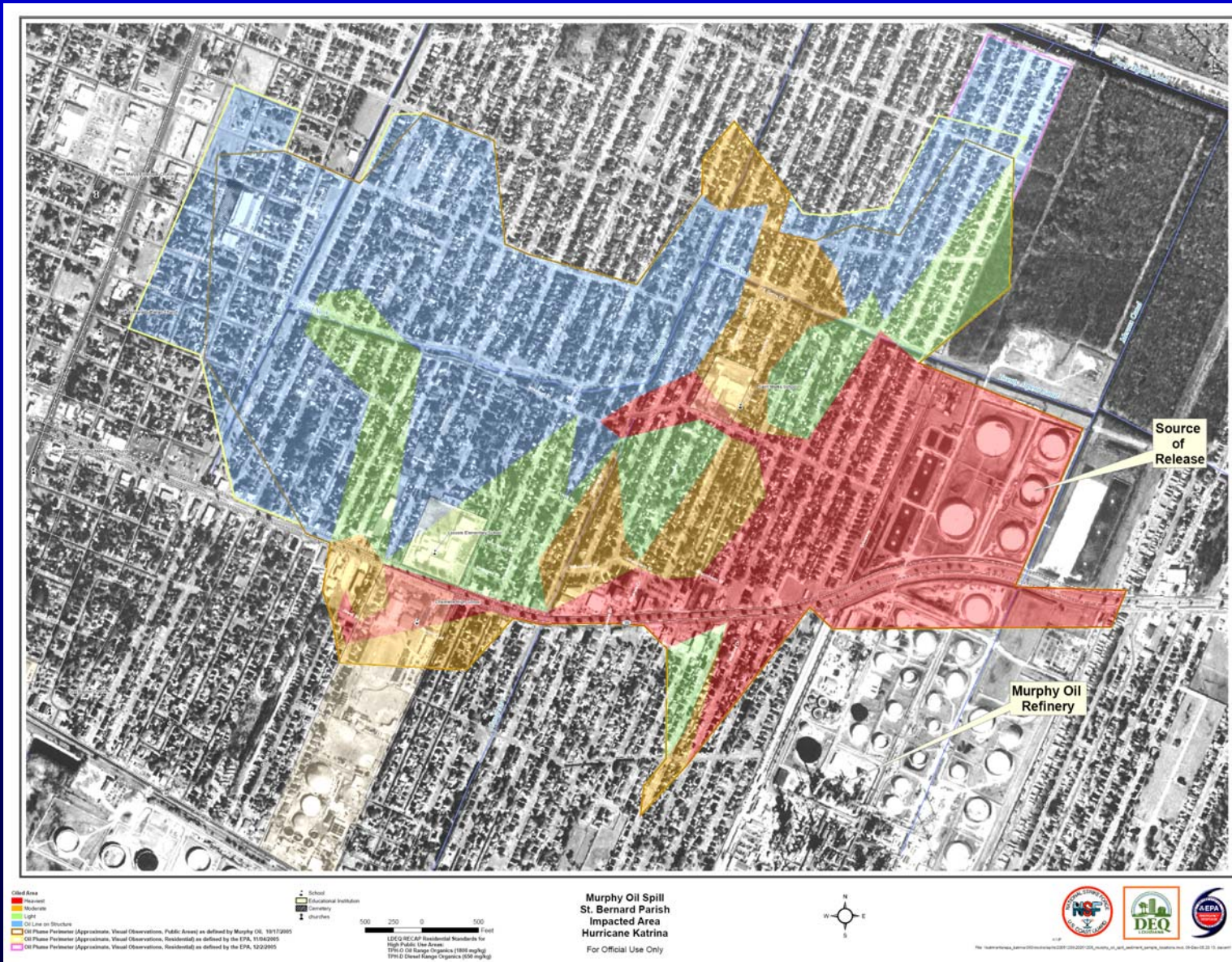
# Murphy Oil Spill

- Murphy begins residential cleanup
- Public areas and streets sanded, oil removed
- Boom maintained in canals for residual oil capture
- Oversight lead transitioned to EPA 11/02/05
- Initial visual footprint of spill established





# Murphy Oil Spill



Murphy Oil Spill Impacted Area

# Murphy Oil Spill

- Federal & State oversight of clean up, in Unified Command:
  - Environmental Protection Agency (EPA)
  - Louisiana Department of Environmental Quality (LDEQ)
- Health Risks assistance from Federal & State Health agencies
  - Agency for Toxic Substances and Disease Registry (ATSDR)
  - Louisiana Dept. of Health and Hospitals (LDHH)

# Murphy Oil Spill

- Site very complex on several levels
  - NRP, ESF-10 and EPA/USCG zones of jurisdiction
  - 2 EPA/USCG MOUs (response and enforcement)
  - CWA/OPA vs Stafford Act authorities
  - Clean up standards (State vs Federal)
    - Using State RECAP performance standards (Risk Evaluation/Corrective Action Program)



# Murphy Oil Spill

## Complexity (continued)

- Class Action lawsuit against Murphy
- Restrictions from Federal Court
  - Restricting Murphy's communication with property owners
- Privacy Act (release of homeowners data to non-federal entities)
- Other EPA work in Parish (HHW, landfill fires)
- Access problems

# Murphy Oil Spill

- Coordination and Public Relations:
  - FEMA (need to place trailers in affected area)
  - St. Bernard Parish Council and public meetings
  - Staff FEMA Disaster Recovery Center (community relations)
  - 200,000 fact sheets, flyers
  - Call center, 800 number, 1000's of calls
  - Work in community, neighborhoods, churches, schools

# Murphy Oil Spill Access

- Access problem
  - Homes of those suing not accessed
  - Many homeowners cannot be located
  - Murphy cannot communicate with anyone unless they've settled or opted out of lawsuit
  - FEMA Flood maps delay causing uncertainty, homeowner delay in clean up
  - Parish plans for future, expanded roads, etc cause homeowner delay



# Murphy Oil Spill

## Access (continued)

- Results of access problems
  - Cannot clean up whole contiguous blocks of neighborhoods, or even entire affected area
  - The “island effect” - oiled homes next to cleaned homes
  - Don't know entire universe of contaminated properties
  - Work volume drastically reduced, affects Murphy resources and scheduling
    - Keeping work crews and equipment without demobing/re-mobilization, etc.

# Murphy Oil Spill Process For Clean Up

- Phase 1
  - Property Owners call Murphy, request clean up
  - Signed access from property owner
  - Wipe samples for oil signature (other sources in area)
  - Sediment samples obtained on interior and exterior of home to determine levels of TPH (ORO, DRO) relative to State RECAP standard
  - Exterior surfaces of homes washed

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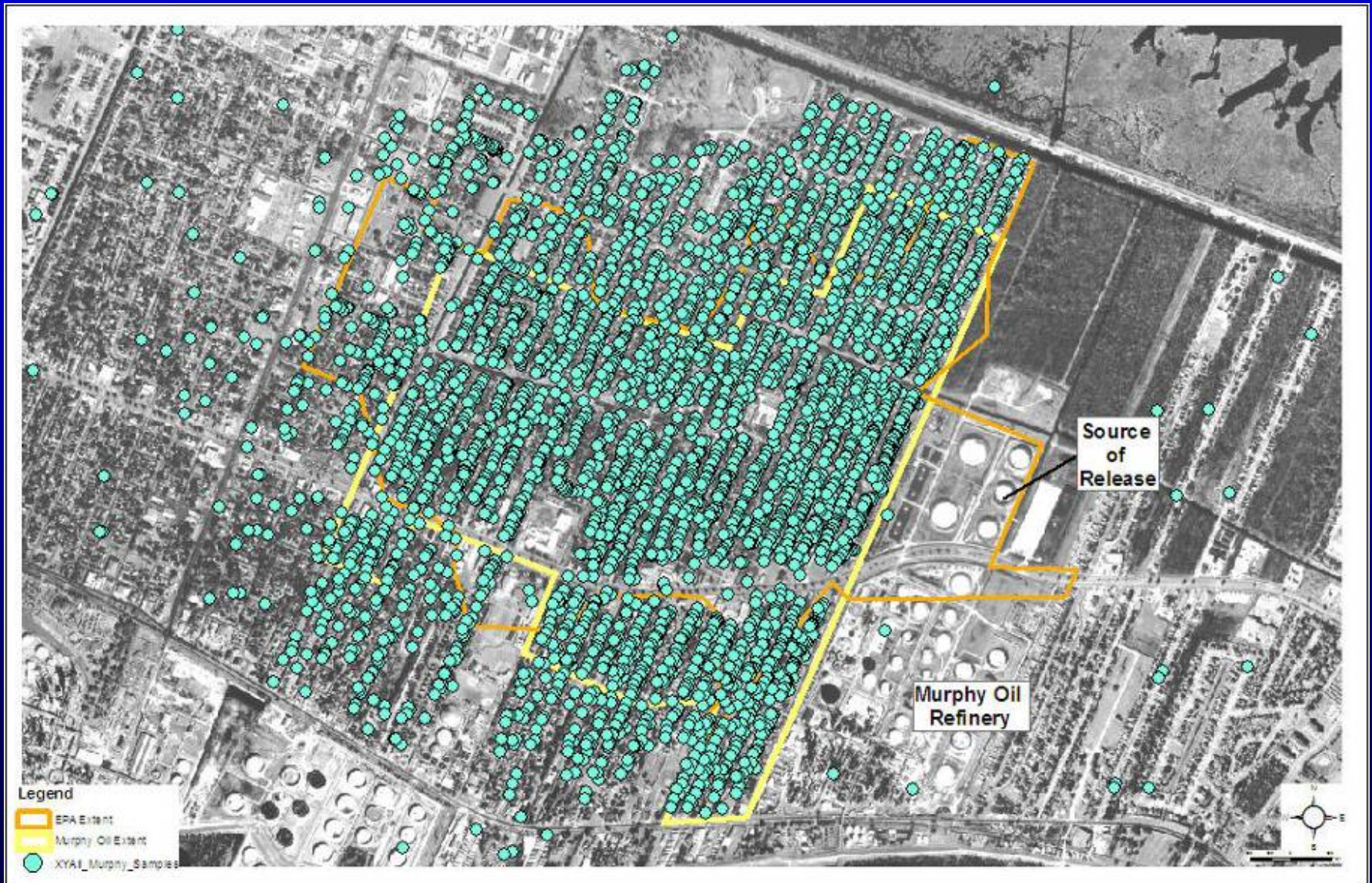
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# Murphy Oil Spill Process For Clean Up

- Phase 1
  - EPA conducts oversight of all Murphy actions
  - EPA obtains 10% splits of sediment samples
    - Samples run independently of Murphy
  - Samples run using LDEQ RECAP (TPH) standard
    - Diesel Range Organics
    - Oil range Organics

# Murphy Oil Spill



Sample Locations (>4500)



# Murphy Oil Spill





# Murphy Oil Spill Process For Clean Up

- Phase 2
  - Home owner guts house to studs on own dime
  - Murphy removes oiled debris, transports to industrial landfill
  - Home owner calls Murphy, requests interior cleaning, grants second access
  - Murphy power washes interior,
  - If above RECAP, yard excavated & replaced

# Murphy Oil Spill

- **>1335** home exteriors washed
- **333** homes interiors completed
- **>7650** samples taken from **4545** addresses
- **795** EPA split samples taken and sent to lab for separate analysis
- Oil removal in canals complete
- **> 284,700** cu. yds of debris removed



# Murphy Oil Spill

## Health Risks

- Determined by health agencies, LDHH & ATSDR
- ATSDR Health Consults
  - November 9, 2005 - advised of health risks
  - December 9, 2005 - For properties sampled:
    - no short term risks
    - no long term health risks for most properties
    - Health risks at some properties

# Murphy Oil Spill

## Health Risks

- Other health risks:
  - Mold
  - Structural problems
  - Snakes, rodents
  - Debris, puncture wounds
  - Contaminating/transporting oil from adjacent non-oiled properties onto yours (or trailer)





# Hurricane Katrina/Rita Response

## Health and Safety Orientation

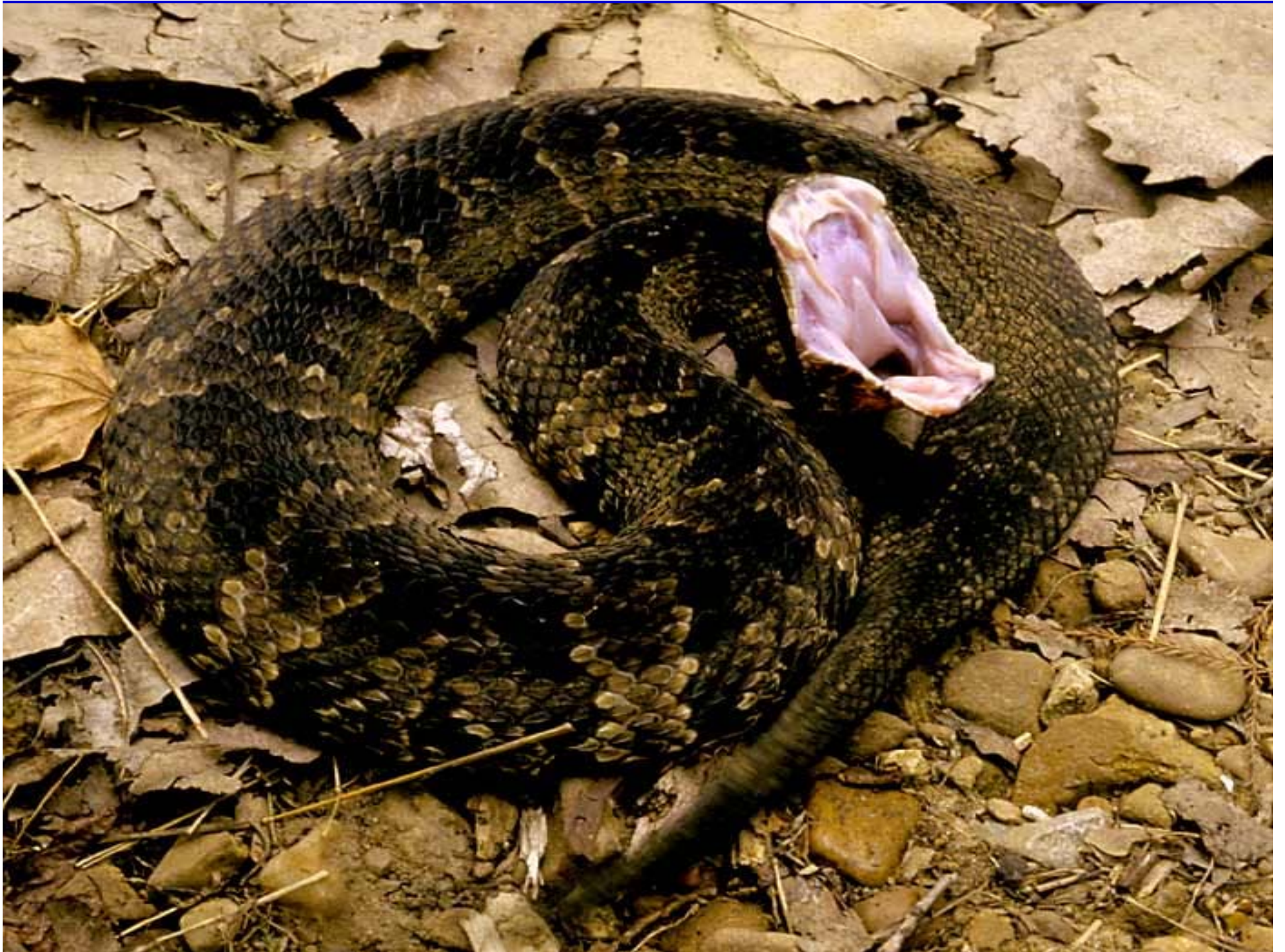






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# Murphy Oil Spill

DISCUSSION &  
QUESTIONS

