Aerial Dispersant Monitoring Using

SMART Protocols During the DWH

Spill Response*

ED Levine / NOAA SSC
Jordan Stout / NOAA SSC
Brian Parscal / Clean Island Council
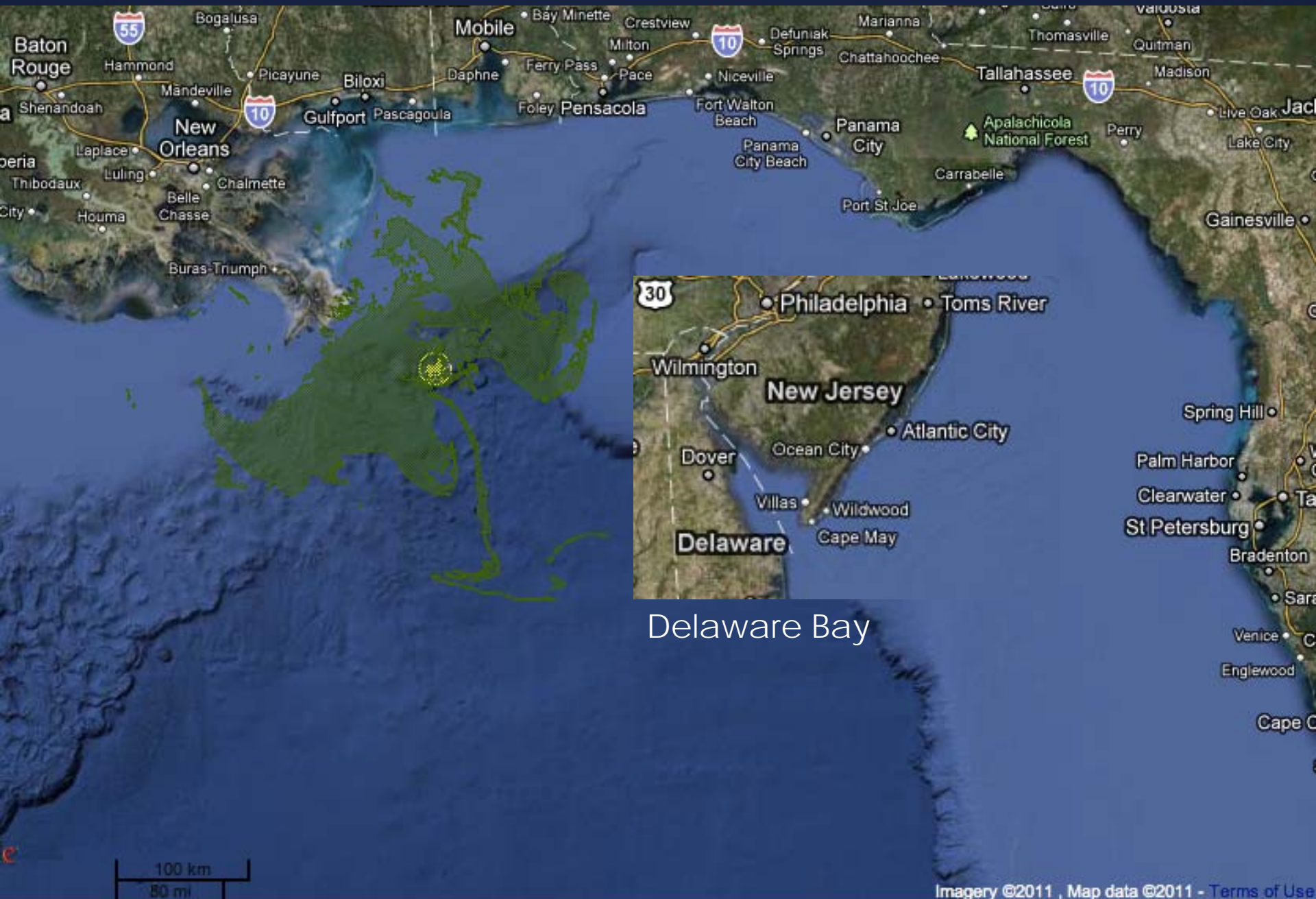Ann Hayward Walker / SEA
Ken Bond / USCG GST

*or How to get Smarter in a hurry!
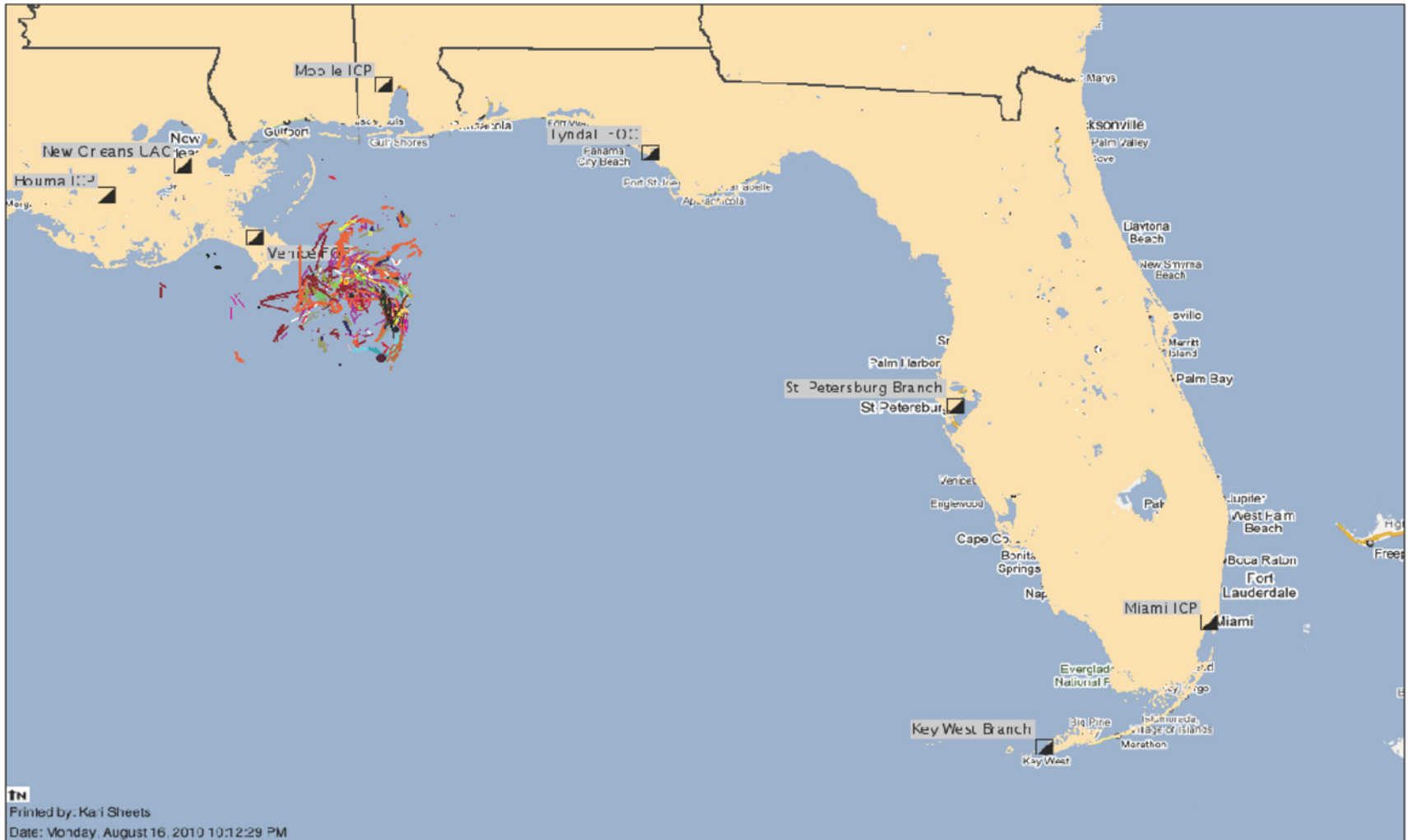
Special Monitoring for Advanced Technologies

➢ Never implemented for a spill of this magnitude,

➢ This far offshore,

➢ For an extended duration,

➢ Requiring unparalleled logistical support and training.

NESDIS Anomaly Analysis 29-May-2010 Composite

Delaware Bay

Dispersant Spray Locations

Dispersant Application Observation Reporting Form 30

Observers: Mandy Pistole, Justin Sawyer

Date: 20 June 2010

Start time: 1105   **End Time:** 1134

Platform: N790P

RANK	STANDARD PHRASE	DESCRIPTION	TIME	TIME	TIME
01	No obvious dispersion	Dispersant being washed off the black oil as white, watery solution leaving oil on surface. Quantity of oil on sea surface not altered by dispersant.			
02	Slow or partial dispersion	Some surface activity (oil appearance altered). Spreading out of oil. Droplets of oil seen rapidly rising back to sea surface, but overall quality appear to be similar to that before dispersant spraying.	1105	1120	
03	Rapid dispersion	Oil rapidly disappearing from surface. Light brown plume of dispersed oil visible in water under the oil and drifting away from it. Oil in some areas being dispersed to leave only sheen on sea surface, but in other areas still some oil present.	1134		

Time of observations should be recorded from initial application or arrival on scene and then approximately 15min apart until observations are ceased.

Tier I   30 May 2010

Modu Deepwater Horizon

N 28° 26.617' W 089° 09.654'   05/30/2010 2:46:15 PM

DSC_0010.jpg

Targeted area is a streamer of reddish oil approximately 200 ft x 6 mi. This is the second aircraft to spray on this area today. Evidence of dispersion is present and the streamer is changing colors from reddish to a lighter brown and is fringing and
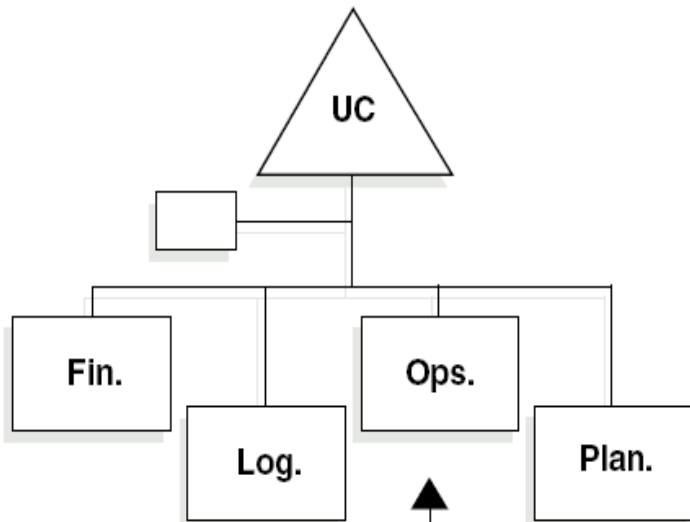

Modu Deepwater Horizon

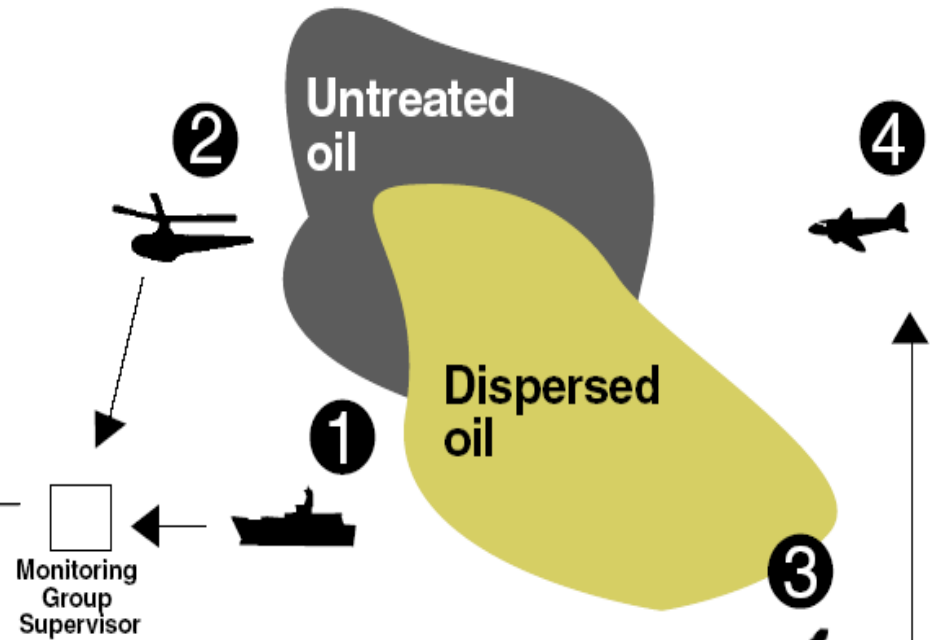N 29° 24.968' W 088° 24.000'   05/30/2010 11:24:06 AM

Title	Modu Deepwater Horizon
Comment	Targeted area is a streamer of reddish oil approximately 200 ft x 6 mi. This is the second aircraft to spray on this area today. Evidence of dispersion is present and the streamer is changing colors from reddish to a lighter brown and is fringing and
Internal Comment	separating at the edges from the main, central streamer.
Location	N 29° 24.968' W 088° 24.000'
Datum	Lat / Lon WGS 84
Time	05/30/2010 11:24:06 AM
Time Zone	(GMT-05:00) Central Daylight Time

57 mi

29°02'14.04" N   90°15'28.50" W   elev   -6 ft   Eye alt   193.21 mi

COMMAND POST

FIELD OPERATIONS

UC

Fin.

Log.

Ops.

Plan.

Monitoring
Group
Supervisor

Untreated
oil

Dispersed
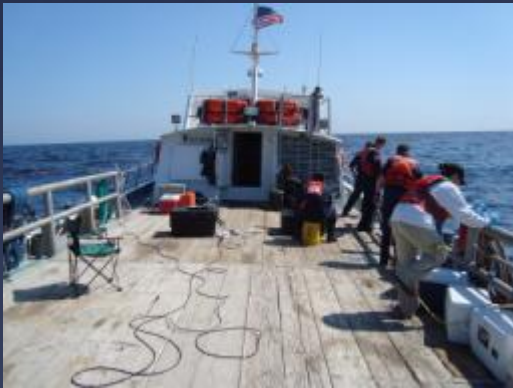oil

❷

❶

❸

❹

1 = Monitoring vessel
2 = Aerial observation platform
3 = Dispersant application platform
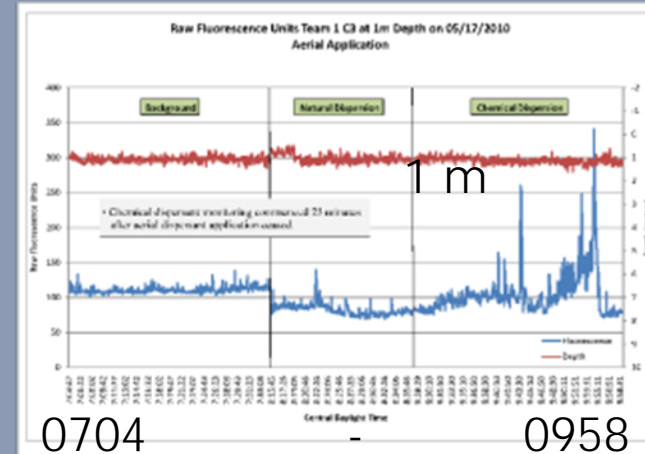4 = Spotter aircraft

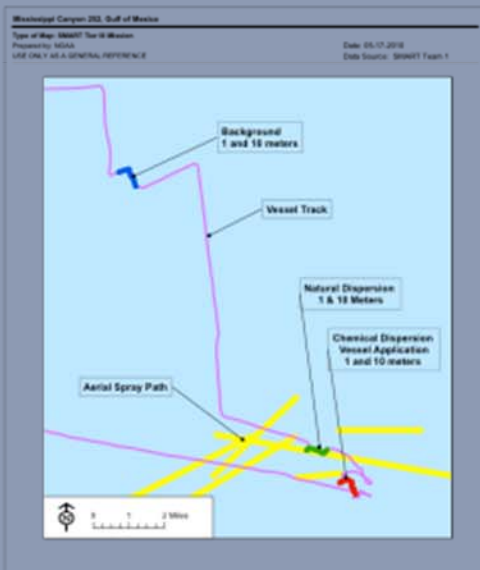Tier III

SMART Team 1 Dispersant Monitoring May 17, 2010

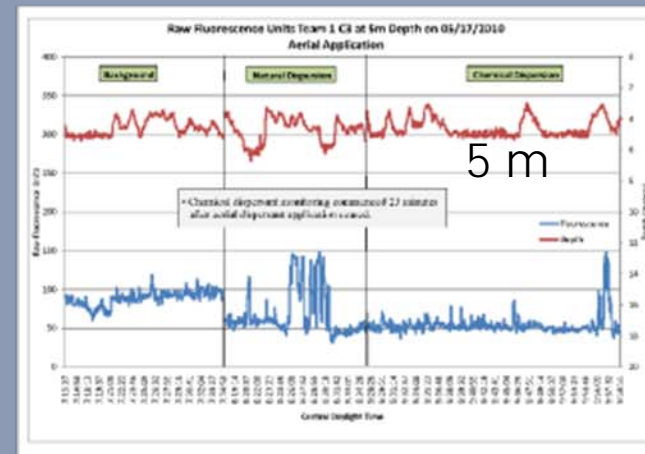**Results of an aerial dispersant application test to evaluate the efficacy of chemical dispersants on Mississippi Canyon 252 crude.**

ASSESSMENT -
Based on the fluorometry data and visual observations, this dispersant application appears moderately effective.

TPH Values in ppm
MDL = minimum detection limit

Chemically-Dispersed Oil

3 ml Fresh South
Louisiana Crude Oil

30 ml salt water

Corexit 9500 added
to right jar

Shaken and let
stand for 10 minutes

Photographed
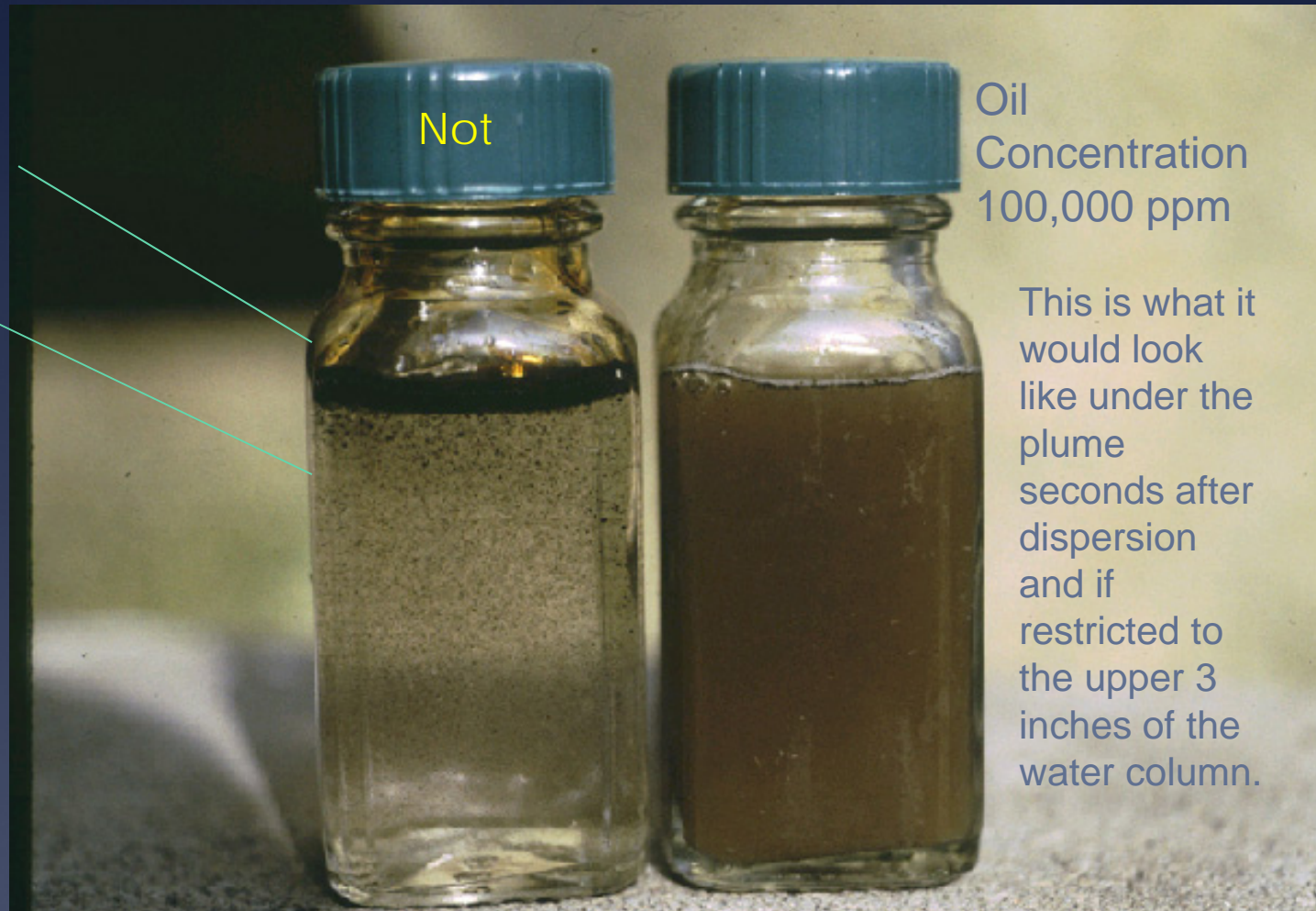
Not

Oil
Concentration
100,000 ppm

This is what it
would look
like under the
plume
seconds after
dispersion
and if
restricted to
the upper 3
inches of the
water column.

No
Dispersant

Dispersed with
Corexit 9500

Tier I

Figure 1

Aerial Observation Daily Log, Photo Log and Photographs loaded to the Deepwater SMART website at www.epaosc.org/DeepwaterSMART → Environmental Unit conducts a QAQC of data loaded to website.

NOAA data team generates KML and KMZ files from the photos and observation logs.

KML and KMZ files are loaded to the Deepwater SMART website at www.epaosc.org/DeepwaterSMART used for briefing the UC.

KML and KMZ files are loaded to ERMA for Scientific Support Team

Tier III+

Figure 2

Vessel (Team 1, 2, or 3) collects monitoring data, including Windmill (.wl) files for background, natural dispersion and chemical dispersion runs; annotated photos compiled into a Powerpoint presentation; Raw Ozi track file in .plt format; and ICS214 or Fluorometer Operations Log.

The Team uploads collected data to the NOAA data team to the Deepwater SMART website at www.epaosc.org/deepwaterSMART.

Data team evaluates data and accepts or requests additional data and/or clarification from Team Leader/Group Supervisor.

As documented in Processing SMART Fluorometery Data Operating Procedure, data team selects photographs, corrects and formats field data, creates charts and maps and produces a poster report for the given mission.

Poster reports are uploaded to Deepwater SMART website. Data received from the vessel teams and processed data are uploaded to Deepwater_Horizon_EXT/SMART_data/YYYY_MM_DD/Team# and SMART Poster reports are uploaded in pdf format. The name of each poster defines the mission date and team.
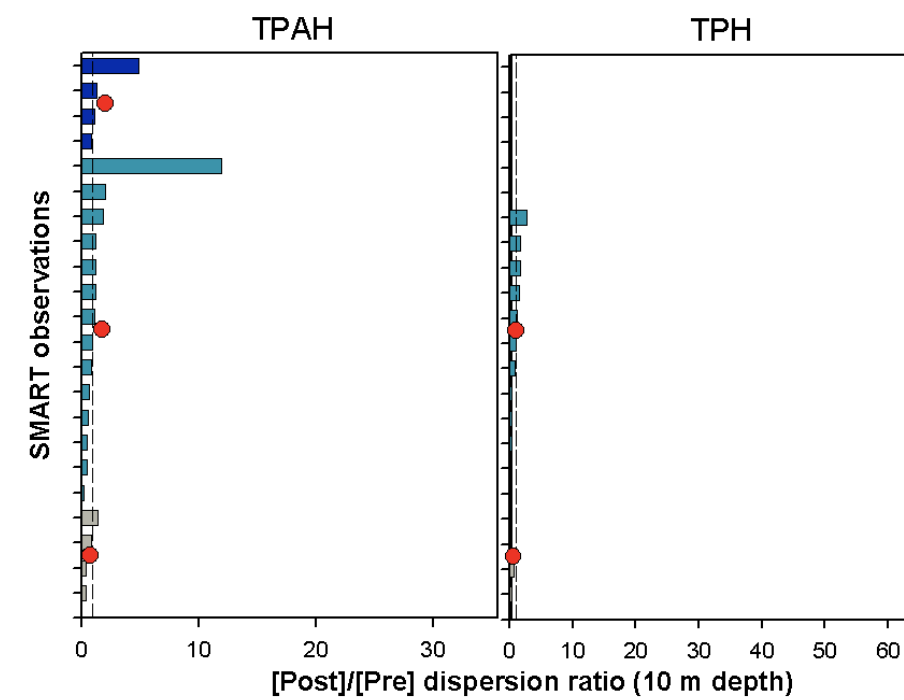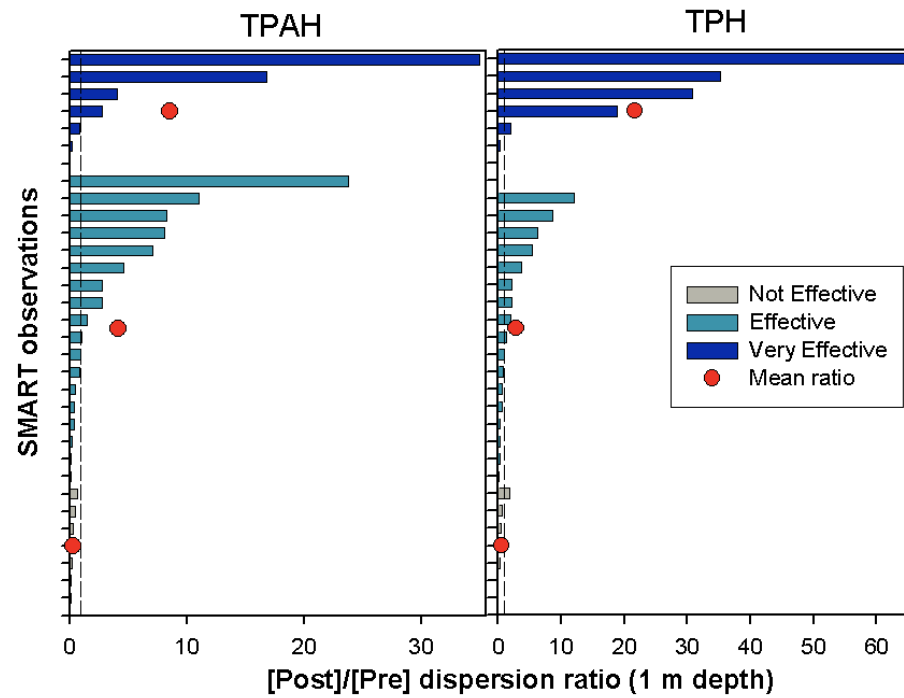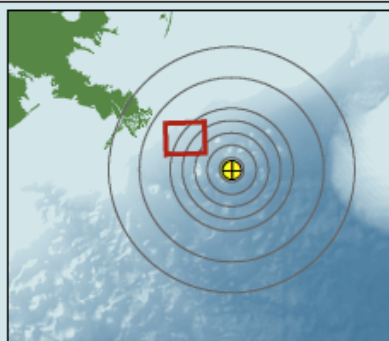
Future Considerations

* Logistics

* Training

* Equipment

* Data Management

* Sampling Bias / Patchinesss

* Update SMART with lessons learned

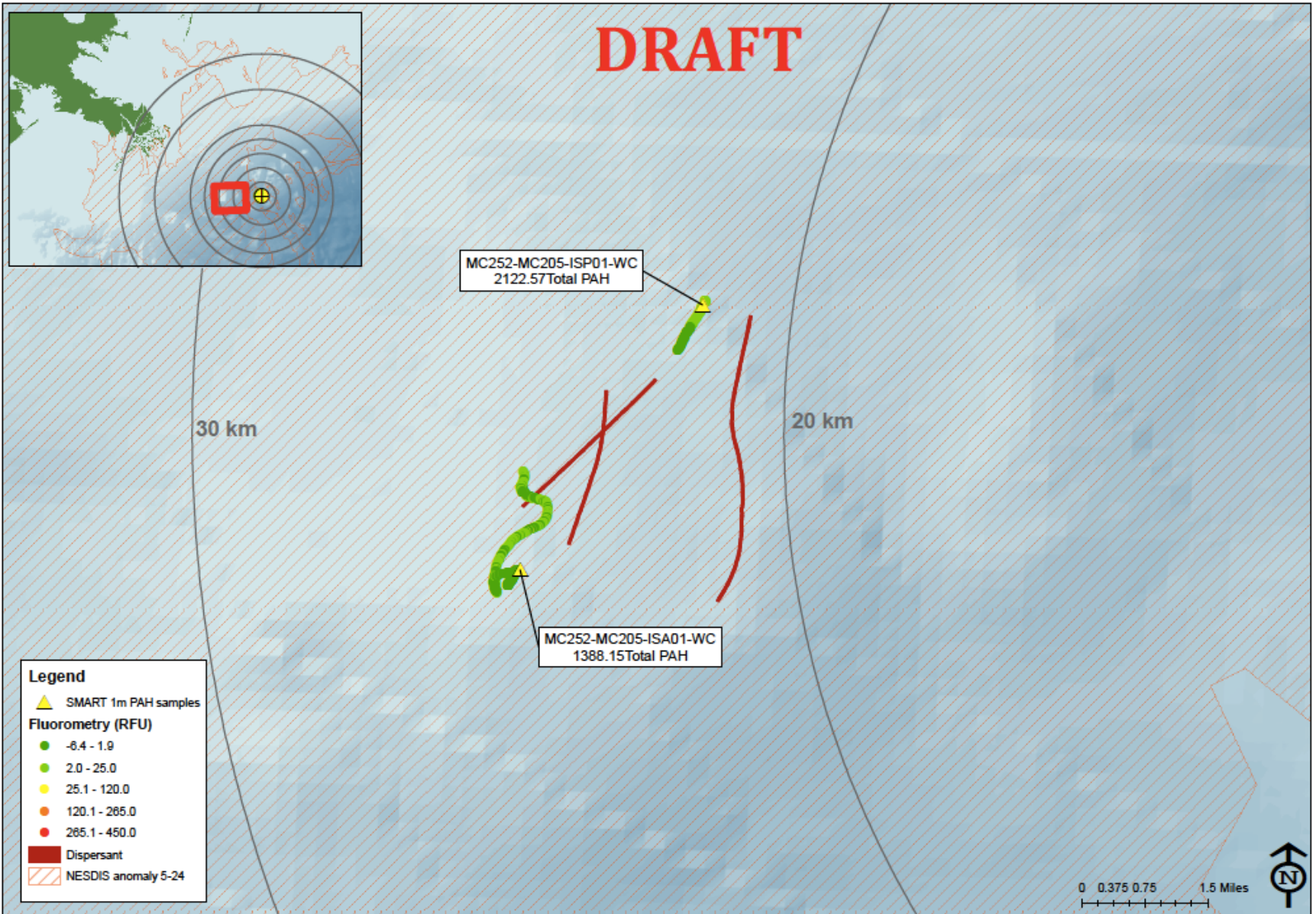# Dispersant and sampling activities - May 28, 2010

DRAFT

Legend

- Warrior Samples 20100528
- Fluorometry
- Dispersant

0 0.5 1   2 Miles

N

Dispersant and sampling activities - May 24, 2010

NOAA's Emergency Response Division