

# VESSEL TRAFFIC RISK ASSESSMENT (VTRA) 2010

3D Relative Risk Profile Comparison  
Potential Grounding Oil Loss

**CASE P: BASE CASE & 100% Double Hull Fuel Tank  
Protection for All Deep Draft Vessels**

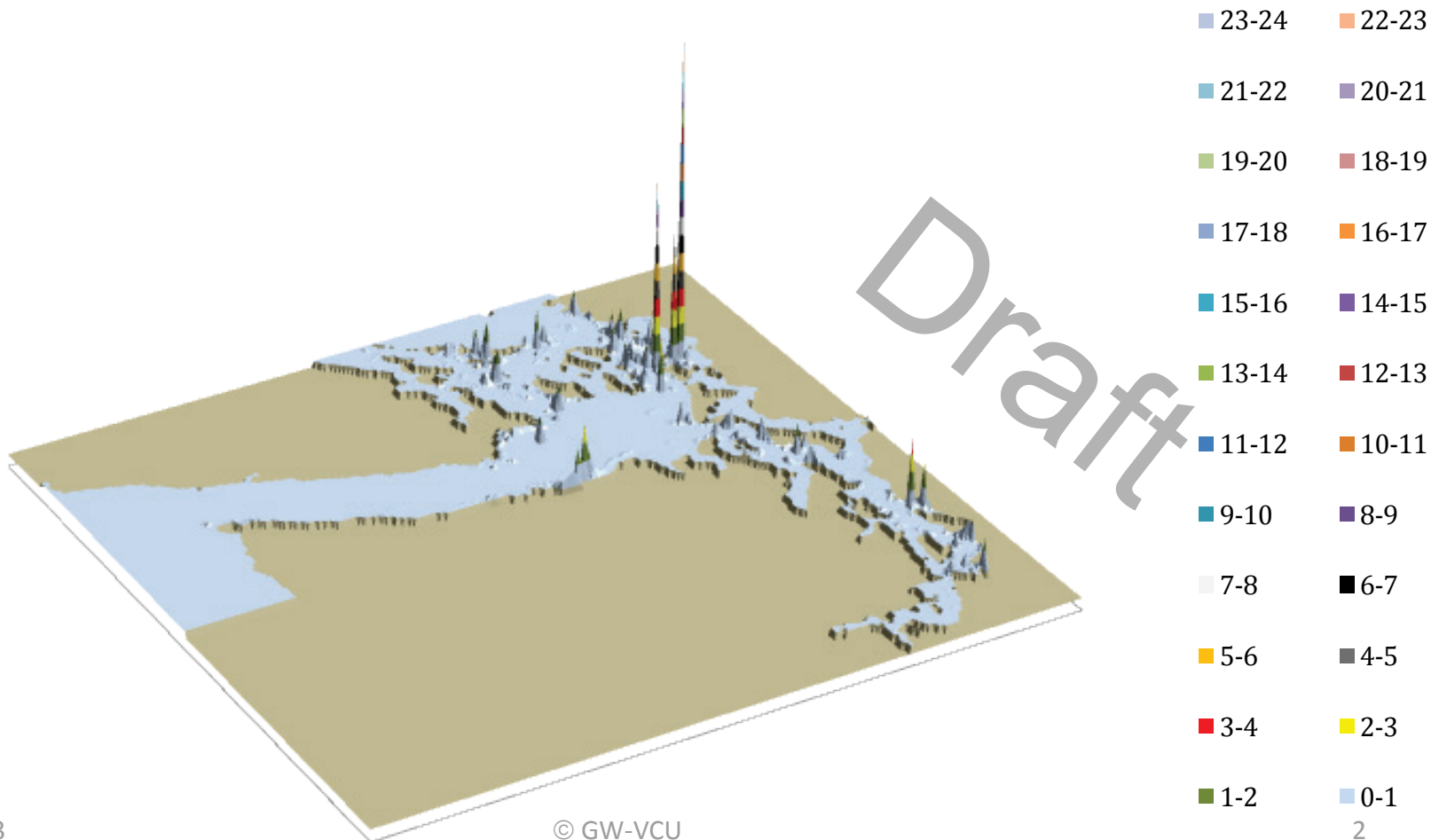
**Dr. J. Rene van Dorp and Dr. Jason R.W Merrick**

**November 2013**



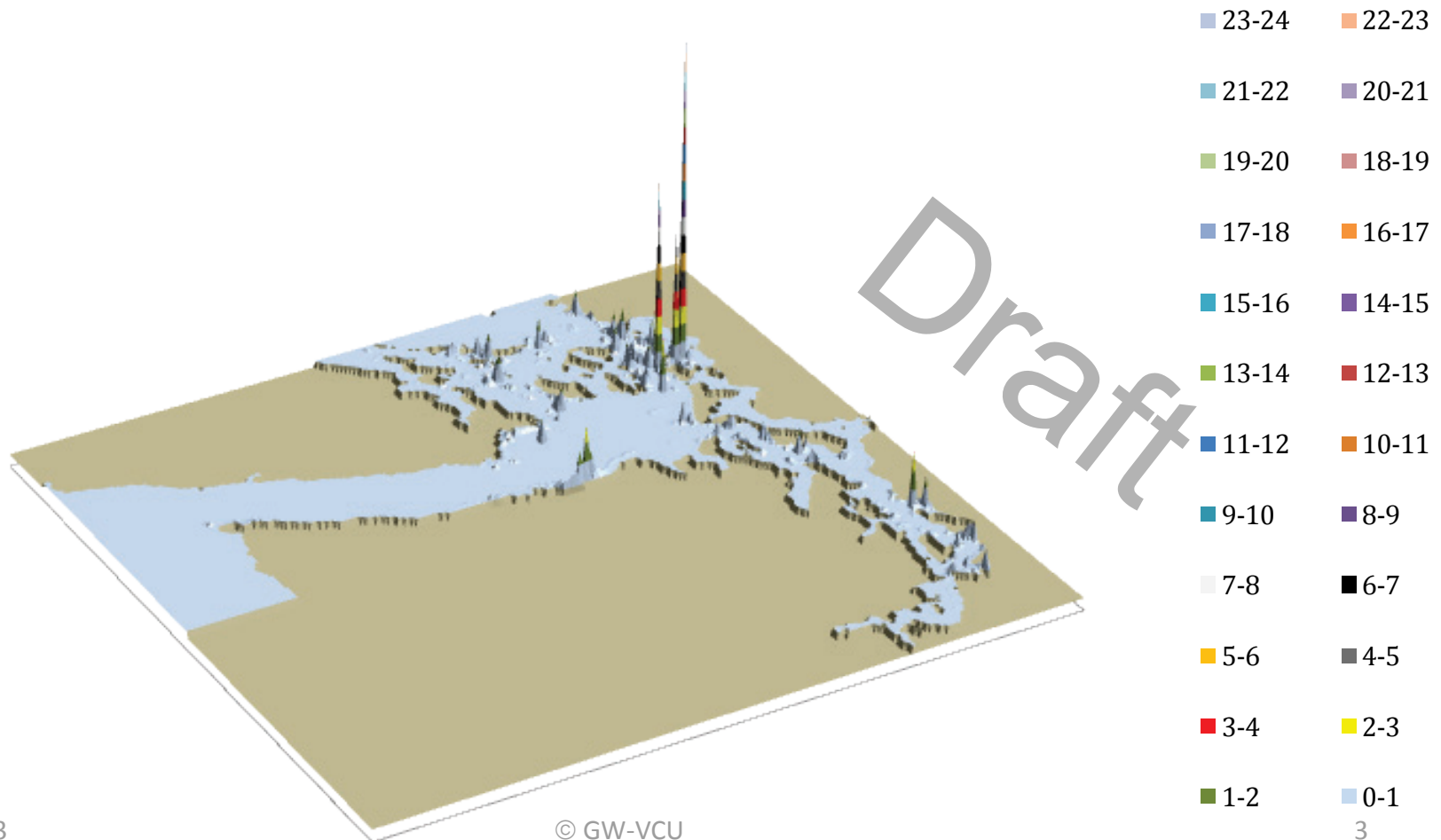
# VESSEL TRAFFIC RISK ASSESSMENT (VTRA) 2010

