

VESSEL TRAFFIC RISK ASSESSMENT (VTRA) 2010

3D Relative Risk Profile Comparison
Oil Time Exposure

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

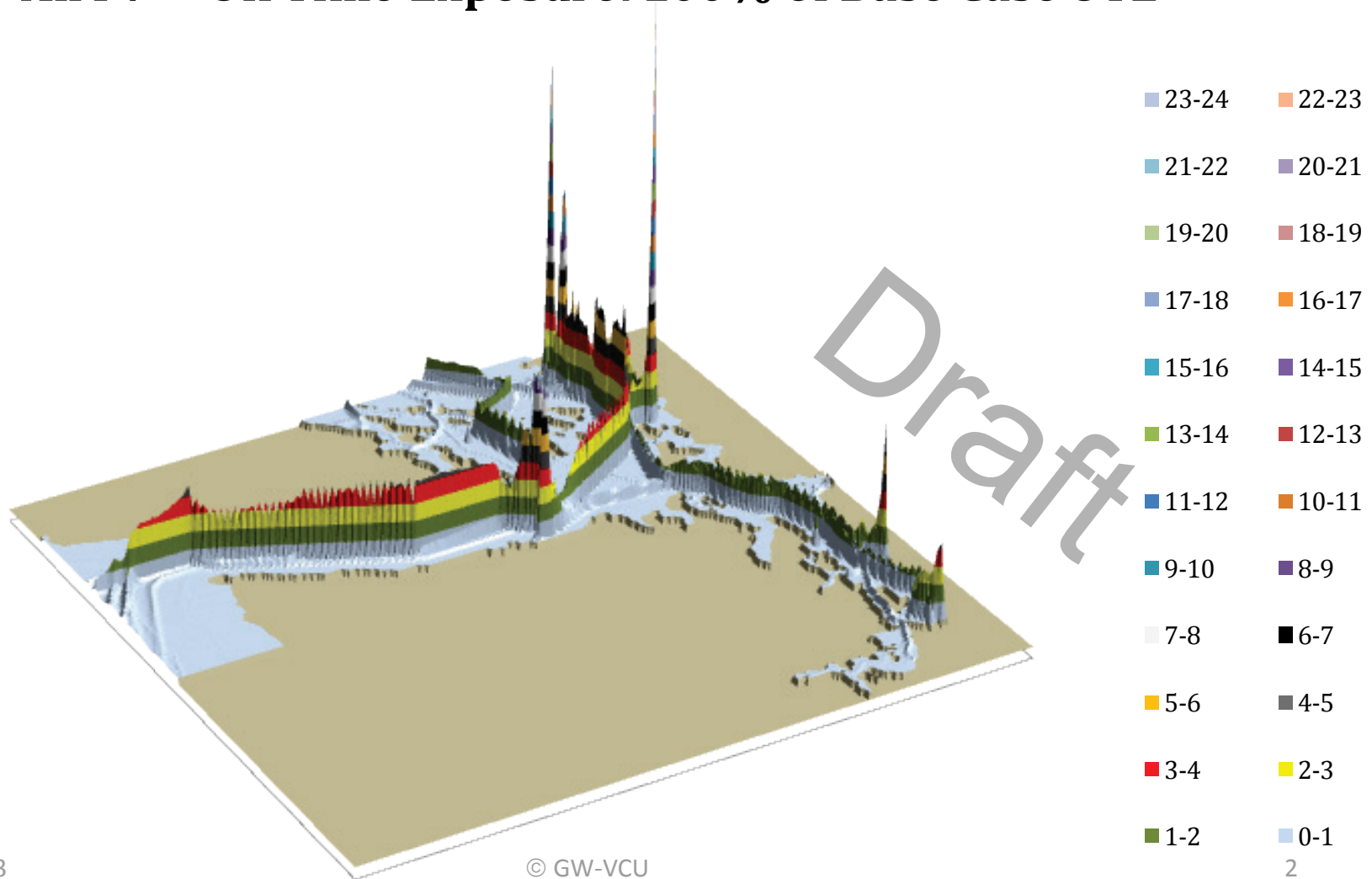
Dr. J. Rene van Dorp and Dr. Jason R.W Merrick

November 2013



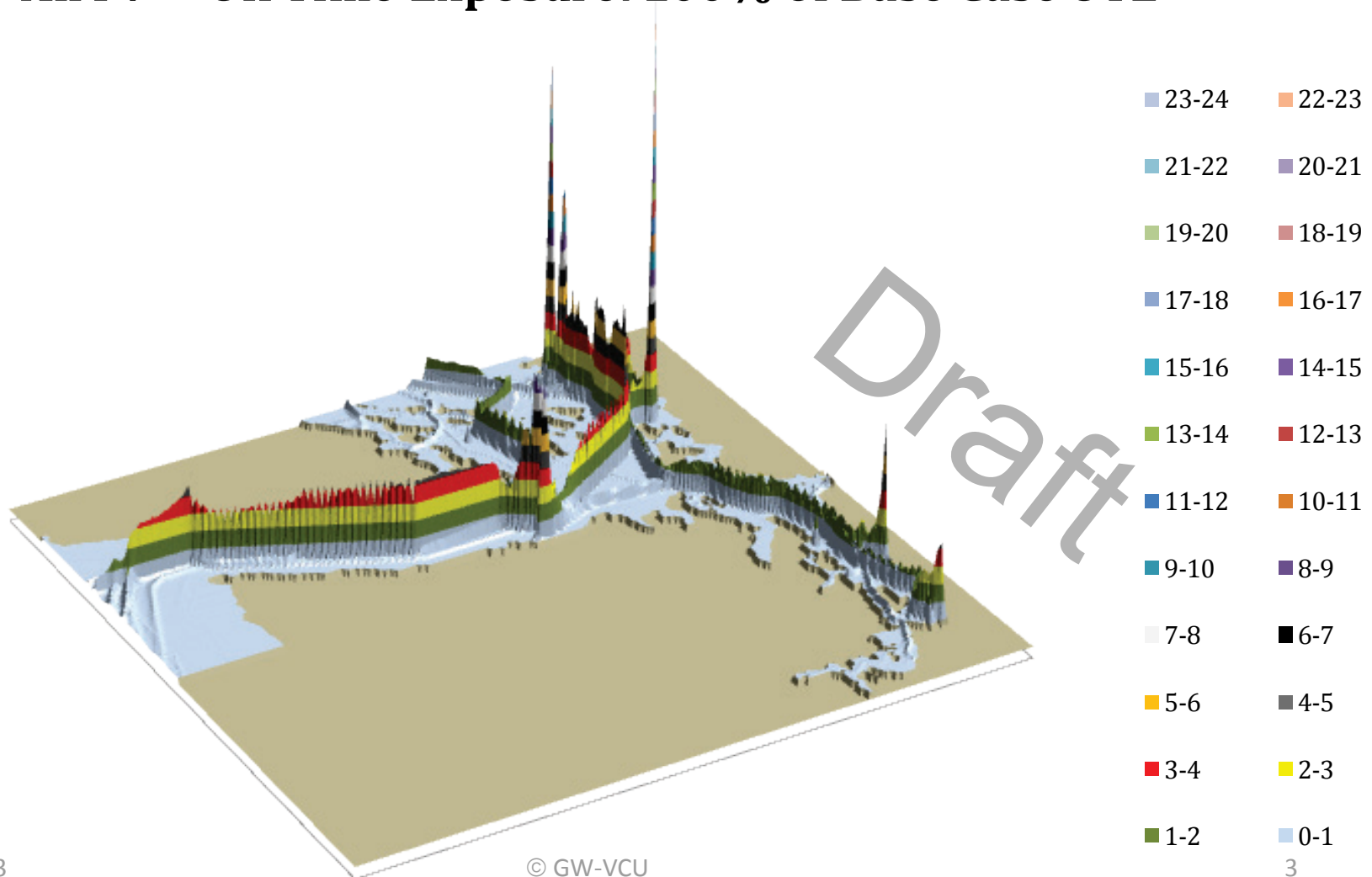
VESSEL TRAFFIC RISK ASSESSMENT (VTRA) 2010

P: Base Case 3D Risk Profile All FV - Oil Time Exposure: 100% of Base Case OTE



VESSEL TRAFFIC RISK ASSESSMENT (VTRA) 2010

P: BC & DH100 3D Risk Profile All FV - Oil Time Exposure: 100% of Base Case OTE



VESSEL TRAFFIC RISK ASSESSMENT (VTRA) 2010

P: VTRA 2010 - BASE CASE - All FV

100.0%

13.0%

54.4%

33.5%

Factor x Average
Oil Outflow

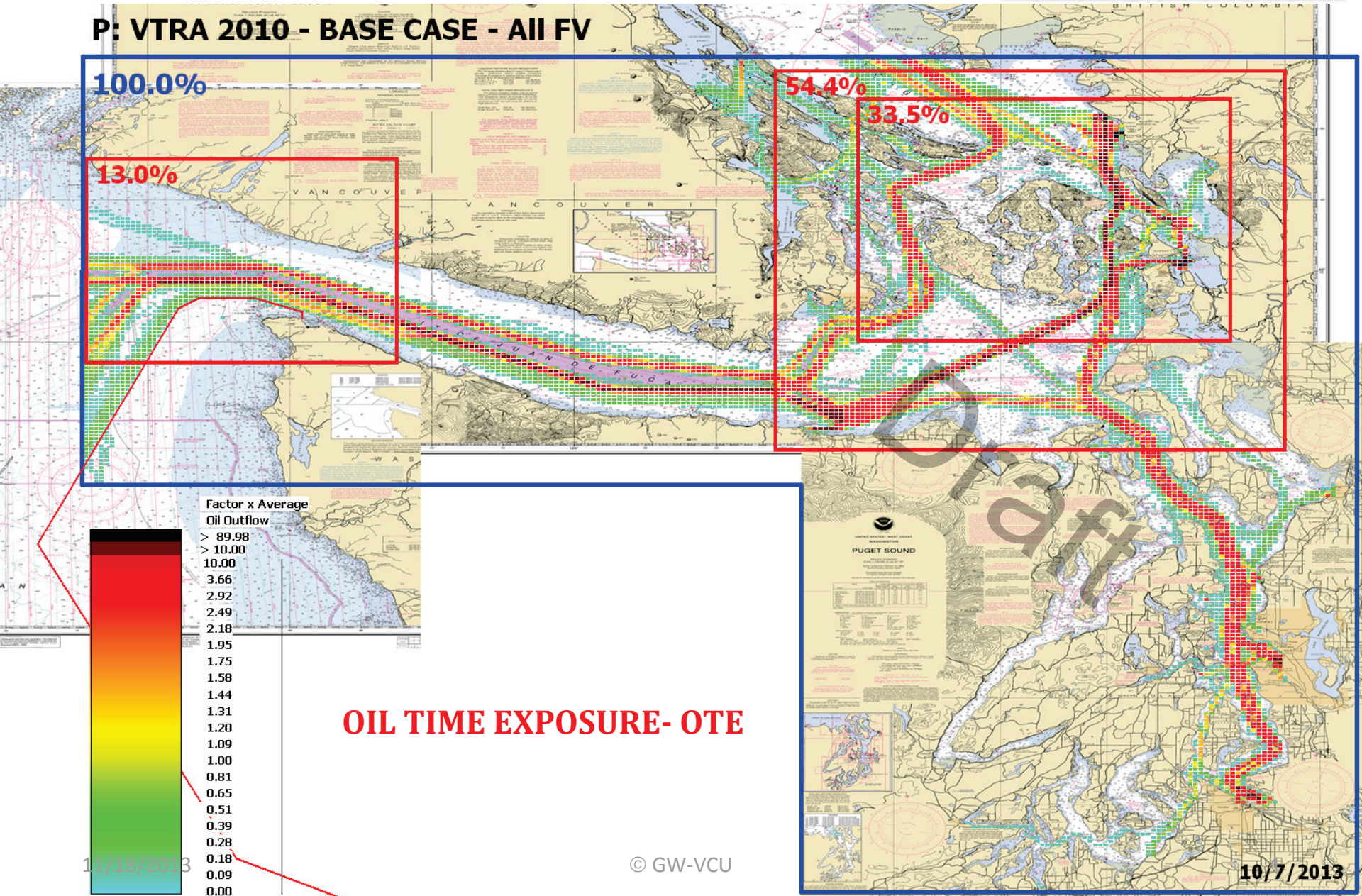
- > 89.98
- > 10.00
- 10.00
- 3.66
- 2.92
- 2.49
- 2.18
- 1.95
- 1.75
- 1.58
- 1.44
- 1.31
- 1.20
- 1.09
- 1.00
- 0.81
- 0.65
- 0.51
- 0.39
- 0.28
- 0.18
- 0.09
- 0.00

OIL TIME EXPOSURE- OTE

11/18/2013

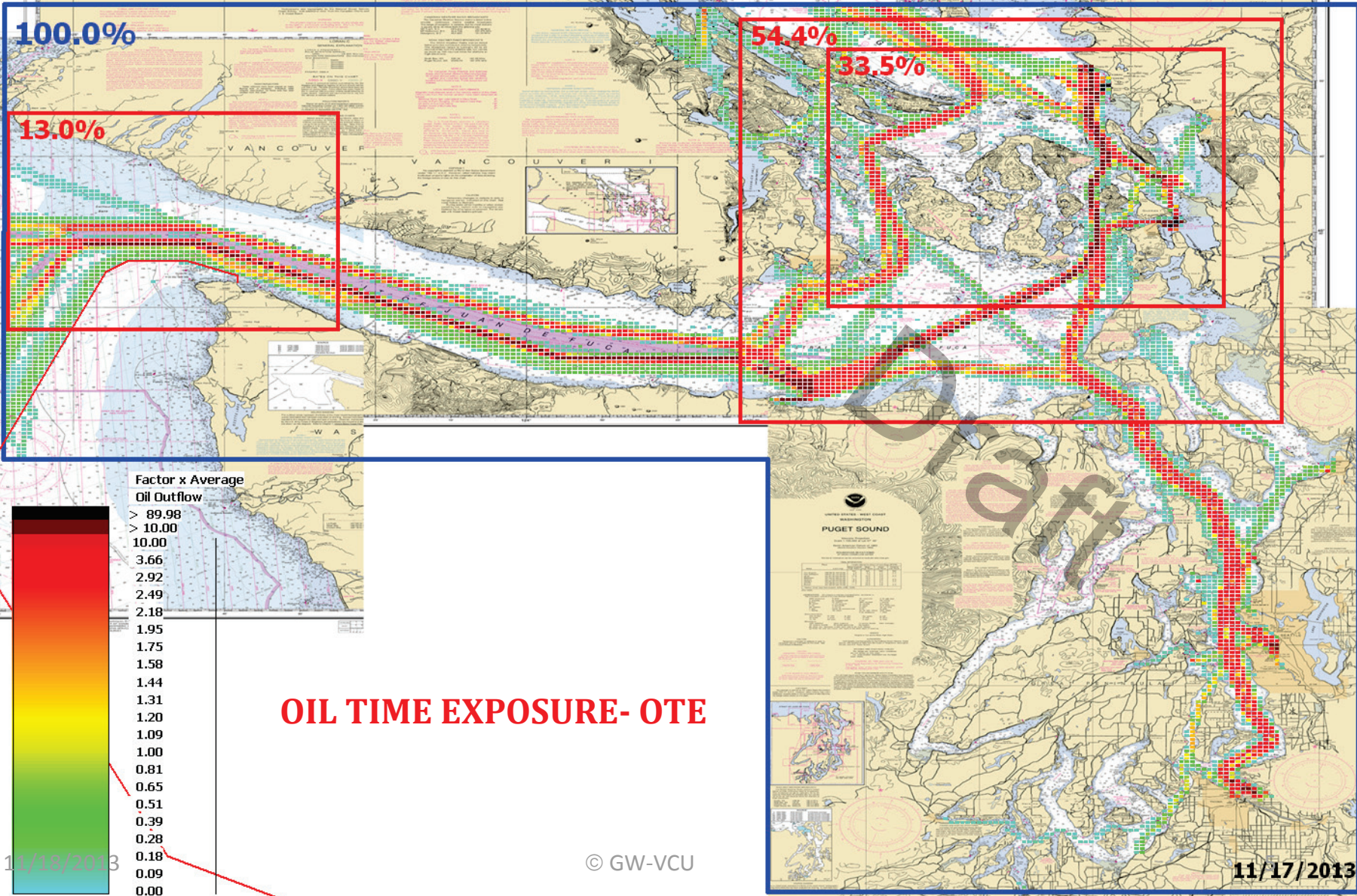
© GW-VCU

10/7/2013



VESSEL TRAFFIC RISK ASSESSMENT (VTRA) 2010

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



OIL TIME EXPOSURE- OTE

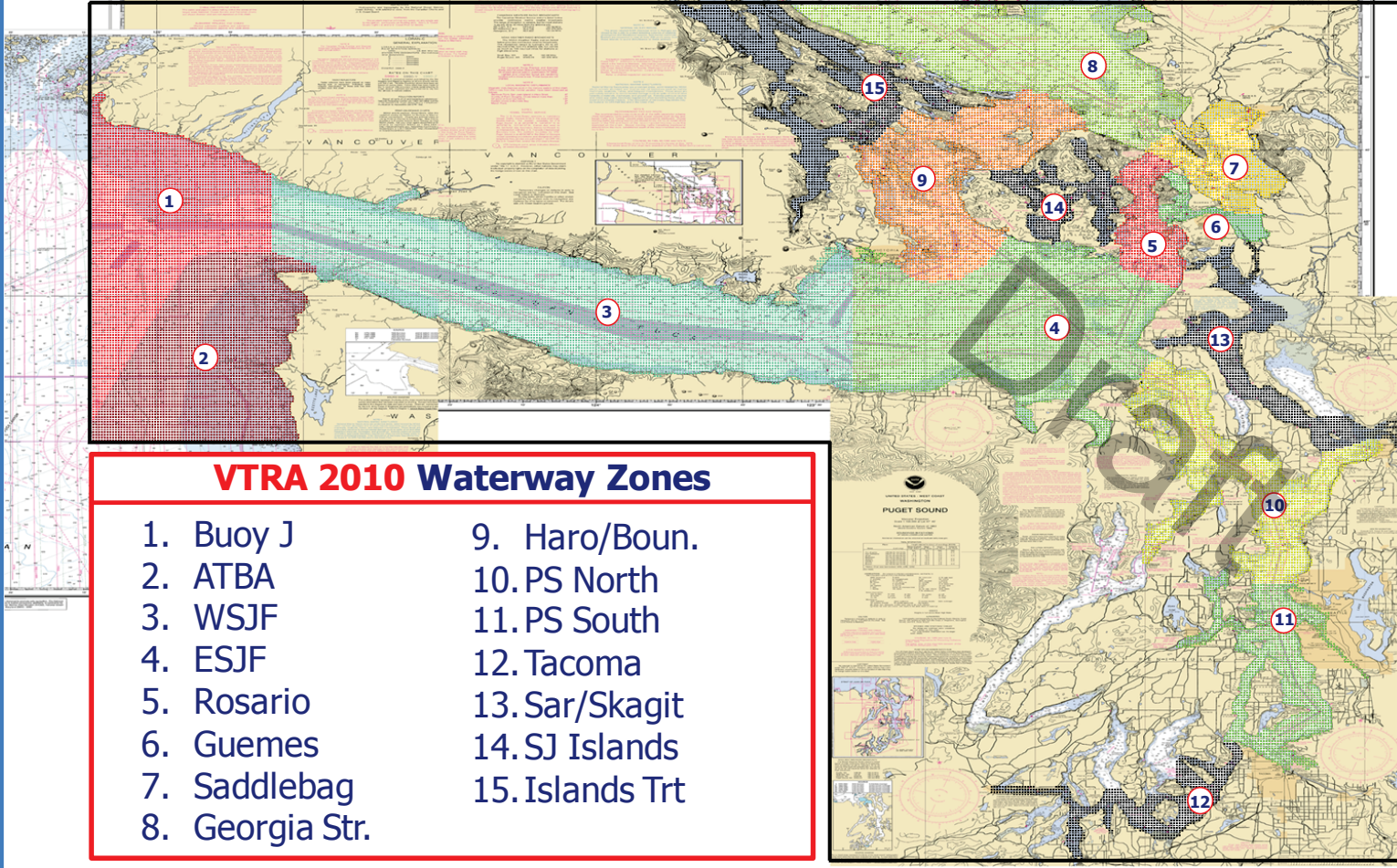
11/18/2013

© GW-VCU

11/17/2013

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:

