

# VESSEL TRAFFIC RISK ASSESSMENT (VTRA) 2010

3D Relative Risk Profile Comparison  
Potential Collision Oil Loss

**CASE P: BASE CASE & Reduction Human Error  
Incident on Oil Barges by 100%**

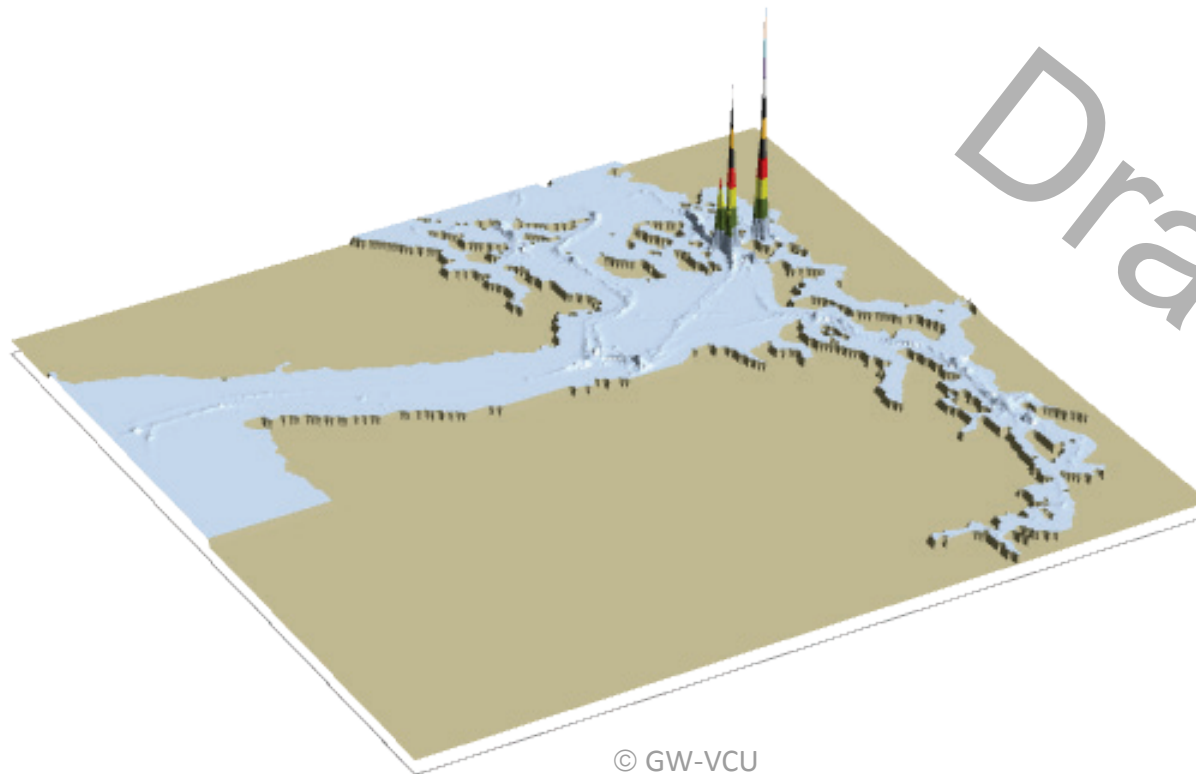
**Dr. J. Rene van Dorp and Dr. Jason R.W Merrick**

**November 2013**



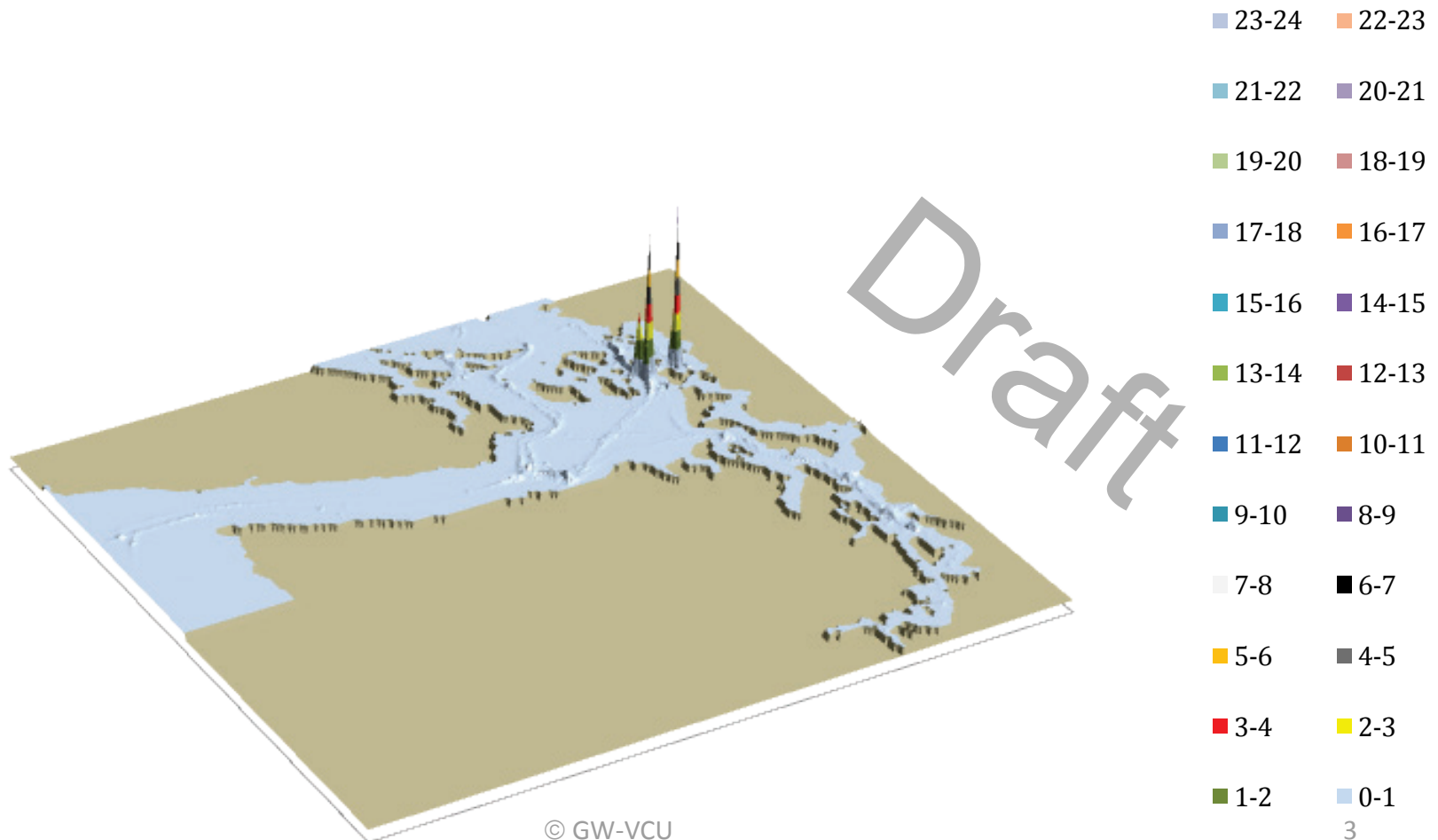
# VESSEL TRAFFIC RISK ASSESSMENT (VTRA) 2010

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



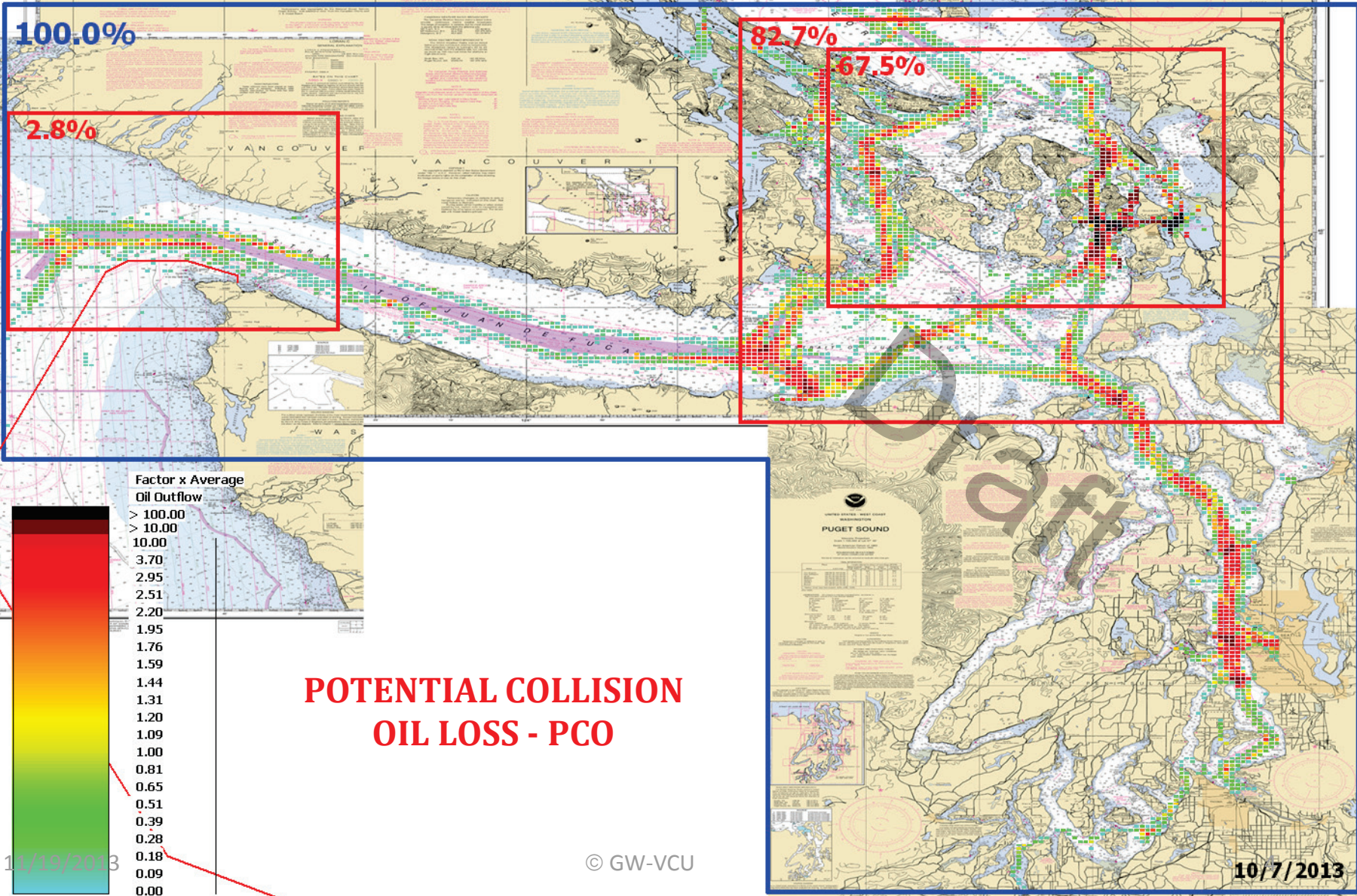
# VESSEL TRAFFIC RISK ASSESSMENT (VTRA) 2010

## P: BC & OB HE100 3D Risk Profile All FV - Pot. Collision Oil Loss: 87% of Base Case PCO



# VESSEL TRAFFIC RISK ASSESSMENT (VTRA) 2010

P: VTRA 2010 - BASE CASE - All FV



POTENTIAL COLLISION OIL LOSS - PCO

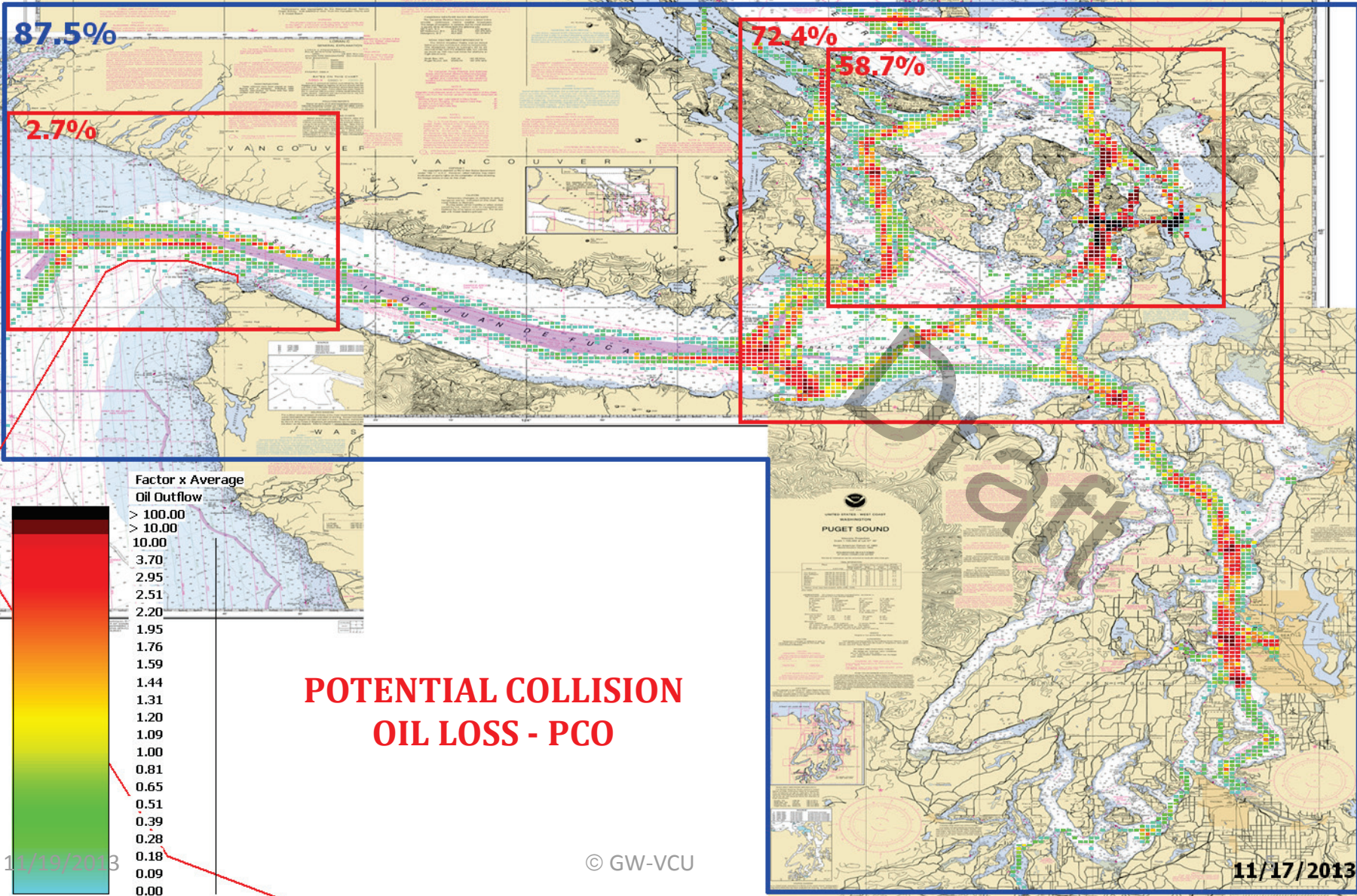
11/19/2013

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10/7/2013

# VESSEL TRAFFIC RISK ASSESSMENT (VTRA) 2010

**P: VTRA 2010 - BASE CASE & HUMAN ERROR OIL BARGE @ 0% - All FV**



**POTENTIAL COLLISION OIL LOSS - PCO**

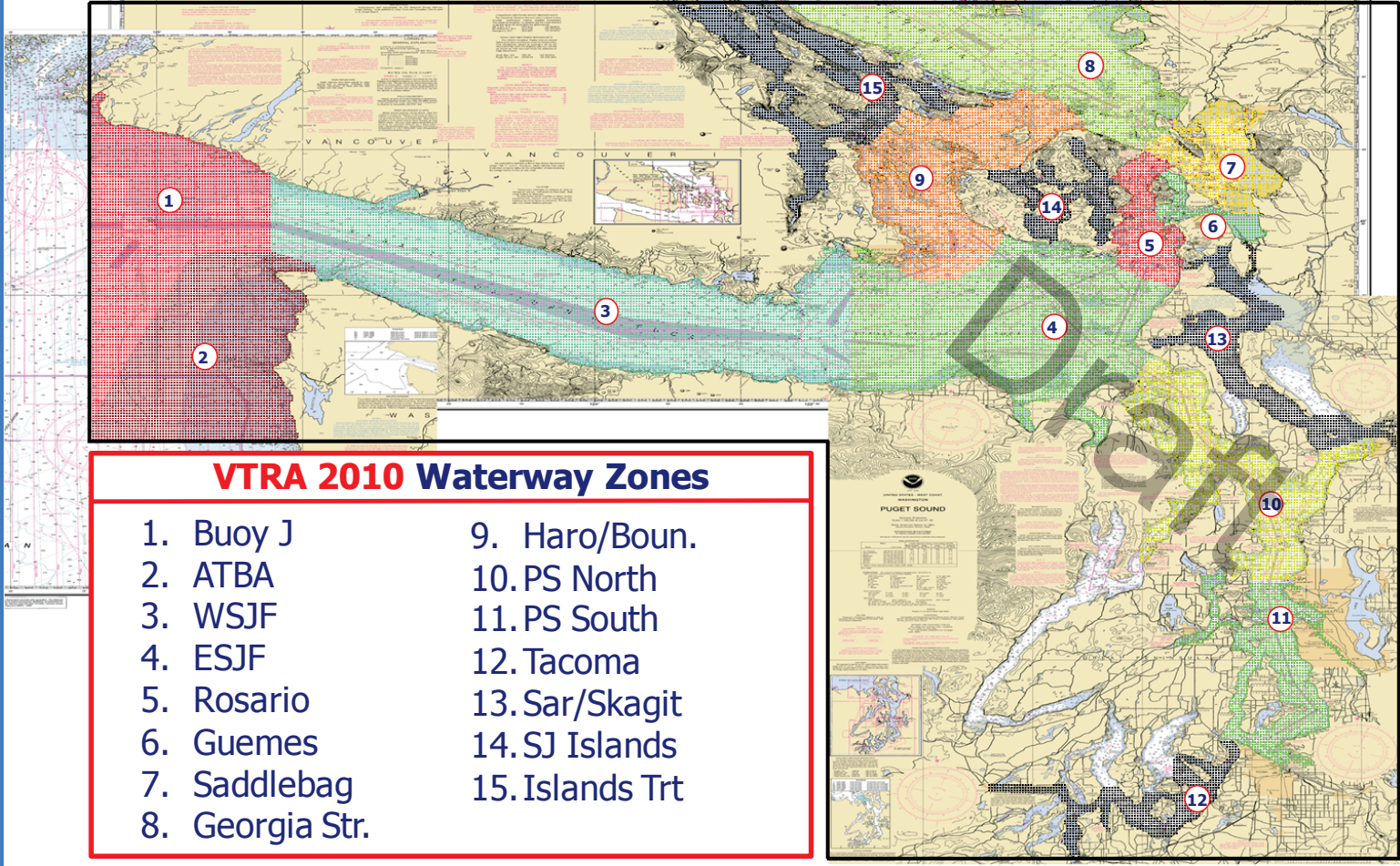
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# VESSEL TRAFFIC RISK ASSESSMENT (VTRA) 2010

## DEFINITION OF 15 WATERWAY ZONES



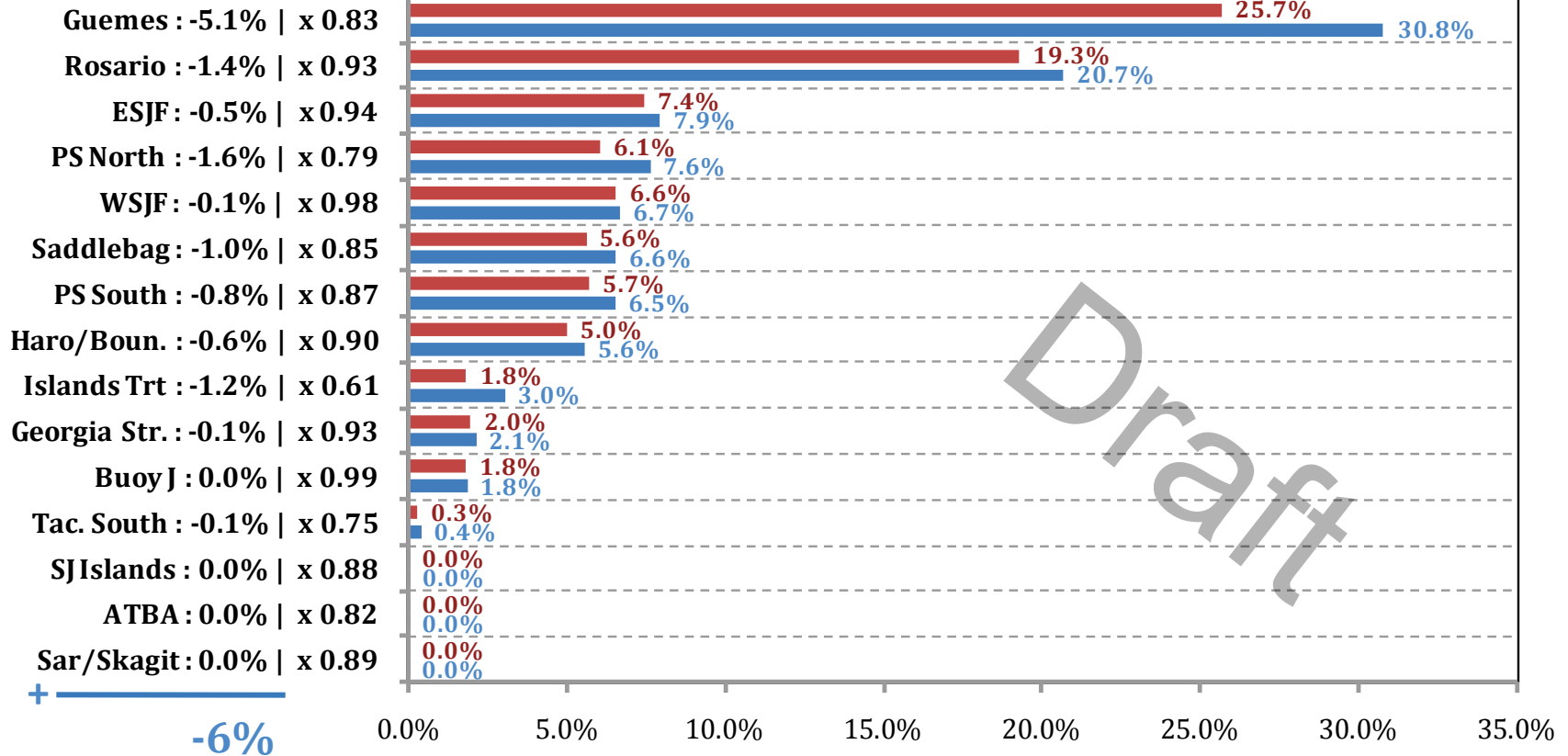
### VTRA 2010 Waterway Zones

- |                 |                 |
|-----------------|-----------------|
| 1. Buoy J       | 9. Haro/Boun.   |
| 2. ATBA         | 10. PS North    |
| 3. WSJF         | 11. PS South    |
| 4. ESJF         | 12. Tacoma      |
| 5. Rosario      | 13. Sar/Skagit  |
| 6. Guemes       | 14. SJ Islands  |
| 7. Saddlebag    | 15. Islands Trt |
| 8. Georgia Str. |                 |

# VESSEL TRAFFIC RISK ASSESSMENT (VTRA) 2010

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

### Waterway Zone:



## % of Base Case Annual Collision Oil Loss - ALL\_FV

■ P: BC & OB HE100 : 87% (-13% | x 0.87)

■ P: Base Case : 100%