Deepwater Horizon Surveillance Efforts

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Unclassified

A Day in the Life of The Coast Guard

Team Coast Guard

- Active Duty = 42,971
- Reserve = 8,109
- Civilians = 8,358
- Auxiliarists = 36,692

Team Coast Guard

Uniformed Services

Armed Forces

Military

Army

Navy

Marines

Air Force

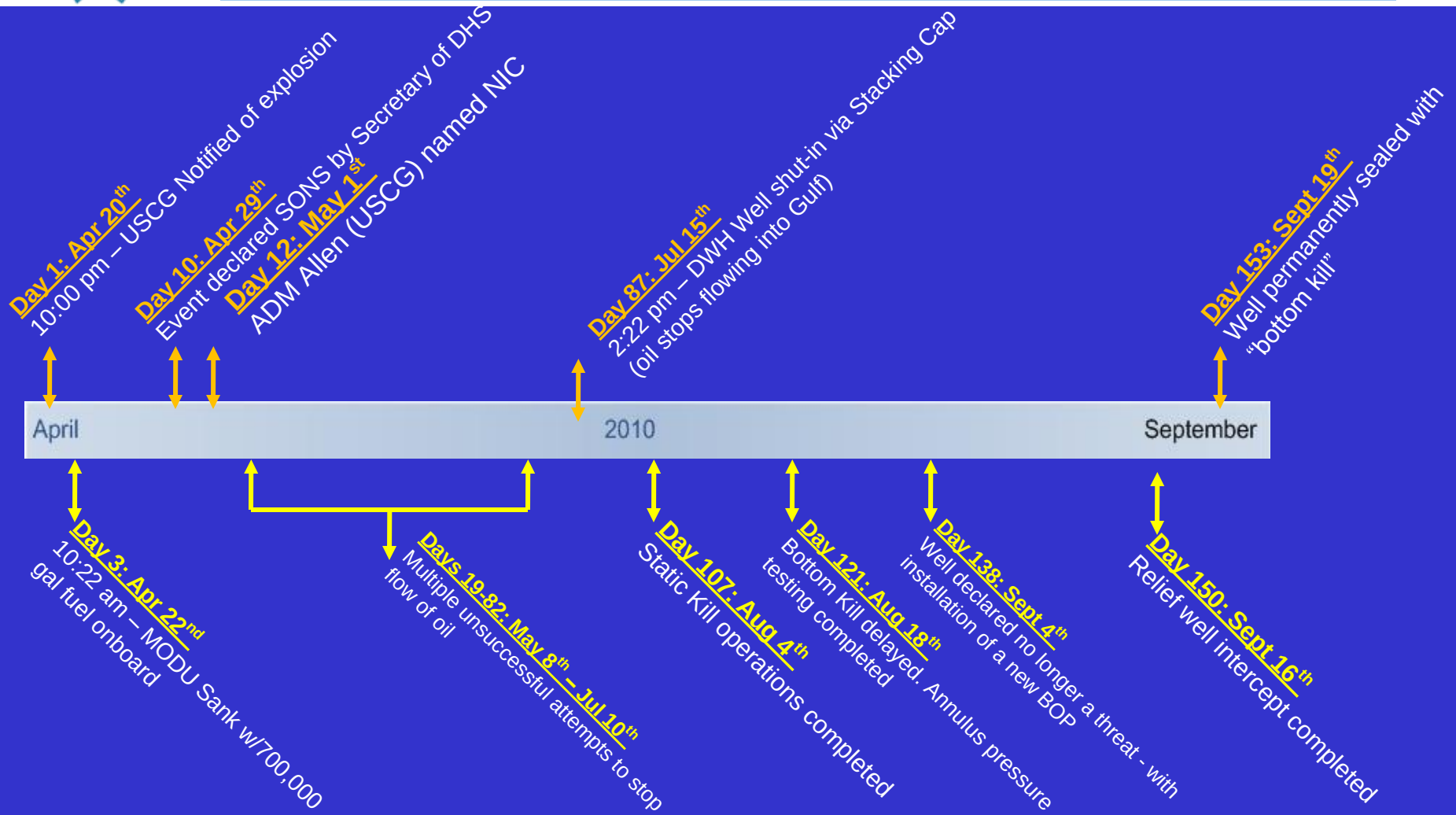
Coast Guard

PHS Commissioned Corps

NOAA Commissioned Corps

Deepwater Horizon

Timeline & Key Events



Unified Area Command

Assets & Personnel:

- 48,000 personnel
- 10,000 Vessels of Opportunity
- 125 aircraft

Unified Area Command

Coast Guard Personnel:

- ~7500 Coast Guard personnel deployed (~14% of Coast Guard workforce)
- Assumed command & control within a few short hours of the event

Deepwater Horizon Operations

In Situ Burns

Beach Clean-up

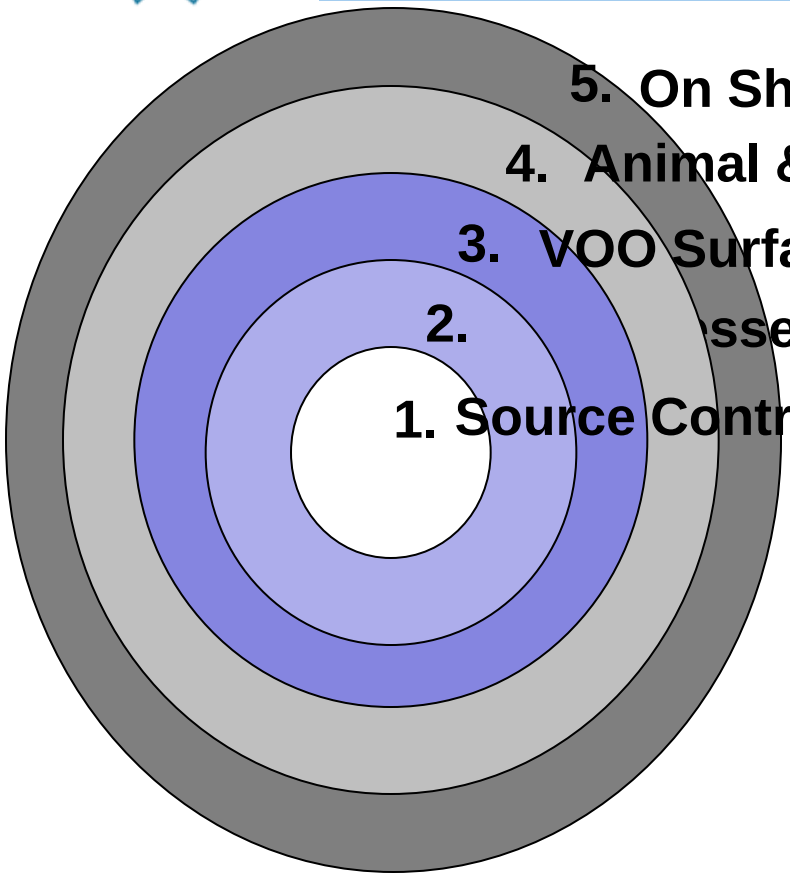
Deepwater Horizon Operations

Dispersant Application

Decontamination Ops

Booming & Skimming Ops

Levels of Worker Exposure from the Point Source



5. On Shore Cleanup Workers
4. Animal & Equipment Decon Workers
3. VOO Surface Control (booming/skimming)
2. ssel Surface Control (booming/skimming)
1. Source Control

Courtesy of NIOSH

Potential Hazards

DEEPWATER HORIZON RESPONSE

Summary of Potential Hazards to Deepwater Horizon Response Workers

Potential Hazard	Risk Assessment	Evaluation Criteria	Recommendation
Cardiovascular Disease	Pre-placement physical: BMI*, BP, pulse	Physician's evaluation	For excess risk, assign to light duty, low demands, air conditioned environment
Heat Stress	Temperature, humidity, work load	Health surveillance	Training program, acclimatization, monitored hydration, work-rest regimen
Traumatic Incident Stress	Mental and emotional health	Physical complaints, thinking problems, changes in behavior, mood, irritability	Maintain adequate nutrition, hydration, rest; work in pairs to look out for buddy
Fatigue	Work hours and schedules	Management of hours worked	Shifts < 10 hours; 2 rest days after 3 12-hour shifts or 4 10-hour shifts or 5 8-hour shifts; frequent rest breaks
Chemicals	Air sampling, monitoring symptoms	OELs, reported symptoms, irritation	Organic vapor cartridge respirators, protective clothing, protective eyewear
Particulate	Air sampling, monitoring symptoms	OELs, visual observation, reported symptoms	P100 air-purifying respirators, protective eyewear
Odor	Sense of smell	Workers bothered by odors	Voluntary use of carbon-impregnated P95 filtering facepiece respirator

Courtesy of NIOSH

NIH Gulf Study

- **Prospective cohort study of potential short- and long-term health effects associated with workers and volunteers (>55,000) involved in DWH clean-up activities**

NIH Gulf Study

- Genotoxicity
- Changes in immune response & function
- Adverse reproductive effects
- Chronic respiratory effects
- Neurobehavioral effects
- Depression, other mental health changes
- Biological aging (telomere shortening)
- DNA damage and repair, other biomarkers of exposure and effect
- Cancer, Mortality

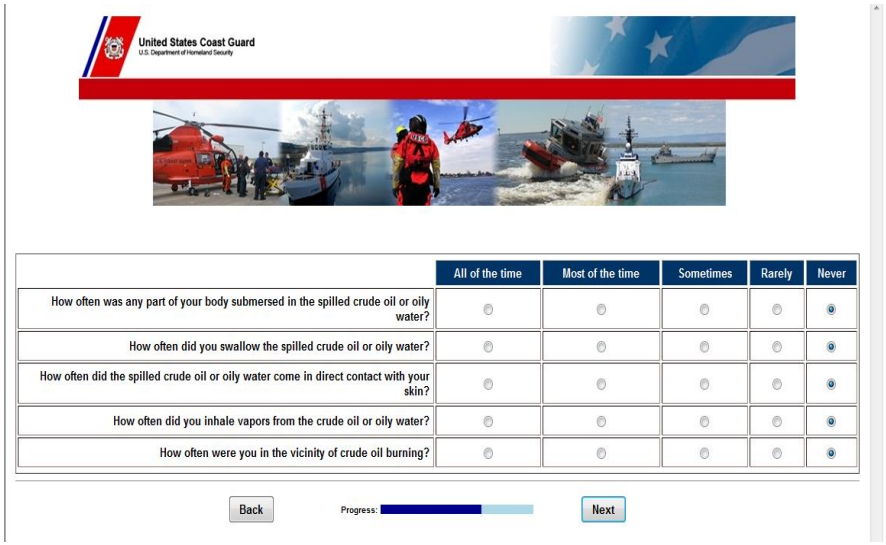
Coast Guard Deepwater Horizon Cohort Study

- **To identify potential short- and long-term health effects from oil spill response work exposures by analyzing data from exit surveys.**
- **The Coast Guard cohort study will have the ability to compare objective health data (post spill and pre spill) for a population with exposure data collected.**

Coast Guard Responders – Data Sources

- **Compiling comprehensive list of responders**

- **Inventory (Survey)**
  - **Time & site of response**
  - **Mission(s)**
  - **Exposures**
  - **Health Effects**



- **Occupational Medicine Surveillance Evaluation Program (OMSEP) - Subset of responders with baseline physical examinations**

Coast Guard Responders – Data Sources

- **Medical encounters**
  - **Coast Guard Electronic Health Record**
  - **Defense Medical Surveillance System (DMSS)**
- **Quantitative exposure measurements (personal monitoring on sample of responders)**
  - **Benzene, cyclohexane, ethyl benzene, petroleum distillates, propylene glycol, toluene, trimethyl benzene, xylene, oil mist mineral, 2-butoxyethanol**
  - **Negligible, low levels found**
- **DoD Serum Repository –**
  - **Pre-spill serum samples from HIV testing**
  - **DNA adducts??**

Questions?