## P: Base Case 3D Risk Profile All FV - Pot. Ground. Oil Loss: 100% of Base Case PGO



# VESSEL TRAFFIC RISK ASSESSMENT (VTRA) 2010

## P: BC & DH100 3D Risk Profile All FV - Pot. Ground. Oil Loss: 90% of Base Case PGO





# VESSEL TRAFFIC RISK ASSESSMENT (VTRA) 2010

P: VTRA 2010 - BASE CASE

100.0%

0.6%

78.7%

60.6%

Factor x Average  
Oil Outflow

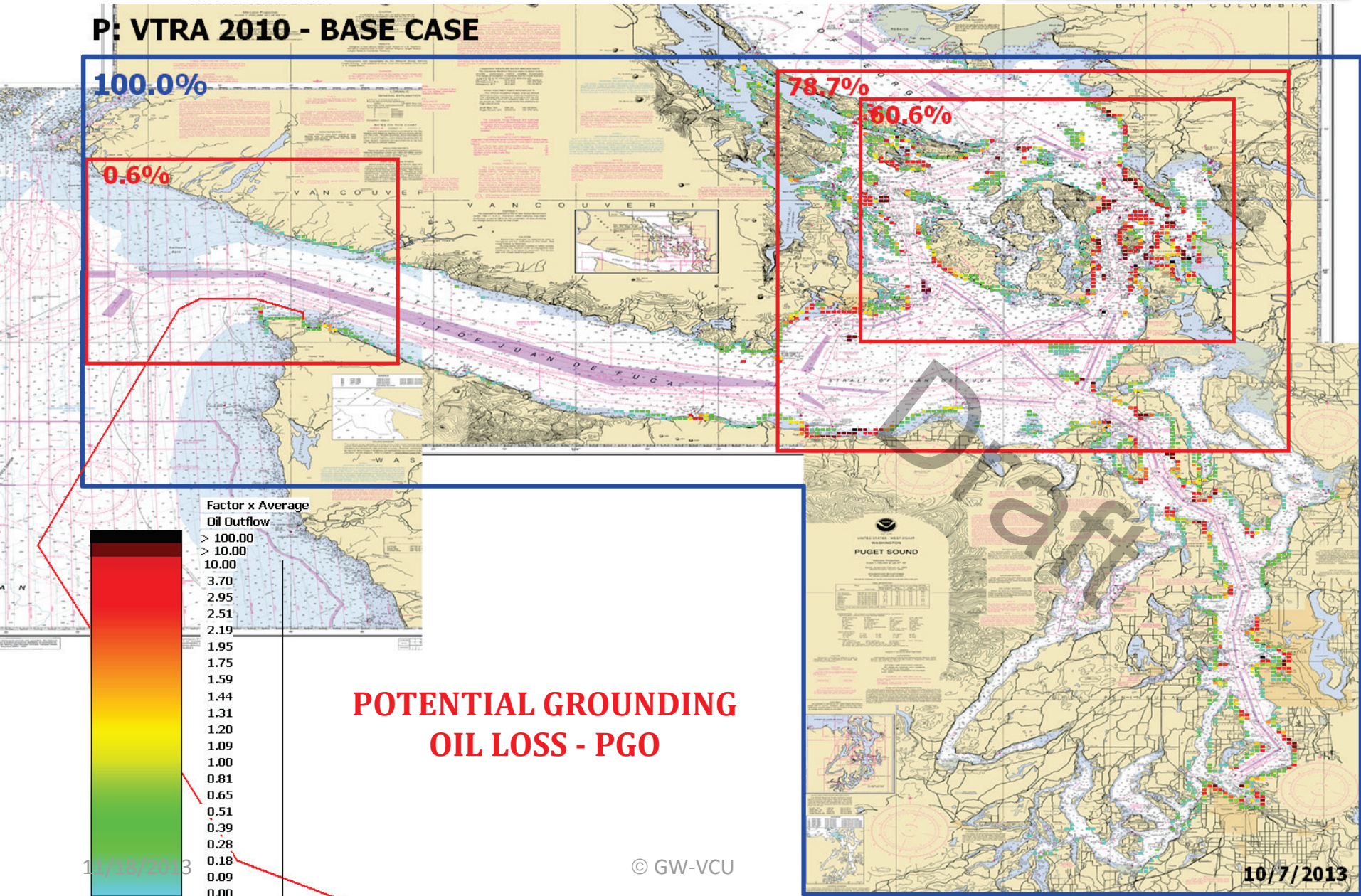
- > 100.00
- > 10.00
- 10.00
- 3.70
- 2.95
- 2.51
- 2.19
- 1.95
- 1.75
- 1.59
- 1.44
- 1.31
- 1.20
- 1.09
- 1.00
- 0.81
- 0.65
- 0.51
- 0.39
- 0.28
- 0.18
- 0.09
- 0.00

POTENTIAL GROUNDING OIL LOSS - PGO

11/18/2013

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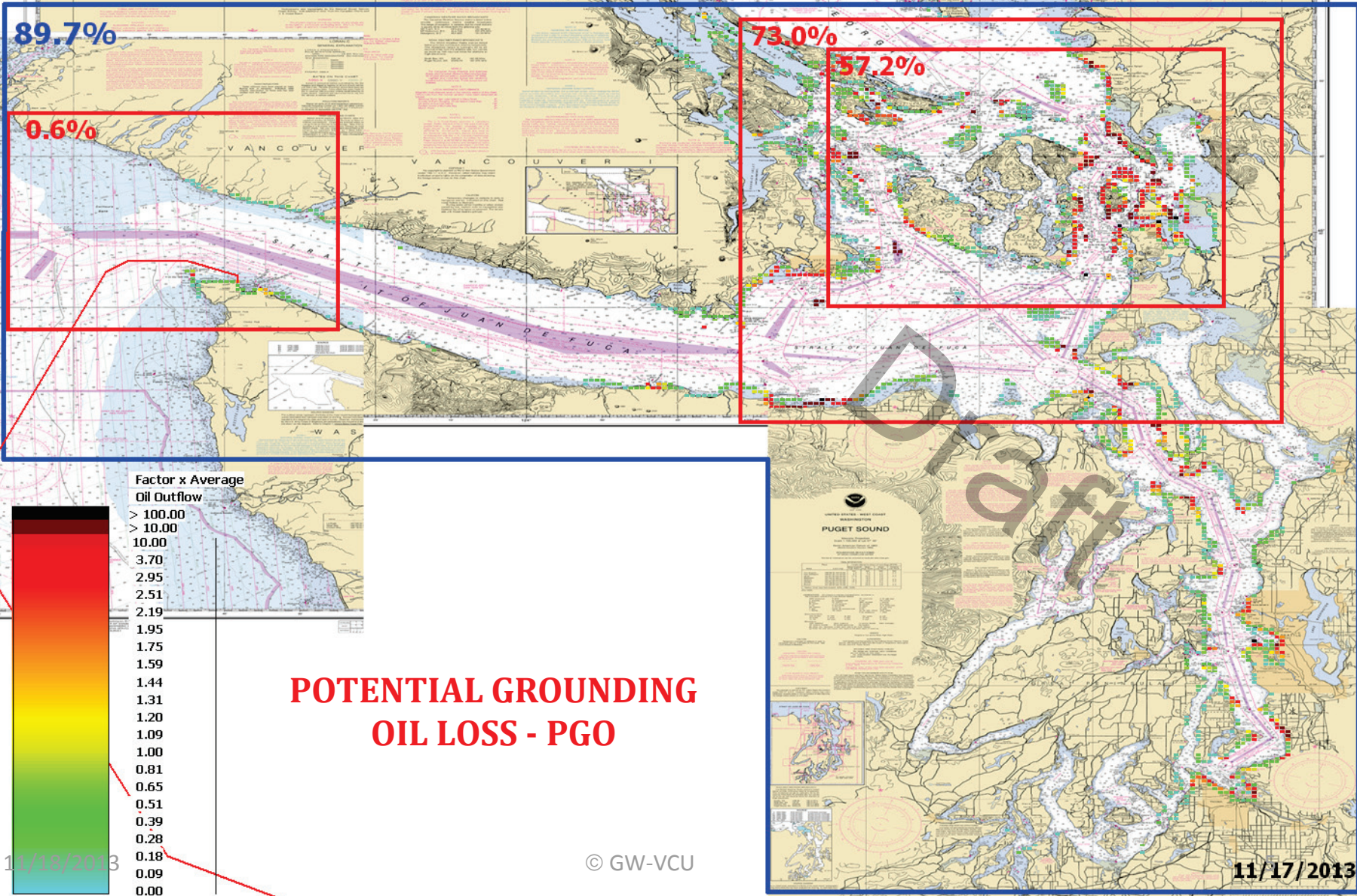
10/7/2013





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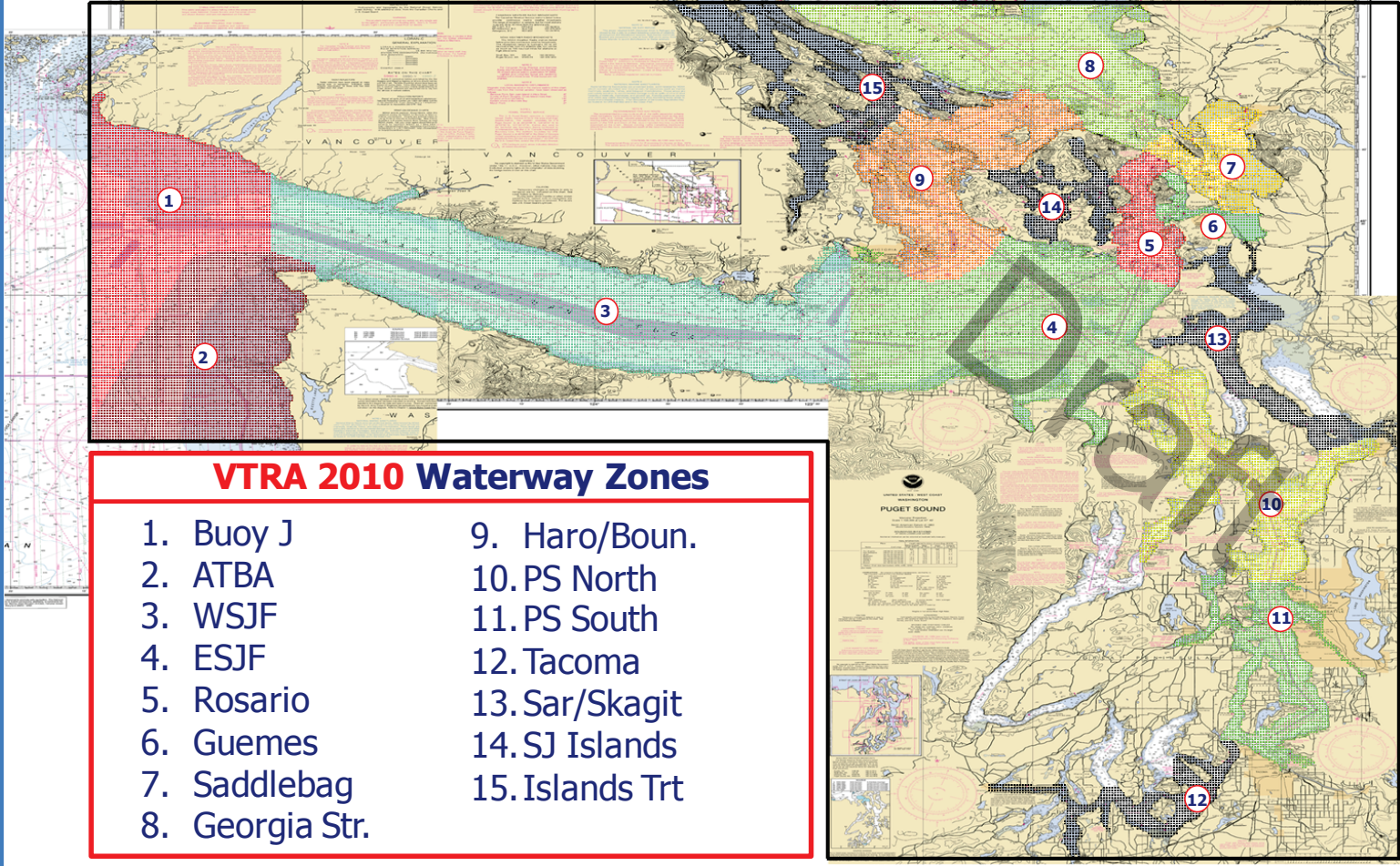
P: VTRA 2010 - BASE CASE & 100% DH FUEL TANKS - ALL FV





# VESSEL TRAFFIC RISK ASSESSMENT (VTRA) 2010

## DEFINITION OF 15 WATERWAY ZONES



# VESSEL TRAFFIC RISK ASSESSMENT (VTRA) 2010

## % Base Case Grounding Oil Loss - ALL\_FV

### Waterway Zone:

