

VESSEL TRAFFIC RISK ASSESSMENT (VTRA) 2010

3D Relative Risk Profile Comparison
Potential Collision Accident Frequency

CASE T – GW 487 – KM 348 – DP 415

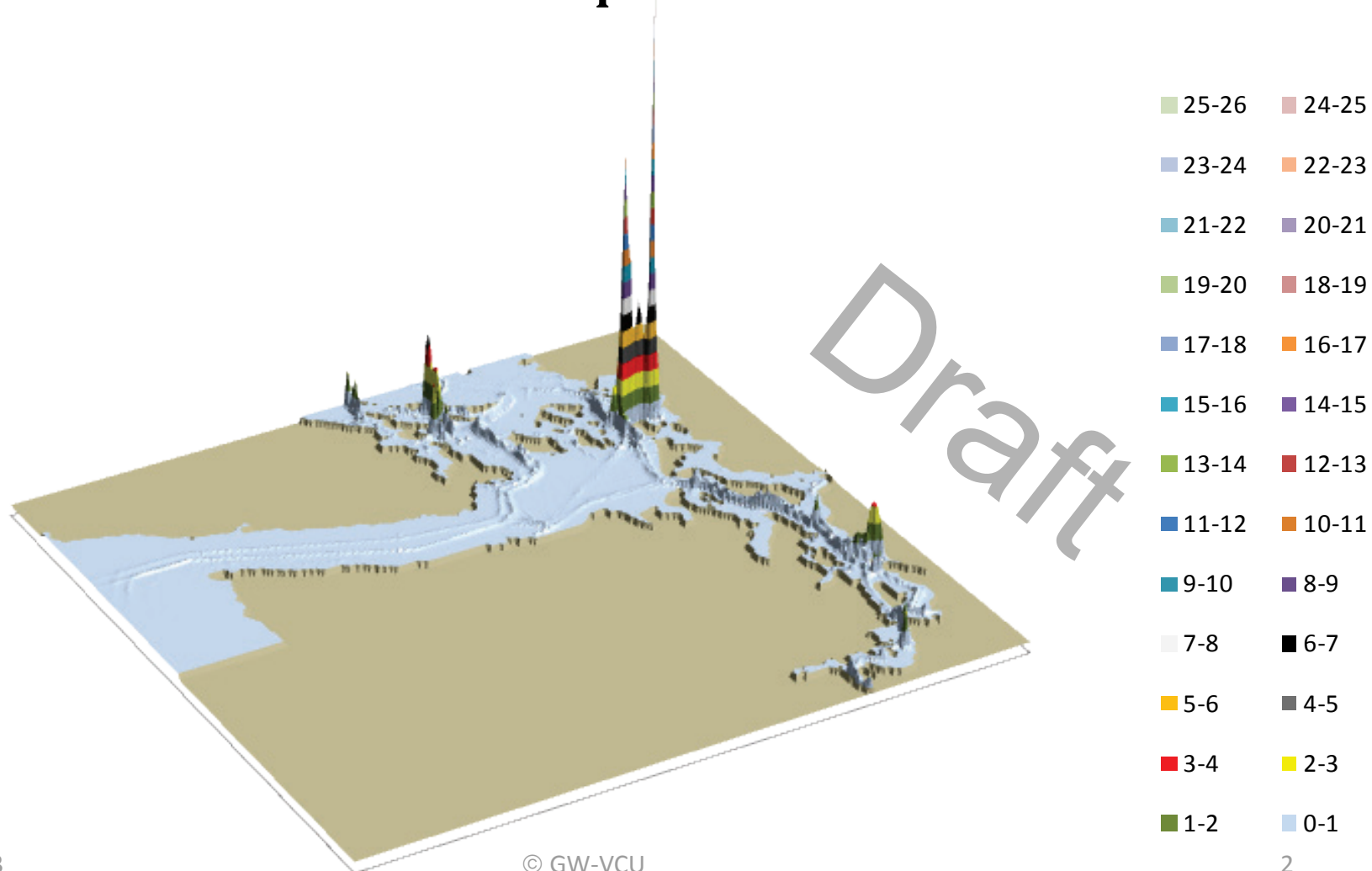
Dr. J. Rene van Dorp and Dr. Jason R.W Merrick

November 2013



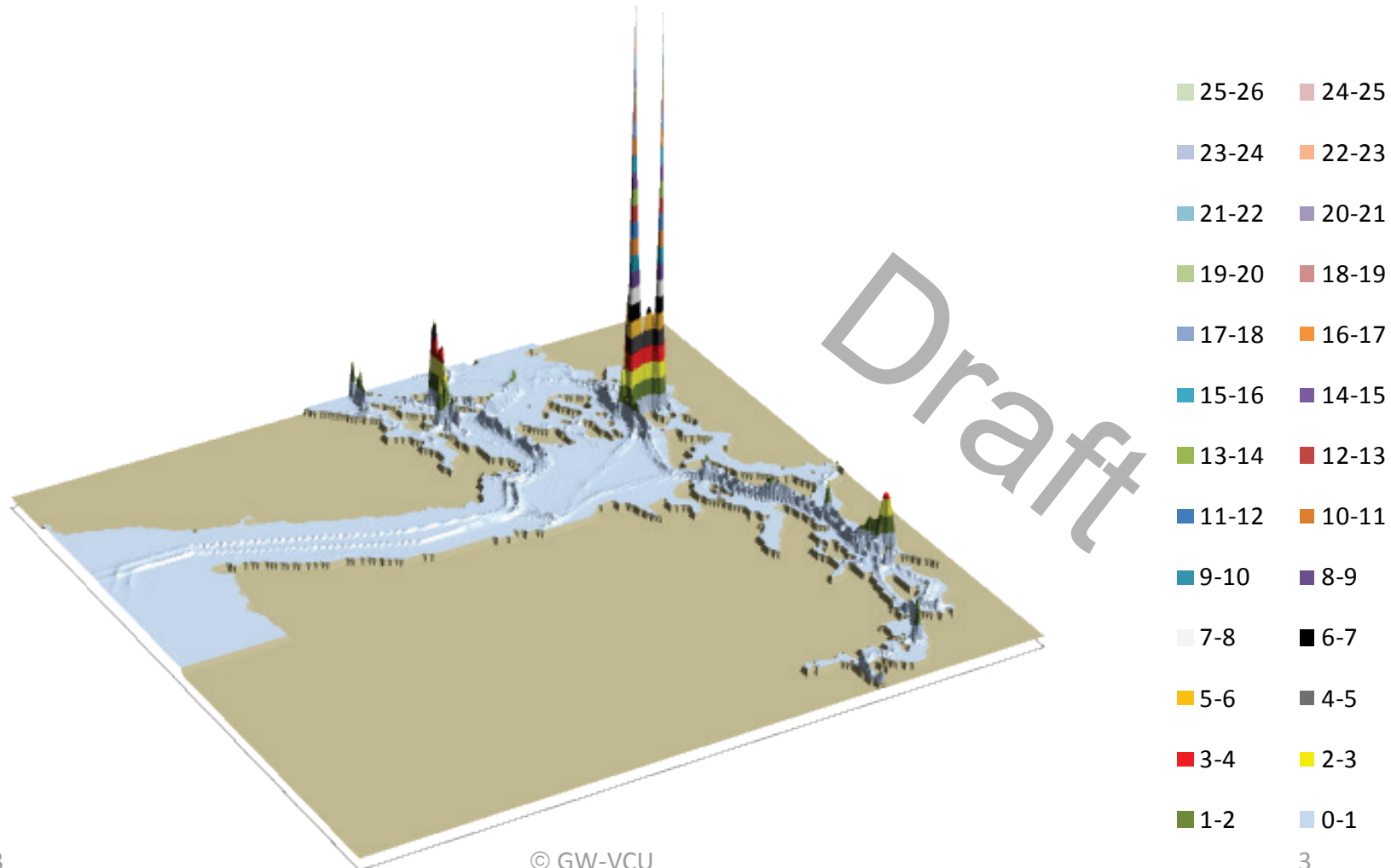
VESSEL TRAFFIC RISK ASSESSMENT (VTRA) 2010

P: Base Case 3D Risk Profile All FV - Pot. Coll. Acc. Freq.: 100% of Base Case PCF



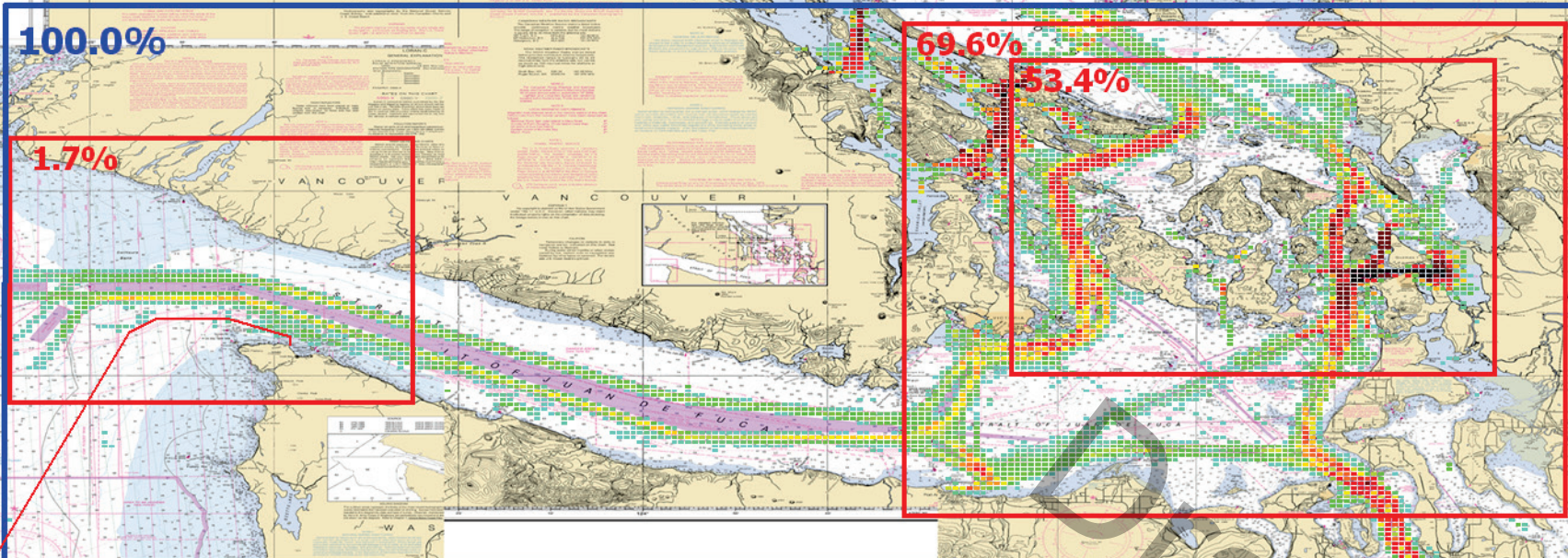
VESSEL TRAFFIC RISK ASSESSMENT (VTRA) 2010

T: GW - KM - DP 3D Risk Profile
All FV - Pot. Coll. Acc. Freq.: 121% of Base Case PCF



VESSEL TRAFFIC RISK ASSESSMENT (VTRA) 2010

P: VTRA 2010 - BASE CASE - All FV



Factor x Average
of Accidents

- > 100.00
- > 10.00
- 10.00
- 3.69
- 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 COLLISION FREQUENCY - PCF

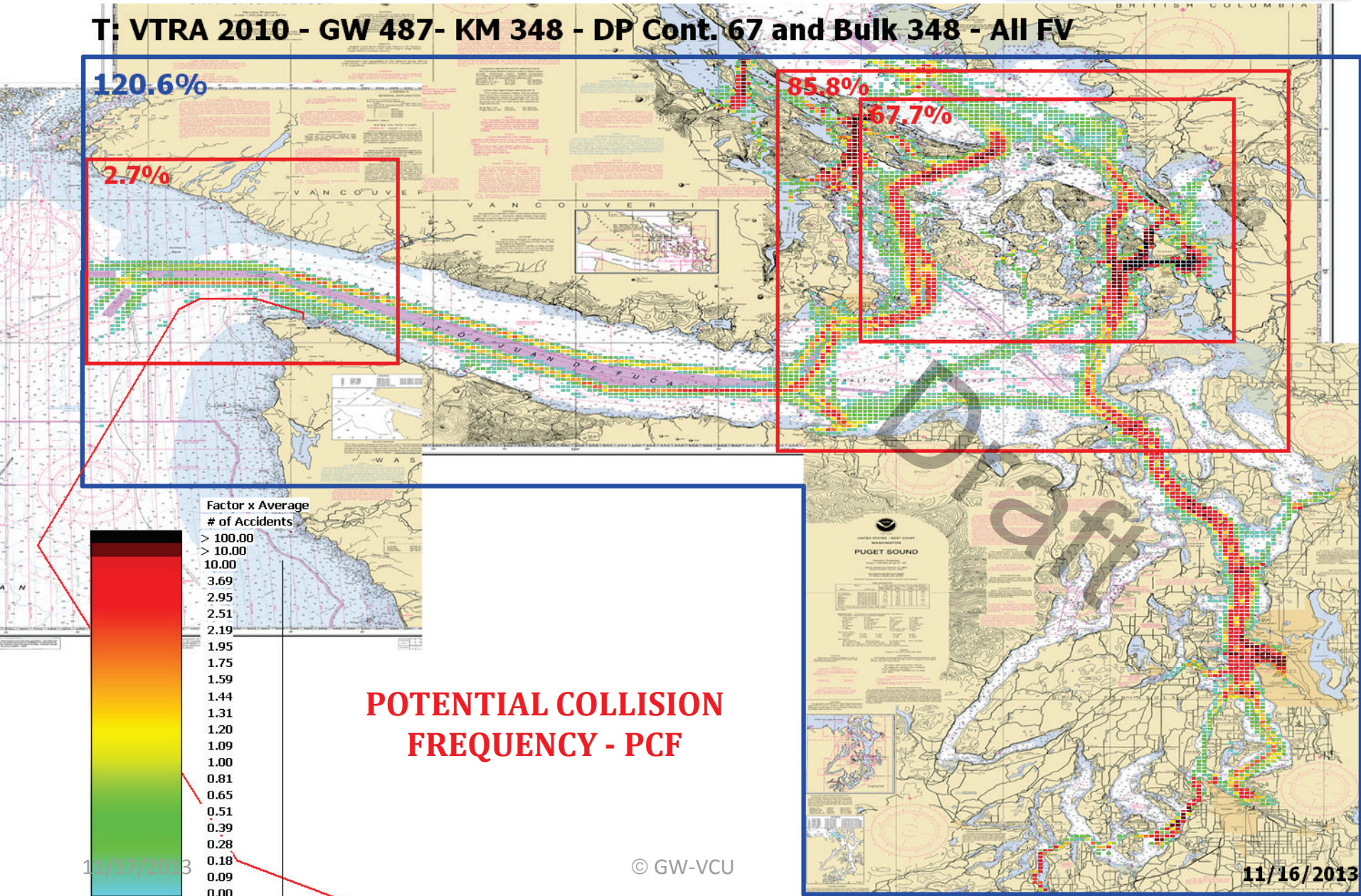
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10/7/2013

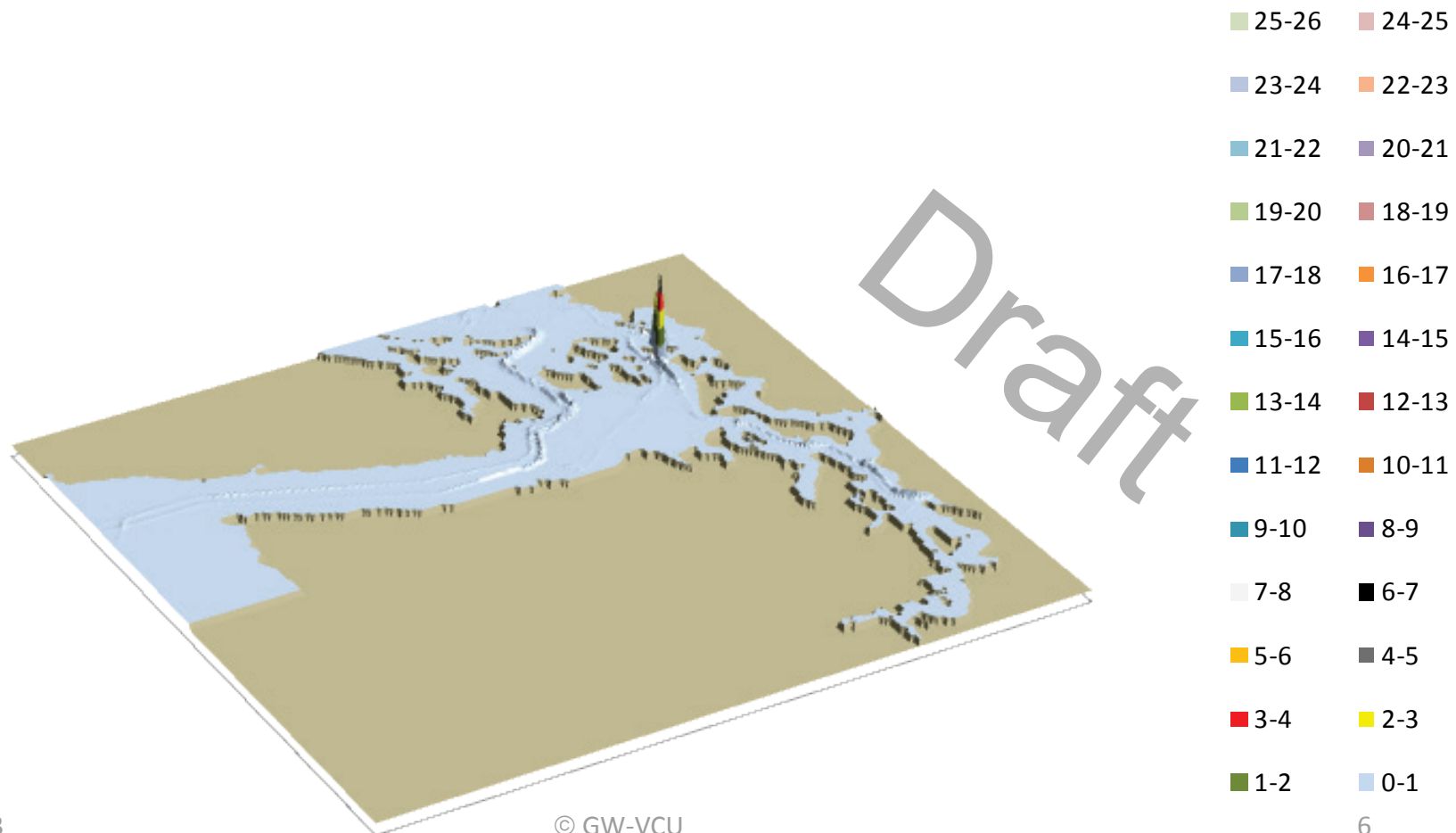
VESSEL TRAFFIC RISK ASSESSMENT (VTRA) 2010

T: VTRA 2010 - GW 487- KM 348 - DP Cont. 67 and Bulk 348 - All FV



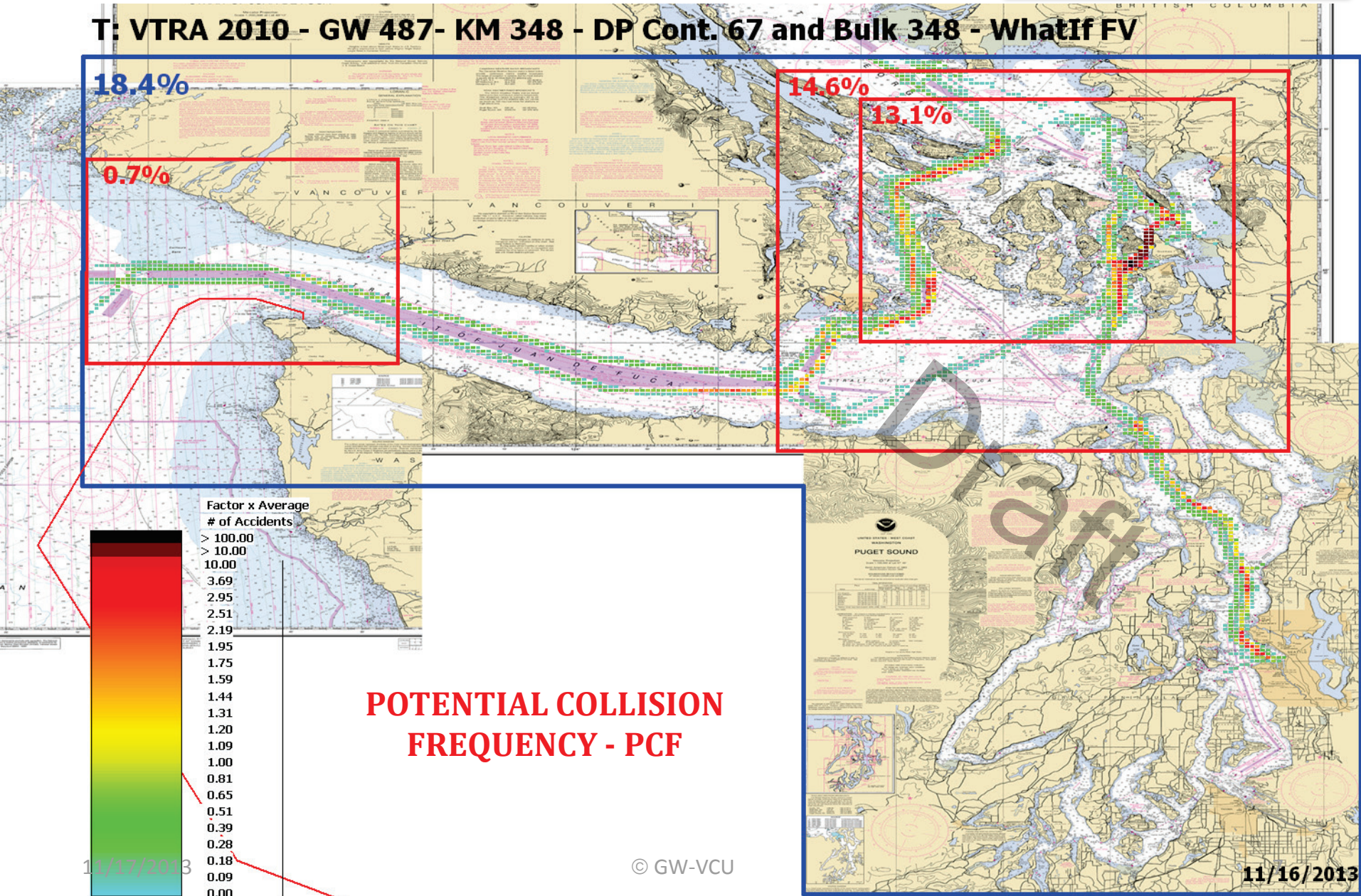
VESSEL TRAFFIC RISK ASSESSMENT (VTRA) 2010

T: GW - KM - DP 3D Risk Profile What If FV - Pot. Coll. Acc. Fr.: 18% of Base Case PCF



VESSEL TRAFFIC RISK ASSESSMENT (VTRA) 2010

T: VTRA 2010 - GW 487- KM 348 - DP Cont. 67 and Bulk 348 - WhatIf FV



POTENTIAL COLLISION FREQUENCY - PCF

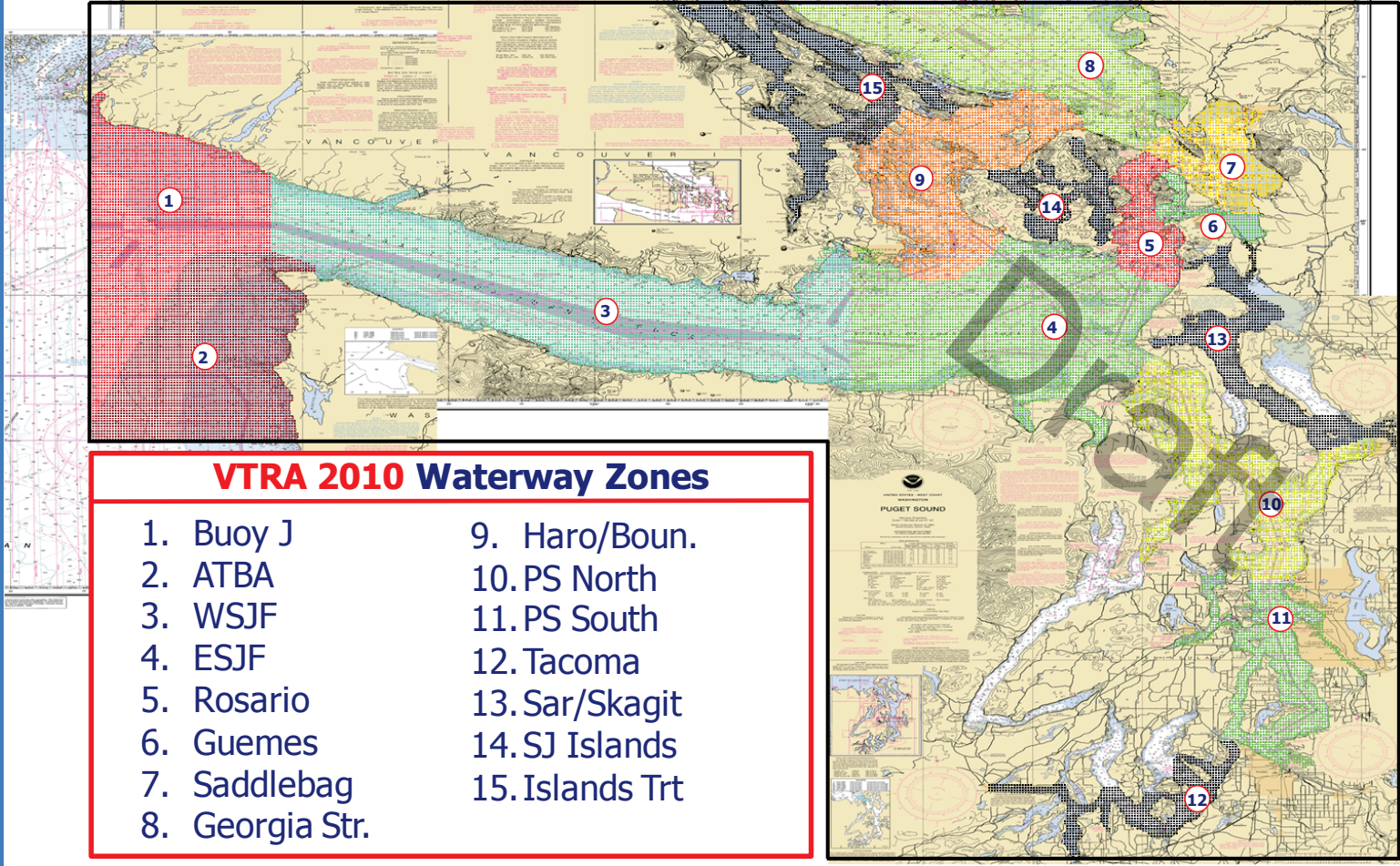
11/17/2013

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VESSEL TRAFFIC RISK ASSESSMENT (VTRA) 2010

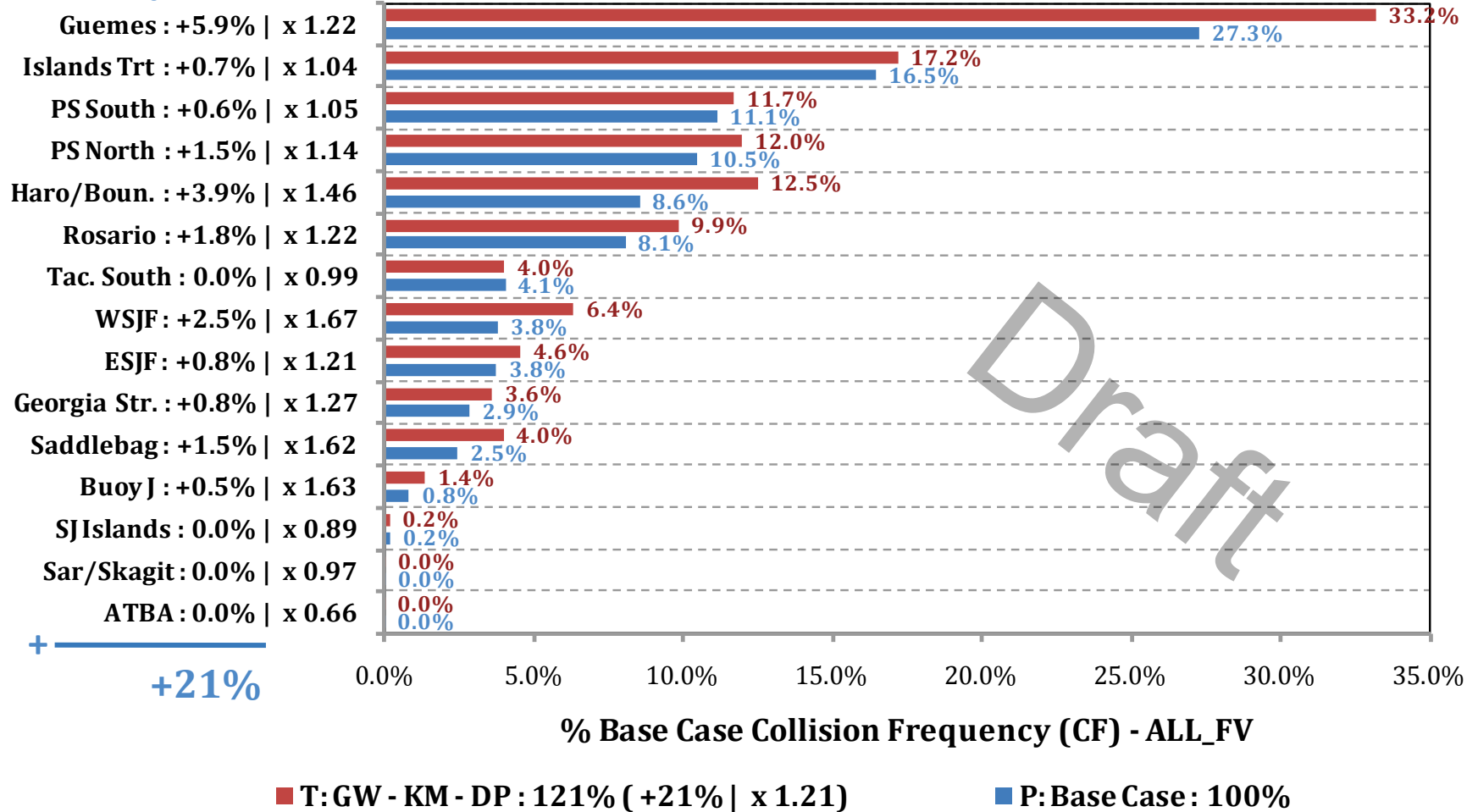
DEFINITION OF 15 WATERWAY ZONES



VESSEL TRAFFIC RISK ASSESSMENT (VTRA) 2010

% Base Case Collision Frequency - ALL_FV

Waterway Zone:

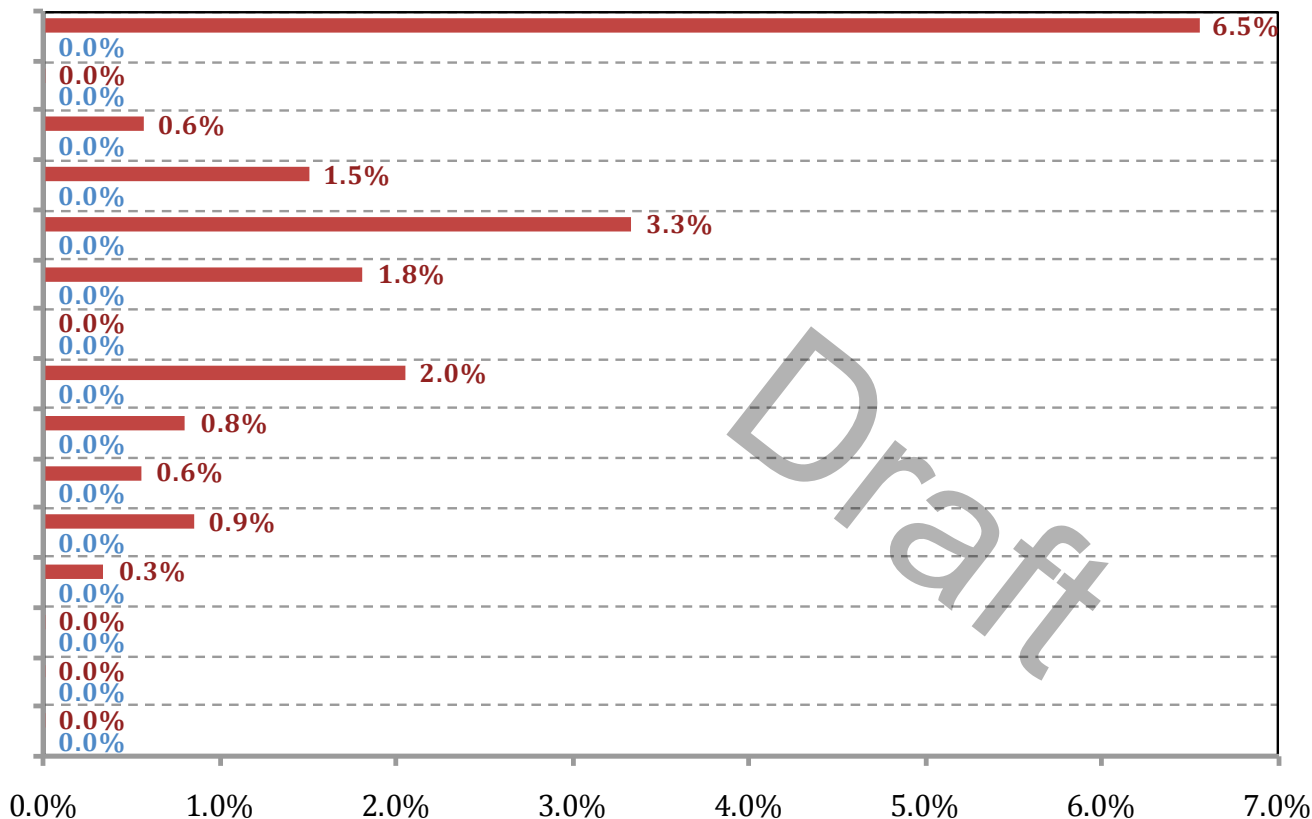


VESSEL TRAFFIC RISK ASSESSMENT (VTRA) 2010

% Base Case Collision Frequency - WhatIf

Waterway Zone:

- Guemes : +6.5%
- Islands Trt : +0.0%
- PS South : +0.6%
- PS North : +1.5%
- Haro/Boun. : +3.3%
- Rosario : +1.8%
- Tac. South : 0.0%
- WSJF : +2.0%
- ESJF : +0.8%
- Georgia Str. : +0.6%
- Saddlebag : +0.9%
- Buoy J : +0.3%
- SJIslands : +0.0%
- Sar/Skagit : +0.0%
- ATBA : +0.0%



+ **+18%**

% Base Case Collision Frequency (CF) - WhatIf

■ T: GW - KM - DP : 18% (+18%)

■ P: Base Case : 0%