

VESSEL TRAFFIC RISK ASSESSMENT (VTRA) 2010

**3D Relative Risk Profile Comparison
Oil Time Exposure**

CASE T: GW – KM – DP & One Way ATB's Rosario

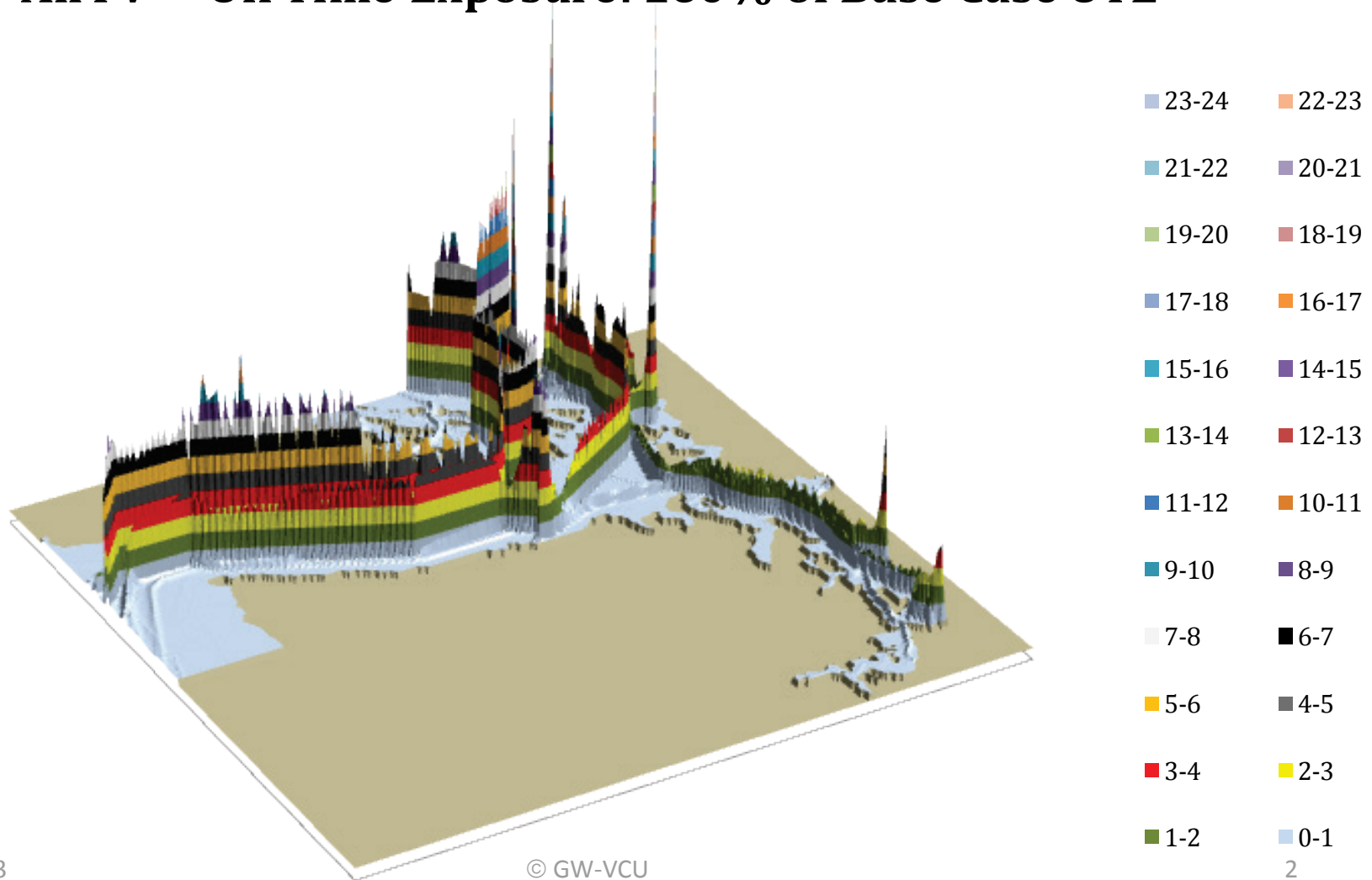
Dr. J. Rene van Dorp and Dr. Jason R.W Merrick

November 2013



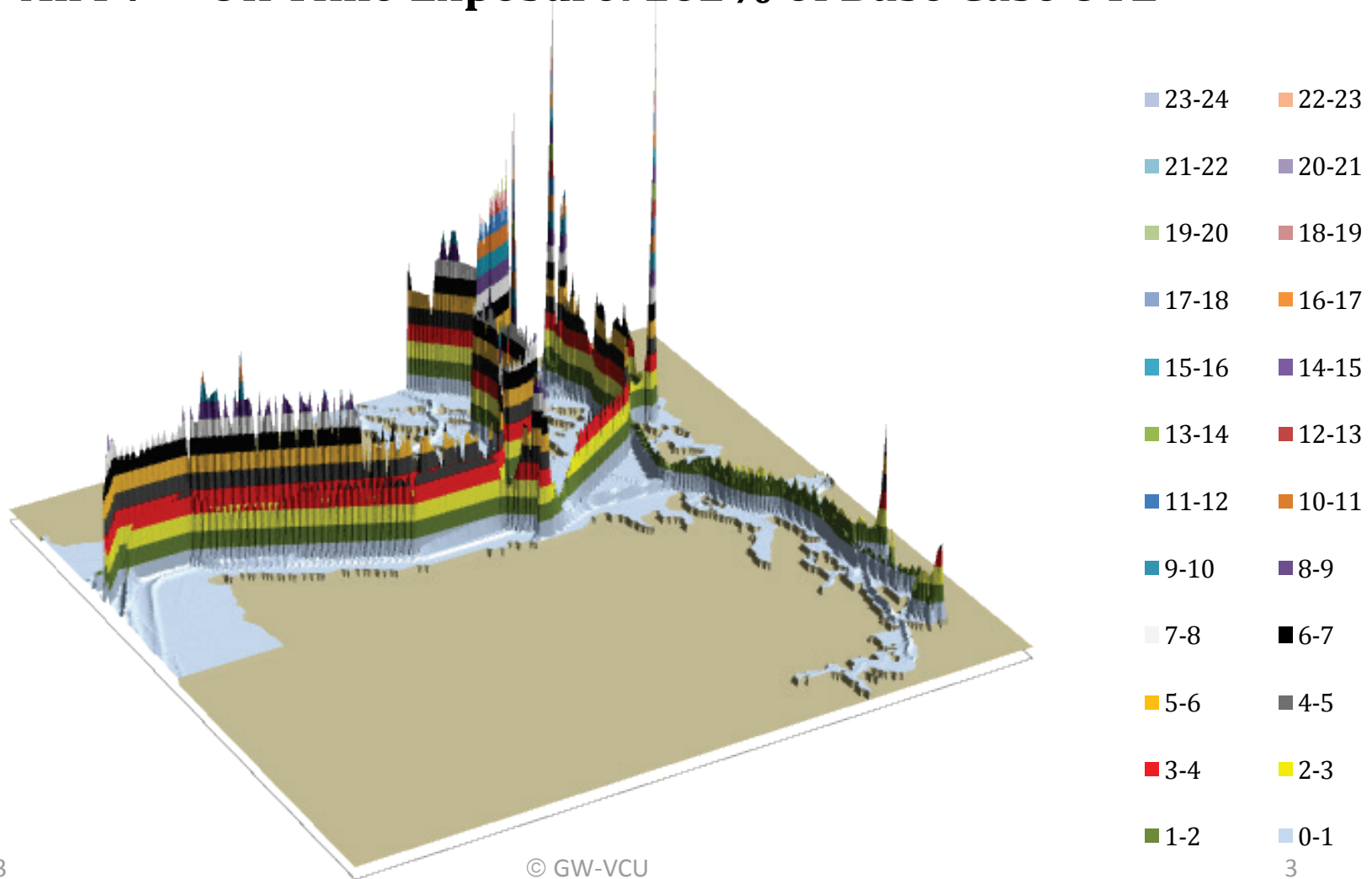
VESSEL TRAFFIC RISK ASSESSMENT (VTRA) 2010

T: GW - KM - DP 3D Risk Profile All FV - Oil Time Exposure: 160% of Base Case OTE



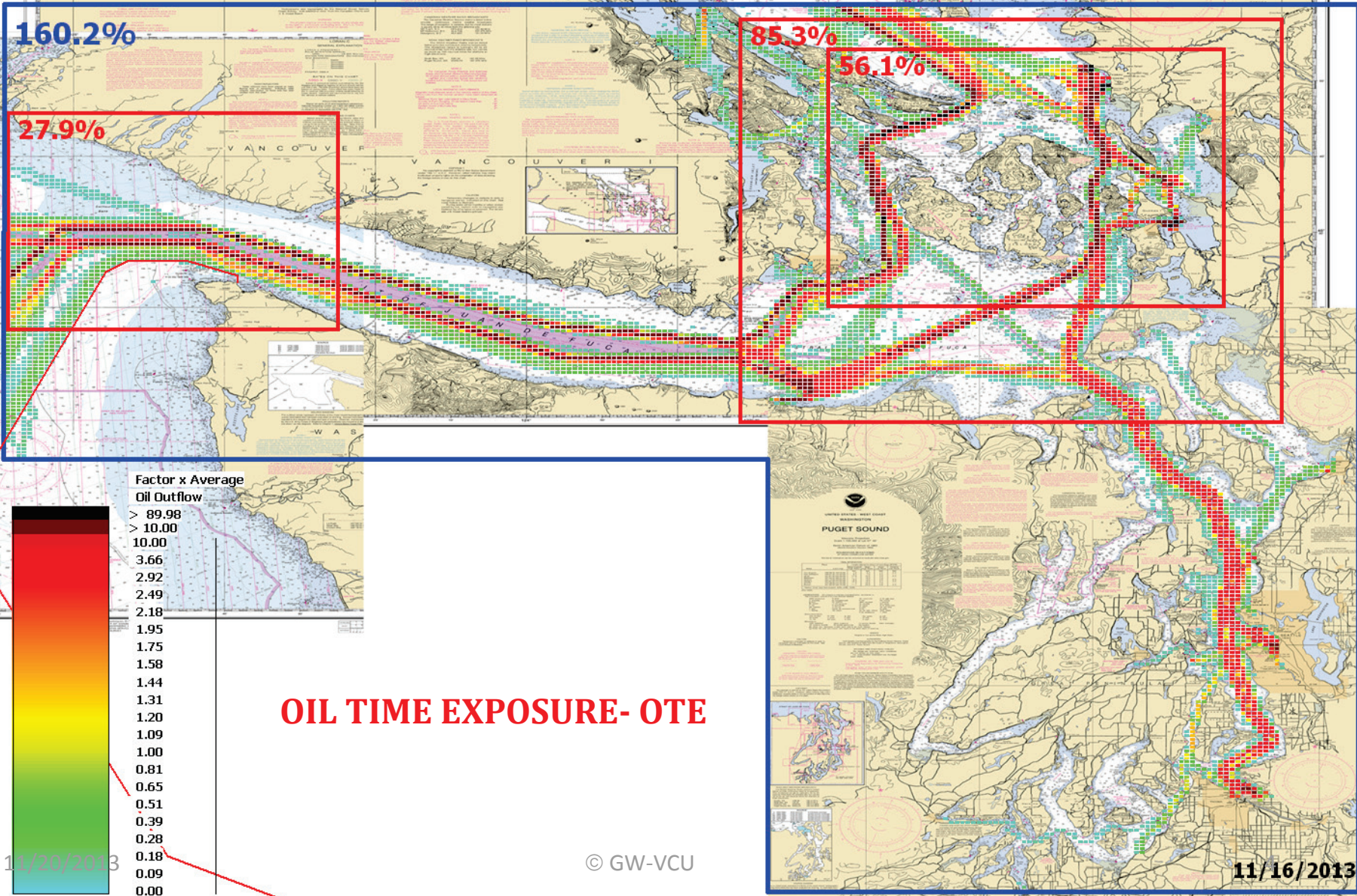
VESSEL TRAFFIC RISK ASSESSMENT (VTRA) 2010

T: GW - KM - DP & OW ATB 3D Risk Profile All FV - Oil Time Exposure: 162% of Base Case OTE



VESSEL TRAFFIC RISK ASSESSMENT (VTRA) 2010

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



OIL TIME EXPOSURE- OTE

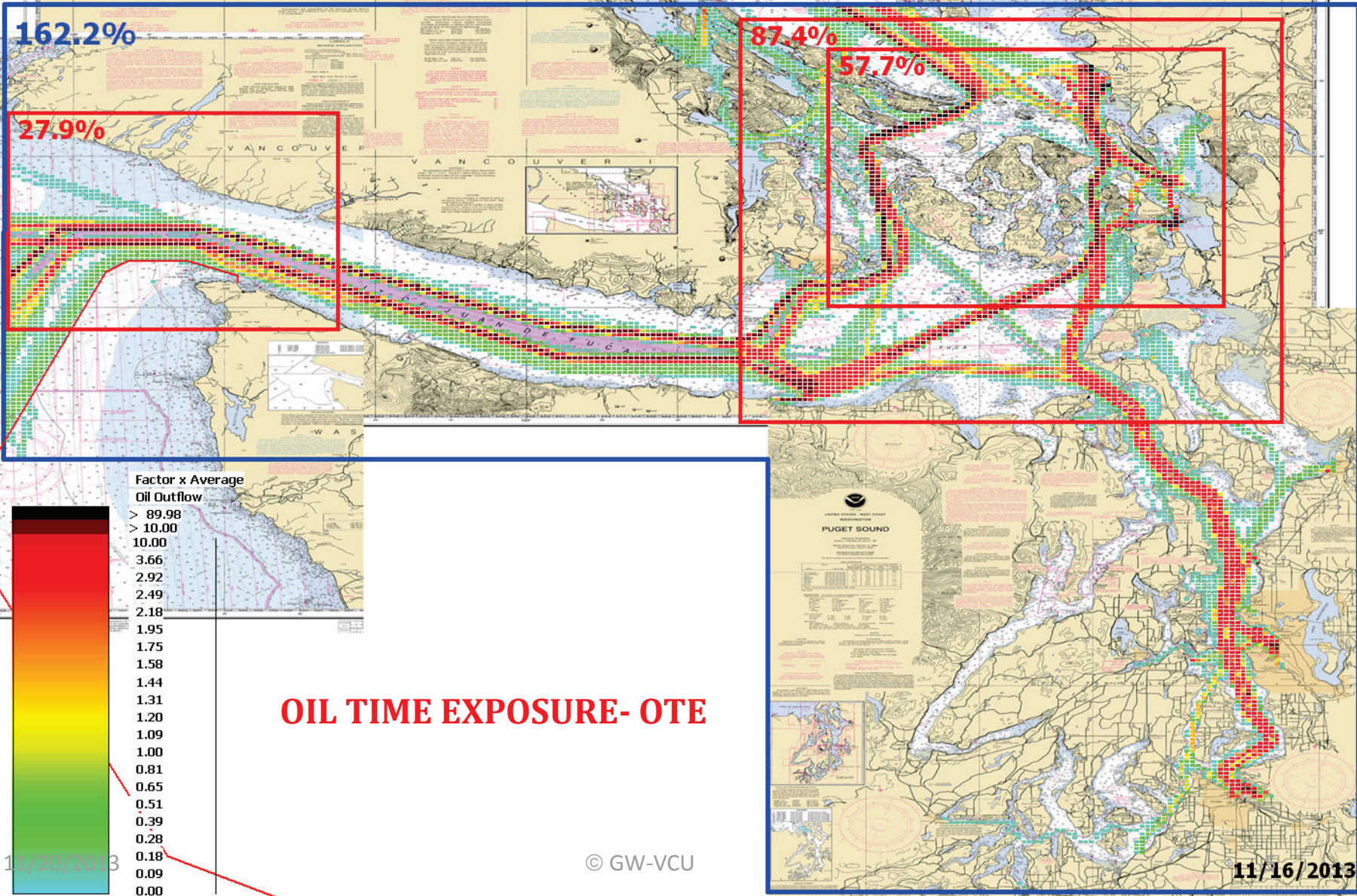
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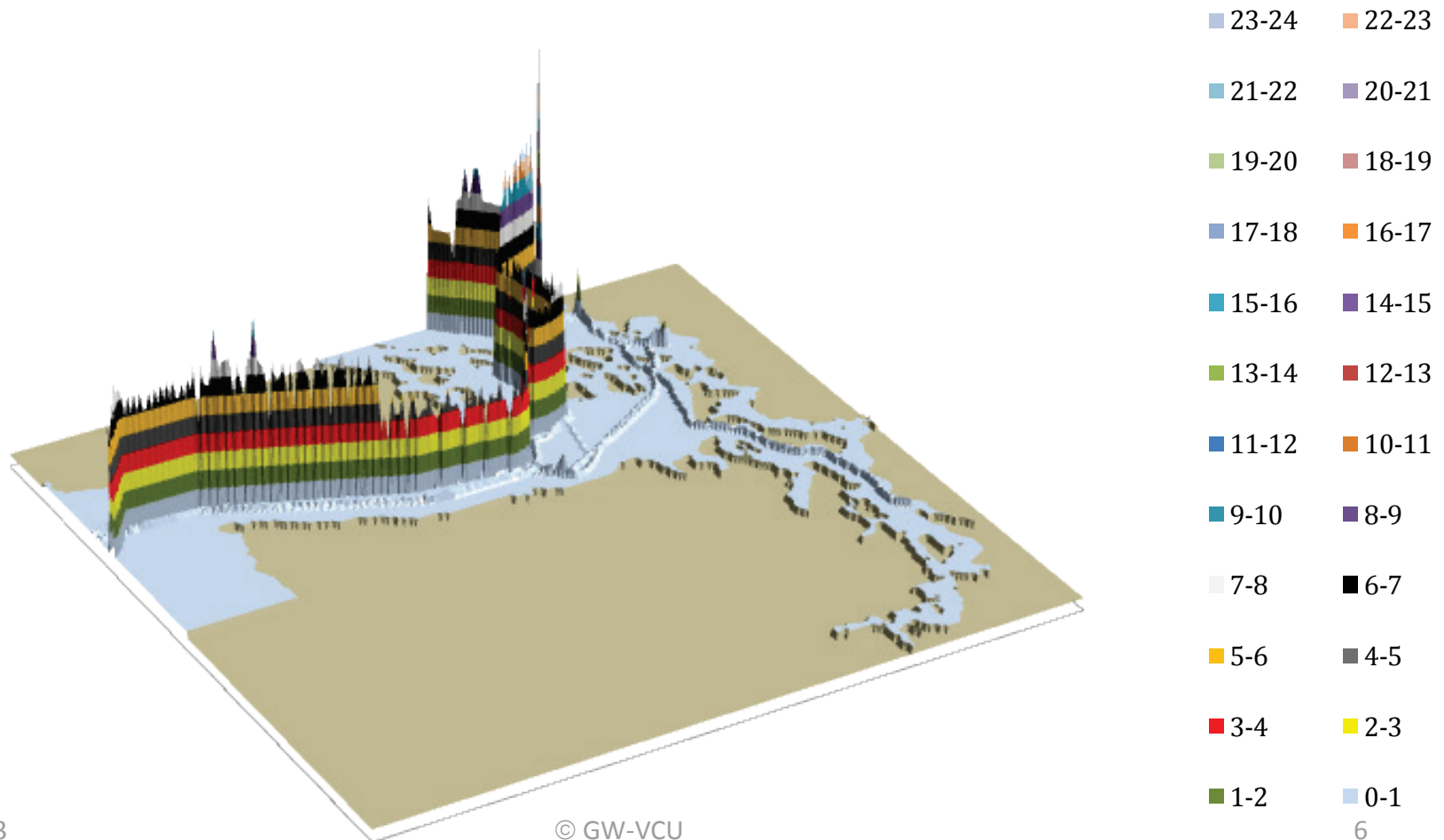
VESSEL TRAFFIC RISK ASSESSMENT (VTRA) 2010

T: VTRA 2010 - GW - KM - DP & ONE WAY ATB ROSARIO - All FV



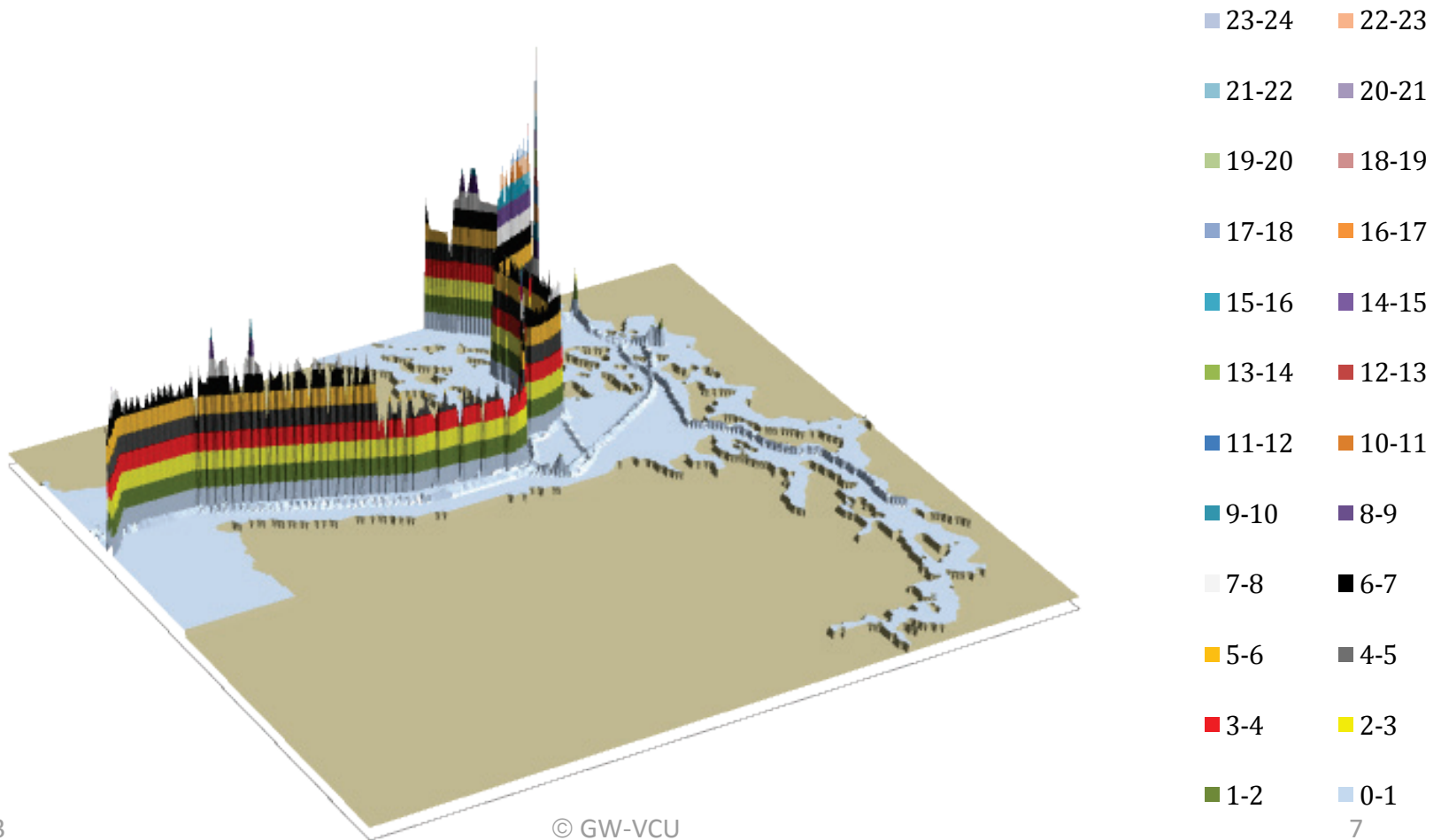
VESSEL TRAFFIC RISK ASSESSMENT (VTRA) 2010

T: GW - KM - DP 3D Risk Profile What-If FV - Oil Time Exposure: 60% of Base Case OTE



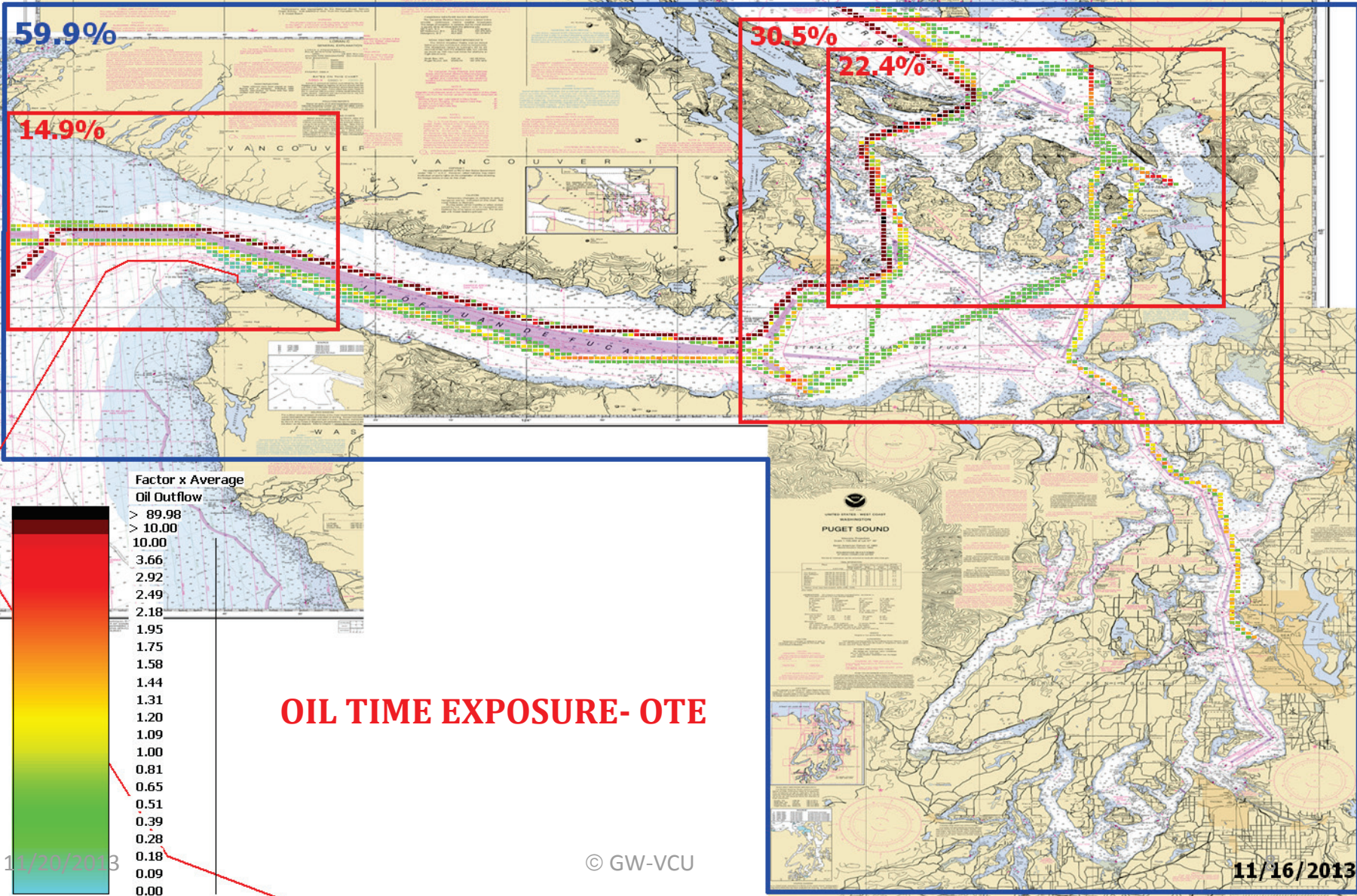
VESSEL TRAFFIC RISK ASSESSMENT (VTRA) 2010

T: GW - KM - DP & OW ATB 3D Risk Profile What-If FV - Oil Time Exposure: 60% of Base Case OTE



VESSEL TRAFFIC RISK ASSESSMENT (VTRA) 2010

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



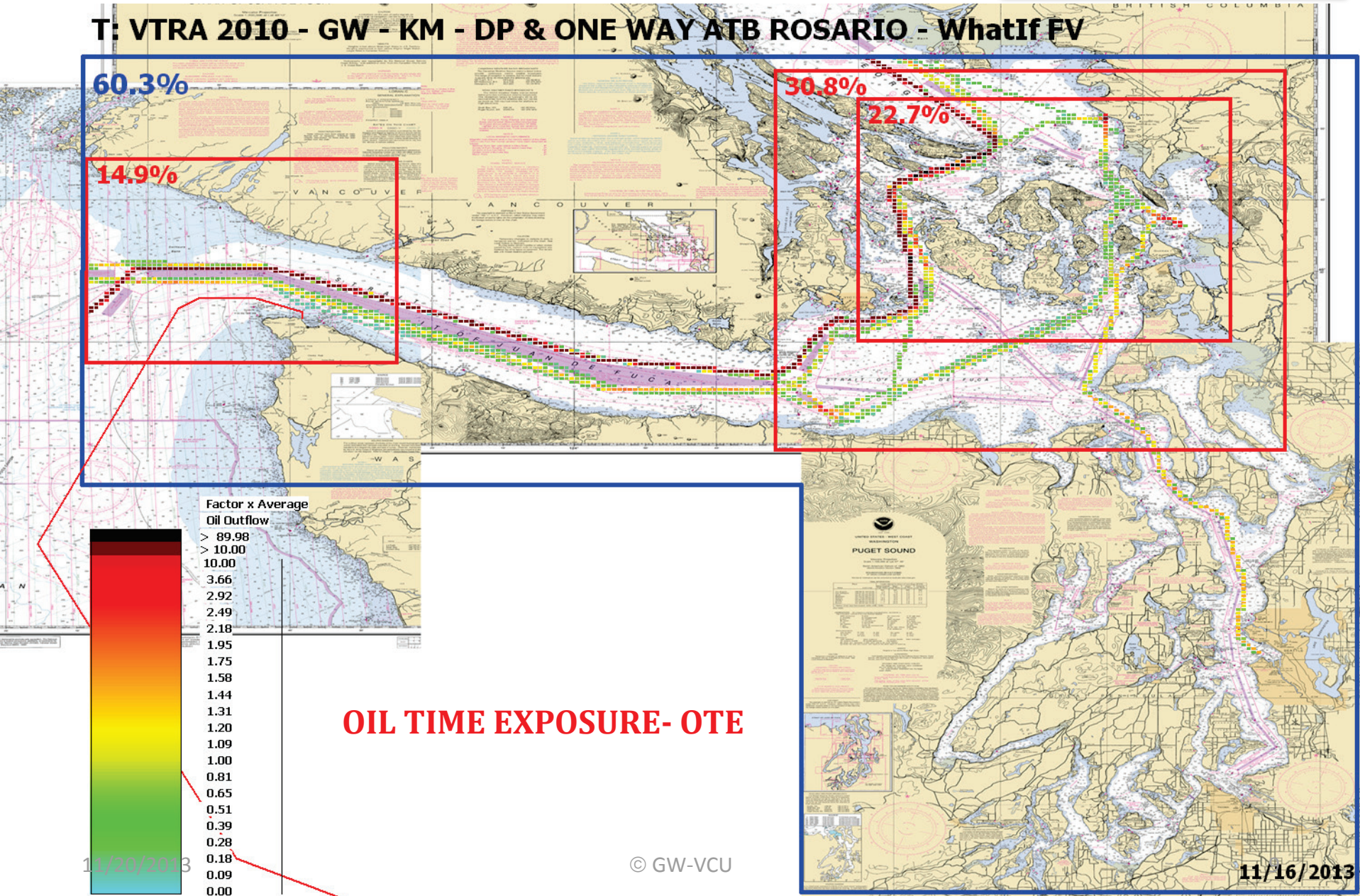
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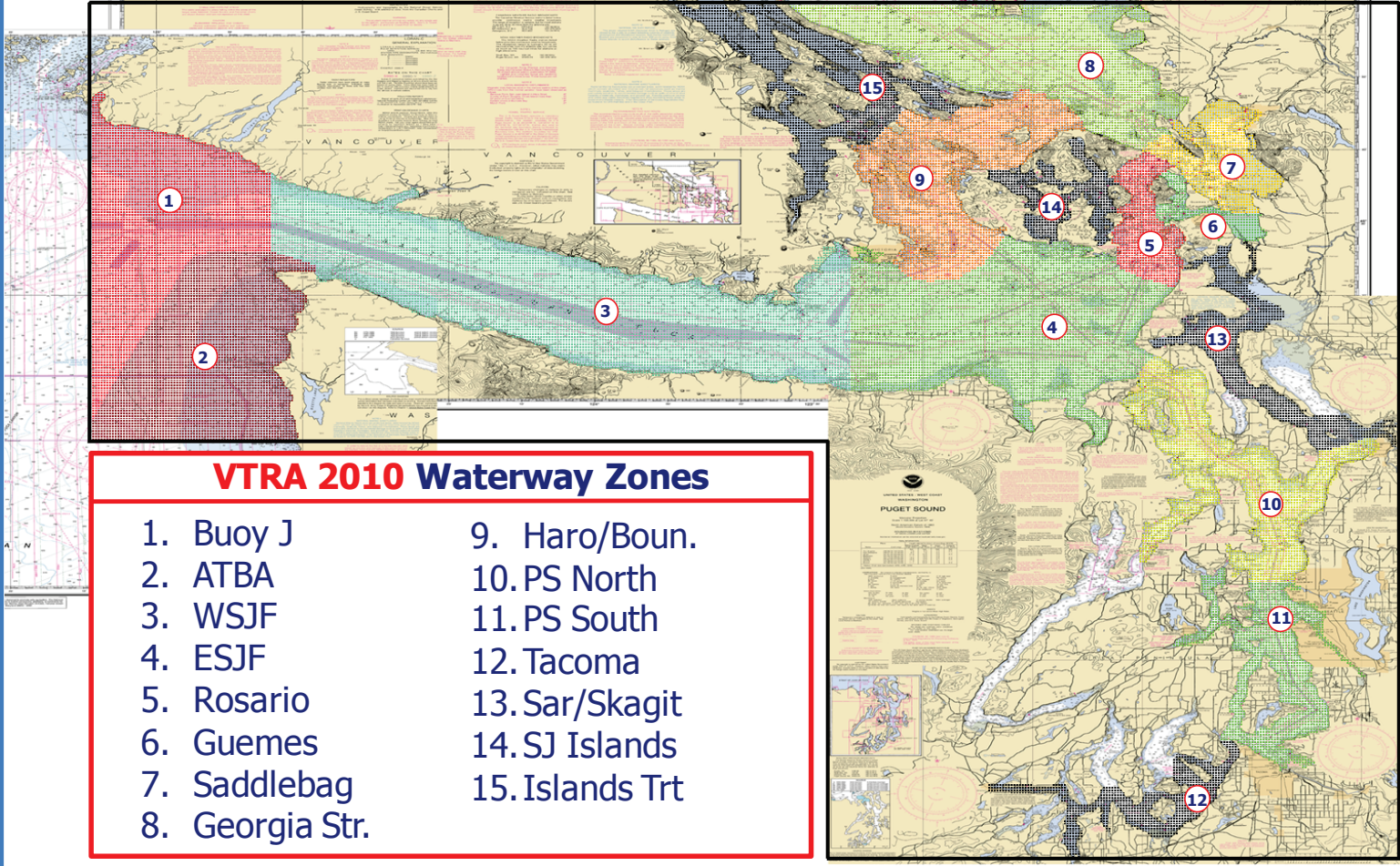
VESSEL TRAFFIC RISK ASSESSMENT (VTRA) 2010

T: VTRA 2010 - GW - KM - DP & ONE WAY ATB ROSARIO - WhatIf FV



VESSEL TRAFFIC RISK ASSESSMENT (VTRA) 2010

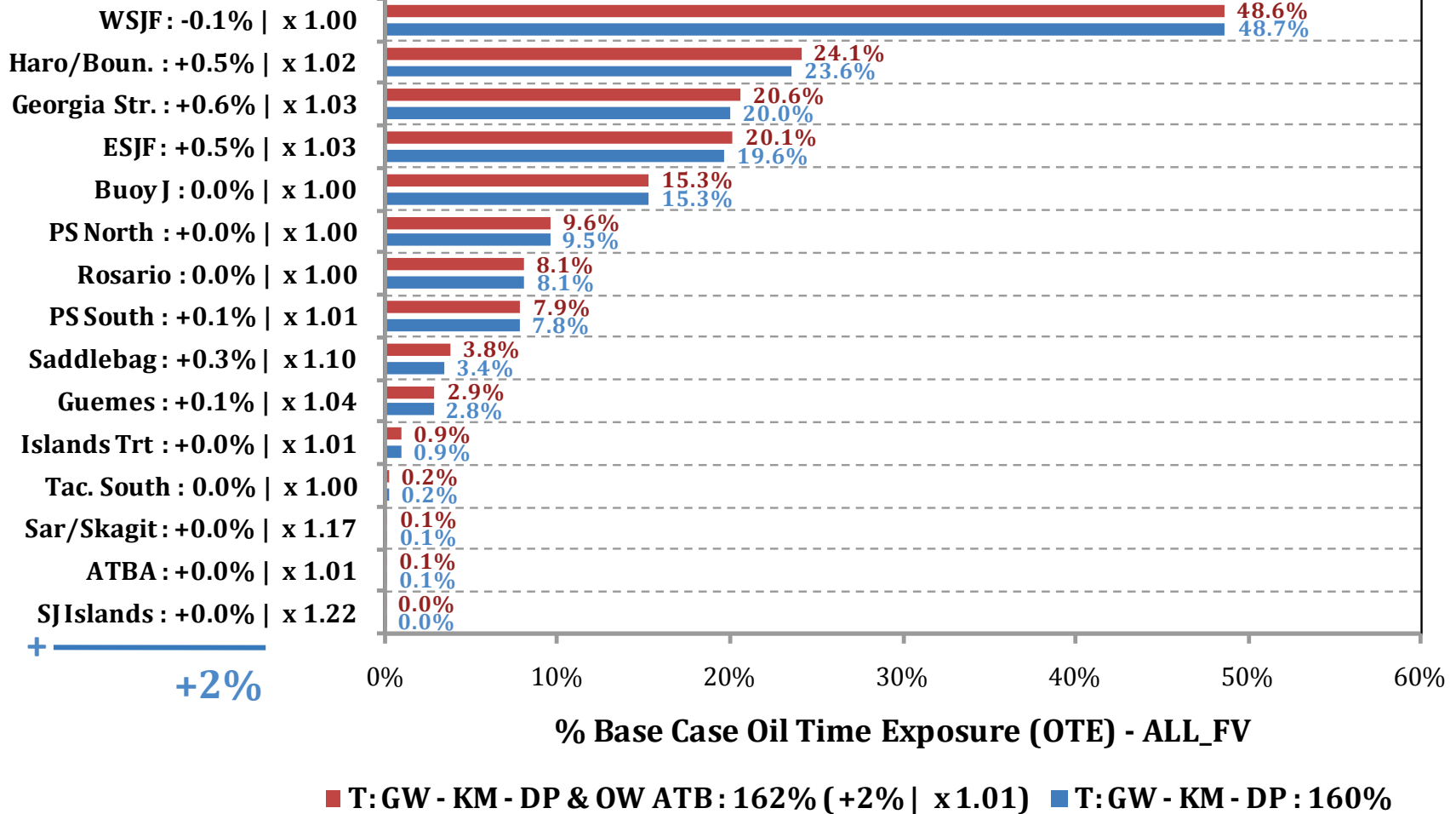
DEFINITION OF 15 WATERWAY ZONES



VESSEL TRAFFIC RISK ASSESSMENT (VTRA) 2010

% Base Case Oil Time Exposure - ALL_FV

Waterway Zone:



VESSEL TRAFFIC RISK ASSESSMENT (VTRA) 2010

% Base Case Oil Time Exposure - WhatIf

Waterway Zone:

